SWestrans REGIONAL TRANSPORT STRATEGY

Strategic Environmental Assessment (SEA)

Draft RTS

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In partnership with: Stantec

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1 Introduction

1.1 Background

1.1.1 This Environmental Report (ER) has been prepared to accompany a draft version of the proposed new Regional Transport Strategy (RTS) for the South West Scotland Regional Transport Partnership (SWestrans), which covers the area contiguous with the boundaries of Dumfries and Galloway Council.

1.1.2 Stantec UK Ltd (Stantec) has been commissioned by SWestrans to assist with the preparation of the new RTS. The RTS will set out a new long-term vision for transport across the region for the period up to 2042. It is intended the new RTS will set out a clear framework for how transport and mobility will be provided, developed and improved in the region to meet the aspirations for a sustainable and economically active area over the next 20 years and beyond.

1.1.3 Working collaboratively with Stantec, SWestrans has produced the Draft RTS, building upon the earlier Preliminary Options Appraisal Report and a Case for Change Report (the 'Case for Change') which sought input and views from stakeholders on the type and level of change needed to the transport system in the south west of Scotland, which itself builds on earlier work.

1.2 Statutory Requirements

1.2.1 The Environmental Assessment (Scotland) Act 2005 ('the 2005 Act') requires Responsible Authorities, including RTPs such as SWestrans, to assess the likely significant effects on the environment of implementing relevant and qualifying plans and programmes, as defined within the Act. This assessment must also examine the likely significant effects of implementing reasonable alternatives to the plan or programme under consideration. The assessment is carried out by following a staged process of reporting known as Strategic Environmental Assessment (SEA).

Other Related Appraisals

1.2.2 This SEA has been undertaken in parallel with an assessment of the equalities impacts of the RTS. The findings of the equalities impact assessment (EqIA) are presented in a series of reports which will be published with the Draft RTS and this ER for consultation.

1.2.3 At this stage of the RTS development, the Priorities set out within the Draft RTS are not predicted to have any likely significant effects (LSE) on European sites and as such the RTS is unlikely to be subject to a requirement for a Habitats Regulations Assessment (HRA). This shall be kept under review as the RTS develops through to the Delivery Plan and implementation, and an HRA Screening will be completed if SWestrans considers there is any potential for LSE from implementation of the RTS.

1.3 How to comment on this Environmental Report

1.3.1 This ER and an associated Non-Technical Summary (NTS) are being issued for consultation alongside the Draft RTS and associated documents for a period of 12 weeks. Details of how to participate in the consultation are provided in Section **Error! Reference source not found.** of this report and, in accordance with statutory requirements, will be published in a local newspaper.

2 Overview of SWestrans Regional Transport Strategy

2.1 Introduction

2.1.1 This section describes the context in which a new RTS is being prepared for the SWestrans region, the principal stages of the Strategy development and outlines its proposed form and content, all of which are assessed through this SEA. The context of the emerging RTS with other key policies and strategies is also briefly outlined.

2.2 Development of the RTS

2.2.1 The Draft RTS has been developed through an extensive process of transport planning in combination with policy development, environmental and equalities appraisal and input. The Strategy development has drawn on extensive baseline analysis and from consultation feedback as the Strategy has developed. The Draft RTS which is now being consulted on (SWestrans, September 2022) can be accessed separately from this report. The key stages of the process are described below.

- The Case for Change Report (Stantec, March 2022) establishes the context for the RTS. This includes a review of key policy drivers, the baseline transport conditions, the socio-economic context in the study area and identification of how factors are likely to change over the lifetime of the RTS. This document also set out the key findings of consultation held in 2018 as part of the South West Scotland Transport Study. Problem analysis was undertaken to identify proposed RTS Objectives. Public and stakeholder consultation was undertaken on the report in 2022. The feedback from this exercise was reviewed and taken into account in the subsequent work on the RTS and its associated environmental and equalities assessments.

- Transport options were then generated and a preliminary appraisal of the options was undertaken following a method based on the Scottish Transport Appraisal Guidance (STAG) to determine those options which best meet the RTS Objectives and the various technical STAG criteria. The findings have been reported separately in the Preliminary Options Appraisal Report (Stantec, August 2022). The appraisal incorporated an environmental and climate change assessment for each option and was used to inform the selection of options which should be taken forward into development of the RTS.

- Building on the earlier work, the Draft RTS (Stantec UK, 2022) presents an updated set of Strategy Objectives together with an overarching Vision for transport in Dumfries and Galloway. Drawing on the Strategy Objectives, and the options work, the document identifies a series of ten RTS Themes which provide the structure for the Strategy. The Draft RTS sets out a context discussion for each Theme in turn with a series of proposed 'Priorities' which will form the basis of future policies, actions and interventions.

2.2.2 At each stage, the environmental and equalities assessment teams have been involved in the analysis and review of data, the appraisal of key components of the Strategy and the assembly of the document. The RTS baseline data sets include a range of socio-economic information of relevance to the equalities assessments and some key information has also supported the baseline for the SEA in relation to the objectives which have a wider social and economic theme. See Section 4.4 for further details on the integration of the RTS and SEA processes.

2.3 RTS Components

2.3.1 The Draft RTS is a multi-layered document which draws on the findings of the key stages of development set out above. The initial chapters of the document (chapters 1 and 2) set out an introduction and a summary of the demographic, transport and land use context for the Strategy drawing on the detailed work presented in the Case for Change reporting. A summary of the analysis of transport problems and opportunities is then set out in chapter 3 with the analysis informing the development of the Strategy Objectives.

2.3.2 The Draft Strategy's Vision and Objectives are presented in chapter 4. The Vision outlines the ambition for Dumfries and Galloway and how transport can facilitate this. Providing an overarching context for the Strategy Objectives, the vision states:

> The South-West of Scotland will be an inclusive, prosperous and attractive place to live, work and visit supported by an integrated and sustainable transport system that is safe, affordable and accessible to all, resilient to climate change, allowing healthier lifestyles and supporting a contribution to net zero emissions targets reflecting the regional circumstances.

2.3.3 The Strategy Objectives were initially developed at the Case for Change stage to reflect and respond to the transport planning problems and opportunities analysis. They are:

- **Strategy Objective 1** – To facilitate and encourage safe active travel for all by connecting communities and travel hubs.
- **Strategy Objective 2** – To improve the quality and sustainability of public transport within, and to / from the region.
- **Strategy Objective 3** – To widen access to, and improve connectivity by public transport within and to / from the region.
- **Strategy Objective 4** – To improve integration between all modes of travel and freight within and to / from the region.
- **Strategy Objective 5** – To provide improved, reliable, resilient, and safe road-based connectivity for the movement of people and goods within the region, and to key locations including Glasgow, Edinburgh, Carlisle and Cairnryan.
- **Strategy Objective 6** – To reduce the impact of transport on the people and environment of the region.

2.3.4 The objectives are supported by more detailed sub-objectives and a series of societal outcomes that the RTS aims to deliver from the perspective of users (passengers and businesses) of the transport networks in the south west of Scotland.

2.3.5 Ten supporting RTS Themes are presented at the end of chapter 4 and these form the basis of chapters 5 to 14 which discuss each Theme in turn and set out a series of Priorities. The Themes, which were also used for the structuring of groups of options, are:

- 1. Enabling more sustainable development
- 2. Connecting our communities
- 3. Transforming travel in our towns
- 4. Reducing the impact of transport on our communities

- 5. Enhancing access to transport services
- 6. Sustainable and extended local and regional public transport connectivity
- 7. Improving the quality and affordability of our public transport offer
- 8. Supporting safe and effective connections to Loch Ryan and other strategic sites
- 9. Managing our car traffic
- 10. Making the most of new opportunities

2.3.6 The Priorities articulate the key policy focus and intention of the RTS and will be used to take forward more detailed and specific interventions in future stages of implementation of the Strategy.

2.3.7 In chapters 15 and 16 of the draft document, the proposals for future delivery and monitoring of the RTS are presented. The final chapter, chapter 17, collates the RTS priorities for ease of reference.

2.3.8 Further details on the content of the RTS are provided in chapter 5 of this ER, as part of the assessment of the strategy.

2.4 Relationship with other Plans and Programmes

2.4.1 In accordance with SEA statutory requirements a review of the relationship between the developing Draft RTS and other relevant plans and programmes (including current legislation, policies and strategies at national and regional levels) has been carried out. This review identified key requirements, objectives and priorities of relevant plans and their implications for both the emerging RTS and for the SEA. A review of these plans and programmes is set out in Appendix A of this report and relevant information from the review has been used in developing the RTS and in identifying key issues for the SEA.

2.4.2 From the review of relevant plans and strategies, a number of key environmental issues and priorities were identified which were considered to be important for the SEA and development of the Draft RTS. These include the following:

- Align with relevant existing and emerging targets, policies and proposals within relevant national, regional and local plans and strategies particularly in the area of sustainable transport where key national level strategy (NTS2) has recently been developed and which sets clear intentions and commitments for priorities in the delivery of active travel and public transport, emissions reductions, accessibility and in the maintenance and resilience of transport infrastructure assets;
- Encourage measures that reduce the need to travel and allow communities in different locations to flourish supporting efforts to reduce inequality of outcome in south west Scotland and improve quality of life and environment for all in the region;
- Minimise the environmental impacts of transport provision and infrastructure, including in terms of reducing carbon and other greenhouse gas emissions and using natural resources sustainably, reflecting the key priority of achieving net zero and the Scottish Government's legislated targets for carbon emissions reductions to 2045;
- Ensure transport networks are resilient to climate change, and able to adapt to the threats posed by climate change;

- Ensure the avoidance of likely significant environmental effects from the implementation of the strategy on designated sites for reasons of biodiversity conservation and ecological importance and seeking to secure recovery of nature and opportunities to enhance biodiversity wherever possible;

- Minimise the amenity impact of transport, including in terms of improving road safety, reducing congestion, noise and vibration and take opportunities to enhance amenity through development of new and upgraded active travel routes and better integration of transport with place-making;

- Seek to protect and enhance the health and wellbeing of the resident and working population, including through facilitating access to healthcare, safeguarding physical health, providing opportunities to enhance mental health and social wellbeing, and supporting the delivery of public health benefits through facilitating and encouraging active travel;

- Ensure the avoidance of unacceptable human health impacts from transport, in particular impacts on local air quality;

- Improve the accessibility of the transport system (both physical access and access to transport information) and the provision of a range of appropriate transport modes to meet identified needs;

- Ensure that transport and transport information is accessible to all and does not contribute to social exclusion or disadvantage, whether through severance or unaffordability;

- Ensure that the transport network offers convenient, sustainable, and flexible services that meet the needs of the population in terms of accessing employment, education, facilities and services.

- Enable the efficient, effective, affordable and sustainable movement of people and freight to increase economic productivity, competitiveness and opportunities for all ensuring no one is unfairly disadvantaged;

- Secure economic growth and inward investment by supporting the delivery of new and upgraded transport infrastructure to increase connectivity and improve access to high quality employment and economic opportunities;

2.4.3 As with the key issues identified in part from analysis of the environmental and socio-economic baseline (see Section 3), these key policy issues needed to be addressed within the emerging RTS itself to effectively tackle pertinent transport problems, support the implementation of other existing and emerging plans and policies.

3 Environmental Baseline

3.1 Introduction and Approach

3.1.1 This section summarises the approach to developing the environmental baseline within the area likely to be affected by the emerging RTS, in particular the SWestrans regional administrative area. Section 3.2 provides an overview of the region, drawing on information collated on key environmental designations and from a baseline review in Appendix B. The key environmental issues in the region are presented in Section 3.3; and a commentary on the likely evolution of the environmental baseline in the absence of the proposed policy (the Draft RTS) is then set out in Section 3.4.

3.1.2 The SEA Scoping Report presented an initial review of the relevant aspects and characteristics of the environment, including those likely to be significantly affected by the outcome of the refreshed RTS. This included the identification of sites designated at international or national levels for reasons of biodiversity conservation, geological importance, heritage, or landscape values which have the potential to be affected by the emerging RTS.

3.1.3 This report has developed the baseline taken from the SEA Scoping Report and both updated the environmental baseline, in light of recent publications, and synthesised the baseline to focus on existing problems and issues in the region.

3.2 Overview of the Region

3.2.1 The SWestrans region is predominantly rural with smaller towns and villages throughout. Dumfries, Stranraer and Annan are the largest settlements, with Dumfries accounting for around 22% of the population of the region which is approaching 150,000 people and is both declining and ageing. Much of the region is classified as 'Remote Rural' or 'Accessible Rural'.

3.2.2 Throughout the region are a number of international, national and local environmentally designated sites, particularly in the coastal areas. Within the west of the region, the Galloway Forest Park is the largest forest in the UK, and the only International Dark Sky Park in the UK, committed to retaining low levels of light pollution. Three National Scenic Areas (NSAs) are located in the south, and two areas of 'wild land', of national importance for their tranquillity. Carbon rich peat soils and peaty soils can be found throughout the region, particularly in the uplands and only a small proportion of land in the region is considered to be prime agricultural land. 25% of the land mass of Dumfries and Galloway is forested, agriculture accounts for the majority of the remaining land use, predominantly cattle and sheep farming on pastoral land.

3.2.3 There are no Air Quality Management Areas (AQMAs) in the region, reflecting its rural nature. Coastal, fluvial and surface water flood risk are present, with key fluvial flood risk in Dumfries from the River Nith, and to the west of Lockerbie from the River Annan. South West Scotland has a rich cultural heritage with many designated assets throughout the region.

3.2.4 Transport of timber and transport routes to the ports on the west coast are key issues, along with the high dependency on cars for personal travel in this rural region.

3.2.5 Further details of the designations in the region classified by SEA topic, is presented in Appendix B.

3.3 Key Environmental Issues

3.3.1 The suite of key environmental issues and policy requirements for the emerging RTS is presented in **Table 3.1**. These issues were originally identified within the SWestrans RTS SEA Scoping Report and have been updated to reflect consultation responses.

Table 3.1 Key Issues Relevant to the SWestrans RTS SEA

SEA Topic	Environmental Baseline Features	Key Issues
Climate Change	▪ Transport is a significant contributor to national and regional carbon emissions and a key sector for decarbonisation action. Given the reliance on private transport options in the region, annual emissions of carbon dioxide from transportation being considerably higher than the Scotland average. ▪ Key national carbon emissions reduction targets are 75% reduction in emissions by 2030 and Net Zero by 2045. These are now also supported by the commitment in the Climate Change Plan update and NTS2 which commit to reducing car kilometres by 20% by 2030. ▪ Carbon rich soils and forests provide significant carbon stores within the region. ▪ The Draft NPF4 (2021) proposes innovation to sustain and enhance natural capital (including forests and woodland, peatland as carbon storage and sequestration; renewable energy generation; decarbonising homes and a strategic approach to electric vehicle charging); and to strengthen resilience and decarbonise connectivity (including connectivity to Northern Ireland and Ireland and Carlisle; supporting a modal shift and reducing car use; better digital connectivity).	▪ Reducing GHG emissions, particularly carbon dioxide (CO2) is a priority for the region and decarbonisation of the transport sector (particularly road vehicles) is critical to supporting Net Zero legislated targets in Scotland and regionally. Measures may include promoting sustainable land use patterns (including the 20-minute neighbourhood) and the decarbonisation of the transport sector. ▪ The need to consider, and integrate, the role of natural (green/blue) infrastructure in tackling climate change. ▪ The need to align with the national Update to the Climate Change Plan 2018-2032 (Scottish Government, 2020) and the Dumfries and Galloway Carbon Neutral Route Map. ▪ Recognise the importance of maintaining and enhancing the forest, woodland and peat resources for carbon storage and sequestration. ▪ Future climate change is now unavoidable and the adaptation and resilience of transport infrastructure to changes in weather patterns and intensity needs to be progressed with urgency.
	Relevant SEA Objectives: 1. Climate Change: Respond to the climate emergency by decarbonising infrastructure, promoting natural infrastructure, facilitating a low carbon economy and adapting to accommodate the effects of climate change. 4. Water, Flood Risk and Resilience: Conserve, protect and enhance water environments, water quality and water resources, whilst adapting to climate change and reducing exposure to flood risks.	
Air Quality and Amenity	▪ Whilst there are no Air Quality Management Areas (AQMAs) within this rural region, there is a high reliance on use of private transport options. ▪ Trunk roads pass through several communities, including major routes such as the A7, A75, A76, A77 and A709, causing noise, vibration, pollution and safety concerns which adversely affect amenity in some localities.	▪ The need to maintain and improve air quality for the benefit of human health and the environment. ▪ The need to reduce the impact of trunk roads on communities, including by reducing noise and vibration particularly from road traffic. ▪ Ensure that new development, including transport infrastructure, facilities and services, are developed with emissions reductions as a priority to jointly support efforts to maintain air quality and achieve climate related targets.

SEA Topic	Environmental Baseline Features	Key Issues
		▪ Support measures in noise management action plans to enhance amenity of communities located close to major transport corridors.
	Relevant SEA Objective: 2. Air Quality and Amenity: To maintain air quality, reduce concentrations of harmful atmospheric pollutants and minimise exposure to noise and vibration.	
Biodiversity, Geodiversity and Soil	▪ There is a range of significant biodiversity, flora and fauna constraints and designations in the SWestrans area. This includes: o Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs) which have been designated as they support rare and vulnerable birds and have presence of nationally important or rare habitats and other species. o Special Areas of Conservation (SACs) which serve significant contribution in conserving habitat types and species. o National Nature Reserves (NNRs) which further conservation and the study of wildlife and habitats of special interest. o Ramsar sites which are considered to be of international importance for the conservation of birds. ▪ Carbon rich peat soils and peaty soils can be found throughout the region, particularly in the uplands and only a small proportion of land in the region is considered to be prime agricultural land. 25% of the land mass of Dumfries and Galloway is forested, agriculture accounts for the majority of the remaining land use, predominantly cattle and sheep farming on pastoral land ▪ The Draft NPF4 (2021) proposes innovation to sustain and enhance natural capital, including forests and woodland, peatland as carbon storage and sequestration.	▪ The need to conserve and enhance biodiversity interests including sites designated for their ecological importance, including within the coastal and marine environment. ▪ The need to maintain, restore and expand valued habitats and to safeguard protected species and non-designated biodiversity interests. ▪ Seek to address and where possible, reverse impacts and damage to habitats as a result of transport developments and emissions and disturbance from traffic. ▪ The need to protect and enhance green infrastructure assets and wildlife corridors. ▪ Seek opportunities through development of the Strategy to build in green / blue infrastructure to transport networks using nature-based solutions which enhance biodiversity. ▪ The need to protect sites designated for their geological interest. ▪ The need to prioritise the redevelopment of previously developed (brownfield) land. ▪ The need to protect and enhance the health of soils, including peatland and carbon rich soils.
	Relevant SEA Objective: 3. Biodiversity, Geodiversity and Soil: Conserve, protect, restore and enhance biodiversity and geodiversity interests, including through safeguarding important sites, species and soil resources and by protecting, promoting and enhancing green infrastructure.	
Water, Flood Risk and Resilience	▪ Water quality in the region shows an improving trend, however the number of surface water bodies classed as Good or better (75% in 2020), remains below the average for Scotland (84%).	▪ The need to protect and enhance the quality of water resources and the water environment including the availability and quality of water for human consumption, ecological quality and economic uses.

SEA Topic	Environmental Baseline Features	Key Issues
	▪ The Dumfries Basin sandstone aquifer is one of the most productive in Scotland and supports groundwater abstraction for public supply, agriculture, and industry. The quality of the public water supply is generally high. ▪ Coastal, fluvial and surface water flood risk are present, with key fluvial flood risk in Dumfries from the River Nith, and to the west of Lockerbie from the River Annan.	▪ The need to locate new development including transport infrastructure away from areas of flood risk, and for infrastructure to be resilient to flooding (and adverse weather more widely). ▪ Avoid or mitigate the potential for adverse water quality impacts from the construction and operation of new transport infrastructure and operations. ▪ Identify and deliver enhancement to the water environment and contribution to resilience from flooding through the adoption of sustainable drainage measures and blue green infrastructure in preference to hard/positive drainage.
	Relevant SEA Objective: 4. Water, Flood Risk and Resilience: Conserve, protect and enhance water environments, water quality and water resources, whilst adapting to climate change and reducing exposure to flood risks.	
Cultural Heritage	▪ Designated cultural heritage assets are located throughout the region, with the highest densities around Dumfries, Lockerbie, Gretna and Thornhill. Designations include 1045 Scheduled Monuments, 3449 Listed Buildings (7% are Category A and 53% Category B), 32 designated Archaeological Sensitive Areas, 38 Conservation Areas (16 of which are classified as outstanding), 20 Inventory designed gardens or landscapes, 108 non-inventory gardens and Designed Landscapes, and one Historic Battlefield. ▪ South West Scotland has numerous non-designated historic environment assets and a proportion of the transport infrastructure is also historic.	▪ Preserve, protect and enhance (as appropriate) cultural heritage assets (including historic transport infrastructure, archaeological resources and undesignated sites) and their settings. ▪ Recognise opportunities through development and future implementation of the RTS to enhance access to, and understanding of, sites and areas of cultural heritage interest including areas of archaeological importance and locations of built heritage significance. ▪ Acknowledge the important role of built heritage in healthy spaces and integrate cultural heritage protection and interpretation with improved place making.
	Relevant SEA Objective: 5. Cultural Heritage: Conserve, protect and enhance the historic environment, designated and non-designated cultural assets and promote South West Scotland's distinct culture.	
Landscape	The region includes: ▪ Three National Scenic Areas (NSAs): Fleet Valley, East Stewartry Coast and the Nith Estuary. ▪ Ten Regional Scenic Areas (RSAs). ▪ Two areas of 'wild land'; Merrick massif and Talla-Hart fell, considered to be of national importance and exhibiting a high degree of tranquillity.	▪ Conserve and enhance landscape character and to protect visual amenity. ▪ Protect and enhance local landscape character, customs and traditions including in areas recognised for their importance such as areas of wild land and locally designated landscapes. ▪ Conserve and enhance townscapes in particular through the contribution that transport planning and promotion / integration of active and public transport to public realm and urban areas.

SEA Topic	Environmental Baseline Features	Key Issues
	▪ The Galloway Forest Park has Dark Sky Park status, recognising the exceptional quality of the night sky in the area. The lack of light pollution provides benefits for tourism as well as wildlife. ▪ Locally valued landscapes including areas of green space within and around towns and other settlements.	▪ Protect and enhance the seascape character. ▪ The need to protect the Dark Sky Park status of the Galloway Forest Park. ▪ Integrate access to and enjoyment of landscape with healthier lifestyles through promotion of active travel links and use of green infrastructure and nature based design solutions for new and upgraded transport infrastructure.
	Relevant SEA Objective: 6. Landscape: Protect and enhance the landscape character, townscape character and visual amenity.	
Accessibility and Connectivity	▪ Key road transport routes through the region include the A7, A74(M), A75, A76, A77, A701 and A709 ▪ Rail corridors include the West Coast Mainline and the Glasgow South Western Line (Glasgow to Stranraer and Glasgow to Carlisle / Newcastle via Dumfries). ▪ Cairnryan Port provides a key link to Northern Ireland. ▪ The Draft NPF4 (2021) proposes to strengthen resilience and decarbonise connectivity (including connectivity to Northern Ireland and Ireland and Carlisle; supporting a modal shift and reducing car use; better digital connectivity; and a strategic approach to electric vehicle charging). ▪ Transport of timber and transport routes to the ports on the west coast are key issues, along with the high dependency on cars for personal travel in this rural region. ▪ The south of Scotland Indicative Regional Spatial Strategy (2021) extends across the study area and the neighbouring local authority area of the Scottish Borders and identifies strategic development projects, including: o Strategic growth corridors leading to a Stranraer Gateway Project which incorporates creation of a Stranraer/Cairnryan Greenport to provide a strategic gateway between Scotland and Northern Ireland (and thus Europe) o Transport corridor improvements and further development along the growth corridors; o Active travel corridors and hubs;	▪ Align with and support the implementation of adopted and emerging relevant national policies, including NTS2 (Scottish Government, 2020) and the draft Strategic Transport Projects Review 2 (STPR2) and draft National Planning Framework 4 (NPF4). ▪ Encourage measures that reduce the need to travel and allow communities in different locations to flourish supporting efforts to reduce inequality of outcome in south west Scotland and improve quality of life and environment for all in the region. ▪ Underpin the development of a safe, secure, efficient, reliable, integrated and sustainable transport system across the SWestrans region which meets identified needs and supports population growth and enables population retention. ▪ Develop an affordable and accessible (both physical access and access to transport information) transport system, including within rural areas. ▪ Ensure that transport and transport information is accessible to all and does not contribute to social exclusion or disadvantage, whether through severance or unaffordability. ▪ Ensure transport services are demand responsive and provide convenient travel options. ▪ Strengthen transport links, including to Carlisle, Ireland and Northern Ireland.

SEA Topic	Environmental Baseline Features	Key Issues
	○ Measures to support natural capital and green tourism, including South West Costal Path Project and a coast to coast cycle route; ○ Digital infrastructure programme; ○ Development of the timber transport network to reduce timber transport by road; and ○ Rail improvements, including new rail links and stations.	
	Relevant SEA Objective: 7. Accessibility and Connectivity: Facilitate appropriate connectivity and affordable access for all to employment, education, facilities and services, and socio-economic and leisure opportunities.	
Inclusive Growth	▪ Deprivation in South West Scotland as measured by the SIMD 2020 is very diverse, with 8% of areas within the top 20% most deprived in Scotland (an increasing trend) and one area in Dumfries which fell into the top 5% most deprived areas across Scotland. While deprivation is relatively low across some parts of the region, due to the rural nature of the area the cost of living in Dumfries and Galloway can be high. ▪ In terms of employment, the State of the Environment Report (2017) identifies that: ○ there are high unemployment rates, particularly in relation to youth employment; ○ relatively few of those of working age have a high level of qualification or the skills required by employers; ○ full time workers in the region receive the lowest average weekly wage in Scotland; ○ the public sector accounts for 27% of all jobs; and ○ agriculture, retail, specific types of manufacturing, accommodation and residential care are all major sectors that are over-represented while professional, scientific and technical services as well as information & communication and finance are all significantly under-represented. ▪ Tourism is also an important and growing industry in Dumfries and Galloway.	▪ Support the delivery of new and upgraded transport infrastructure to increase connectivity and support the growth and diversification of key economic sectors to deliver sustainable and inclusive economic growth and realise the opportunities from the low carbon economy. ▪ Tackle deprivation and severance and to improve access to key amenities, the natural environment and economic opportunities for all demographic groups and communities. ▪ Enable the efficient, effective, affordable and sustainable movement of people and freight to increase economic productivity, competitiveness and opportunities for all ensuring no one is unfairly disadvantaged.

SEA Topic	Environmental Baseline Features	Key Issues
	▪ The National Planning Framework 3 (2014) (NPF3) notes Dumfries to be a rural gateway town which is the regional capital of the southwest of Scotland. It identifies the Solway as having significant opportunities for marine renewable energy generation, and wider opportunities for economic growth along the A74 corridor. ▪ The Draft NPF4 (2021) proposes creation of green jobs; diversification of the local economy through strategic growth corridors linking economic hubs with transport routes.	
	Relevant SEA Objective: 8. Inclusive Growth: Improve social and economic prosperity for all by enhancing productivity and competitiveness and through reducing societal inequalities.	
Human Health	▪ The population of the region which is almost 150,000 people, is both declining (projected decline of 2.8% from 2018 to 20281) and ageing. ▪ Life expectancy in the NHS Dumfries and Galloway Health Board for a female at birth is 81.45 and male life expectancy is 78.19 according to data from the Scottish Public Health Observatory (2017-2019). Both are higher than the Scottish average.	▪ Provide transport services appropriate to meet the needs of the projected ageing population of the region. ▪ Provide transport services that enable participation and reduce rural isolation. ▪ Protect the health and wellbeing of resident and workplace populations. ▪ Facilitate and encourage active travel to promote healthy and active lifestyles to help reduce obesity levels and improve other health and wellbeing outcomes, supporting public health benefits. ▪ Protect and enhance access to areas of high quality open space provision. ▪ Protect and enhance access for all to healthcare, community and leisure facilities. ▪ Avoid adverse health effects from the development and upgrading of transport facilities and services.
	Relevant SEA Objective: 9. Human Health: Improve the health of the resident and workplace population, including with respect to physical and mental health and social wellbeing.	
Material Assets	▪ The Draft NPF4 (2021) proposes creation of a low-carbon network of towns (including regeneration of towns to be models of sustainable living; 20 minute neighbourhood concept; Stranraer Gateway Project).	▪ Align with and support the implementation of the adopted Local Development Plan and other relevant regional and local policies applicable to the SWestrans region.

[1] Report (nrscotland.gov.uk) (accessed 04/08/22)

SEA Topic	Environmental Baseline Features	Key Issues
	▪ Brownfield land development is seen as a target by the Council, however there is a general lack of such land within the region. ▪ Dumfries and Galloway have the highest amount of forestry activity in Scotland, and 25% of the land mass of Dumfries and Galloway is forested.	▪ Promote the efficient use of natural resources, including moving towards a low carbon and circular economy to increase resource efficiency, reduce demand on non-renewable resources and lower carbon emissions associated with resource use and extraction. ▪ Make the best and most efficient use of existing infrastructure and available land. ▪ Maintain and upgrade transport assets and develop new sites that can be adapted for future changes in use, technology and to respond to increasing impacts from future changes in climate and adverse/extreme weather events. ▪ Maintain and enhance the security and safety of transport infrastructure.
	Relevant SEA Objective: 10. Material Assets: Manage, maintain and where possible regenerate the efficient and effective use of natural resources, ecosystem services, land and infrastructure to meet identified needs.	

3.3.2 Whilst all of the key environmental issues covered in the baseline and policy review should be addressed in the new RTS, the following must be afforded particular importance given their significance at national and international levels and their local relevance:

i. Responding to the climate emergency (both in terms of the causes of climate change and adaptation to climate change);

ii. Human health; and

iii. Contributing to the delivery of sustainable and inclusive economic growth.

3.3.3 It is recognised that response to the climate emergency is closely related to other environmental topic areas, including air quality, biodiversity, soils (both in terms of their carbon storage and the effect of climate change on soils), water, human health and socio-economics. As transport is Scotland's biggest contributor to climate change, emitting over a quarter of all greenhouse gas emissions, the RTS provides an opportunity to contribute to net zero targets, thus also indirectly supporting these wider topic areas.

3.4 Evolution of the Baseline in the Absence of the Emerging RTS

3.4.1 In the absence of the emerging RTS, it is predicted that transport infrastructure and provision in the SWestrans region would struggle to cope with changing transport demands including the need to support emissions reductions, accessible public transport and the delivery of inclusive economic growth. In the absence of a new Strategy, after the expiration of the current RTS, SWestrans would be in breach of the requirements under the Transport (Scotland) Act 2005 to prepare and maintain a RTS for the South West of Scotland area, and when doing so to have regard to the current National Transport Strategy (NTS2). This would result in a regional policy vacuum and would prevent SWestrans from having an up to date strategy aligned with current regional strategies and national policies including the emerging National Planning Framework (NPF4).

3.4.2 In relation to the environmental topics prescribed in Schedule 2 of the SEA Act, it should be noted that environmental impacts from individual transport infrastructure projects would depend on their locational, design and operational characteristics, as would be assessed through the consenting of each project rather than through the emerging RTS. However, in the absence of the new RTS and if the resident population of the SWestrans region decrease in line with projections, the following changes to the environmental / SEA baseline might be predicted:

- **Population**: If not carefully co-ordinated, there will be limited ability to shape the transport system to meet the needs of residents, support population retention and underpin sustainable and inclusive economic growth. This could impede the delivery of inclusive growth and stifle economic productivity, as well as resulting in physical environmental and human health impacts (see below). A declining population may reduce demand for public transport, increasing pressure on its economic viability, however this could be offset in some areas by increasing demand from tourism. Furthermore, recent trends suggest an upturn in migration into the area which is likely to have been driven by the pandemic.

- **Human Health**: Opportunities to encourage transport modal shift to active and public transport would be impacted. Additionally, if a significant switch to active modes of transport is not achieved, physical and mental health issues including obesity, inactivity, poor air quality and social exclusion would continue to adversely affect some of the population of the SWestrans region. People's health may therefore deteriorate which could result in life expectancy stagnating or even reducing.

- **Biodiversity, Flora & Fauna**: If not carefully co-ordinated (i.e., through the emerging RTS), the need for new major transport infrastructure to cope with issues unique to South West Scotland could put pressure on biodiversity and geodiversity, including the loss and

fragmentation of habitats and effects from increased traffic including disturbance from noise and habitat degradation from deposition of air pollutants.

- **Soil**: If not carefully co-ordinated, the need for new major transport infrastructure could lead to the loss or degradation of important soil resources (including carbon rich soils), soil erosion and land contamination.

- **Water**: If not carefully co-ordinated, the need for new major transport infrastructure to cope with issues unique to the region could result in increased flood risk, changes to local hydrological and groundwater patterns, and potential for pollution of the water environment. The provision of new and upgraded marine infrastructure also need to be co-ordinated to avoid adverse marine environmental impacts, including on the integrity, qualifying features and conservation objectives of statutorily designated sites.

- **Air Quality & Climatic Factors**: In the absence of better integration between transport planning and land use / spatial planning and a major shift towards the use of electric vehicles and modal shift towards active travel and public transport (both of which would be supported by the RTS), an increase in road traffic associated with a decline in public transport use could increase fossil fuel combustion, carbon emissions and local atmospheric pollution, in particular greater release of particulate matter. This would lead to reduced air quality in some areas and act against wider policy efforts to decarbonise key economic sectors, including transport, to mitigate climate change.

- **Material Assets**: Transport infrastructure and provision would be mis-aligned with changing transport patterns and demands whilst opportunities to encourage modal shift to active and public transport would be lost. The absence of the RTS could result in reduced attraction of public and private sector funding needed to adequately maintain existing public transport infrastructure, better integrate transport modes and to deliver the new or upgraded infrastructure required. This might adversely affect the ability of SWestrans, as the statutory RTP for the Dumfries and Galloway area, to support the delivery of sustainable and inclusive economic growth.

- **Cultural Heritage**: If not carefully co-ordinated, the need for new major transport infrastructure to cope with issues unique to Dumfries and Galloway could increase development pressures in areas of historical or archaeological interest and could undermine the integrity and setting of sensitive heritage assets.

- **Landscape and Townscape**: If not carefully co-ordinated, the need for new major transport infrastructure to cope with issues in the region could adversely impact on landscape and townscape character and on key landscape features within the region, as well as adversely affecting visual amenity in some key transport corridors.

4 Strategic Environmental Assessment (SEA) Process

4.1 Introduction

4.1.1 This section provides an overview of the SEA process which has been undertaken to assess the likely environmental effects of the emerging Draft RTS. Section 4.2 outlines the statutory requirements. The overall purpose of the assessment and the framework of SEA Objectives is set out in Section 4.3. Section 4.4 provides the assessment methodology, including details of how the SEA is integrated with the development of the RTS, sets out the SEA Framework and the approach to consultation. Consideration of alternatives within the RTS is presented in Section 4.5; finally, Section 4.6 provides an overview of how the SEA process has informed the development of the RTS.

4.2 Addressing Statutory Requirements

4.2.1 The Environmental Assessment (Scotland) Act 2005 ('the 2005 Act') requires Responsible Authorities, including RTPs such as SWestrans, to assess the likely significant effects on the environment of implementing relevant and qualifying plans and programmes, as defined within the Act. This assessment must also examine the likely significant effects of implementing reasonable alternatives to the plan or programme under consideration. The assessment is carried out by following a staged process of reporting known as Strategic Environmental Assessment (SEA).

4.2.2 Under the 2005 Act, once the need for SEA has been established a three-stage process is usually followed:

- **SEA Scoping**: Responsible authorities must provide the SEA Consultation Authorities with sufficient information to enable them to consider the proposed scope, level of detail and consultation period for an Environmental Report to accompany the emerging plan or programme under consideration. This requirement was fulfilled through the submission of a SEA Scoping Report to the Consultation Authorities in February 2022, with responses received in March 2022. Details of how these scoping consultation responses have been addressed in this SEA are provided in Section 4.4;

- **Preparation of and Consultation regarding an Environmental Report**: The relevant Responsible Authority must prepare an Environmental Report (ER) to "*identify, describe and evaluate the likely significant effects on the environment of implementing*" the emerging plan and its reasonable alternatives. The ER also needs to provide a "*description of the measures envisaged concerning monitoring*" of likely significant environmental effects from implementing the plan. Both the ER and associated emerging strategy must be consulted on in tandem prior to the final approval of the strategy. The scope, level of detail and consultation period of the SEA align with the approach agreed through SEA Scoping; and,

- **Preparation of a Post Adoption SEA Statement**: Following modifications as necessary to respond to comments submitted regarding the Draft RTS and associated ER, SWestrans will update the Draft RTS and then submit the proposed finalised RTS to the Scottish Ministers for approval. Following approval of the final RTS, a statement must then be prepared to set out, amongst other matters, how environmental considerations have been taken into account and how any likely significant effects of the RTS on the environment (as predicted through this SEA process) will be monitored.

4.2.3 To satisfy statutory requirements it is necessary for this ER to provide certain information. The approach to addressing relevant requirements is shown in Table 4.1 below.

Table 4.1 How Requirements of the 2005 Act are met in this SEA ER

SEA Requirement	ER Section
a) An outline of the contents, main objectives of the plan or programme and relationships with other relevant plans and programmes	▪ Section 2
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme	▪ Section 3 ▪ Appendix B
c) The environmental characteristics of areas likely to be significantly affected	
d) Any existing environmental problems which are relevant to the plan or programme	
e) The environmental protection objectives, established at international, community or national level which are relevant to the plan or programme and the way those objectives and any environmental consideration have been taken into account during its preparation	▪ Section 2.4 ▪ Appendix A
f) The likely significant effects of the plan or programme on the environment	▪ Section 5 ▪ Appendix E
g) The measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment of implementing the plan or programme	▪ Section 6
h) An outline of the reasons for selecting the alternatives dealt with and a description of how the assessment was undertaken, including any difficulties encountered in compiling the required information	▪ Section 4
i) A description of measures envisaged concerning monitoring	▪ Section 6
j) A non-technical summary of the information provided under the above headings	▪ Refer to separate Non-Technical Summary Report
k) Taking the environmental report and the results of the consultations into account in decision-making	▪ Sections 3, 4, 5, 6

4.3 SEA Purpose and Objectives

4.3.1 This report has been prepared by Stantec to assess the extent to which the Draft RTS addresses relevant environmental issues. In doing so, it responds to relevant statutory requirements[2], considers the development of the emerging RTS to date, presents an initial assessment of likely significant effects of the Draft RTS and seeks to identify opportunities to enhance the strategy.

4.3.2 The framework for the SEA has been established through early formulation of a set of ten objectives which reflect the key priorities for the environmental assessment. These objectives were drafted at the scoping stage of the process and subsequently consulted on with the SEA Consultation Authorities. They are set out in Table 4.2.

[2] In accordance with Section 14 of the Environmental Assessment (Scotland) Act 2005, this report acts as a statutory Environmental Report insofar as required to accompany each substantive component of the emerging RTS which is subject to public consultation.

Table 4.2 SEA Objectives

SEA Objective	Objective Wording
Climate Change	Respond to the climate emergency by decarbonising infrastructure assets and services, promoting and enhancing natural infrastructure, facilitating a low carbon economy, and adapting to accommodate the effects of climate change.
Air Quality and Amenity	To maintain and improve air quality, by reducing concentrations of harmful atmospheric pollutants and minimise exposure to noise and vibration.
Biodiversity, Geodiversity and Soil	Conserve, protect, restore and enhance biodiversity and geodiversity interests, including through safeguarding important sites, species and soil resources and by protecting, promoting and enhancing green infrastructure.
Water, Flood Risk and Resilience	Conserve, protect and enhance water environments, water quality and water resources, whilst adapting to climate change and reducing exposure to flood risks.
Cultural Heritage	Conserve, protect and enhance the historic environment, designated and non-designated cultural assets and promote south west Scotland's distinct culture.
Landscape	Protect and enhance the landscape character, townscape character and visual amenity.
Accessibility and Connectivity	Facilitate appropriate connectivity and affordable, sustainable access for all to employment, education, facilities and services, and socioeconomic and leisure opportunities.
Inclusive Growth	Improve social and economic prosperity for all by enhancing productivity and competitiveness and through reducing societal and environmental inequalities.
Human Health	Improve the health of the resident and workplace population, including with respect to physical and mental health and social wellbeing.
Material Assets	Manage, maintain and where possible regenerate the efficient and effective use of natural resources, ecosystem services, land and infrastructure to meet identified needs.

4.4 Approach to SEA

SEA Project Team

4.4.1 Stantec has provided drafting and technical support to SWestrans to support the preparation of the Draft RTS and regular discussions have been held with senior officers throughout the process of preparing the Draft RTS. This has allowed informal and early feedback of key issues identified by the SEA project team, resulting in iterative amendments to strengthen the RTS as it developed. Further details of how the SEA process has informed the preparation of the Draft RTS are provided in Section 5.

Key Stages of the SEA and Integration with the RTS

4.4.2 The SEA process has been integrated with the development of the RTS to allow key environmental issues to inform the content of the RTS. The key stages of the process are set out in Table 4.3 to illustrate the activities from the two strands of work which were undertaken at similar periods and to explain how SEA outputs informed the RTS process. SEA reports to date are highlighted in the table.

Table 4.3 RTS and SEA Processes

RTS Process	SEA Process
Development of a detailed baseline of relevant transport, land use, socio-economic and environmental data.	Collation of a detailed environmental baseline including review and identification of relevant key plans and programmes.
Identification of transport problems, issues, constraints and opportunities, drawing on the detailed transport baseline analysis.	Analysis of baseline environmental issues and discussions with the RTS transport planning and policy development teams to ensure environment, climate change and sustainability issues were captured in the problems analysis process. Development of an initial SEA framework to provide the basis for environmental assessment of the key emerging components of the RTS. ***Key SEA output*: SEA Scoping Report (Stantec, February 2022)**
Development and drafting of the strategic framework for the Draft RTS including setting out Transport Planning Objectives and Strategy Objectives.	Input to the Priorities development process including initial testing of the compatibility of the RTS strategic framework with the developing SEA framework and objectives.
Case for Change public and stakeholder Consultation.	The public and stakeholder consultation process included consultation on the interim findings of the SEA at the Case for Change stage. ***Key SEA output*: Case for Change SEA Environmental Report (Stantec UK, March 2022)**
Development of a long-list of transport options to address the identified problems.	SEA team input to the specification of options. A strong environmental (and equalities) theme runs through the options list, particularly those addressing active travel and public transport.
Appraisal of the long-list of options in line with STAG guidance and criteria.	Environmental assessment of options was carried out in line with STAG to provide environment and climate change analysis of options and inform the understanding of the effectiveness of options in addressing the identified problems. Initial proposals for mitigation were identified from the environmental appraisals and taken forward in this SEA.
Development of the RTS Vision and transport priorities and compilation of the Draft RTS.	Completion of the detailed environmental assessment of the RTS Priorities on each the SEA Objectives and preparation of the SEA Environmental Report. ***Key SEA output*: Draft RTS SEA Environmental Report (September 2022) (This document)**

4.4.3 The environmental assessment of the developing components of the Draft RTS has focused on three groups of Strategy elements:

- compatibility assessment of the preliminary elements (or 'strategic framework') of the Draft RTS including the Vision, Transport Planning Objectives and RTS Objectives (which were presented initially in the RTS Case for Change report);
- environmental assessment of the long list of transport options generated in the transport planning analysis of problems and opportunities (which were presented in the Options Appraisal report); and

- environmental assessment of the RTS Priorities (as presented in the draft Strategy).

Assessment Methods

4.4.4 At the scoping stage, an SEA framework was prepared to provide the basis for comprehensive environmental assessment of the RTS components and a consistency of approach. This has been updated slightly in response to feedback from the SEA Consultation Authorities (see the sub-section below on 'consultation') and as the RTS drafting and assessment process has developed. The SEA framework is presented in Appendix C.

4.4.5 The framework is based around ten SEA Objectives, the potential effects of each RTS element is assessed against these SEA Objectives. The framework includes a series of guide questions and supporting criteria to inform the consideration in a consistent and objective manner. Due to the high level nature of the Strategy, the SEA team has applied professional judgement drawing from experience of assessing similar plans and programmes to determine the likelihood of significant environmental effects and to identify mitigation where appropriate.

4.4.6 The approach to environmental assessment at each of the above key RTS stages has required a flexible method adapted to each RTS component. The methods used are explained in the following paragraphs.

4.4.7 The compatibility assessment of the preliminary elements (or 'strategic framework') of the Draft RTS followed a qualitative assessment method where the potential for environmental effects from the key emerging RTS elements at that stage (the Transport Planning Objectives and RTS Objectives) was considered by the SEA team with respect to each SEA Objective, and with reference to the guide questions in the SEA Framework. The findings of the initial compatibility appraisals were presented using simple tables with indicative environmental 'compatibility scores' and a supporting narrative. These appraisals were undertaken initially at the Case for Change stage and the findings presented in the Case for Change SEA ER. The appraisals have been reviewed and updated to reflect changes to the RTS elements (e.g., through changes to the wording of the RTS Objectives) following the consultation on the Case for Change in 2022. The updated appraisals based on the finalised wording of the RTS Objectives are presented in Section 5.2.

4.4.8 The generation and appraisal of the long list of transport options for the Strategy was undertaken in accordance with Scottish Transport Appraisal Guidance (STAG) methods at a strategic level. The SEA team inputted to this process providing an overarching check that all reasonable alternative options had been identified and providing an appraisal of the environmental and climate change criteria required by STAG based on a seven-point scale[3] of impact criteria to assign an indication of significance of the predicted impact alongside the impact commentaries. These appraisal inputs then informed the sifting of options to refine the list to those which offered the best performance against transport planning objectives and the STAG criteria. The findings of the environmental appraisal of the transport options are captured both in the STAG Options Appraisal Report and in Section 5.3 of this report.

4.4.9 Following the options appraisal, the RTS process involved the development of 10 transport Themes, each containing a varying number of Priorities. The final key stage of the SEA environmental assessment involved the application of the SEA framework to assess the predicted environmental effects of these Priorities. These also drew on the findings of the appraisals of the relevant options (as linked to each theme) from the STAG-based work.

4.4.10 For each element of the RTS, the SEA topic/objective was considered in turn by the assessment team and environmental effects were predicted with reference to the guiding questions and criteria in the SEA Framework and drawing on the judgement and professional experience of

[3] The scale provides a range of predicted impact categories from major through moderate and minor beneficial or adverse and one for neutral/no effect.

the assessment team. The predicted environmental effects of the RTS elements were then evaluated with reference to a set of impact criteria as shown in Table 4.4 to determine their likely significance.

Table 4.4 Significance Criteria for Assessing Environmental Effects of RTS Priorities

Score	Description	Symbol
Significant (Major) Positive Effect	The proposed policy contributes significantly to the achievement of the SEA Objective	++
Minor Positive Effect	The proposed policy contributes to the achievement of the SEA Objective but not significantly	+
Neutral Effect	The proposed policy is related to but does not have any effect on the achievement of the SEA Objective	0
Minor Negative Effect	The proposed policy detracts from the achievement of the SEA Objective but not significantly	-
Significant (Major) Negative Effect	The proposed policy detracts significantly from the achievement of the SEA Objective. Mitigation is therefore required	--
Uncertain Effect	The proposed policy has an uncertain relationship to the SEA Objective or the relationship would be dependent on the way in which the aspect is managed	?
No Clear Relationship	There is no clear relationship between the proposed policy and the achievement of the SEA Objective, or the relationship is negligible	~

4.4.11 The predicted effects and their significance were recorded in a series of assessment frameworks (tables) to capture information on the nature of the predicted effects, their likely significance, and proposed mitigation (and enhancement) measures to be taken forward when action plans are developed at later stages of the RTS implementation.

4.4.12 A high-level commentary on potential cumulative effects of the Draft RTS is included in Section 5.4 to recognise in particular the opportunity for synergies from enhanced active travel and public transport across the region to reduce emissions and other environmental effects.

Consultation

4.4.13 Statutory consultation with the SEA Consultation Authorities was undertaken at both the Scoping and Case for Change stages of the RTS and SEA processes.

4.4.14 At the Scoping Report stage, SEA Consultation Authorities were issued with a copy of the SEA Scoping Report and requested to provide comments regarding the proposed scope and approach to undertaking the SEA of the emerging RTS. It was requested that comments were provided within 5 weeks of receiving the report. The following consultees responded at this stage:

- NatureScot;
- Scottish Environment Protection Agency (SEPA); and
- Historic Environment Scotland (HES).

4.4.15 The Consultation Authorities were generally satisfied with the scope, level of detail and approach to the SEA presented in the Scoping Report including the SEA Objectives and assessment framework. However, the SEA Framework has been refined in response to comments provided by the SEA Consultation Authorities, including the following amendments:

- Addition of a guiding question relating to the infrastructure which itself has heritage value.

- Increased emphasis on the environmental issues relating to socio-economic SEA Objectives.

4.4.16 An online survey was carried out at the Case for Change stage. This was issued to both members of the public and stakeholders. In addition, the SEA ER was sent to the SEA Consultation Authorities who were invited to provide feedback. All three SEA consultees responded expressing they were pleased to see their previous comments taken into account and acted on, with no follow up actions required following the Case for Change stage.

4.4.17 A schedule of the comments received from the SEA Consultation Authorities, and responses from the SEA team on how the issues raised have been addressed is included in Appendix D.

Assumptions and Limitations

4.4.18 The identification of any assumptions and uncertainties is an important element of the SEA process, as the emerging RTS will need to be unambiguous to ensure the plan can be implemented as intended.

4.4.19 The SEA has been undertaken alongside a relatively high level and strategic document in the RTS which is intended to cover a significant timespan of up to approximately 15 to 20 years. There is some inherent uncertainty therefore in the accuracy of predictions made for the environmental assessment of long term policies where the detail of implementation is still to be worked up. Whilst the Strategy does not include any detail on specific spatial transport interventions, the process of identifying and appraising options and the subsequent linking of options with Priorities in the draft Strategy has allowed the environmental assessment team to better judge the types of intervention associated with each Priority through consideration of indicative (if generic) measures.

4.4.20 This has reduced the uncertainties inherent in the assessment of a plan of this nature and it is considered that the environmental assessment has been founded on sufficient prescription in the Priorities to allow for a competent strategic level assessment of potential significant effects. To address potential uncertainty in the degree of effectiveness of the RTS Priorities, the SEA team has also taken account of the typical measures which the options set provides, and the assessment assumes that Priorities and their subsequent delivery measures would be implemented broadly and comprehensively across the SWestrans region to better understand and project their likely environmental and sustainability consequences. The reliability of these assessments has been improved through close working between the SEA and transport planning teams through the whole RTS process so that the types of options and their potential impacts were better understood.

4.4.21 The SEA assessment and reporting matrices have been designed to allow uncertainties and assumptions affecting the implementation of the emerging RTS to be identified early and effectively within the RTS preparation process. Relevant assumptions have therefore been incorporated in relation to the assessment of each RTS Theme.

4.4.22 The iterative nature of the SEA process has enabled mitigation and enhancement recommendations to be devised and incorporated into the emerging RTS to address any identified issues, in particular to avoid likely significant adverse effects from occurring. Finally, the commitment to continued environmental assessment at an appropriate level through the future stages of RTS delivery and incorporation of mitigation principles from this SEA (see Section 6.2) will help to ensure that any uncertainties at this stage in how Priorities may be taken forward can be proactively addressed through later delivery.

4.4.23 No significant difficulties or limitations have been encountered in preparing this SEA Environmental Report.

4.5 Consideration of Reasonable Alternatives

4.5.1 The SEA legislation requires that the likely significant environmental effects of implementing the Strategy and reasonable alternatives to it are identified, described and evaluated. The reasons for selecting the alternatives dealt with should also be outlined.

4.5.2 The first strategic alternative considered at the outset of the RTS process by SWestrans related to whether or not a new Strategy was required. The previous RTS was published in 2008 and there has been rapid development of legislation and policy in the transport sector in Scotland in recent years and an increasing prominence and urgency of addressing issues such as climate change and a range of socio-economic and equalities priorities in the region. These and other developments, coupled with the need for an update of the transport and economic trends and data underpinning the Strategy, meant that all RTPs concluded that it was necessary to develop new RTSs. This decision also triggered the requirement for the SEA process to commence which was undertaken from early stages of the plan development and allowed for environmental and sustainability issues to be addressed comprehensively as part of a new Strategy.

4.5.3 Alternatives and options have been considered in the RTS development process from the outset. The overall direction of the Strategy, as expressed through its Vision and Objectives, inherently considered alternatives through refinement of their wording to reflect and address priorities for transport in the SWestrans region and in taking account of consultee feedback and suggestions on their amendment. This process included consideration of a wide range of policy drivers, spatial characteristics and transport 'key issues' as set out in the Case for Change Consultation report. The SEA process contributed to this refinement and direction through consideration of the compatibility of developing themes and wording for the RTS Vision and Objectives with environmental priorities expressed through the developing SEA Objectives and framework.

4.5.4 The consideration of alternatives was an integral part of the identification and development of the 'delivery' elements of the RTS, principally in the form of the transport options which were generated and appraised through integrated working between the client, transport planning and SEA and equalities assessment teams. These options included a wide range of responses including policies, interventions, fiscal measures and generic indications of physical transport schemes which were broadly grouped into a series of themed categories. The SWestrans RTS STAG Preliminary Options Appraisal report (Stantec, August 2022) sets out the initial option generation process, the packaging of those options and their appraisal using STAG criteria. The SEA considered if there were any reasonable alternatives that had been omitted within this initial option generation process.

4.5.5 By considering a very long list of potential options to address transport challenges in the region, a broad view of the alternatives available for the new transport strategy was adopted. An initial phase of option sifting was undertaken, and it was determined that several options should not be taken forward for subsequent appraisal. Table 4.1 of the SWestrans RTS Preliminary Options Appraisal report (Stantec, August 2022) sets out the options that were sifted at this stage and the rationale for these decisions, which included feasibility, policy compliance and a lack of public acceptability.

4.5.6 This initial sifting process resulted in over 50 options being taken forward for appraisal. The transport planning, STAG and SEA processes ensured that there was full consideration of the potential for adverse and beneficial effects of these options which helped to refine and sift the most suitable (and therefore, reasonable) alternatives for further consideration. These alternative courses of action were therefore subject to environmental assessment by integrating the SEA and RTS workstreams.

4.5.7 As the RTS is a high level and strategic document, there remains considerable flexibility in the identification and consideration of alternatives for implementation of transport solutions during later stages of implementation. This process will facilitate ongoing appraisal of measures as

specific details about transport policies and proposals emerge and the SEA provides a framework to underpin and support required further environmental design and assessment input to the future RTS Delivery Plan.

4.6 How the SEA informed the RTS

4.6.1 Integration of the SEA process and team with the RTS and transport planning workstreams has allowed for an iterative approach to RTS development whereby feedback from the SEA team at key stages of Strategy development has informed subsequent RTS updates. This is considered to have improved the environmental context and contribution to better environmental outcomes. The key stages of this integrated approach have included:

- The SEA at the Case for Change stage identified a series of emerging environmental issues from synthesis of baseline information including the key policies and plans reviewed at that stage which was fed back to be taken into account in the development of the RTS. Many of the principal themes running through the document's various chapters are inherently of an environmental nature. Coverage of environmental issues in the report was reviewed and generally provided a strong evidence-based platform on which to develop the RTS and underpin action to tackle key environmental issues.

- The RTS draft objectives were reviewed against the SEA Objectives and considered to be compatible with them; feedback provided led to a strengthening of the RTS Objectives.

- This review, and a supporting 'compatibility appraisal' of the RTS Objectives, also made recommendations on how RTS Objectives should be further developed to set out clearer outcomes, more explicit coverage of some environmental issues and hence improve the environmental performance of the proposed RTS. The Draft RTS for consultation now incorporates four themes responding directly to over-arching policy priorities around responding to the climate emergency, health and contributing to sustainable and inclusive economic growth. These are Theme 1 (enabling more sustainable development), Theme 2 (connecting our communities), Theme 3 (transforming travel in our towns) and Theme 6 (sustainable and extended local and regional public transport connectivity). The Strategy has therefore been developed following the Case for Change with very clear and explicit integration of environment related issues.

- Within the Options Appraisal, an initial SEA 'coverage' assessment was also undertaken on the initial draft of the options long list. This analysis identified that the options provided good coverage of relevant strategies and policy commitments. An initial review of the compatibility of these options with the SEA Objectives was also undertaken, providing feedback on how options could be developed to improve compatibility with all SEA Objectives (noting however the challenges of predicting environmental effects / outcomes when the options are necessarily high level and not locationally specified). The development, specification and appraisal of the emerging options is set out in further detail in a supporting document to the RTS (Stantec UK, 2022) which will be made available during the public consultation period on the Draft RTS. Further environmental input and as appropriate mitigation of the options will be integrated into the process of RTS implementation including through the proposed RTS Delivery Plan (see Section 6.2).

- The Draft RTS Priorities have been reviewed using the SEA framework prior to publication, leading to some drafting improvements, such as:

    - Increased emphasis on firstly locating new development sustainably, in proximity to services and facilities, to reduce the need to travel; before ensuring that development is serviced by more sustainable modes.

- Amendments to the wording of Priorities to ensure environmental impacts are firstly avoided, prior to reduction and mitigation, such as through appropriate siting and design.

- Broadening the scope of the provision of sustainable transport and ancillary infrastructure from only employers, to include other large organisations.

- Addition of filling gaps within the existing active travel routes.

- Increased emphasis within the Priorities on the scale of funding for active travel (50% of SWestrans capital budget).

- Terms such as 'should be' and 'will be' within the Priorities were challenged. Where it was feasible, changes were made. In a number of instances, the ability to use more certain wording was limited by the varying responsibilities for implementing measures across the transport network.

- The STAG assessment of the options and the subsequent SEA framework based assessment of RTS Priorities has provided a mechanism to identify predicted beneficial and adverse effects of the RTS and to develop mitigation measures which, provided they are committed through the implementation phases of the Strategy, will secure minimal adverse environmental effects and provide enhancement opportunities. A key role of the SEA process is therefore to develop appropriate mitigation and enhancement which can help address uncertainties in future Strategy delivery and strengthen the sustainability performance of the RTS. The suite of mitigation principles identified from the detailed environmental assessment of the RTS policies is set out in Section 6.2.

4.6.2 Through this approach it is considered that the iterations of the RTS at each key stage have taken better account of environmental issues than they would have done without the SEA, and has contributed to formulation of a draft Strategy which optimises beneficial environmental effects, minimises adverse effects and identifies opportunities for environmental and social enhancement.

4.6.3 In taking the RTS forward to implementation stages it will be important to maintain the focus on achieving these beneficial outcomes for people and the environment. Further details on proposed methods for monitoring the process and embedding mitigation are set out in Section 6.3 of this report.

5 Findings of the Environmental Assessment

5.1 Introduction

5.1.1 This section sets out the findings of the environmental assessment of each key component of the Draft RTS. Section 5.2 presents the assessment of compatibility of the RTS and SEA Objectives. Section 5.3 sets out a summary of the key findings of the environmental appraisal of the RTS options and the assessment of the likely significant effects of the RTS Priorities is set out in Section 5.4.

5.2 Assessment of RTS Vision and Objectives

5.2.1 An assessment of the compatibility of the RTS Objectives was undertaken at the Case for Change stage; and the Vision at the Draft RTS stage. The Vision and Objectives were appraised against the SEA Objectives to inform identification of any clear inconsistencies between the two sets of objectives and to identify any potentially significant environmental effects. The findings of the assessment have been updated to reflect subsequent amendments to RTS Objectives and are set out in **Error! Reference source not found.**.

5.2.2 The RTS Vision states that:

> "The South-West of Scotland will be an inclusive, prosperous and attractive place to live, work and visit supported by an integrated and sustainable transport system that is safe, affordable and accessible to all, resilient to climate change, allowing healthier lifestyles and supporting a proportionate contribution to net zero emissions targets."

5.2.3 Six RTS Objectives were developed at the Case for Change stage in response to the identified transport problems. Considering the commentary contained within the SEA Case for Change and other consultation, the Objectives were updated. As such, the RTS Objectives are:

- Strategy Objective 1 - To facilitate and encourage safe and active travel for all by connecting communities and travel hubs
- Strategy Objective 2 - To improve the quality and sustainability of public transport within, and to / from the region
- Strategy Objective 3 - To widen access to, and improve connectivity by public transport within and to / from the region
- Strategy Objective 4 - To improve integration between all modes of travel and freight within and to / from the region
- Strategy Objective 5 - To provide improved, reliable, resilient, and safe road-based connectivity for the movement of people and goods within the region, and to key locations including Glasgow, Edinburgh, Carlisle and Cairnryan
- Strategy Objective 6 – To reduce the impact of transport on the people and environment of the region

5.2.4 Each objective is supported by sub-objectives and societal outcomes which are helpful in setting out further detail on the scope and intention of the objectives, which have aided the SEA process.

Table 3.4 Compatibility of RTS Vision and Objectives with SEA Framework

SEA Objectives	RTS Objectives[4]							Commentary
	RTS Vision	1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	
1. Climate Change: Respond to the climate emergency by decarbonising infrastructure, promoting natural infrastructure, facilitating a low carbon economy and adapting to accommodate the effects of climate change.	++	++	+	+	+	-	+	++	The RTS Vision directly references supporting a proportionate contribution to net zero emission targets. A suggested edit resulted in the addition of 'resilience to climate change'. All of the proposed RTS Objectives match well with SEA Objective 1 relating to climate change. Through improving the quality, reliability and connectivity of public transport, these Objectives will encourage a shift towards less carbon intensive travel options. However, addressing barriers to travel could increase the amount people travel and thus (without intervention), carbon emissions. This conflicts with the targets to achieve net zero. Objective 1 most closely aligns with SEA Objective 1 by supporting and encouraging active travel which will reduce the reliance on carbon intensive travel options more considerably. RTS Objective 5 highlights the needs for network resilience to extreme weather and adaptation to climate change which aligns well to the SEA Objective. However, there is also a natural conflict between these objectives as improved road-based connectivity may increase use of roads and traffic levels. However, it is recognised that road-based travel will remain important to this

[4] Refer to Section 5.2 above for the full RTS Objective wording.

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								rural area. This issue is somewhat balanced through the support of the decarbonisation of the transport system within RTS Objective 6. RTS Objective 6 aims to reduce the impact of transport on the environment, including by decarbonising the transportation system. The development and encouragement of this in the region may help to drive the decarbonisation of private vehicles, helping to facilitate a low-carbon economy.
2. Air Quality and Amenity: To maintain air quality, reduce concentrations of harmful atmospheric pollutants and minimise exposure to noise and vibration.	+	++	+	+	+	?	++	The RTS Vision seeks to facilitate the region being an inclusive, prosperous and attractive place, supported by an integrated and sustainable transport system allowing healthier lifestyles and supporting net zero emission targets. Whilst not engaging specifically with air quality issues, this indirectly helps to address air quality and amenity issues. RTS Objectives 1 and 6 both strongly support SEA Objective 2 by encouraging active travel and reducing the impact of transport on the people and the environment of the region, including air pollutant emissions associated with the transport network. These objectives will help to reduce the amount of traffic and congestion leading to better air quality and minimising human exposure to noise and vibration. RTS Objectives 2, 3 and 4 support SEA Objective 2 by encouraging a shift towards better public

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								transportation and thus reducing the number of vehicles on the road. Any increase in emissions to air through increased provision of public transport, may be off-set through the support for decarbonising the transport network, as supported by RTS Objective 6. RTS Objective 5 aims to provide improved, reliable, resilient, and safe road-based connectivity within the region and out of the region. As such, there is a natural conflict with the SEA Objective and some uncertainty in the effects of its implementation. However, it is recognised that road-based travel will remain important to this rural area. This issue is somewhat balanced through the support of the decarbonisation of the transport system and reduced impact on communities within RTS Objective 6.
3. Biodiversity, Geodiversity and Soil: Conserve, protect, restore and enhance biodiversity and geodiversity interests, including through safeguarding	+	+	+	+	+	+	++	The RTS Vision seeks to facilitate the region being an inclusive, prosperous and attractive place, supported by an integrated and sustainable transport system allowing healthier lifestyles and supporting net zero emission targets. Whilst not engaging specifically with biodiversity, geodiversity and soils, this provides a suitable platform to address physical environmental issues. A sub-objective to RTS Objective 6 explicitly aims to protect and enhance biodiversity and ecosystem services. Whilst geodiversity and soils

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
designated and non-designated sites, species, soil resources and habitats and by protecting and enhancing green infrastructure								are not specifically mentioned in any of the RTS Objectives, they are covered in the broader sense by RTS Objective 6 and will be considered as part of the environmental appraisal of options during the next stage of the RTS development. Where the RTS Objectives support measures to reduce emissions of pollutants to atmosphere, there is potential for subsequent benefits to biodiversity. This includes the support of active travel through RTS Objective 1 and public transport through RTS Objectives 2 to 4. As such these RTS Objectives have the potential to support this SEA Objective, depending on the way in which they are implemented as the RTS is developed. Where relevant the subsequent policies and proposals to implement these Objectives should include appropriate consideration and safeguards in respect to biodiversity, geodiversity and soils. RTS Objective 5 aims to provide improved, reliable, resilient, and safe road-based connectivity within the region and out of the region. As such, there is some natural conflict with the SEA Objective. However, it is recognised that road-based travel will remain important to this rural area. This issue is somewhat balanced through the support of the decarbonisation of the transport system and reduced impact on communities within RTS Objective 6.

SEA Objectives	RTS Objectives[4] RTS Vision	1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								There is potential for some development proposals that may arise from the RTS to affect biodiversity, geodiversity, and soils.
4. Water, Flood Risk and Resilience: Conserve, protect and enhance water environments, water quality and water resources, whilst adapting to climate change and reducing flood risks.	+	+	+	?	?	+	+	The RTS Vision seeks to facilitate the region being an inclusive, prosperous and attractive place, supported by an integrated and sustainable transport system allowing healthier lifestyles and supporting net zero emission targets. Whilst not engaging specifically with water environment issues, this provides a suitable platform to address physical environmental issues. Whilst there is no explicit consideration of impacts on water quality and flood risk in the RTS Objectives, they are covered in the broader sense by RTS Objective 6 (to reduce the impact of transport on the environment) and will be considered as part of the environmental appraisal of options during the next stage of RTS development. RTS Objectives 1, 2 and 6 support active travel, more sustainable travel options, transition towards an environmentally sustainable post-carbon transport system and efficient movement of people. As such, they have the potential to support this SEA Objective, depending on the way in which this aspect is managed as the RTS develops.

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								RTS Objective 5 is compatible with the Resilience element of this SEA Objective, through supporting travel networks resilience and ability to adapt to the threat posed by climate change. There is an element of uncertainty in the relationship of RTS Objective 1, 2, 3, 4 and 5 with this SEA Objective as potential impacts (beneficial or adverse) would depend on their implementation. Where relevant the subsequent policies and proposals to implement these Objectives should include appropriate consideration and safeguards in respect of the water environment and flood risk e.g. through harnessing green/blue infrastructure in drainage designs of transport interventions.
5. Cultural Heritage: Conserve, protect and enhance the historic environment, designated and non-designated cultural assets and promote south west Scotland's distinct culture.	+	?	?	?	?	?	+	The RTS Vision seeks to facilitate the region being an inclusive, prosperous and attractive place, supported by an integrated and sustainable transport system allowing healthier lifestyles and supporting net zero emission targets. Whilst not engaging specifically with cultural heritage, this provides a suitable platform to protect the historic environment. Whilst there is no explicit consideration of impact on cultural heritage in the RTS Objectives, they are covered in the broader sense by RTS Objective 6 (to reduce the impact of transport on the environment) and will be considered as part of

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								the environmental appraisal of options during the next stage of RTS development. RTS Objectives 2, 3, 4 and 5 have the greatest potential to align with Cultural Heritage as they could make heritage assets more accessible to residents and tourists alike. However, increased visitor numbers should be supported by any required infrastructure to cope with larger volumes of people. There is an element of uncertainty in the relationship of RTS Objective 1, 2, 3, 4 and 5 with this SEA Objective as potential impacts (beneficial or adverse) would depend on their implementation. Where relevant, policies and proposals to implement these Objectives should include appropriate safeguards in respect of cultural heritage to conserve, protect and enhance the historic environment and cultural assets.

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
6. Landscape: Protect and enhance the landscape character, townscape character and visual amenity.	+	?	?	?	?	?	+	The RTS Vision seeks to facilitate the region being an inclusive, prosperous and attractive place, supported by an integrated and sustainable transport system allowing healthier lifestyles and supporting net zero emission targets. Whilst not engaging specifically with landscape issues, this provides a suitable platform to address physical environmental issues. Whilst there is no explicit consideration of impact on landscape in the RTS Objectives, they are covered in the broader sense by RTS Objective 6 (to reduce the impact of transport on the environment) and will be considered as part of the environmental appraisal of options during the next stage of RTS development. RTS Objective 1, 2, 3, 4 and 5 have an uncertain relationship with this SEA Objective as potential impacts (beneficial or adverse) would depend on their implementation. Where relevant, policies and proposals to implement these Objectives should include appropriate consideration and safeguards in respect of landscape character and visual amenity.
7. Accessibility and Connectivity: Ensure appropriate and affordable, sustainable	++	++	++	++	++	++	0	The RTS Vision refers to the region being an inclusive, prosperous and attractive place to live, work and visit supported by an integrated transport system that is safe, affordable and accessible to all, allowing healthier lifestyles.

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
access for all to employment, education, facilities, services, and social and leisure opportunities.								The Accessibility SEA Objective receives good coverage across the first five of the RTS Objectives by supporting improved access to facilities. RTS Objective 1 aims to facilitate active travel for everyone and improve more sustainable travel options for all including those without access to a car. RTS Objectives 2, 3 and 4 look to improve the quality, sustainability, access to, and connectivity of public transport within the region; and improve integration between all modes of travel within the region. There is no direct relationship with RTS Objective 6 although the promotion of sustainable forms of access would be broadly compatible with the aim of this objective.
8. Inclusive Growth: Improve social and economic prosperity for all by enhancing productivity and competitiveness and through reducing societal and	+	+	+	+	+	+	+	The RTS Vision refers to the region being an inclusive, prosperous and attractive place to live, work and visit, supported by an integrated transport system that is safe, affordable and accessible to all. All RTS Objectives align with this SEA Objective through seeking to enhance the efficiency and performance of the transport system for all groups whilst increasing accessibility enabling economic growth/prosperity. RTS Objective 1 has been expanded in scope to support active travel for all users, including for

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
environmental inequalities.								leisure use. This supports economic growth including through tourism. Active travel also supports economic prosperity through improved access to employment, education etc. RTS Objectives 4 and 5 directly support the movement of freight/people/goods, supporting growth. RTS Objective 6 seeks to reduce the impact of transport on people, which may support reduced societal inequalities from socio-economic disadvantage.
9. Human Health: Improve the health of the resident and workplace population, including with respect to physical and mental health and social wellbeing.	+	+	+	+	+	+	+	The RTS Vision refers to the region being an inclusive, prosperous and attractive place to live, work and visit, supported by an integrated transport system that is safe, affordable and accessible to all, allowing healthier lifestyles. Reference to net zero emission targets indirectly support lower emissions to atmosphere, supporting a healthier environment. Overall, the Health SEA Objective is well represented throughout all RTS Objectives. RTS Objectives 1 to 4 reduce the reliance on carbon-based transport, thus reducing emissions to air and potentially subsequently improving human health. RTS Objective 1 supports active travel, has clear links to the Human Health SEA Objective as it

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								directly seeks to improve health (both physical and mental) and wellbeing through transport interventions. By supporting improved road safety, RTS Objective 5 relates well to this SEA Objective. RTS Objective 6 seeks to reduce the impact of transport on the people of the region including through decarbonising the transport network, reduced traffic and reduced effects on communities affected by traffic.
10. Material Assets: Manage, maintain and where possible improve the efficient and effective use of natural resources, ecosystem services, land and infrastructure to meet identified needs.	+	?	?	?	?	?	+	The RTS Vision focuses on an integrated and sustainable transport system and supporting a proportionate contribution to net zero emission targets. It provides a supportive platform to deliver efficient use of resources and delivery of infrastructure to meet identified needs. RTS Objective 6 seeks to reduce the impact of transport on the environment and includes a sub-objective relating to eco-system services. There is no explicit consideration of the efficient and effective use of natural resources, land and infrastructure to meet identified needs in the RTS Objectives. These issues will be considered as part of the environmental appraisal of options during the next stage of RTS development.

SEA Objectives	RTS Vision	RTS Objectives[4] 1. Safe and active travel	2. Improve quality of public transport	3. Widen access and connectivity to public transport	4. Improve integration of between modes of transport	5. Improve and better connect transport to other areas	6. Reduce the impact of transport on people and the environment	Commentary
								RTS Objective 1 supports active travel; RTS Objectives 2, 3 and 4 support more sustainable travel options. As such, they have the potential to support this SEA Objective, depending on the way in which the aspect is managed as the RTS develops. Where relevant the subsequent policies and proposals to implement these Objectives should include appropriate safeguards in respect of the efficient and effective use of natural resources, ecosystem services, land and infrastructure to meet identified needs.

KEY:				
	++	Strong compatibility	-	Incompatible
	+	Compatible	~	No clear relationship
	0	Neutral	?	Uncertain

5.2.5 In overall terms, the Vision and RTS Objectives have evolved in response to previous SEA critical reviews and clearly identify the role of the transport system in 'facilitating' positive environmental and health outcomes, as well as referencing the need for the transport system to be developed and operated sustainably. This provides an appropriate high-level platform from which to develop specific policies and proposals to address a range of key environmental (as well as socioeconomic and wider) issues. There is an element of uncertainty in the relationship of some of the RTS Objectives with this SEA Objectives. Whilst the effects would generally be considered to be beneficial, there is some uncertainty in how they would be implemented which will be addressed as the RTS is delivered.

5.2.6 RTS Objective 6 provides an overarching direction to the RTS to reduce the impact of transport on people and the environment of the region, with a sub-objective for the delivery of transport projects in a more sustainable way in terms of the physical environment. Although this is not specific to some aspects of the environment (such as the water environment, heritage, landscape or material assets), these issues were considered within the subsequent appraisal of the options during the next stage of the RTS development process.

5.2.7 The assessment has identified some areas of potential conflict between objectives to promote accessibility with requirements to meet emissions reductions targets. This may be particularly apparent due to the rural nature of the region where it is recognised that road-based travel will remain important as part of an integrated transport system in the area.

5.3 Assessment of Transport Options

5.3.1 This section summarises the findings of the appraisals of the long list of transport options considered during the RTS development in response to the analysis of transport problems and opportunities across the SWestrans region. The findings of the environmental and climate appraisals using both the STAG criteria for each individual option are set out in the options assessment table in the STAG Options Appraisal Report (August 2022), which also includes further information on the process of transport option development and STAG appraisal.

5.3.2 The options were classified into a series of themed groups which allowed for consideration of similar types of transport option collectively. The findings of the environmental appraisal of the options within each group of options is presented in **Error! Reference source not found.**.

Table 5.2 Environmental Appraisal of Transport Options

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
1. Enabling more sustainable development ***Options**: 6 & 7 relating to sustainable transport and ancillary facilities for new and existing developments*	▪ The options perform well in relation to environmental issues. Sustainably locating new developments, such as through the 20-minute neighbourhood model, reduces the need to travel and provide opportunities to integrate active travel within site layouts. ▪ Making developments more people focussed with improved active travel linkages will also deliver benefits for equality and accessibility, particularly for vulnerable groups.	▪ Success of the measures and their contribution to the environment and health would depend on the scale of implementation (e.g., broad adoption in planning and development would be required to achieve significant changes) and their integration with other options (e.g., connectivity of active travel routes with public transport) to enable alternative means of transport becoming a more attractive option. ▪ Land-use change is a long term process therefore measures would need to be introduced rapidly and at scale to achieve realisable benefits before the long term. ▪ All new infrastructure would need to be suitably located to avoid significant effects on locally sensitive areas and communities. Environmental impact assessment of development proposals may be required with appropriate mitigation and enhancement measures, dependent on their scale, local sensitivities and receptors.
	Overall, significant positive impacts are predicted (prior to mitigation):	
	Scoring: ✓✓	
2. Connecting our communities ***Options**: 2 & 4 on incremental improvements to existing active travel routes and new greenfield routes.*	▪ Where these options reduce car-based travel, the options perform well in relation to the climate change and air quality and amenity SEA Objectives. ▪ An improved standard of walking and wheeling routes could also result in positive health, safety, and wellbeing outcomes through enhanced personal security and improved health outcomes associated with higher levels of active travel. This is particularly important in Dumfries and Galloway where a significantly lower proportion of the population are a healthy weight than for Scotland overall. There would also be equality and accessibility benefits as a result of opening up opportunities for certain equality groups.	▪ Success of the measures and their contribution to the environment and health would depend on the scale of implementation (e.g., as part of a more extensive active travel networks) and their integration with other travel options (e.g., connections to a transport interchange) to enable alternative means of transport becoming a more attractive option. ▪ New greenfield active travel routes will require careful siting and design to prevent and minimise negative environmental impacts during construction, including on peat and other carbon rich soils, biodiversity and archaeology.

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
	▪ The option could also have a benefit to the economy through opening up tourism opportunities, including green / eco-friendly tourism such as long distance/strategic routes, including the coastal path. The option would also help people enter the labour market / access employment opportunities they could not otherwise access. ▪ However where new 'greenfield' active travel routes are implemented at scale there is potential for significant environmental impacts in the event they are located in environmentally sensitive corridors, such as within peat (and other carbon rich soils), and areas of sensitive biodiversity and archaeology.	▪ Opportunities should be sought to enhance the physical environment, such as through peatland restoration. ▪ Journey planning information would need to be provided and delivered in formats accessible to all in order to reach relevant groups.
	Overall, minor negative to significant positive impacts are predicted (prior to mitigation):	
	Scoring: × - ✓✓	
3. Transforming travel in our towns ***Options***: *3 & 23 addressing reallocation of roadspace for active travel and bus priority measures*	▪ Reallocating road space to active travel routes performs particularly well in relation to the human health and accessibility and connectivity SEA Objectives. Higher levels of active travel are associated with improved health, safety, and wellbeing outcomes, this is particularly important in Dumfries and Galloway where a significantly lower proportion of the population are a healthy weight than for Scotland overall. There would also be equality and accessibility benefits as a result of opening up opportunities for certain equality groups. ▪ Reprioritising the carriageway for active travel can encourage its uptake, helping to reduce emissions where walking and cycling trips replace car journeys. ▪ Reduced car-based travel would see benefits in terms of climate change, air quality (although it is noted this is not a particular concern in SW Scotland), noise and resource use (material assets SEA Objective). ▪ Increasing bus priority is likely to reduce emissions from idling buses. Bus priority can speed up public transport journey times and make it competitive with travelling by car, thus increasing its attractiveness. Measures to improve bus	▪ Success of the measures and their contribution to the environment and health would depend on the scale of implementation (e.g., as part of a more extensive active travel network) and their integration with other travel options (e.g., connections to a transport interchange) to enable alternative means of transport becoming a more attractive option. ▪ Success of bus prioritisation measures would depend on the overall attractiveness of using the bus (e.g., suitability of routes and times, quality of the service), including its integration with wider modes of transport to support a modal shift. ▪ Journey planning information would need to be provided and delivered in formats accessible to all in order to reach relevant groups.

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
	journey times would benefit people in all equalities groups who rely on bus services to access key facilities.	
	Overall, minor to significant positive impacts are predicted (prior to mitigation):	
	Scoring: ✓ - ✓✓	
4. Reducing the impact of transport on our communities ***Options**: 44, 45 & 53 car, taxi and commercial fleet decarbonisation and infrastructure measures including new bypasses*	▪ Options to increase the uptake of EV and hybrid fuelled commercial vehicle (such as improved infrastructure and grants) would benefit local air quality and climate change as a result of reduced CO_2 emissions. ▪ Encouraging uptake of electric vehicles (EVs) (as will be required through national policy within the lifetime of the plan) requires support for both the higher vehicle purchasing costs, and improvements to the charging network (including rapid chargers and electrical grid capacity). Such measures may help overcome inequality issues relating to the higher purchase costs, and support the transition to EVs. ▪ New freight hubs would enable modal shift, reducing the high level of commercial vehicles on strategic roads within Dumfries &Galloway, providing benefits to traffic flows (including through urban areas), reduced emissions from road traffic (offset to some extent by increased rail emissions), reduced noise and accidents. This option may reduce or eliminate the need for improvements to the road network. ▪ For all these options there is potential for indirect environmental impacts through the provision of the infrastructure required for the alternative fuel sources (e.g., any electrical grid upgrades required to support the EV charging network; hydrogen fuel infrastructure) and the provision of freight hubs. ▪ These options would support potentially significant beneficial outcomes for the SEA Objectives on Health (improved air quality) and Accessibility (improved accessibility within taxis and reduced traffic through communities).	▪ Success of the measures requires careful consideration of the economic impact of measures (both positively, such as through grants to support the transition to EVs, as well as additional costs such as Low Emission Zones, LEZs). ▪ All new infrastructure would need to be suitably located to avoid significant effects on locally sensitive areas and communities. Environmental impact assessment of development proposals may be required with appropriate mitigation and enhancement measures, dependent on their scale, local sensitivities and receptors. ▪ The increased prevalence of electric vehicles should be used to support development of circular economy systems particularly around the use and re-use of components for EV batteries.

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
	▪ Construction of bypasses would benefit the bypassed towns (improved congestion, safety, air quality, noise and amenity), offering them greater opportunities for active travel. However, the new road sections would impact on the environment, temporarily during construction and permanently during operation. The nature and significance of the impacts will vary based on the location and extent of the works and local sensitivities and will include impacts to biodiversity, landscape, heritage, water, soils, land use and local access. Such schemes may induce increased road traffic, counter to the target to reduce car km's by 20% and net zero ambitions. The overall effect on air quality and greenhouse gas emissions will depend on the balance between improved traffic flow and increased traffic movements.	
	Overall, significant negative to significant positive impacts are predicted (prior to mitigation):	
	Scoring: ✗✗- ✓✓	
5. Enhancing access to transport services ***Options**: 1, 11 & 37, covering active travel route signing and information, wider bicycle availability and improved routes to (and accessibility of) railway stations*	▪ The options include soft measures to promote active travel, provision of improved signing and information for active travel, and increased availability of bicycles (including e-bikes for longer distance travel). Through the ability to reduce car-based travel, these options perform well in relation to the climate change and air quality and amenity SEA Objectives. Increased active travel could also result in positive health and wellbeing outcomes. ▪ Improved access to, from and within railway stations would have significant equality & accessibility benefits to allow vulnerable users to access train services across the network, providing additional transport connectivity. There would be minor benefits to the environment and climate change where this resulted in a reduction in private car usage.	▪ Success of the measures and their contribution to the environment and health would depend on the scale of implementation (e.g., as part of a more extensive active travel network) and their integration with other Priorities being taken forward (e.g., frequency of service) to enable alternative means of transport becoming a more attractive option. ▪ Journey planning information would need to be provided and delivered in formats accessible to all in order to reach relevant equalities groups.
	Overall, minor positive impacts are predicted (prior to mitigation):	
	Scoring: ✓	

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
6. Sustainable and extended local and regional public transport connectivity ***Options**: 21, 22, 24, 25, 26, 27, 28, 29, 38, 39, 40, 41, 42 & 43 various bus service and infrastructure improvements (such as provision of a bus station in Dumfries and regional mobility hubs), DRT, and rail measures including upgrades and new stations and lines (such as reopening stations, relocating Stranraer Station, reinstating a closed line, extending a rial line, upgrading existing lines)*	▪ The new public transport model provides services tailored to the local context, to retain and / or improve the provision of public transport. ▪ The options identified for rail travel provide the opportunity for substantive increase in public transport routes, resilience, reliability and capacity for both passengers and freight (a key issue in the region). ▪ Through the ability to reduce car-based travel (supporting the target to reduce car km's by 20%), these options perform well in relation to the climate change and air quality and amenity SEA Objectives. ▪ The provision of mobility hubs provide the opportunity to integrate more sustainable travel modes, supporting a modal shift and increased active travel with associated health and equalities benefits. ▪ However, the construction of new or modified infrastructure would impact on the environment, temporarily during construction and permanently during operation. The nature and significance of the impacts will vary based on the location and extent of the works and local sensitivities and will include impacts to biodiversity, landscape, heritage, water, soils, land use and local access.	▪ Success of the measures and their contribution to the environment and health would depend on the scale of implementation across the network and their integration with other Priorities being taken forward to support a modal shift. ▪ All new infrastructure would need to be suitably located to avoid significant effects on locally sensitive areas and communities. Environmental impact assessment of development proposals may be required with appropriate mitigation and enhancement measures, dependent on their scale, local sensitivities and receptors.
	Overall, significant negative to significant positive impacts are predicted (prior to mitigation):	
	Scoring: ×× - ✓✓✓	
7. Improving the quality of our public transport offer ***Options**: 12, 13, 14, 15, 16, 17, 18, 19, 20, 30, 31, 32, 33, 34, 36 & 47 on ticketing, information, concessionary schemes & fares, multi-modal integration, rail rolling stock and electrification and station improvements*	▪ Depending on the nature and scale of the measures introduced these options would support modal shift, resulting in beneficial impacts through reduced greenhouse gas emissions, lower emissions of local air pollutants and reduced roadside noise from traffic in some corridors. ▪ Increased integration between different modes of transport through multi-modal interventions increases the viability of using public transport for end-to-end journeys, supporting modal shift to more sustainable means of transport. ▪ Reduced and integrated public transport fares would encourage public transport use through improved	▪ Success of these measures and their contribution to the environment and health would depend on the location and scale of implementation. ▪ The options have potential for significant beneficial impacts where fares are set very low and sufficient public transport services/capacity is provided to meet increased demand. ▪ Where measures are implemented at scale and as part of combined packages of interventions there would be potential for significant beneficial effects for SEA Objectives relating to Health and Accessibility.

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
	accessibility and lower cost with beneficial impacts for health and accessibility. ▪ The options could encourage public transport use through improved accessibility. ▪ Electrification of the rail lines and replacement of rail rolling stock offer opportunities to decarbonise the rail network, reduce emissions to air and reduce rail journey times. ▪ Such measures can also be designed to increase accessibility of the network and increase cycle storage on trains, facilitating increased modal shift. ▪ Replacement of the bus fleet with low emission alternatives would support decarbonisation of public transport, along with increased accessibility. ▪ The options would support beneficial outcomes for the SEA Objectives on Climate Change, Air Quality and Amenity, Human Health, Accessibility and Connectivity, Inclusive Growth, with further indirect benefits to wider objectives such as Biodiversity.	
	Overall, negligible to significant positive impacts are predicted (prior to mitigation):	
	Scoring: 0 - ✓✓✓	
8. Supporting safe and effective connections to Loch Ryan and other strategic sites ***Options**: 35, 46, 50, 51, 52, 54, 55 & 56 including increased connectivity to Lockerbie Station, road/rail freight integration, rest areas, strategic road and junction improvements and road safety measures*	▪ The options to increase connectivity to Lockerbie Station would see increased car parking facilities, along with increased public transport offerings. Whilst this is likely to result in some increased traffic to the station (increasing traffic locally), overall, it is likely to increase the modal shift to trains for onward journeys. ▪ The integration of road freight with rail through provision of freight/intermodal hubs (linking with the option for new railway lines) offers the potential to reduce the dominance of HGV traffic on key routes (including those through communities), offering the potential for reduced transport emissions overall, noise, congestion and impact on affected communities. Construction of the facilities would have an environmental impact. ▪ Construction of rest areas would have some environmental impact, although allow safety improvements through	▪ Success of the measures and their contribution to the environment and economy would depend on the scale of implementation across the network and their integration with other Priorities being taken forward to support a modal shift. ▪ All new infrastructure would need to be suitably located to avoid significant effects on locally sensitive areas and communities. Environmental impact assessment of development proposals may be required with appropriate mitigation and enhancement measures, dependent on their scale, local sensitivities and receptors. ▪ The need for and scale of improvements to the strategic road network should be reviewed in combination with the potential for freight hubs and new railway lines which offer the potential for reduced HGV traffic on the road network.

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
	reduced HGV driver fatigue and allowing increased use of existing laybys in the case of breakdowns. ▪ Dualling of all or parts of the strategic road network/key routes, junction improvements and improved diversionary routes would have a negative environmental impact through both construction and operation due to the increased road network capacity throughout the region, which would increase traffic, emissions and noise and reduce air quality. It would conflict with the Scottish Government's ambition to decrease car kilometres. ▪ Several of the options would support the SEA Objective of Inclusive Growth through improved journey times and resilience.	
	Overall, significant negative to significant positive impacts are predicted (prior to mitigation):	
	Scoring: ×× - ✓✓	
9. Managing our car traffic ***Options**: 5 & 49 with measures to reduce impacts of traffic on active travel users, and parking management measures*	▪ Measures to reduce the impact of traffic on active travel users such as low speed limits, low traffic neighbourhoods and crossing facilities would support active travel within local communities who are currently impacted by traffic (including through traffic, such as HGVs), reduce community severance, increase social contact, and benefit safety. Slower journey times may influence HGV modal shift (where alternatives are available). ▪ Changes to parking management are intended to encourage modal shift to more sustainable modes. Changes would need to be implemented carefully to avoid unintended consequences for people reliant on car transport due to a lack of other services.	▪ Success of the measures and their contribution to the environment and accessibility would depend on the scale of implementation across the network and their integration with other Priorities being taken forward to support a modal shift.
	Overall, minor negative to minor positive impacts are predicted (prior to mitigation):	
	Scoring: × - ✓	

Option Group & Summary of Options	Key Environmental Impacts	Mitigation & Recommendations
10. Making the most of new opportunities ***Options**: 8, 9, 10 & 48 on Mobility-as-a-Service (MaaS), shared mobility, micro mobility and in journey information on the road network*	▪ Mobility as a Service (MaaS) allows collective booking of transport services (e.g., public transport, car clubs, taxis, DRT etc) to support the move away from personal owned transport, supporting more sustainable modes and reduced emissions. ▪ Shared mobility supports a reduction in single/low occupancy vehicles and offers transport to those without access to a car. There would be a positive impact on the environment and climate change due to a reduction in emissions from modal shift which would also benefit air quality; and a positive benefit to the economy as the enhanced integration between modes would enable seamless journeys. ▪ Micromobility measures (such as bikes, e-bikes, electric scooters and electric skateboards) encourage mobility for all and encourage a modal shift helping to reduce car kilometres and the associated emissions. Accessibility benefits extend to green tourism.	▪ Success of these measures and their contribution to the environment and health would depend on the location and scale of implementation along with their integration as part of the wider transport system. It is likely that the potential benefits of the options in this group would be more effective when delivered in combination with other complementary measures. ▪ Uptake of electric powered micromobility (e-bikes, e-scooters, e-skateboards) may require measures to ensure safety of other active travel users due to potentially higher speeds of these new forms of transport.
	Overall, negligible to significant positive impacts are predicted (prior to mitigation):	
	Scoring: 0 - ✓✓	

5.4 Assessment of Priorities

5.4.1 To implement the proposed RTS Objectives, a suite of Priorities has been developed, grouped into ten overarching themes and forming the basis of future implementation of the Strategy. This section summarises the findings of the environmental assessment of the Priorities within each of the ten RTS Themes. The scoring of each individual Priority is set out in the tables in Appendix E.

5.4.2 The assessment shown within this section is two-fold. An overall summary of the environmental assessment of each RTS Theme is presented in

5.4.3 Table 5.6 drawing on the consideration of the predicted environmental effects of the Priorities within each Theme. Following this, a text-based summary of the assessment of the combined environmental effects of the RTS priorities is presented for each of the SEA Objectives in turn. This approach has allowed for understanding and presentation of the predicted environmental effects of the Draft RTS from both the perspective of each RTS Theme, and from the perspective of each SEA topic.

Table 5.6 Summary of Environmental Assessment by RTS Theme

RTS Theme	Overall Score	Commentary
Theme 1: **Enabling More Sustainable Development** Priorities ***i.*** *Sustainably locate new developments to reduce the need to travel first and foremost* ***ii****. Locate new development where it can be easily served by existing active travel and public transport links or, if not possible, by new active travel and public transport links which are accessible to all* ***iii****. Sustainable transport measures and supporting ancillary infrastructure for new developments will be delivered through developer contributions as appropriate* ***iv****. The concept of '20-minute neighbourhoods' will be incorporated into all future development and land-use planning processes* ***v****. Transport interventions should be carefully sited and designed to prevent and minimise negative environmental impacts* ***vi****. New major developments, including those proposed at Chapelcross Power Station and Stranraer Gateway, should apply an 'infrastructure first' approach* **vii**. At existing developments sustainable transport and ancillary infrastructure measures should be introduced to encourage the uptake of more sustainable transport by coordinated engagement with employers and other large organisations	++	The Priorities on more sustainable development are either supportive or generally compatible with the SEA Objectives and in a number of cases significant beneficial effects are predicted for climate change, air quality and amenity, access and connectivity and material assets. The Priorities are also predicted to have some beneficial effects for SEA topics of health and biodiversity where they result in reduced road traffic flows on key transport corridors. Improving transport and land use integration may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment, while reducing emissions through lower levels of car travel. The uptake of active travel is strongly influenced by distance, compact neighbourhoods with diverse and connected land uses, support its uptake. Inclusion of the Priority to carefully site and design transport interventions to prevent and minimise negative environmental impacts assesses positively across all SEA Objectives.
Theme 2: **Connecting Our Communities** Priorities ***i.*** *Improvements to the active travel network will be delivered through a combination of incremental improvements to existing routes and new bespoke routes where appropriate* ***ii****. The active travel network will be developed in accordance with Cycling by Design, Designing Streets and other relevant technical guidance*	++	These Priorities are generally compatible with the SEA Objectives and in a number of cases significant beneficial effects are predicted for climate change, air quality and amenity, access and connectivity and human health. Improving active travel infrastructure may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment, while reducing emissions through reduced vehicle-based travel. Where delivered at scale the Priorities could contribute significantly to achievement of regional and national net zero targets and would support other policies to reduce road traffic and its environmental, accessibility, health and safety impacts.

RTS Theme	Overall Score	Commentary
iii*. An integrated active travel network linking both within and between our settlements will be developed in line with the Active Travel Spatial Strategy* ***iv****. The Active Travel Strategy 2 will be kept under review and updated on a regular basis to ensure it is being effectively implemented* ***v****. A dedicated Active Travel Team will work on prioritising, designing, and delivering schemes and projects in collaboration with funding partners* ***vi****. Awareness raising to facilitate behaviour change will be delivered through close community engagement and campaigns to encourage the use of active travel* **vii**. SWestrans will spend at least 50% of its capital budget on active travel		Active travel routes provide an opportunity to provide benefit to biodiversity (through biodiversity improvements and access to nature), water and flood risk (through incorporation of sustainable drainage and green/blue infrastructure) and heritage, landscape/townscape (through appropriate design and enhanced access to areas of interest).
Theme 3: **Transforming Travel in Our Towns** <u>Priorities</u> ***i****. Roadspace should be reallocated to prioritise walking, wheeling, cycling and public transport particularly within our towns and settlements in order to create a more attractive public realm across Dumfries and Galloway* ***ii****. The National Transport Strategy 2's sustainable travel hierarchy should be applied to reprioritise the road network wherever possible* ***iii****. Detailed analysis should be undertaken to identify suitable locations and interventions for the reallocation of roadspace away from general traffic to active travel and public transport*	++	These Priorities support the transition to more sustainable modes of transport and are generally compatible with the SEA Objectives and in a number of cases significant beneficial effects are predicted for climate change, air quality and amenity, access and connectivity and human health. Improving active travel infrastructure may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment, while reducing emissions through reduced vehicle-based travel. Reallocation of roadspace provides an opportunity to provide benefit to biodiversity (through biodiversity improvements and access to nature), water and flood risk (through incorporation of sustainable drainage) and heritage, landscape/townscape (through appropriate design and enhanced access to areas of interest).
Theme 4: **Reducing the Impact of Transport on Our Communities** <u>Priorities</u> ***i.*** *Investigate the feasibility of bypasses for Crocketford and Springholm on the A75 as well as other communities on the A7, A75, A76, A77 and A709 including Dumfries* ***ii.*** *Support the decarbonisation of the car, taxi and commercial vehicle fleet through investigation and delivery, as appropriate, of measures such as:*	+	These Priorities are predicted to have a varied effect on most of the SEA Objectives, from positive to potentially negative. Overall, reducing the impact of transport on communities assesses positively for those communities for SEA topics on air quality and amenity, access and connectivity (through reduced congestion and supporting modal shift within those communities) and the potential for benefits to townscape and heritage. New bypasses would impact on the environment, temporarily during construction and permanently during operation. The nature and significance of the impacts will

RTS Theme	Overall Score	Commentary
a. Electric Vehicle charging points *b. Regional Electric Vehicle carsharing* *c. Grants / loans for Electric / Hybrid vehicles* *d. Low Emission Zones (LEZs)* *e. New rail freight hubs* f. Alternative fuels e.g. green hydrogen		vary based on the location and extent of the works and local sensitivities and will include impacts to biodiversity, soils, water, flood risk, cultural heritage, landscape and material assets. Such schemes may induce increased road traffic, counter to the climate change SEA Objective. The overall effect on air quality and greenhouse gas emissions will depend on the balance between improved traffic flow and increased traffic movements. They would support increased access, including for freight. New freight hubs would enable modal shift, reducing the high level of commercial vehicles on strategic roads within Dumfries & Galloway, providing benefits to traffic flows (including through urban areas), reduced emissions from road traffic (offset to some extent by increased rail emissions), reduced noise and accidents. This priority may reduce or eliminate the need for improvements to some parts of the road network. Decarbonising vehicles would have significant beneficial effects on climate change mitigation and air quality and some beneficial effects for SEA topics of biodiversity, access and connectivity, growth and human health are also predicted. The Priorities are generally not predicted to have a significant effect on the other SEA Objectives. Dependent on implementation of the Priorities, there is potential for adverse effects on natural and cultural heritage receptors from improved transport infrastructure. At this stage it is assumed that with appropriate design, assessment, mitigation and enhancement any new works could be delivered without significant adverse environmental effects.
Theme 5: **Enhancing Access to Transport Services** ***i.*** *Opportunities to enhance the customer experience when using public transport should be explored, particularly for vulnerable users who may require additional assistance or chaperoning in order to make their journey* ***ii.*** *The public and active travel networks should provide equal access for all including vulnerable groups such as women, elderly and younger people, ethnic minorities, people with mobility impairments or disabilities as well as those on low incomes*	+	These Priorities support an enhanced positive customer experience when using public and active transport, including journey planning, increased accessibility to public transport, increased access to bikes, increased taxi-user safety. As such, collectively they support the transition to public transport and active travel, supporting a modal shift. They are compatible with the SEA Objectives, with beneficial effects predicted including for climate change, air quality and amenity, access and connectivity, growth, human health and material assets. Where delivered at scale, collectively the Priorities could contribute significantly to achievement of regional and national net zero targets and would support other policies to reduce road traffic and its environmental, accessibility, health and safety

RTS Theme	Overall Score	Commentary
iii. *Journey planning information should be available in various formats to meet the needs of differing users including online, traditional paper copies, braille, large print, and audio* ***iv.*** *Real Time Passenger Information should be made available for all public transport modes at stations, stops and on-board services wherever possible and practical* ***v.*** *Soft measures should be implemented to encourage the use of active travel through measures such as additional information online and in the form of maps and signs within towns accompanied by public awareness campaigns* ***vi.*** *Access to bicycles, including e-bikes, should be facilitated through a combination of grants / loans for those that wish to purchase their own and provision of a regional cycle hire scheme for people that only require occasional access to a bike* ***vii.*** *Improving accessibility to railway stations should be prioritised in Annan, Dumfries, Kirkconnel and Sanquhar where access arrangements could be limited for some disabled users* ***viii.*** *Measures to encourage access to railway stations in line with the Scottish Government's Sustainable Travel Hierarchy should be taken forward* **ix.** The security of taxi users should be improved by undertaking additional background checks prior to granting taxi licences		impacts. Enhanced access to public transport may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment.
Theme 6: **Sustainable and Extended Local and Regional Public Transport Connectivity** <u>Priorities</u> ***i****. SWestrans and its partners will work to deliver a new public transport model based around a needs-based approach applying a three tier framework as follows:* *Tier 1 – Community Level Provision* *Tier 2 – Supported Local Bus and Community Transport Services* *Tier 3 – Commercial Local Bus and Rail Services* ***ii****. Bus service improvements should be focused in areas identified as at greatest risk of both transport poverty and deprivation. This should be informed by further analysis to develop options to improve bus*	++	These public transport enhancement Priorities are generally compatible with the SEA Objectives and in a number of cases significant beneficial effects are predicted including for access and connectivity and inclusive growth; further significant beneficial effects are predicted for climate change particularly if implemented in conjunction with the decarbonisation of public transport (Themes 4 and 7). The Priorities on sustainable and extended public transport are also predicted to have some beneficial effects for SEA topics of air quality and amenity, human health, and material assets. Where delivered at scale the Priorities could contribute significantly to achievement of regional and national net zero targets and would support other policies to reduce road traffic and its environmental, accessibility, health and safety impacts. Enhanced public transport networks and services may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment.

RTS Theme	Overall Score	Commentary
service connectivity such as increased service frequencies, new services, more direct services and / or more express services ***iii**. Where no bus service exists, demand responsive transport (DRT) solutions will be developed and operated by third sector community transport operators, DGC Buses and the community* ***iv**. Dumfries and Galloway council will undertake work to develop a business case for DGC Buses to become a Passenger Service Vehicle (PSV) Operator as a prudent step should a bus operator of last resort be needed in Dumfries and Galloway* ***v**. Further analysis should be undertaken to assess the potential to provide a bus station in Dumfries and, if found to be feasible and beneficial, partners should work together to facilitate its delivery* ***vi**. Opportunities to increase the carriage of bikes on buses will be explored* ***vii**. A network of mobility hubs should be developed and implemented across Dumfries and Galloway* ***viii**. A Bus Service Improvement Partnership (BSIP) should be created in Dumfries and Galloway using the powers set out in the Transport (Scotland) Act 2019 and will entail SWestrans working in partnership with the commercial sector, DGC Buses, community transport and NHS Dumfries and Galloway along with other partners as appropriate* ***ix**. Improvements to rail services at stations where provision is poor should be taken forward in close coordination with key stakeholders including ScotRail and Transport Scotland* ***x**. Opportunities should be investigated to run a local service on the WCML between Carlisle and Edinburgh / Glasgow* ***xi**. Consideration should be given to rail network upgrades to decrease journey times and increase capacity including the replacement of semaphore signalling, passing loops and upgrades to track geometry at key locations* ***xii**. Opportunities should be explored to quadruple track the West Coast Main Line (WCML) through Lockerbie and at other appropriate locations* ***xiii**. The potential for more locally situated train crews should be investigated to provide additional resilience to staffing related service issues*		The potential development of new or extended transport infrastructure such as the relocation of Stranraer Station and quadrupling of track on the West Coast Main Line has some potential for adverse effects on a number of SEA Objectives. With mitigation it is predicted, at this stage, that any adverse residual effects on environmental receptors would not be significant. Opportunities for environmental enhancement should be sought in all new transport infrastructure proposals. This Theme saw the most substantial change from the STAG Options Appraisal stage, through to the Draft RTS. At the options appraisal stage, a broad range of options were considered. Within the region, the current bus routes and services are constrained by the dispersed population and the associated challenges of providing an attractive service that is also deliverable and cost effective. Currently 55% of bus services in Dumfries and Galloway require public subsidy, bus passengers are declining whilst costs are increasing. For rail services, there are several stations with poor services levels, with rail infrastructure constraining journey times and capacity, and singletrack with limited passing loops offering poor resilience to adverse weather. The Priorities taken forward for buses in particular through the three tier framework are a combination of those considered at the options appraisal stage, whilst reflecting the local context.

RTS Theme	Overall Score	Commentary
***xiv**. The reopening of stations at Beattock on the WCML, and Eastriggs and Thornhill on the GSWL is supported and their delivery will be pursued with industry partners* ***xv**. The potential to relocate the station at Stranraer should be explored to provide easier access for rail users and better integrate it with the rest of the town centre* ***xvi**. Consideration should be given to reinstating the Castle Douglas and Dumfries railway between Dumfries and Stranraer along with delivering an extension to the Borders railway from Tweedbank serving Langholm and terminating at Carlisle with appropriate business case development being taken forward for each* ***xvii**. Lighter rail solutions should be explored as an alternative to heavy rail where it may provide a more practical or affordable solution for fixed public transport links*		
Theme 7: Improving the Quality and Affordability of Our Public Transport Offer <u>Priorities</u> ***i**. Opportunities to expand the* eligibility *of existing concessionary travel schemes or to create new schemes to allow more users access to reduced / no fare journeys should be explored with key partners including Transport Scotland* ***ii**. Expansion of existing concessionary travel schemes to cover rail should be considered to enable more users to access affordable rail travel* ***iii**. The introduction of new rail fare structures should be explored to remove inequalities and to ensure that journeys to similar destinations incur similar costs which are affordable for all users* ***iv**. Integrated ticketing solutions should build upon and better promote existing schemes such as PlusBus and Rail and Sail as well as seeking new opportunities to deliver integrated ticketing measures for bus, rail and ferry in the region* ***v**. Improving links between different modes of transport by reducing the distance between connecting modes and coordinating the timing of services should be taken forward as a priority wherever possible*	+	These Priorities to improve the quality and affordability of public transport are generally compatible with the SEA Objectives and significant beneficial effects are predicted including for access and connectivity. The Priorities on sustainable and extended public transport are also predicted to have some beneficial effects for SEA topics of climate change, air quality and amenity, human health, and material assets. If implemented in conjunction with the decarbonisation of public transport (both within this Theme, and Theme 4), the beneficial effects on the causes of climate change would be significant. Where delivered at scale the Priorities could contribute significantly to achievement of regional and national net zero targets and would support other policies to reduce road traffic and its environmental, accessibility, health and safety impacts. Enhanced public transport networks and services may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment.

RTS Theme	Overall Score	Commentary
***vi**. Enhancements to existing bus stops will be implemented where practical to improve security, accessibility and the attractiveness of bus services for all users* ***vii**. Support the decarbonisation of the rail network in Dumfries and Galloway and explore along with rail industry partners opportunities to electrify the line south of Ayr to provide greater scope for through services and to accommodate increased demand from a relocated Stranraer station* ***viii**. The replacement of the bus fleet with low emission vehicles will be taken forward in conjunction with partners* ***ix**. Replacement of rail rolling stock should be taken forward considering proposals for electrification of parts of the network in the region with the appropriate traction being based upon this and giving due consideration for the need to enhance the quality, accessibility and standard of rolling stock serving Dumfries and Galloway* **x**. Opportunities for the carriage of bikes on board trains should be explored as new rolling stock is procured		
Theme 8: **Supporting Safe, Effective and Resilient Connections to Loch Ryan and Other Strategic Sites** <u>Priorities</u> ***i**. Increasing the connectivity to Lockerbie station by a variety of modes should be explored given its strategic importance to the region* ***ii**. Enhancements to the strategic road network including the A7, A75, A76, A77 and A709 should be taken forward to improve safety, journey times, diversionary routes and improve access to key locations across the region* ***iii**. Opportunities should be sought to shift goods from HGVs onto the rail network by the creation of new rail freight hubs including the potential for the creation of an intermodal freight hub at Cairnryan / Stranraer* ***iv**. Junction improvements should be taken forward at locations of collision clusters* ***v**. Appropriate road safety, traffic calming and management measures should be used to provide a safe environment for all road users*	0	These Priorities are predicted to have a varied effect on most of the SEA Objectives, from positive to negative. Overall, improved connections to Loch Ryan and other strategic sites assesses positively for access and connectivity, inclusive growth and human health. Enhancements to the strategic road network would impact on the environment, temporarily during construction and permanently during operation. The nature and significance of the impacts will vary based on the location and extent of the works and local sensitivities and will include impacts to biodiversity, soils, water, flood risk, cultural heritage, landscape and material assets. Such schemes may also induce increased road traffic, counter to the climate change SEA Objective. The overall effect on air quality and greenhouse gas emissions will depend on the balance between improved traffic flow and increased traffic movements. They would support increased access, including for freight. New freight hubs would enable modal shift, reducing the high level of commercial vehicles on strategic roads within Dumfries & Galloway, providing benefits to traffic flows (including through urban areas), reduced emissions from road traffic, reduced

RTS Theme	Overall Score	Commentary
***vi**. Improvements to the quality of the road network should be prioritised through an enhanced programme of resurfacing in Dumfries and Galloway initially focused on segments of road that have poor surfacing on major routes* ***vii**. Opportunities for additional dedicated rest areas and motorhome park-ups across the region should be explored and implemented as appropriate*		noise and accidents. This option may reduce or eliminate the need for improvements to some parts of the road network. Improving road safety would have significant beneficial effects for health through improved (safer) conditions on the region's roads and some minor beneficial effects are predicted for the SEA topics of access and connectivity and inclusive growth. Dependent on implementation of the Priorities, there is potential for adverse effects on natural and cultural heritage receptors from improved transport infrastructure such as enhancements to the road network. At this stage it is assumed that with appropriate design, assessment, mitigation and enhancement any new works could be delivered without significant adverse environmental effects.
Theme 9: **Managing Our Car Traffic** <u>Priorities</u> ***i**. Dumfries and Galloway will make its contribution to delivering the Scottish Government's target to reduce car km by 20% by 2030 reflecting the regional circumstances* ***ii**. A combination of enhanced active travel, public transport, shared mobility and digital infrastructure will be used to provide an effective alternative to car travel with a particular focus on reducing single occupancy car journeys* ***iii**. Proportionate behaviour change, demand management and parking measures will be taken forward to support modal shift to more sustainable modes of transport and reduce car dependency across the region*	+	The Priorities on managing car traffic are supportive of the SEA Objectives and significant beneficial effects are predicted including climate change and air quality and amenity. The Priorities are also predicted to have beneficial effects for SEA topics of access and connectivity, inclusive growth and biodiversity where they result in supporting modal shift. Enhancing and integrating active travel, public transport, shared mobility and digital infrastructure has the potential to give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment, while reducing emissions through car travel.
Theme 10: **Making the Most of New Opportunities** <u>Priorities</u> ***i.** The implementation of Mobility of a Service (MaaS) in Dumfries and Galloway will be taken forward in close coordination with the delivery of the new public transport model* ***ii**. A range of shared mobility measures should be taken forward across the region taking into account its varying characteristics and*	+	These Priorities to make the most of new opportunities are generally compatible with the SEA Objectives, with beneficial effects predicted for climate change, air quality and amenity, access and connectivity, inclusive growth and material assets. Enhanced micro mobility and mobility hubs may give rise to some beneficial changes for people accessing and enjoying facilities, services and the wider environment. Where delivered at scale the Priorities could contribute significantly to achievement of regional and national net zero targets and would support other

RTS Theme	Overall Score	Commentary
dispersed population to provide access to a variety of transport options without requiring ownership ***iii**. Opportunities to capitalise upon the growth of micro mobility should be explored alongside the development of mobility hubs* ***iv**. Intelligent Transport Systems (ITS) should be implemented alongside other enhancements to the strategic road network to improve the safety and efficiency of its operation*		policies to reduce road traffic and its environmental, accessibility, health and safety impacts.

5.4.4 Overall, the assessment has identified that no significant adverse environmental effects would be predicted from implementation of the Draft RTS Priorities. All of the Themes are predicted to have some beneficial environmental effects, typically where the implementation of the Priorities would give rise to increased levels of active travel, improved public transport accessibility and reduced emissions from road transport in particular.

5.4.5 A number of Priorities are predicted to have significant beneficial effects where implementation of supporting measures would deliver positive impacts and in particular for the Themes which have the potential to achieve a step change in active travel and public transport. These include:

- Themes 1 (enabling more sustainable development), 2 (connecting our communities), 3 (transforming travel in our towns) and 9 (managing our car traffic) incorporate multiple sets of transport Priorities which are predicted to have significant beneficial effects on the SEA Objectives for climate change, and air quality and amenity. Individual Priorities relating to decarbonisation within Themes 4 (reducing the impact of transport on our communities) and 7 (improving the quality and affordability of our public transport offer) also offer these significant beneficial effects.

- Themes 2 (connecting our communities) and 3 (transforming travel in our towns) are predicted to have significant beneficial effects on human health through their support for active travel.

- Themes 1 (enabling more sustainable development), 2 (connecting our communities), 3 (transforming travel in our towns), 6 (sustainable and extended local and regional public transport connectivity) and 7 (improving the quality and affordability of our public transport offer) are predicted to have significant beneficial effects on the access and connectivity SEA Objective through their support for active and public transport.

5.4.6 There is potential for significant adverse effects through the support for further work on provision of road bypasses (within Theme 4) and enhancements to the strategic road network (within Theme 8), however there is some uncertainty on the likely effects at this strategic level as the extent, location and design of any future works is currently unknown. The high level nature of the Draft RTS does not allow for specific prediction of effects of these measures on the SEA topics. With a clear commitment to mitigation and enhancement where appropriate in the delivery of measures at future stages of RTS implementation it is not predicted that significant adverse effects would necessarily result however this will need to be closely considered during development of the RTS delivery plan and subsequent design, assessment and promotion of any key transport improvement schemes. The potential for road improvements to generate additional vehicle kilometres would need to be carefully considered in the context of regional and national commitments to reduce emissions from transport.

5.4.7 The other Priorities are generally not predicted to have significant environmental effects (beneficial or adverse) however the assessment has identified the potential for environmental enhancement to be achieved in combination with the delivery of Priorities which seek to deliver enhanced networks for active travel.

5.4.8 There is some uncertainty associated with the effects of the delivery of rail infrastructure within Themes 6 (sustainable and extended local and regional public transport connectivity) and 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites).

SEA Objective 1 – Climate Change

5.4.9 The Draft RTS Priorities are predicted to have a range of beneficial and some negative effects on the Climate Change SEA Objective. Priorities which support enhanced public transport and active travel would be predicted to contribute to modal shift where they were delivered and sustained at scale across the key transport corridors in the region. This would contribute to reducing regional carbon emissions from transport through reductions in road-based travel. It is

also predicted that improved integration between transport and land-use and other demand management measures would encourage modal shift or reduce the need to travel altogether, both of which would contribute to reducing carbon emissions.

5.4.10 Of particular note, Themes 1 (enabling more sustainable development), 2 (connecting our communities), 3 (transforming travel in our towns), 6 (sustainable and extended local and regional public transport connectivity) and 9 (managing our car traffic) are predicted to have significant beneficial effects on climate change mitigation through reducing the need to travel, achieving mode shift from road to public transport, supporting sustainable modes for development, active travel, extended public transport, and reallocation of roadspace for more sustainable modes.

5.4.11 Priorities within Theme 4 (reducing the impact of transport on our communities) provide some support for the decarbonisation of transport modes, from cars to commercial vehicles, buses and trains, providing significant beneficial effects to this SEA Objective. Measures include support for EV charging points, increasing access to EVs, introduction of Low Emission Zones, exploring opportunities to electrify rail lines, and the replacement of rail rolling stock and the bus fleet with low emission vehicles.

5.4.12 Theme 6 (sustainable and extended local and regional public transport connectivity) includes a new tiered public transport model, bus infrastructure and service improvements, mobility hubs, train infrastructure extensions and improvements. Taken as a whole, these Priorities offer the opportunity for modal shift, supporting this SEA Objective. This is further supported through Theme 7 (improving the quality and affordability of our public transport offer). Theme 6 also supports provision of additional railway routes and rail network upgrades, which would increase resilience to adverse weather and climate change.

5.4.13 Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites) includes a Priority seeking opportunities to shift goods from HGVs onto the rail network by the creation of new freight hubs. This is predicted to have significant beneficial effects on climate change mitigation through their potential to contribute to modal shift and reduced emissions from more efficient freight management. Adaptation to climate change is supported through enhancements to the strategic road network, such as provision of diversionary routes.

5.4.14 Within Theme 4 (reducing the impact of transport on our communities) and Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites), there is some uncertainty around Priorities to investigate the feasibility of bypasses and enhancements to the strategic road network, in terms of the extent of works which may arise and their effect on levels of road based transport. These Priorities are likely to increase road based transport, the increase may be offset to some extent by more efficient journeys and the decarbonisation of vehicles, however an overall increase in emissions of greenhouse gases may occur. These measures and associated increases are partly associated with longer-distance travel through the region, such as to the ports, as well as providing connectivity through this predominantly rural region.

5.4.15 When considered collectively, the Priorities of the Draft RTS are predicted to have the potential for significant beneficial effects on climate change mitigation and adaptation.

SEA Objective 2 – Air Quality and Amenity

5.4.16 The Draft RTS Priorities are predicted to have a range of beneficial effects on the Air Quality and Amenity SEA Objective and some uncertain/potentially negative effects. Priorities which support enhanced public transport and active travel would be predicted to contribute to modal shift where they were delivered and sustained at scale across the key transport corridors in the region. This would contribute to reducing emissions to air from transport through reductions in road-based travel. It is also predicted that improved integration between transport and land-use

and other demand management measures would encourage modal shift or reduce the need to travel altogether, both of which would contribute to reducing emissions to air.

5.4.17 Other Priorities within Theme 4 (reducing the impact of transport on our communities) include support for the decarbonisation of transport modes, from cars to commercial vehicles, buses and trains, providing significant beneficial effects to this SEA Objective. Measures include support for EV charging points, increasing access to EVs, introduction of Low Emission Zones, exploring opportunities to electrify rail lines, and the replacement of rail rolling stock and the bus fleet with low emission vehicles.

5.4.18 Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites) has varying effects on this SEA Objective. The effect of enhancements to the strategic road network on air quality and amenity are uncertain at this strategic level, however it has been assumed in this SEA that mitigation principles to avoid, reduce and mitigate such adverse effects would be committed to in the later stages of Strategy delivery. This Theme also includes for modal shift of goods from HGVs onto the rail network, offering significant potential to improve air quality and amenity, particularly for those communities along the route of the trunk roads.

5.4.19 Within Theme 4 (reducing the impact of transport on our communities) and Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites), there is some uncertainty around Priorities to investigate the feasibility of bypasses and enhancements to the strategic road network, in terms of the extent of works which may arise and their effect on levels of road based transport. These Priorities are likely to increase road based transport, the increase may be offset to some extent by more efficient journeys and the decarbonisation of vehicles, however an overall increase in emissions of pollutants to the atmosphere may occur, impacting air quality (and subsequently human health and biodiversity). These measures and associated increases are partly associated with longer-distance travel through the region, such as to the ports, as well as providing connectivity through this predominantly rural region. Investigating the feasibility of bypasses within Theme 4 would consider several communities through which A-roads currently pass. Whilst there are no Air Quality Management Areas within the SWestrans area, bypasses would be likely to reduce the emissions to air within proximity to these communities (although potentially increase emissions to air in total within the region). Further, bypasses would be likely to reduce the amenity impact of the roads (such as congestion, noise, vibration) within these communities, potentially allowing increased uptake of active travel within them.

5.4.20 Other Priorities within Theme 4 (reducing the impact of transport on our communities) provide support for the decarbonisation of transport modes, from cars to commercial vehicles, buses and trains, providing beneficial effects to this SEA Objective both in terms of air quality and amenity.

5.4.21 Themes 1 (enabling more sustainable development), 2 (connecting our communities), 3 (transforming travel in our towns), 6 (sustainable and extended local and regional public transport connectivity) and 9 (managing our car traffic) are predicted to have significant beneficial effects on air quality and amenity through reducing the need to travel, supporting sustainable modes for development, active travel, extended public transport, and reallocation of roadspace for more sustainable modes.

5.4.22 Taken as a whole, the extension of local and regional public transport through Theme 6 (sustainable and extended local and regional public transport connectivity), including a new tiered public transport model, bus infrastructure and service improvements, mobility hubs, railway infrastructure improvements and extensions offer the opportunity for modal shift, supporting this SEA Objective. This is further supported through Theme 7 (improving the quality and affordability of our public transport offer).

5.4.23 When considered collectively, the Priorities of the Draft RTS are predicted to have the potential for significant beneficial effects on air quality and amenity.

SEA Objective 3 – Biodiversity, Geodiversity and Soil

5.4.24 The predicted effects of the RTS on the Biodiversity, Geodiversity and Soil SEA Objective is mixed with some predicted beneficial effects, some potential for adverse effects and some uncertainties due to the absence of location-specific detail at this stage of the strategy.

5.4.25 The predicted beneficial effects have been identified for a number of the Priorities which would work to deliver a transport network that is less reliant on private car journeys and HGVs for freight and, instead, support an uptake of active travel and public transport and modal shift to rail for freight resulting in a reduction in air pollutant emissions which can be harmful to biodiversity, geodiversity and soils. These beneficial effects are not predicted to be significant at the regional scale.

5.4.26 There is some predicted uncertainty around the implementation of new or upgraded transport infrastructure which has the potential for adverse effects on biodiversity, geodiversity and soil dependent on the location of the schemes and the baseline sensitivity of the areas affected. At this stage specific improvement proposals have not been identified and a commitment has been made in this SEA to key mitigation principles to ensure that new works were delivered sensitively and avoided significant adverse effects. Upgrading of transport and particularly active travel networks also provides opportunities to enhance local biodiversity through the creation and connectivity of new linear habitats and designing schemes with nature-based solutions which have the potential to offer biodiversity net gain in the longer term. These also provide enhanced transport facilities for people to benefit from accessing greenspaces and natural areas as part of active travel journeys.

5.4.27 When considered collectively, the Priorities of the Draft RTS are not predicted to have significant effects on biodiversity, geodiversity and soil. The Strategy is predicted to have some beneficial and some adverse non-significant effects dependent on the detail of future implementing measures. The uncertainty in predicting environmental effects on these receptors has been reduced through identification of important mitigation principles which the assessment has assumed would be committed to in the later stages of Strategy delivery. There are opportunities for local biodiversity enhancement in delivering new transport measures particularly through the adoption of nature-based solutions as part of transport and active travel networks.

SEA Objective 4 – Water, Flood Risk and Resilience

5.4.28 Generally, the Priorities in the draft Strategy are predicted to have minor (and non-significant) effects on the SEA Objective for Water, Flood Risk and Resilience. The enhanced use of nature based solutions for (new and upgraded) transport networks, including sustainable drainage systems, has some potential to support beneficial outcomes for the management of local drainage and water quality particularly where new works were delivered in combination with enhancement to the water environment (such as re-naturalisation of watercourses and establishment of wetlands).

5.4.29 Priorities that may result in significant new transport infrastructure, such as enhancements to the strategic road network and creation of freight hubs, have some potential for adverse effects on the water environment particularly during their construction. However, assuming the appropriate level of environmental assessment is undertaken, and key avoidance and mitigation measures implemented, these effects are not predicted to be significant adverse at this stage.

5.4.30 When considered collectively, the Priorities of the Draft RTS are not predicted to have significant effects on water resources and flooding. Overall the Strategy is predicted to have potential for some beneficial and some adverse non-significant effects. There are opportunities for transport development in the region to contribute to sustainable management of water resources by integrating delivery with other strategies and agencies including through taking catchment-based approaches to water and flooding issues.

SEA Objective 5 – Cultural Heritage

5.4.31 Overall, it is predicted that there would be potential for some minor beneficial effects on the Cultural Heritage SEA Objective. It is considered that the Priorities to reduce emissions generated by road transport in urban areas in particular would help to conserve historic buildings which are vulnerable to the corrosive effects of some air pollutants.

5.4.32 Where new and extended infrastructure (such as bypasses, road enhancements, freight hubs, railway extensions, etc) are developed on greenfield or previously undeveloped land, the potential for impacts on archaeological resources would need to be considered further as proposals were designed and assessed. Similarly, new, reinstated, extended and improved infrastructure has potential to impact on built heritage, both within the infrastructure itself (such as heritage assets within stations, and closed railway lines), and in proximity to the infrastructure. It has been assumed in this SEA that mitigation principles to avoid, reduce and mitigate such adverse effects would be committed to in the later stages of Strategy delivery.

5.4.33 Providing an enhanced public transport service with better bus and rail connections and substantially improved active travel facilities are predicted to make accessing historic and cultural sites easier for people and there would be potential for a resultant increase in visitor numbers and increased awareness and appreciation of the region's historic and cultural assets.

5.4.34 None of the Priorities in the RTS has been predicted to have significant effects on cultural heritage and when taken together, the Strategy is not predicted to have significant effects. Overall, the Strategy is predicted to have potential for some minor beneficial and adverse (non-significant) effects on cultural heritage and archaeology. There are opportunities for transport improvements to contribute to enhanced understanding and interpretation of the region's history and cultural heritage for all people through better access to sites and areas of interest and importance.

SEA Objective 6 – Landscape

5.4.35 Overall, the Priorities in the Draft RTS are not predicted to have significant effects on the Landscape SEA Objective. Priorities encouraging public transport and active travel are predicted to have some beneficial effects in terms of improving townscape and amenity in urban and built-up areas through helping to reduce traffic congestion. This would contribute to improved air quality, reduced noise and lower visual intrusion which would make spending time in these environments more pleasant for all people.

5.4.36 Implementation of Priorities to substantially enhance active travel networks would have potential to increase the accessibility of green spaces, open areas and new landscapes to people who may not currently be able to access them, particularly in deprived urban communities. Similarly, the delivery of improved public transport (access, availability and affordability) would increase opportunities for all people to access areas of high quality landscape which are located throughout the region but which may remain inaccessible for many at present.

5.4.37 Any new infrastructure to enhance transport connections and improve connectivity has the potential for adverse effects if not located and designed sympathetically with the local landscape or townscape character. Siting of transport infrastructure will be a key consideration as the RTS is implemented, given the presence of National Scenic Areas, 'wild land' noted for its tranquillity and the valued 'Dark Sky Park' status of Galloway Forest Park. Specific transport schemes have not been identified at this stage however the assessment has adopted a number of key mitigation principles which have reduced the uncertainty of the assessment and provided these were implemented at future stages of RTS delivery then significant adverse landscape and visual effects of the Strategy would not be predicted.

5.4.38 None of the Priorities in the RTS has been predicted to have significant effects on landscape and when considered collectively, the Priorities of the Draft RTS are not predicted to have

significant effects on landscape and townscape. The Strategy is predicted to have potential for some beneficial and some adverse non-significant effects. There are opportunities for transport development in the region to contribute to enhanced enjoyment of landscape and townscape through enhanced accessibility of open spaces and civic areas by active travel and public transport. Where designed and delivered sensitively, Strategy Priorities for land use changes and transport integration such as 20 minute neighbourhoods also provide new opportunities for the development of attractive and healthy communities.

SEA Objective 7 – Accessibility and Connectivity

5.4.39 The Accessibility and Connectivity Objective receives good coverage across all Themes which are largely predicted to have a beneficial effect on accessibility for all groups. The Priorities seek to improve accessibility in terms of physical access to the network and infrastructure including access to public services, hospitals, education facilities and economic opportunities. They also seek to improve the integration of the transport network including improved information and ticketing and to ensure transport services and facilities are accessible and affordable for all people.

5.4.40 There is some predicted uncertainty around the implementation of demand management Priorities (e.g., on parking and pricing measures) (within Theme 9) and low emissions zones (within Theme 4) since delivery of supporting measures would need to take full account of the accessibility needs of all people including groups with protected characteristics such as disabled people. Provided these are designed in accordance with appropriate standards and equitably in terms of affordability, significant adverse effects would not be predicted.

5.4.41 When considered collectively, the Priorities of the Draft RTS are predicted to have the potential for significant beneficial effects on accessibility.

SEA Objective 8 – Inclusive Growth

5.4.42 Overall, the Inclusive Growth SEA Objective is covered well by the Strategy's Themes and their associated Priorities. Many of the Themes support improved access to services, including employment opportunities, and enhanced regional connectivity, including through low user-cost measures such as active travel. Where it is delivered, a step change in accessibility and regional transport quality would also be beneficial to the regional economy and business efficiencies. For example, improved access to opportunities for residents, improved opportunity for businesses to access the best talent, who may previously have been restricted by their transport options to employment locations. Improved transport options can also increase productivity for businesses through improving the health of employees, for example, reducing fatigue on employees who may previously have experienced long and tiring commutes.

5.4.43 It is considered that the policies and actions will allow industry to improve efficiency in transporting goods, with more direct routes to market (such as through new bypasses and strategic road network enhancements), new freight hubs and other facilities. Additionally, the productivity of freight drivers will increase with Priorities that seek to improve rest facilities.

5.4.44 Theme 4 which promotes the decarbonisation of the transport system may also promote investment and demand in low carbon industries and energy generation which may have minor beneficial effects on growth.

5.4.45 There are some predicted minor beneficial effects to the economy from reducing transport-related road accidents and improving the resilience of the road network. This is particularly relevant to Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites).

5.4.46 When considered collectively, the Priorities of the Draft RTS are predicted to have the potential for significant beneficial effects on inclusive growth.

SEA Objective 9 – Human Health

5.4.47 The majority of Themes assessed are predicted to have a beneficial effect on this objective. A large proportion of the Priorities are designed to enhance opportunities for access to services, including healthcare facilities and open spaces which would be predicted to have beneficial effects on human health. Additionally, a number of the Priorities aim to increase the proportion of trips undertaken by active travel allowing people to incorporate exercise into their daily trips and increasing levels of physical activity. Exercise is known to have beneficial effects on both mental health / wellbeing and physical health.

5.4.48 The proposed actions and Priorities to decarbonise public transport and private vehicles and to move freight onto the railways, are predicted to improve air quality through reductions in traffic emissions which in turn is predicted to have potential for significant beneficial effects on health, particularly respiratory health and for groups such as children and older people who are typically most sensitive to the adverse effects of air pollution.

5.4.49 There are some predicted significant beneficial effects to human health from reducing transport-related road accidents and improving the resilience of the road network. This is particularly relevant to Theme 8 (supporting safe, effective and resilient connections to Loch Ryan and other strategic sites).

5.4.50 When considered collectively, the Priorities of the Draft RTS are predicted to have the potential for significant beneficial effects on human health.

SEA Objective 10 – Material Assets

5.4.51 The majority of Themes assessed are predicted to have some beneficial effects on the Material Assets SEA Objective through encouraging more efficient forms of transport and its land uses and protecting and enhancing critical infrastructure. Where the Priorities are implemented at scale across all key transport corridors in the region, the effects have the potential to be significant.

5.4.52 Theme 1 (enabling more sustainable development), Theme 2 (connecting our communities) and Theme 3 (transforming travel in our towns) are predicted to have a significant beneficial effect on this objective through reduced resource use. Priorities within these Themes include sustainably locating development to reduce the need to travel first and foremost, locating development so that it is / can be served by active and public transport, improving and integrating the active travel network.

5.4.53 Priorities which deliver improvements to public transport to make it more attractive and accessible are likely to result in greater uptake of public transport. Collectively, with Themes 1, 2 and 3, these measures are likely to contribute to reduced car use which would reduce congestion and allow transport infrastructure to operate more efficiently. Measures which achieve modal shift and reduce the demand for travel and those delivering vehicle efficiencies have the potential to lower overall use of energy, particularly fossil fuels in the region.

5.4.54 There is some predicted uncertainly around the effects of implementation of Priorities which could promote new or upgraded infrastructure from the resultant demand on new materials. Promotion of a circular economy in the SWestrans region would be key to efficient materials management and reducing the indirect environmental effects associated with resource extraction, processing and end of life / waste management. Transport system improvements should always be developed wherever possible through re-use and reallocation of existing assets to avoid and reduce the need for new materials and non-renewable resources.

5.4.55 When considered collectively, the Priorities of the Draft RTS are not predicted to have significant effects on material assets. Overall, the Strategy is predicted to have mainly beneficial non-

significant effects provided implementing measures take account of the potential for environmental effects from non-renewable resource use.

5.5 Cumulative Effects

5.5.1 The preceding discussion of predicted effects of the Strategy on the individual SEA Objectives has identified that the Draft RTS, when implemented, is likely to have a range of predominantly beneficial environmental effects, in some cases significant. The analysis in Section 5.4 also identifies the key Priorities which are considered to particularly contribute to significant effects for each environmental theme captured by the relevant SEA Objective. This approach has allowed for consideration of the total contribution of the Priorities in the RTS to the environmental themes in the SEA which supports further consideration of potential cumulative effects of the Strategy.

5.5.2 Whilst the high level nature of the Draft RTS precludes a detailed appraisal of cumulative effects, some strategic-level commentary on cumulative effects of the plan is set out here. These are addressed first for the potential for different predicted effects of the Strategy to combine and result in effects on sensitive receptors that are different from those when single theme environmental effects are considered (termed here as in-combination effects). The potential for implementation of the Strategy to cumulatively affect receptors when considered with the effects of other key policies and plans in the SWestrans region is also briefly addressed (and referred to as cumulative effects).

In-Combination Effects of the RTS

5.5.3 At the scale of the SWestrans region, receptors sensitive to in-combination effects can be considered in terms of all the main communities and areas of population and the supporting civic, community and transport infrastructure that serves them. Key natural heritage sites include those designated for their high quality and sensitivity (such as the Fleet Valley, East Stewartry Coast and the Nith Estuary National Scenic Areas and other designated landscapes), important habitats including those supporting internationally important assemblages of birds and other species, rivers and their catchments, the coastal and inter-tidal zone, country parks and green spaces important to people and nature and the region's rich and varied cultural heritage. It is also recognised that people and local communities value a wide range of other places and sites for a range of attributes that they provide which can contribute to quality of life, health, education and supporting local businesses and the economy.

5.5.4 At the strategic level of the RTS only broad consideration of in-combination effects and receptors is possible. The SEA has not predicted any significant adverse environmental effects in relation to the ten topic-based themes and objectives (provided adverse effects are avoided or effectively mitigated) which lowers the potential for impacts to combine and have additive or synergistic effects on key receptors which may be significant. With the mitigation principles outlined in this report and a commitment to their ongoing development and application through RTS delivery stages, no significant adverse effects on sensitive receptors at the regional level from in-combination effects are predicted.

5.5.5 It is recommended that as the Strategy is implemented a framework for continued consideration of environmental impacts is taken forward commensurate with the detail and location-specific nature of the delivery stages. To ensure that environmental and sustainability effects are considered holistically (and in relation to cumulative effects) it may be appropriate to develop a framework based on a natural-capital approach. This would characterise the range and scale of natural (and man-made) assets and services associated with a region from which a more informed understanding of the impacts of sub-programmes and key transport interventions could be identified.

5.5.6 The main potential for the RTS to have in-combination effects is on human receptors, primarily people in communities across the region who would benefit from the potential for multiple effects

on health, accessibility and socio-economic outcomes. The region includes areas where people live in deprived communities and where life prospects and lived experiences may be materially influenced for the better by the availability, accessibility and affordability of public transport and active travel. Transport is increasingly being defined by policy makers as a human right and the potential benefits of the RTS, where it can be implemented and sustained at scale, would support significant beneficial environmental and health effects to these (and other) communities.

5.5.7 The potential for significant beneficial in-combination effects of the Draft RTS is therefore predicted in areas where a step-change in accessibility and mobility is delivered from its implementation contributing to improved health, amenity, accessibility to key services and improved socio-economic prospects (including productivity).

Cumulative Effects of the RTS

5.5.8 There are many policies, plans and programmes relating to land use and transport development in the SWestrans region, including some of those identified in Appendix A. A proportionate approach to consider potential cumulative effects with other strategies has been followed reflecting the strategic nature of the RTS, its predominantly beneficial predicted effects, and the inherent complexity and uncertainty in forecasting cumulative effects.

5.5.9 The key plans which are considered to have potential for significant cumulative effects with the RTS are those likely to have a 'reinforcing' impact on its predicted beneficial effects. These include the Scottish Government's National Transport Strategy 2 (and associated delivery plans), the Infrastructure Investment Plan (IIP), the Scottish Climate Change Plan Update, and the 'road-map' proposals to achieve a 20% reduction in road vehicle kilometres by 2030. These policies, and their relevant subordinate and related action plans in areas such as electric vehicles, cycling and micromobility, set out high level proposals and commitments in complementary themes to the RTS including:

- emissions reductions (relevant to SEA Objectives for climate change mitigation and air quality and amenity);
- uptake of active travel (relevant to SEA Objectives for health and accessibility); and
- step changes in public transport services and integration (relevant to SEA Objectives for accessibility and connectivity, material assets and inclusive growth).

5.5.10 Taken together with these strategies, and with other complementary regional level programmes and interventions, it is predicted that the RTS would have significant beneficial cumulative environmental effects on climate, air quality, human health, accessibility and productivity. The extent of the beneficial outcomes and when they might be achieved would depend on the effectiveness and timescales of the delivery measures taken forward by SWestrans and its partner organisations.

5.5.11 The potential for significant adverse cumulative effects has also been considered. The predicted adverse environmental effects of the Draft RTS are limited in number and scope (and none of which is likely to be significant, see Section 5.4). The principal Priorities of the RTS where potentially adverse environmental effects are predicted (or are uncertain) relate to those whose implementation may involve development of new or upgraded transport infrastructure, including for example the construction of freight hubs and road bypasses and the reinstatement of closed railways lines and stations.

5.5.12 There are no specific locations or designs for any of these interventions at this stage of the Draft RTS. To ensure that significant adverse cumulative effects with other similar or linked transport plans and programmes are avoided in future, the implementation of future projects should be taken forward in collaboration with other key delivery agencies including Dumfries and Galloway Council, transport operators, Sustrans, Transport Scotland, Scotland's Railway and Network

Rail. Delivery of new transport projects would therefore be complementary with, and supportive of, national level interventions which may come forward in the region from programmes such as the Strategic Transport Projects Review (STPR2), the IIP and the National Planning Framework (NPF4). Engagement with the key environmental authorities including SEPA, NatureScot and Historic Environment Scotland (HES) will also ensure that relevant connected initiatives and programmes are integrated with transport development, including for example SEPA's strategic infrastructure sector plans, NatureScot's programmes on biodiversity, climate change, nature recovery, access and placemaking and HES's programme of work on climate adaptation and resilience.

5.5.13 This would ensure that new and upgraded transport infrastructure and facilities were planned and delivered to maximise beneficial outcomes and take account of all relevant environmental and sustainability constraints and opportunities. It is considered that an integrated approach together with implementation of the other environmental mitigation principles set out in this SEA (see Section 6.2) would avoid the potential for significant adverse cumulative environmental effects with other key plans and programmes in the region.

6 Mitigation and Monitoring

6.1 Introduction

6.1.1 The 2005 Act requires SEA Environmental Reports to provide the "measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme" and a "description of the measures envisaged concerning monitoring". Regulation 17 of the Act requires responsible authorities to "monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action".

6.2 SEA Mitigation

6.2.1 This section sets out the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the Draft RTS, for brevity only, this is referred to as 'mitigation'. A series of environmental mitigation measures in the form of high-level principles have been defined through the SEA process, particularly following initial options appraisal and in the assessment of the RTS Priorities. Mitigation in this SEA is presented in the form of principles and general commitments to reflect the level of detail of the draft Strategy as evidenced in the Priorities and their supporting narratives. The key mitigation identified at this stage is set out in Table 6.1.

Table 6.1 SEA Mitigation Measures

Group	Mitigation Commitment
General Mitigation Principles	
▪ The mitigation principles outlined in this report will be developed and applied through the RTS delivery stages including through continued application of an appropriate level of environmental assessment as the details of how Priorities will be implemented are progressed. ▪ These environmental assessments will be supported, where appropriate, through the development of environmental baseline information specific to the key transport corridor(s) where transport measures are being considered. ▪ The implementation of future RTS projects will be taken forward in collaboration with other key delivery agencies including Dumfries and Galloway Council, bus operators, Sustrans, Transport Scotland, Scotland's Railway and Network Rail. ▪ Engagement with the key environmental authorities including SEPA, NatureScot and Historic Environment Scotland will be maintained to ensure that relevant connected initiatives and programmes are integrated with RTS delivery.	
Theme Specific Mitigation Measures	
Sustainable development, active travel and public transport	▪ Development of 20 minute neighbourhoods and other land use and transport integration measures should be taken forward. ▪ Development of active travel network infrastructure should identify and implement opportunities for related environmental enhancements, using nature based solutions, including for example green / blue infrastructure, flood risk management, local habitat enhancement (achieving biodiversity net gain), landscape / townscape enhancement and where relevant interpretation of areas cultural heritage interest / importance. ▪ Uptake of electric powered micromobility (e-bikes, e-scooters, e-skateboards) may require measures to ensure safety of other active travel users due to potentially higher speeds of these new forms of transport.
Relevant Themes: ▪ *1: Enabling More Sustainable Development* ▪ *2: Connecting our Communities* ▪ *3: Transforming Travel in Our Towns*	

Group	Mitigation Commitment
▪ *5: Enhancing Access to Transport Services* ▪ *6: Sustainable and Extended Local and Regional Public Transport Connectivity* ▪ *7: Improving the Quality and Affordability of Our Public Transport Offer* ▪ *8: Supporting Safe, Effective and Resilient Connections to Loch Ryan and Other Strategic Sites* ▪ *9: Managing Our Car Traffic* ▪ *10: Making the Most of New Opportunities*	
Transport infrastructure	▪ The need for, nature of and scope of new / extended / improved transport infrastructure should be considered within the context of the reasonable alternatives, including alternative modes of transport. Consideration of alternatives should include embedded and operational carbon. For example, the need for and scale of improvements to the strategic road network should be reviewed in combination with the potential for freight hubs and new railway lines which offer the potential for reduced HGV traffic on the road network. ▪ Transport infrastructure should be developed as part of a holistic network, integrated with other travel options (e.g., connections to a transport interchange) to enable the more sustainable modes of transport becoming a more viable and attractive option. ▪ New transport infrastructure should be developed wherever possible through re-use and reallocation of existing transport assets / road space (in accordance with the Scottish Government's Investment Hierarchy[5]) and where new facilities or infrastructure are required these should be located, designed and constructed to avoid sensitive receptors, including (but not limited to) peat and other carbon rich soils, biodiversity and archaeology. ▪ Any new, extended or upgraded transport infrastructure would be subject to appropriate levels of environmental assessment and consenting, this would involve development of designs, mitigation measures and sensitive construction environmental management to ensure that wherever possible significant adverse environmental effects were avoided. ▪ Where materials are required to develop transport infrastructure priority should be given to the use of secondary, recycled and remanufactured materials and products before use of non-renewable resources. The circular economy principles should be followed to minimise use of primary resources. ▪ Measures to adapt the transport system to climate change should take account of the embodied carbon in designs and materials and wherever possible solutions should seek to work with nature and adopt approaches based on green / blue infrastructure. ▪ Collaborative working with relevant flood risk agencies and local authorities should be pursued in integrating transport resilience works with flood prevention activities, wherever possible working at a watercourse catchment scale. ▪ At this stage of the RTS development, the Priorities set out within the Draft RTS are not predicted to have any likely significant effects on European sites and as such it the RTS is unlikely to be subject to a requirement for a Habitats Regulations Assessment (HRA). This shall be kept under review as the Strategy is implemented. ▪ As the RTS develops through to the Delivery Plan and implementation, the potential for likely significant effects (LSE) on European sites shall (statutory requirements apply) be kept under review. An HRA Screening will be completed if SWestrans considers, in line with the precautionary principle, that there is any potential for LSE from implementation of the RTS.
Relevant Themes: ▪ *1: Enabling More Sustainable Development* ▪ *2: Connecting our Communities* ▪ *3: Transforming Travel in Our Towns* ▪ *4: Reducing the Impact of Transport on Our Communities* ▪ *6: Sustainable and Extended Local and Regional Public Transport Connectivity* ▪ *8: Supporting Safe, Effective and Resilient Connections to Loch Ryan and Other Strategic Sites*	

[5] As set out in the 2021 Infrastructure Investment Plan: https://www.gov.scot/publications/analysis-responses-consultation-draft-infrastructure-investment-plan-2021-22-2025-26/

Group	Mitigation Commitment
▪ *9: Managing Our Car Traffic* ▪ *10: Making the Most of New Opportunities*	
Vehicles and decarbonisation	▪ Increased provision of public transport capacity and services should deploy zero or ultra-low emission vehicles. ▪ Public transport operators should be supported to achieve rapid decarbonisation of existing vehicle fleets. ▪ Where new electric vehicle (EV) charging infrastructure is developed, opportunities should be taken to provide as wide as possible access for local communities and other users. ▪ Freight transport operators and facilities should be supported to achieve rapid decarbonisation of existing vehicle fleets. ▪ Transition to electric vehicles should be supported with circular economy activities and initiatives to support the re-use, re-manufacture and recycling of key materials such as battery components.
Relevant Themes: ▪ *3: Reducing the Impact of Transport on Our Communities* ▪ *5: Enhancing Access to Transport Services* ▪ *10: Making the Most of New Opportunities*	
Access and fairness	▪ Measures using pricing to reduce demand for car travel should be designed equitably to ensure that they do not have unintended consequences for people with socio-economic disadvantage, in line with national and regional commitments to a Just Transition to Net Zero. ▪ The implementation of active travel infrastructure should be fully accessible for all users and integrated across the region to realise full benefits. ▪ Enhancement to public transport services and facilities should be designed and operated to ensure that the needs of all users and disabilities groups are accommodated. ▪ Enhancement to public transport should be designed and operated to ensure that the needs of all users and disabilities groups are accommodated.
Relevant Themes: ▪ *1: Enabling More Sustainable Development* ▪ *2: Connecting Our Communities* ▪ *4: Reducing the Impact of Transport on Our Communities* ▪ *5: Enhancing Access to Transport Services* ▪ *6: Sustainable and Extended Local and Regional Public Transport Connectivity* ▪ *7: Improving the Quality and Affordability of Our Public Transport Offer* ▪ *9: Managing Our Car Traffic* ▪ *10: Making the Most of New Opportunities*	

6.2.2 These mitigation commitments provide a framework for the development of specific measures in more detail alongside the development of the RTS Delivery Plan. Future elaboration of this framework will include identification of specific lead responsibilities for SWestrans and other partners and associated timeframes. At this stage it is important to note that the principles are committed to by SWestrans which has allowed them to be used in considering the potential residual (i.e., post mitigation) environmental effects of the draft Strategy as reported in Section 5.

6.3 Monitoring Framework

6.3.1 Monitoring the RTS is important to evaluate the extent to which it is achieving the Strategy Objectives and Vision. To facilitate this a series of Key Performance Indicators (KPIs) have been identified in the Draft RTS. They will be used to measure how the transport system performs over the lifetime of the RTS against an established baseline prior to its implementation. Throughout the lifetime of the strategy monitoring reports will be prepared every two years. These will outline the key regional transport and behavioural trends based upon the KPIs.

6.3.2 As set out in Section 6.1, SWestrans must also monitor the significant environmental effects of the implementation of the Strategy with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action. It should be noted that the SEA Act only requires significant environmental effects to be monitored.

6.3.3 Analysis of the distribution of RTS indicators in Table **6.2** suggests that there is a good level of consistency with monitoring for the SEA Objectives. Many of the KPIs proposed for the RTS itself are considered to be suitable to help track progress in the delivery of the Strategy with respect to environmental outcomes, where this is the case, the KPIs are noted in Table 6.2 below. They will also be used to check that the beneficial effects of the RTS predicted in this SEA are being realised and to monitor any adverse effects so that corrective actions may be introduced.

6.3.4 The proposed KPIs draw on existing monitoring programmes at the national, regional and sub-regional levels to draw from recognised data sources and to ensure a resource efficient approach.

Table 6.2 Indicators for Monitoring RTS Environmental Effects

SEA Objective	Draft RTS KPIs and Suggested Additional KPIs (data source)
1. Climate Change	Draft RTS KPIs: ▪ Transport related CO_2 emissions (Department for Business, Energy & Industrial Strategy) ▪ Main purpose of travel (Scottish Household Survey Travel Diary)
2. Air Quality and Amenity	Draft RTS KPIs ▪ Number of AQMAs (Scottish Transport Statistics) ▪ Roads causing severance due to high traffic flows (Transport Scotland / Department for Transport ATCs) ▪ Average Annual Daily Traffic through Settlements (Transport Scotland / Department for Transport ATCs)
3. Biodiversity, Geodiversity and Soil	Draft RTS KPIs: ▪ N/A
4. Water, Flood Risk and Resilience	Draft RTS KPIs: ▪ N/A
5. Cultural Heritage	Draft RTS KPIs: ▪ N/A
6. Landscape	Draft RTS KPIs: ▪ N/A
7. Accessibility and Connectivity	Draft RTS KPIs: ▪ Main mode of travel – bus (Scottish Household Survey Travel Diary) ▪ Main mode of travel – rail (Scottish Household Survey Travel Diary / Transport Focus Surveys) ▪ Main mode of travel – Walking (Scottish Household Survey Travel Diary) ▪ Main mode of travel – Bicycle (Scottish Household Survey Travel Diary) ▪ Frequency of walking in previous 7 days (Scottish Household Survey Travel Diary)
8. Inclusive Growth	Draft RTS KPIs: ▪ Employed adults method of travel to work, and whether they could use public transport (Scottish Household Survey Travel Diary) ▪ Connectivity and deprivation analysis for key healthcare, education, and employment destinations (TRACC) ▪ Public transport labour market catchments of largest employment sites (Business Register and Employment Survey / TRACC)

SEA Objective	Draft RTS KPIs and Suggested Additional KPIs (data source)
9. Human Health	Draft RTS KPIs: ▪ Number of Air Quality Management Areas (Scottish Transport Statistics) ▪ Reported road collisions on strategic road network (Scottish Transport Statistics) ▪ Average Annual Daily Traffic through Settlements (Transport Scotland / Department for Transport ATCs)
10. Material Assets	Draft RTS KPIs: ▪ N/A

7 Next Steps

7.1 Consultation on this Environmental Report

7.1.1 This SEA Environmental Report and its Non-Technical Summary have been published for consultation alongside the Draft RTS which has been prepared by SWestrans (with support from Stantec UK) together with supporting reports including the Equalities Duties Report.

7.1.2 The Draft RTS and supporting assessment reports, including this environmental assessment, will be published for consultation (of at least 12 weeks) in Autumn 2022. The consultation process will reach a broad range of stakeholders and the general public who will be able to provide their feedback through a dedicated website facility (see below). The Draft RTS and SEA Environmental Report, together with other supporting reports, will be made available for public access on the SWestran RTS consultation website (SWestrans RTS). The documents will also be made available in hard copy for inspection, should this be requested, at the principal offices of SWestrans.

7.1.3 Details of how to participate in the consultation will be published by SWestrans and, in accordance with statutory requirements, an advert will be placed in a local newspaper inviting expressions of interest and stating where a copy of the relevant plan can be inspected. A web-based consultation facility will be established with access to the on-line feedback forms available at SWestrans RTS.

7.1.4 The SEA Environmental Report and a copy of the Draft RTS (the 'relevant documents') will also be provided to the SEA Consultation Authorities via the Scottish Government's SEA Gateway for formal consultation on the Strategy and the SEA under the requirements of the Environmental Assessment (Scotland) Act 2005.

7.2 Next Stages of RTS Preparation and SEA

7.2.1 This Report will be consulted on in tandem with the Draft RTS. All representation received regarding both documents will then be analysed by SWestrans and the independent SEA project team to determine whether:

- substantial changes need to be made to the Draft RTS, potentially resulting in the need to re-consult on substantive actions and an associated SEA ER Addendum; or,
- only minor modifications need to be made to the Draft RTS prior to submission to the Scottish Ministers for approval (i.e., no further consultation would be necessary).

7.2.2 The Scottish Ministers will then review the finalised RTS and determine whether it can be approved with or without any further modifications. Following approval of the finalised RTS, SWestrans will formally adopt and publicise the Strategy. At this time, an SEA Post Adoption Statement (PAS) will be prepared to explain how the SEA process has closely informed the development of the finalised RTS and how the feedback from consultation has been taken into account in finalising the Strategy. The PAS will also set out proposals for future monitoring of the environmental effects of the RTS.

Appendix A Review of Plans and Programmes

A.1 Introduction

A.1.1 This section sets out a proportionate review of plans and programmes of relevance to the emerging RTS and the associated SEA. This review has been updated as required throughout the preparation of the emerging RTS to take account of policy developments. Table A.1 below is arranged by International, National and Local Policy levels and applies the same topic groupings as used in Appendix B: Air & Climate, Physical Environmental and Socioeconomics and Interrelated Effects[6].

[6] Note that Interrelated Effects refers to policies with wide relevance to all objectives where relevant.

Table A.1 Policy documents of relevance to the SEA and RTS

SEA Topic	Relevant Plans, Programmes and Strategies
International[7]	
Air and Climate: Air & Climatic Factors	World Health Organization (1999) Guidelines for Community Noise, WHO Air Quality Guidelines, United Nations (1979) Geneva Convention on Long Range Transboundary Air Pollution, The United Nations Framework Convention on Climate Change (UNFCCC) (1992), Kyoto Protocol to the UN Convention on Climate Change (2005), United Nations (2009) The Copenhagen Accord, United Nations (2010) Cancun Adaptation Framework, United Nations (2016) Paris Agreement, Glasgow Climate Pact (2021). European / EU legislation and plans now of indirect relevance include: Ambient Air Quality Directive 2008/50/EC and Air Quality Framework Fourth Daughter Directive 2004/107/EC, Environmental Noise Directive 2002/49/EC, Renewable Energy Directive 2009/28/EC
Physical Environment: Biodiversity, Flora & Fauna, Soil, Water, Cultural Heritage & Landscape	The Ramsar Convention on Wetlands (1971), EU Convention on the Agreement on the Conservation of African – Eurasian Migratory Waterbirds (2006) (The Bonn Convention), United Nations (1992) The Rio Convention on Biodiversity, Strategic Plan for Biodiversity 2011 - 2020 + Aichi Biodiversity targets, UNESCO (1972) Convention Concerning the Protection of the World Cultural and Natural Heritage. European / EU legislation and plans now of indirect relevance include: Convention on the Conservation of European Wildlife and Natural Habitats - The Bern Convention (1981), Birds Directive 2009/147/EC/, Habitats Directive 92/43/EEC as amended by 97/62/EC, Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), European Landscape Convention (The Florence Convention).
Socio-economics: Population, Human Health & Material Assets	United Nations (2016) Habitat III (Quinto), United Nations Economic Commission for Europe (1998) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention), World Health Organisation (2004) Children's Environment and Health Action Plan for Europe, Transforming our World: The 2030 Agenda for Sustainable Development (2015)
Interrelated Effects	Johannesburg Declaration on Sustainable Development, Communication COM (2005) 666: Taking Sustainable use of resources forward. European / EU legislation and plans now of indirect relevance include: Strategic Environmental Assessment (SEA) Directive 2001/42/EC European Spatial Development Perspective (ESDP) (97/150/EC), Environmental Impact Assessment Directive 2014/52/EU amending Directive 2011/92/EU
National (UK) - legislative and policy frameworks informed by relevant higher-level frameworks	

[7] Some European Union (EU) legislation remains of indirect relevance.

SEA Topic	Relevant Plans, Programmes and Strategies
Air and Climate: Air & Climatic Factors	The Environment Act 1995, The Air Quality Standards Regulations (2010) as amended, Air Quality Strategy for England, Scotland, Wales and Northern Ireland, UK's Air Quality Action Plan (Defra, revised January 2016), Defra (2011) Air Quality Plans for the Achievement of EU Air Quality Limit Values for Nitrogen Dioxide (NO2) in the UK: List of UK and National Measures, Climate Change Act 2008, DECC (2011) UK Renewable Energy Roadmap, DECC (2014) UK National Energy Efficiency Action Plan, HM Government (2017) UK Climate Change Risk Assessment 2017.
Physical Environment: Biodiversity, Flora & Fauna, Soil, Water, Cultural Heritage & Landscape	Wildlife and Countryside Act 1981, Environmental Protection Act 1990, The Protection of Badgers Act 1992, Conservation of Habitats & Species Regulations 2010 (as amended), UK National Ecosystem Assessment (2011) UK National Ecosystem Assessment: Understanding Nature's Value to Society, The Conservation of Habitats and Species Regulations 2010 as amended, JNCC (2012) The UK Post 2010 Biodiversity Framework, Natural Environment and Rural Communities Act 2006, Environmental Protection Act 1990 Part SEA, Good Environmental Status, DECC (2010) Department for Transport (2011) National Policy Statement for Ports, The Marine and Coastal Access Act (2009), Department for Environment, Food & Rural Affairs (2011) UK Marine Policy Statement, The Ancient Monuments and Archaeological Areas Act (1979).
Socio-economics: Population, Human Health & Material Assets	The Enterprise and Regulatory Reform Act (2013), Equality Act (2010), Health Effects of Climate Change in the UK 2008 - An update of the Department of Health Report 2001/2002, Health Protection Agency (2009) Health Strategy for the United Kingdom 2, Health and Safety Executive (2009) The Health and Safety of Great Britain: Be Part of the Solution, Sustainable Development Commission (2010) Sustainable Development: The Key to Tackling Health Inequalities, HM Treasury (2014) National Infrastructure Plan, HM Government (2009) The UK Renewable Energy Strategy.
Interrelated Effects	HM Government (2005) The UK Sustainable Development Strategy, Defra (2011) Mainstreaming Sustainable Development, Department for Transport (2008) Delivering a Sustainable Transport System, HM Government (2005) One Future – Different Paths. Shared Framework for Sustainable Development.
National (Scotland) - legislative and policy frameworks informed by relevant higher-level frameworks	
Air and Climate: Air & Climatic Factors	Air Quality (Scotland) Regulations (amended) 2016, Cleaner Air for Scotland 2 - Towards a Better Place for Everyone (CAFS 2), The Environment Act 1995 & Part IV of the Environment Act 1995 Local Air Quality Management Policy Guidance, The Environmental Noise (Scotland) Regulations 2006, Transportation Noise Action Plan, Planning Advice Note 1/2011: Planning and Noise, Climate Change (Scotland) Act 2009 and Orders, Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, The Scottish Government's Update to the Climate Change Plan 2018-2032 (2020), Securing a Green Recovery on a Path to Net Zero Switched On Scotland Phase Two: An Action Plan for Growth, Reducing car use for a healthier, fairer and greener Scotland A route map to achieve a 20 per cent reduction in car kilometres by 2030 (draft, Transport Scotland, 2022), 'Climate Ready Scotland'- Scotland's Climate Change Adaptation Programme 2019-2024, Transportation Noise Action Plan (2019-2023).
Physical Environment: Biodiversity, Flora & Fauna, Soil, Water, Cultural Heritage & Landscape	Nature Conservation (Scotland) Act 2004, Wildlife and Natural Environment (Scotland) Act 2011, Scottish Government: Scottish Forestry Strategy 2006 and Implementation Plan 2015 – 2018, It's in your Hands: Scotland's Biodiversity Strategy (2005), 2020 Challenge for Scotland's Biodiversity (2013), Scotland's Biodiversity, a Route Map to 2020 (6 Big Steps for Nature), Scottish Government's 'Scottish biodiversity strategy post-2020: statement of intent', Scotland's Biodiversity List,

SEA Topic	Relevant Plans, Programmes and Strategies
	Scottish Biodiversity Strategy indicators, Scottish Government and its Key Agencies: The Scottish Soil Framework (2009), State of Scotland's Soils Report 2011, National Soil Map of Scotland, Soil Monitoring Action Plan & Implementation Plan, Contaminated Land (Scotland) Regulations 2000 as amended, Scottish Government's Statutory Guidance: Edition 2 (2006), Getting the best from our land: A Land Use Strategy for Scotland 2016 – 2021, Water Environment and Water Services (Scotland) Act 2003, Water Environment (Controlled Activities) (Scotland) Regulations 2011 as amended (CAR), Groundwater Protection Policy for Scotland: Environmental Policy (SEPA, 2009), River Basin Management Plan for the Scotland River Basin 2015 – 2027, Flood Risk Management (Scotland) Act 2009, Scottish Canals Asset Management Strategy 2019-30, Marine (Scotland) Act 2010, The Historic Environment Scotland Policy for Scotland (HEPS) 2019, Our Place in Time - The Historic Environment Strategy for Scotland 2014, Historic Environment Circular 1, The Town and Country Planning (Historic Environment Scotland) Amendment Regulations 2015 , The Historic Environment (Scotland) Act 2014, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, Ancient Monuments and Archaeological Areas Act 1979 (as amended, 2014), Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended, 2014), PAN71 Conservation Area Management 2004, Scotland's Scenic Heritage, NatureScot Landscape Policy Framework, Planning etc. (Scotland) Act 2006, Creating Places: The Scottish Government's policy statement on architecture and place, National Parks (Scotland) Act 2000, Scotland's Landscape Charter, NatureScot's Landscape Character Assessment.
Socio-economics: Population, Human Health & Material Assets	General Registers of Scotland: National Population Projections (2018), Equality Act 2010 (as amended specific to Scotland), Scottish Government: Fairer Scotland Action Plan, Going Further: Scotland's Accessible Travel Framework, National Bus Travel Concession Scheme for Older and Disabled Persons (2006 and amended), Scotland's Economic Strategy (2015), Town Centre Action Plan, Scottish Government: Let's Get Scotland Walking - A National Walking Strategy 2014, Cycling Action Plan for Scotland, A Healthier Scotland - Actions and Ambitions on Diet, Activity and Healthy Weight 2017, Mental Health Strategy 2017 – 2027, Good Mental Health for All, Scottish Government: Go Safe on Scotland's Roads It's Everyone's Responsibility: Scotland's Road Safety Framework to 2020, Audit Scotland (2011) Transport for Health and Social Care, Scottish Government: Short Life Working Group (2013) Healthcare Transport Recommendations, A connected Scotland - Tackling social isolation and loneliness and building stronger social connections, Going Further: Scotland's Accessible Travel Framework, Scottish Government: Good Places, Better Health. A New Approach to the Environment and Health in Scotland: Implementation Plan (2008), Creating Places (2013), Place Standard Tool (2016), Scottish Planning Policy (2014), National Planning Framework 3 (2014), Scottish Government: Equally Well (2008), First Equally Well Review (2010), Second Equally Well Review (2014), Equally Well Implementation Plan and Outcomes Frameworks (2008), Transport (Scotland) Act 2005, Scotland's Energy Strategy 2017, Switched On Scotland Roadmap 2013, Switched On Scotland Phase Two: An Action Plan for Growth, Infrastructure Investment Plan (2021), Scotland's NTS2 (2020), Strategic Transport Projects Review 2 Phase 1 Report (2021), Scottish Planning Policy (2014), National Planning Framework 3 (NPF3) (2014), NPF4 (emerging).
Interrelated Effects	National Transport Strategy 2 (NTS2) (2020), NTS2 1st Annual Delivery Plan (2020), Strategic Transport Projects Review 2 (STPR2) (emerging), National Planning Framework 4 (NPF4) (emerging), Scottish Planning Policy (2014), NPF3 (2014), Place Principle (2019) Designing Streets (2010), Infrastructure Commission for Scotland Report, Scotland's Economic Strategy 2015, Infrastructure Investment Plan (2015), Cycling Action Plan for Scotland, National Walking Strategy,

SEA Topic	Relevant Plans, Programmes and Strategies
	Delivering the Goods - Scotland's Rail Freight Strategy (2016), Rail Enhancements & Capital Investment Strategy, Scottish Ferries Plan, National Roads Development Guide, Climate Ready Scotland Adaptation Programme (2019), Land Use – Getting the best from our land (2021-2026), The Scottish Governments Programme for Government (2020-2021), The Scottish Government's Infrastructure Investment Plan 2021-22 to 2025-26 (2021)
SWestrans Region - policy frameworks informed by relevant higher-level frameworks	
Air and Climate: Air & Climatic Factors	Route Map for Carbon Neutral in Dumfries and Galloway, Climate Management Plan 2 (Dumfries & Galloway Council, 2012)
Physical Environment: Biodiversity, Flora & Fauna, Soil, Water, Cultural Heritage & Landscape	Dumfries & Galloway Shoreline Management Plan (2005) (under review), Flood Risk Management Strategy for the Solway District (2016), Interim Report to the Solway Local Flood Risk Management Plan (2019)
Socioeconomics: Population, Human Health & Material Assets	South of Scotland Regional Economic Strategy (2021), South of Scotland Indicative Regional Spatial Strategy (2021), Local Development Plan 2 (Dumfries & Galloway Council, 2019), Regional Tourism Strategy (Dumfries & Galloway Council, 2016), Regional Economic Strategy (Dumfries & Galloway Council, 2015). SWestrans Regional Transport Strategy (2008), Active Travel Strategy (Dumfries & Galloway Council, 2014), Housing Needs & Demand Assessment (Dumfries & Galloway Council, 2016),, Future Approach to Tackling Poverty and Inequality for Dumfries & Galloway (2021), Equalities Outcomes 2017-2021 (Dumfries & Galloway Council), Equalities Mainstreaming Report 2015-2017 (Dumfries & Galloway Council).
Interrelated Effects	Council Plan 2017-2022 (Dumfries & Galloway Council), South of Scotland Indicative Regional Spatial Strategy (2021), Local Development Plan 2 (Dumfries & Galloway Council, 2019).

A.2 Key Policy Considerations

A.2.1 As set out in Table A.1, an extensive policy review of relevant plans, programmes and strategies which have been taken into account in the development of the emerging RTS and this associated SEA has been carried out.

International

A.2.2 Mitigating and adapting to climate change is a critical policy consideration at an international level with multiple agreements in place to address the climate emergency. The UNFCCC is the forum for international action on climate change with the aim of stabilising GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The UNFCCC focuses on mitigating (reducing) GHG emissions, adapting to climate change, reporting of national emissions, and financing of climate action in developing countries. Agreed at COP 21, the Paris Agreement commits signatories to reducing global greenhouse gas emissions with the long-term goal of withholding a temperature increase by no more than 2 °C. The recent COP 26 gathering in Glasgow led to the Glasgow Climate Pact, reaffirming the Paris Agreement goal of limiting the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5 °C. The pact recognises that GHG emissions need to fall by 45% by 2030 if the world is to stay on track to reach net zero by 2050 and requests countries revisit their 2030 targets by the end of 2022. In addition, the Cancun Adaptation Framework recognises that adaptation is required to be given the same priority as mitigation including reducing vulnerability and increasing resilience. Any major transport infrastructure development set out in the emerging RTS should contribute to meeting the requirements and targets set out in international climate change policies and agreements.

A.2.3 As the United Kingdom formally left the European Union (EU) in 2020, European legislation and associated policies are no longer of direct relevance to domestic policies or strategies such as the RTS. However, EU legislation has historically developed policy frameworks to address environmental issues which have subsequently been implemented at UK and Scotland levels, and prior to leaving the EU, existing EU legislation was transposed and incorporated into UK and Scottish legislation. This means some EU legislation remains of indirect relevance to the emerging RTS in terms of having established frameworks and requirements which the RTS will still need to implement in accordance with UK and Scottish legislation.

National

A.2.4 The Scottish Government's update to the Climate Change Plan 2018-2032 (2020) sets out a commitment to reduce greenhouse gas emissions to 75% of 1990 levels by 2030, 90% by 2040 and net-zero by 2045. The Plan recognises the key role that the decarbonisation of transport will play in reducing Scotland's emissions and includes:

iv. an aim to reduce the number of kilometres travelled by car by 20% by 2030

v. a commitment to phase out the need for new petrol and diesel cars and vans by 2030

vi. a £120 million investment in Zero Emissions Buses, driving forward a fully decarbonised future for Scotland's bus fleet and supporting the Scottish supply chain

vii. an investment of £50 million to create Active Freeways, providing a sustainable link between our towns, cities and some of our most beloved national landmarks

A.2.5 The upgrade to the Climate Change Plan follows on from the publication of Climate Ready Scotland Adaptation Programme in 2019 which sets out the current state of the climate in Scotland including average rainfall increases, temperature rises and changes in mean sea level around the UK. The Programme sets out low and high emission scenarios, predicts a high

emissions prediction of a summer temperature increase of 2.6°C and a winter temperature increase of 2.2 °C by 2070 with associated changes in rainfall in the summer (14% drier) and in winter (18% wetter). The transition to a low-carbon transport system will be critical to mitigating and adapting to the impacts of climate change in Scotland. This is backed up by several national policy documents, including NTS2.

A.2.6 The National Transport Strategy 2 (2020) sets out the transport strategy for Scotland over the next 20 years, seeking to deliver a transport system which is sustainable, inclusive, safe and accessible across Scotland. NTS2 provides a strategic framework comprising four key priorities and associated enablers to ensure that NTS2:

- **"Reduces inequalities:** providing fair access to services that are accessible and affordable for all;
- **Takes Climate action:** to help deliver the net-zero emissions target, adapting to the effects of climate change and promoting greener, cleaner choices;
- **Helps to deliver inclusive economic growth**; which is efficient, reliable, high quality and innovative; and,
- **Improves our health and wellbeing:** delivering a safer and secure Scotland, with a wide variety of travel choices for communities".

A.2.7 NTS2 also sets out proposals (as stated in the Scottish Government's Climate Change Plan) to reduce reliance on private transport to help to address the ongoing climate emergency, including a reduction in car kilometres by 20% in 2030, an ambition to phase out new petrol and diesel cars by 2032, decarbonise Scotland's passenger railways by 2035 and decarbonise scheduled internal Scottish flights by 2040. The delivery of inclusive economic growth is also a key pillar of NTS2, seeking to increase the resilience of Scotland's transport system and foster greater integration of transport and wider infrastructure policies and investments. It aims to increase Scotland's competitiveness and help Scotland to become an innovative leader in beneficial transport innovations.

A.2.8 STPR2 is a Scotland-wide review of the strategic transport network across all transport modes which aims to help deliver the visions, priorities, and outcomes for transport set out within NTS2. STPR2 will report in two phases. Phase 1 made recommendations on transport interventions for investment in the short term and was published in February 2021. Phase 2 made further recommendations in the consultation draft published in January 2022.

A.2.9 Cleaner Air for Scotland 2 - Towards a Better Place for Everyone (CAFS 2) was published in 2021 and is set out around ten general themes. For the health theme, it adopts a precautionary public health approach to air pollution reduction. As a minimum, compliance is required with domestic and international air quality standards but, where practicable and feasible, there should be continued efforts to reduce preventable air pollution still further beyond these limits. For the transport theme, the strategy notes the need for increased modal shift to active travel, with public transport key to further reductions in transport emissions. A transport system is required that that facilitates active travel choices, better public transport provision, embraces new technologies, and constrains private vehicle use, especially in urban centres where pollution and congestion are most acute.

A.2.10 Scotland's third Land Use Strategy was published in March 2021 and sets out the Government's vision for achieving sustainable land use in Scotland. The Strategy sets out a set of key considerations for climate change adaptation and mitigation and the biodiversity crises. It take a holistic landscape and ecosystems approach to sustainable land use, recognising the need for nature-based solutions.

A.2.11 The Historic Environment Policy for Scotland (HEPS) sets out principles and policies for decision making in Scotland that affects the historic environment. A key policy for preparation of strategies is HEP3 which states that "Plans, programmes, policies and strategies, and the

allocation of resources, should be approached in a way that protects and promotes the historic environment". HEP4 goes on to note "Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate."

A.2.12 The Scottish Governments Programme for Government (2020-2021) is guided by the National Performance Framework. This edition focuses on protecting and renewing Scotland, addressing the ongoing impact of Covid-19 on health, the economy and society and in supporting the transition to net-zero emissions. Two key interrelated policy issues that the SWestrans RTS must respond to are encapsulated by this target: delivering sustainable economic growth through climate change adaptation, and enhanced infrastructure investment.

A.2.13 The Scottish Government's Infrastructure Investment Plan 2021-22 to 2025-26 (2021) sets out priorities for public investment through a long-term strategy. This Infrastructure Investment Plan focuses on the importance of infrastructure investment to aid in the recovery from the economic, health and social harm from Covid-19 and also to address the adjustments required following the UK's exit from the EU in December 2020. It sets out the Scottish Government's long term infrastructure investment priorities and plans including the transition to a lower- carbon economy, strategic roads projects, high speed rail, low emission vehicle infrastructure, active travel infrastructure and accessibility improvements to infrastructure. It introduces a Sustainable Investment Hierarchy that encourages the maintenance, repair and use of our existing assets over new build.

A.2.14 Scotland's Economic Strategy (2015) sets out the long-term vision for Scotland's economic prosperity with £11bn worth of planned investment in Scotland's infrastructure. The Economic Strategy sets four priorities for delivering sustainable economic growth in Scotland; investment, innovation, internalisation and inclusive growth. The Scottish Government's Programme for Government 2020-2021 identifies the importance of transport in Scotland's Covid-19 recovery, identifying a suite of investment plans for transport improvements across Scotland such as £500m for bus priority infrastructure over the next 5 years, a £17m low carbon transport loan scheme and £100m for active travel infrastructure in 2020/2021. These improvements will help aid the Covid-19 recovery but also contribute to the movement towards the decarbonisation of Scotland's transport infrastructure.

A.2.15 The National Planning Framework 3 (2014) designates a suite of National Developments which benefit from Scottish Government support in policy terms and sets out a national spatial strategy to deliver sustainable economic growth. This includes planned investment in key economic sectors and infrastructure, identifying improved digital and transport connectivity as one of the four key planning outcomes for the plan. Within NPF3 Dumfries is noted as a rural gateway town which is the regional capital of the southwest of Scotland. It identifies the Solway as having significant opportunities for marine renewable energy generation, and wider opportunities for economic growth along the A74 corridor.

A.2.16 The Draft National Planning Framework 4 (NPF4, 2021) is currently out for consultation and if adopted, will replace NPF3. It will be a long term plan looking to 2045 that will guide spatial development, set out national planning policies, designate national developments and highlight regional spatial priorities. The SWestrans area falls within the 'Southern sustainability' where proposed actions include:

- Create a low-carbon network of towns (including regeneration of towns to be models of sustainable living; 20 minute neighbourhood concept; Stranraer Gateway Project)
- Support sustainable development (including creation of green jobs; diversification of the local economy through strategic growth corridors linking economic hubs with transport routes; long term strategy needs to reflect commitments to reduce greenhouse gas emissions and inequality)

- Innovate to sustain and enhance natural capital (including forests and woodland, peatland as carbon storage and sequestration; renewable energy generation; decarbonising homes and a strategic approach to electric vehicle charging)
- Strengthen resilience and decarbonise connectivity (including connectivity to Northern Ireland and Ireland and Carlisle; supporting a modal shift and reducing car use; better digital connectivity)

A.2.17 The emerging RTS must take account of all priorities identified in this policy review, including NTS2, Scotland's Economic Strategy, NPF and the Infrastructure Investment Plan especially with regard to transport climate change and inclusive growth. The emerging RTS also needs to be aligned with emerging policy priorities including the recommendations of STPR2 and the emerging NPF4.

A.2.18 The south of Scotland Indicative Regional Spatial Strategy (2021) extends across the study area and the neighbouring local authority area of the Scottish Borders to identify strategic development priorities for the region. It identifies strategic development projects, including:

- Strategic growth corridors leading to a Stranraer Gateway Project which incorporates creation of a Stranraer/Cairnryan Greenport to provide a strategic gateway between Scotland and Northern Ireland (and thus Europe);
- Transport corridor improvements and further development along the growth corridors;
- Active travel corridors and hubs;
- Measures to support natural capital and green tourism, including South West Costal Path Project and a coast to coast cycle route;
- Digital infrastructure programme;
- Development of the timber transport network to reduce timber transport by road; and
- Rail improvements, including new rail links and stations.

A.2.19 The Dumfries & Galloway Local Development Plan 2 (2019) sets out the strategic and detailed planning policy framework for development within the local planning authority area. The LDP's policies for transport support seeks to give priority to active and public transport modes, reducing the need to travel and situating development in sustainable locations.

A.2.20 LDP2 provides the vision for how communities will grow and develop in the future. It provides certainty for communities and investors alike about where development should and should not take place and the infrastructure required to support growth. The NPF4, once finalised, will also form part of the statutory Development Plan. The implementation of the emerging RTS will need to take account of the spatial strategy and transport requirements contained within LDP2.

A.2.21 The Dumfries and Galloway Local Biodiversity Action Plan (2009), aims to conserve, enhance and re-create biodiversity and landscape/seascape; incorporate biodiversity into all relevant decision making; improve awareness, understanding and engagement and enhance local distinctiveness.

A.2.22 In terms of economic development, the South of Scotland Regional Economic Strategy (2021) outlines issues faced by the region's economy and sets out the conditions for growth to support businesses, residents and communities. It aims sets out its strategic framework through six key themes:

- Skilled and Ambitious people;
- Innovative and Enterprising;

- Rewarding and Fair Work;
- Cultural and Creative Excellence;
- Green and Sustainable Economy; and
- Thriving and Distinct Communities.

A.2.23 In addition, Dumfries and Galloway Council published an Active Travel Strategy in 2014 which aims to meet the following outcomes:

- Develop Infrastructure that encourages active travel;
- Promote alternative transport modes, particularly for shot journeys;
- Improve the safety of walking and cycling in Dumfries and Galloway;
- Seek and support funding opportunities for active travel; and
- Encourage and facilitate walking and cycling as leisure and tourist activities to provide benefits to health and the local economy.

A.2.24 In terms of public health, the Open Outdoors Dumfries and Galloway Outdoor Access Strategy 2012-2017 was developed by the Dumfries and Galloway Council to promote the outdoors to all residents; encourage residents to lead more active lifestyles with increased opportunities for outdoor recreation and sustainable travel; increase tourist numbers and economic benefits; ensure countryside facilities are maintained and give communities a sense of responsibility.

A.2.25 In terms of climate change, Dumfries and Galloway Council is currently preparing a Climate Change Strategic Plan which will set out the region's approach to mitigation and adaptation. Additionally, the Carbon Neutral Strategic Plan provides a route map and gives key priorities and points of action for the Council as it moves towards Net-Zero.

A.2.26 Also of relevance is the Community Learning and Development Partner's Strategic Plan (2021-2024) created under the CLD (Scotland) Regulations 2013, which seeks to reduce inequalities in communities and provide support and guidance to disadvantaged groups.

A.2.27 The Dumfries and Galloway Regional Tourism Strategy 2016-2020 sets out the strategic aim, priorities and activity areas which will be pursued up to 2020 to make Dumfries and Galloway a destination of choice for quality, value and experience.

Appendix B Baseline Review

B.1 Introduction

B.1.1 This appendix supports Section 3 of the RTS SEA ER by providing a review of current environmental and socio-economic conditions within the area likely to be affected by the emerging RTS, in particular (but not exclusively) the SWestrans regional administrative area. In doing so this review:

- Identifies relevant aspects and characteristics of the environment, including those likely to be significantly affected by the outcome of the new SWestrans RTS. This includes the identification of sites designated at international or national levels for reasons of biodiversity conservation, geological importance, heritage or landscape value which have the potential to be affected by the emerging RTS;
- Identifies relevant socio-economic trends and baseline conditions, focusing on matters likely to be significantly affected by the outcome of the emerging RTS; and
- Outlines how the identified environmental and socio-economic characteristics and baseline conditions should be addressed within a refreshed RTS and considered within this SEA. The terms 'must' and 'should' are used to differentiate between statutory requirements to consider particular issues and non-statutory considerations, for example evidence from the baseline analysis which indicates a need to improve environmental quality.

B.1.2 This evidence is then used to:

- Inform consideration of the expected evolution of baseline environmental conditions in the absence of the emerging RTS; and
- Define a suite of key environmental issues which will need to be addressed within the emerging RTS and which should be considered throughout this SEA process (presented in Section 3 of this report).

B.1.3 The purpose of this baseline review is therefore to inform both proposals for the emerging RTS and the content of the SEA Framework which has been used to assess all substantive components of the emerging RTS.

B.2 Overview of Designated Sites

B.2.1 Table B.1 below summarises identified sites at international, national or local level for reasons of biodiversity conservation, geological importance, heritage or landscape value which are considered to have the potential to be affected by the emerging RTS. The list has been summarised using Environmental Baseline information contained in the Dumfries and Galloway Council, State of the Environment Report (January 2017). The context of these designated sites needs to be considered when characterising the environmental baseline position and identifying the relevance of existing issues and problems to the emerging RTS, as detailed in Section B.3.

Table B.1 Summary of Dumfries and Galloway Environmental Designations

Designation	Number of Sites	Total Area Covered in Hectares
Special Protection Areas[8]	7	225,246
Special Areas of Conservation	17	107,144

[8] One further proposed Special Protection Area at the Solway Firth

Designation	Number of Sites	Total Area Covered in Hectares
Ramsar Wetlands of International Importance	5	33,760
Sites of Special Scientific Interest	95	75,380
National Nature Reserves	2	10,107
Marine Protection Areas	1	712km^2
Marine Consultation Areas	1	4,134
Local Nature Reserves	2	2,982
Local Wildlife Sites	52	2,544
Local Geodiversity Sites	0	-
Local Wildlife Sites	52	2,544

B.2.2 The SWestrans area hosts a number of international, national and local environmentally designated sites throughout the region, particularly in the coastal areas. The emerging RTS should provide an appropriate level of protection and enhancement opportunities for the designated sites and landscapes and must support the management of designated sites in pursuit of their defined conservation objectives.

B.3 Environmental and Socio-economic Baseline Conditions

B.3.1 Informed by Table B.1, the following section outlines the current environmental conditions (including with respect to population, health and infrastructure) within the area likely to be affected by the emerging RTS, namely the SWestrans region. This review also identifies associated existing environmental problems and issues the emerging RTS should address, and which have been considered throughout this SEA process.

B.3.2 For the purpose of brevity, the qualitative baseline is presented in distinct categories, each in accordance with the required SEA Objectives as shown below.

- **Air and Climate**: Air and Climatic Factors;
- **Physical Environment**: Biodiversity, Flora and Fauna, Soil, Water, Cultural Heritage and Landscape; and
- **Socio-economics**: Population, Human Health and Material Assets.

B.3.3 The key issues for the region as identified in the baseline are summarised in Section 3 of this scoping report.

Air and Climate

Air and Climatic Factors

B.3.4 There are no significant issues with respect to air quality in South West Scotland, with air quality generally performing well in relation to National Air Quality objectives and there are no Air Quality Management Areas in South West Scotland.

B.3.5 Due to the rural nature of the region, the population is very dependent on private transport options, resulting in annual emissions of carbon dioxide from transportation being considerably higher than the Scotland average.

Physical Environment

Biodiversity, Geodiversity, Flora and Fauna

B.3.6 Table B.1 above identifies the relevant European sites (SPAs, SPCs and Ramsar sites) and sites designated at the national level and benefiting from statutory protection within the SWestrans region for specific reasons of ecological importance or biodiversity conservation. Of the 29 internationally designed sites, 10 have some element that is in an unfavourable and declining state.

Soil and Ground Conditions

B.3.7 Overall, the SWestrans region comprises a mix of urban, semi-rural and rural landscapes. The SWestrans region is made up of a mixture of soils including; Brown soils, Mineral Gleys, Alluvial soils, Humus-Iron Podzols, Magnesium Gleys, Peat, Peaty Gleys, Mineral Podzols and Peaty Podzols.

B.3.8 In terms of agricultural land quality, only a small proportion of land in the region is considered to be prime agricultural land, mainly located in the Rhins, the Machars and around Dumfries, Annan and Lochmaben.

Water

B.3.9 In 2020, 74.77% of surface water bodies were classed as Good or better, this has seen an increase from 49% in 2008. However, this remains below the average for Scotland of 83.99% of surface water bodies classified as Good or better.

B.3.10 The Dumfries Basin sandstone aquifer is one of the most productive in Scotland and supports groundwater abstraction for public supply, agriculture, and industry. The quality of the public water supply is generally high.

B.3.11 Between 2009 and 2015, there were 943 recorded flooding incidents in Dumfries and Galloway. Over those seven years 26% of flooding incidents recorded were attributed to either private or roads drainage whilst and additional 24% were related to surface water flooding.

Cultural Heritage

B.3.12 South West Scotland has a rich cultural heritage with 1045 Scheduled Monuments, 3449 Listed Buildings (7% are Category A and 53% Category B), 32 designated Archaeological Sensitive Areas, 38 Conservation Areas (16 of which are classified as outstanding), 20 Inventory Gardens and Designed Landscapes (GDLs), 108 non-inventory GDLs, and one Historic Battlefield.

B.3.13 Additionally, South West Scotland has numerous non-designated historic environment assets and a proportion of the transport infrastructure is also historic.

Landscape

B.3.14 There are three National Scenic Areas (NSAs): Fleet Valley, East Stewartry Coast and the Nith Estuary. There are also ten Regional Scenic Areas (RSAs). Additionally, there are two areas of ‘wild land’; Merrick Massif and Talla-Hart Fell, considered to be of national importance and exhibiting a high degree of tranquillity.

B.3.15 The Galloway Forest Park has Dark Sky Park status, recognising the exceptional quality of the night sky in the area. The lack of light pollution provides benefits for tourism as well as wildlife.

Socio-economics

Population

B.3.16 South West Scotland has a total estimated population of 148,290[9] people (2020), a decrease of 0.4% from 148,860 in 2019. Between 1998 and 2020, the population of people aged 0-15, 16-24 and 25-44 decreased by 20.3%, 2.3% and 27.1% respectively. Further, the population of people aged 45-64, 65-74 and 75+ all increased by 13.3%, 36.0% and 49.9% respectively which indicates an ageing population. Population projections forecast that the population of South West Scotland will continue to decrease by 2.8% to 144,575 between 2018 and 2028. In addition to an ageing population, the SWestrans region is projected to see a decline in the young (0-15) and working age population of 14.2% and 14% between 2018 and 2028[4].

B.3.17 In terms of spatial distribution, the population of Dumfries and Galloway is dispersed across the mostly rural landscape. The largest settlements are Dumfries, Stranraer and Annan, with Dumfries accounting for a considerable proportion of South West Scotland's overall population (approximately 22% in 2021)[10].

B.3.18 In terms of deprivation, the Scottish Index of Multiple Deprivation (SIMD) is a relative measure of deprivation across small areas in Scotland. It looks at multiple deprivation based on employment, education, health, access to services, crime and housing in addition to income. Overall, deprivation in South West Scotland as measured by the SIMD 2020 is very diverse, with 8% of areas within the top 20% most deprived in Scotland (an increasing trend) and one area in Dumfries which fell into the top 5% most deprived areas across Scotland.

B.3.19 While deprivation is relatively low across some parts of the region, due to the rural nature of the area the cost of living in Dumfries and Galloway can be high. An assessment of equalities and deprivation across the SWestrans region will be provided in the Equalities Impact Assessment (EqIA), to be developed in conjunction with the emerging RTS.

B.3.20 In terms of employment, the State of the Environment Report (2017) identifies that:

- there are high unemployment rates, particularly in relation to youth employment;
- relatively few of those of working age have a high level of qualification or the skills required by employers;
- full time workers in the region receive the lowest average weekly wage in Scotland;
- the public sector accounts for 27% of all jobs; and
- agriculture, retail, specific types of manufacturing, accommodation and residential care are all major sectors that are over-represented while professional, scientific and technical services as well as information and, communication and finance are all significantly under-represented.

B.3.21 Tourism is also an important and growing industry in Dumfries and Galloway. The total value of tourism in 2019 was £131 million, with a 4% increase in the number of visits in 2017-2019 compared to 2016-18.[11].

[9] National records of Scotland, Dumfries and Galloway Council Area Profile (2021)

[6] The River Basin Management Plan for Scotland 2021-2027 (2021)

[10] National Records of Scotland, Mid-Year Population Estimates by Settlement 2021

[11] Visit Scotland (2021). Dumfries and Galloway Factsheet.

Human Health

B.3.22 The SWestrans region is served by the NHS Dumfries and Galloway Health Board. Hospital provision within the Health Board is comprised of the Dumfries and Galloway Royal Infirmary, Annan Hospital, Castle Douglas Hospital, Galloway Community Hospital, Lochmaben Hospital, Mountainhall Treatment Centre, Midpark Hospital and Thomas Hope Hospital.

B.3.23 Life expectancy in the NHS Dumfries and Galloway Health Board for a female at birth is 81.44[12] and male life expectancy is 78.19 according to data from the Scottish Public Health Observatory (2017-2019). Both are higher than the Scottish average.

Material Assets

B.3.24 Brownfield land development is seen as a target by the Council, however there is a general lack of such land within the region. The number of vacant and derelict sites in the region has recently reduced, making up less than 0.1% of land.

B.3.25 Dumfries and Galloway have the highest amount of forestry activity in Scotland, and 25% of the land mass of Dumfries and Galloway is forested. Timber production generates around 100,000 lorry movements per annum in the area, plus a further 30,000 through journeys from other areas. The local road network in the South West is not designed to accommodate wide, heavy modern freight vehicles. Agriculture accounts for the majority of the remaining land use, predominantly cattle and sheep farming on pastoral land.

B.3.26 Dumfries and Galloway Council provides a waste collection service to over 70,000 households and commercial premises who generate around 90,000 tonnes of waste per year. The Dumfries and Galloway Council Waste Resource Management Strategy 2012-2020 sets out plans to increase recycling and divert biodegradable waste away from landfill. The strategy also plans for two recycling facilities and 13 household waste recycling centres. These plans may have an impact on transport through increased collection rates and increased private trips to recycling centres.

[12] Scottish Public Health Observatory. Life Expectancy 2017-2019.

Appendix C SWestrans RTS SEA Framework

SEA Objectives	Proposed Guide Questions: Will the RTS (component)…	Proposed Criteria to Assess Candidate Transport Interventions and Schemes
1. Climate Change: Respond to the climate emergency by decarbonising infrastructure assets and services, promoting and enhancing natural infrastructure, facilitating a low carbon economy, and adapting to accommodate the effects of climate change.	• Contribute to decarbonisation of the transport system? • Promote modal shift towards sustainable public transport and active travel? • Support a sustainable pattern of development which minimises energy consumption and GHG emissions? • Reduce the number of single occupancy car journeys and encourage car sharing? • Promote the use of clean fuels and technologies? • Enhance the resilience of infrastructure assets to adverse weather and the effects of climate change? • Promote the use of nature-based solutions?	• Support a sustainable pattern of development that facilitates achieving carbon neutrality. • Changes in emissions from traffic and public transport services. • Impacts on climate change mitigation: modal shifts and GHG emissions or saving (construction and operational phases). • Adaptability of new and upgraded transport infrastructure and services. • Resilience to adverse weather and the effects of climate change.
2. Air Quality and Amenity: To maintain and improve air quality, by reducing concentrations of harmful atmospheric pollutants and minimise exposure to noise and vibration.	• Maintain or enhance air quality? • Avoid unacceptable noise and vibration levels at sensitive locations? • Prevent and reduce emissions of harmful pollutants?	• Proximity to congestion pinch points. • Likely operational emissions.
3. Biodiversity, Geodiversity and Soil: Conserve, protect, restore and enhance biodiversity and geodiversity interests, including through safeguarding important sites, species and soil resources and by protecting, promoting and enhancing green infrastructure.	• Ensure appropriate safeguards for the integrity, conservation objectives and feature of sites designated at international, national, or local levels for reasons of biodiversity or geodiversity value or species protection? • Support the protection and enhancement of valued species and habitats? • Support safeguarding against habitat loss or fragmentation?	• Proximity to and impacts on sites designated at international, national and local levels for reasons of biodiversity conservation, ecological importance or geological importance (i.e. effects on integrity, objectives and features). • Proximity to and impacts on designated woodlands, important trees or hedgerows and other valued habitats.

SEA Objectives	Proposed Guide Questions: Will the RTS (component)…	Proposed Criteria to Assess Candidate Transport Interventions and Schemes
	• Support the protection and enhancement of protected trees and important woodland areas? • Protect and enhance important soil resources? • Support the protection and restoration of peatland?	• Proximity to and impacts on non-designated biodiversity features including wildlife corridors and connectivity. • Potential impacts on protected species. • Consideration of climate change on vulnerability and condition of habitats, species and soils.
4. Water, Flood Risk and Resilience: Conserve, protect and enhance water environments, water quality and water resources, whilst adapting to climate change and reducing exposure to flood risks.	• Avoid deterioration and enhance the overall, ecological and chemical classification of water bodies and the water environment in accordance with the Water Framework Directive? • Affect the volume of surface water runoff into or abstraction from water bodies? • Minimise the risk of flooding to people, property, infrastructure and environmental assets? • Manage residual flood risks appropriately and avoid new flood risks including by incorporating nature based solutions? • Seek to minimise new development in areas prone to flood risk or mitigate the potential for such risk?	• Proximity to Flood Risk Zones. • Proximity to and impacts on the WFD status of watercourses, waterbodies and aquifers. • Resilience to flood risk.
5. Cultural Heritage: Conserve, protect and enhance the historic environment, designated and non-designated cultural assets and promote south west Scotland's distinct culture.	• Conserve, protect and enhance the integrity, character and setting of designated and non-designated heritage assets? • Preserve archaeological sites and protect potential unknown archaeological resources? • Promote the continued use, retention and investment in the region's designated and non-designated heritage assets (including from existing infrastructure)?	• Proximity to and potential effects on designated and non-designated heritage assets, archaeological sites and their settings. • Opportunities to enhance access to, and enjoyment and understanding of, sites of archaeological and cultural heritage significance. • Promote the continued use, retention and investment in the region's designated and non-designated heritage assets?

SEA Objectives	Proposed Guide Questions: Will the RTS (component)…	Proposed Criteria to Assess Candidate Transport Interventions and Schemes
6. Landscape: Protect and enhance the landscape character, townscape character and visual amenity.	• Protect and enhance landscape character? • Safeguard important landscape and townscape features? • Protect visual amenity and valued views? • Protect the unique characteristics of south west Scotland? • Maintain and enhance the attractiveness of the public realm and built environment?	• Proximity to and impacts on designated landscapes and areas with wild land character. • Changes in landscape and townscape character from new infrastructure. • Impacts on visual amenity and key views. • Impacts on settlement integration or coalescence.
7. Accessibility and Connectivity: Facilitate appropriate connectivity and affordable, sustainable access for all to employment, education, facilities and services, and socio-economic and leisure opportunities.	• Improve connectivity to employment, education, personal business and social and leisure opportunities in particular by active travel and public transport? • Improve the accessibility and integration of the transport network, and therefore encourage use of more sustainable modes of transport? • Improve availability and access to transport and travel information to support modal shift? • Respond to potential environmental impacts resulting from periods of increased travel demand e.g. during holiday periods, peak livestock season etc? • Reduce the need to travel? • Reduce congestion, service delays and allow for greater journey time reliability? • Help reduce severance effects of the transport network?	• Support the NTS2 sustainable travel hierarchy. • Address the evidenced physical accessibly problems. • Proximity to and impacts on the public transport network. • Proximity to the existing transport network. • Proximity to and impacts on identified congestion pinch points. • Proximity to and impacts on the accessibility of community facilities, public services and key amenities. • Proximity to and impacts on the accessibility of education infrastructure.
8. Inclusive Growth: Improve social and economic prosperity for all by enhancing productivity and competitiveness and through reducing societal and environmental inequalities.	• Support better integration of land-use/spatial planning, transport planning and economic development decisions to reduce the need to travel and support sustainable transport modes? • Help to integrate labour and housing markets to meet identified population needs in a sustainable manner?	• Economic development, employment benefits and social value unlocked by the intervention. • Ability to help reduce identified inequalities (as assessed through separate reporting). • Support the creation of safe and attractive public realm.

SEA Objectives	Proposed Guide Questions: Will the RTS (component)…	Proposed Criteria to Assess Candidate Transport Interventions and Schemes
	• Support the delivery of existing and emerging spatial strategies at national, regional and local levels? • Support the growth of the population of south west Scotland through both retaining and attracting people to live, work and invest in the region? • Promote the co-location of synergistic economic activities and related land uses? • Support increased and diversified employment opportunities including those required for a 'just transition' to Net Zero? • Address transport needs resulting from existing and changing demographic and socio-economic characteristics? • Support the implementation of relevant equalities duties, as assessed through separate reporting?	• Contribution to area-based regeneration and socio-economic renewal. • Impacts on transport efficiency and sustainability. • Impacts on freight movement and its sustainability. • Proximity to and impacts on key employment locations (existing and planned), particularly of sustainable modes of transport.
9. Human Health: Improve the health of the resident and workplace population, including with respect to physical and mental health and social wellbeing.	• Facilitate and encourage use of public transport and active travel? • Improve connections to and access to recreational opportunities and facilities? • Reduce the negative impacts of transport on human health, especially in terms of pollution and air quality? • Reduce the likelihood of transport-related road accidents and casualties? • Improve connectivity to healthcare facilities? • Safeguard environmental quality to maintain and enhance human health? • Facilitate access to the natural environment for all?	• Proximity to and impacts on access to healthcare facilities. • Proximity to and impacts on active travel networks. • Levels of active travel. • Health outcomes and determinants. • Proximity to and impacts on open space. • Contribution of biodiversity and the natural environment (and access to them) in people's health. • Consideration of post COVID-19 issues for transport and working / living patterns.
10. Material Assets: Manage, maintain and where possible regenerate the efficient and effective use of natural resources, ecosystem services,	• Prioritise the re-development of previously developed land?	• Alignment with or ability to support land-use/spatial planning and economic development decisions.

SEA Objectives	Proposed Guide Questions: Will the RTS (component)…	Proposed Criteria to Assess Candidate Transport Interventions and Schemes
land and infrastructure to meet identified needs.	• Support the provision of adequate infrastructure, services and facilities to meet identified needs? • Improve movement of people, goods and services within, out of and into Dumfries and Galloway? • Help move Dumfries and Galloway towards a circular economy, thus minimising the use of resource inputs and the creation of waste, pollution and carbon emissions? • Support and enhance natural resources to realise and sustain ecosystem services?	• Proximity to and impacts on the delivery of major development allocations and committed developments. • Facilitate the redevelopment of previously developed (brownfield) land. • Proximity to and impacts on vacant and derelict land (VDL). • Impacts on prime agricultural land and pastoral land. • Impacts on marine-based assets / fisheries. • Impacts on natural resources, including the extraction of mineral resources. • Impacts on ecosystem services. • Support key sectors (timber, road haulage to/from ports, tourism, food & drink and biofuel) within Dumfries and Galloway whilst mitigating against the impacts on the environment. • Connectivity of Dumfries and Galloway to the central belt and the north of England.

Appendix D Review of SEA Consultation Responses to Date

Table D1: Summary of SEA Scoping Consultation Comments and Responses

SEA Consultation Body	Comment	Response
NatureScot	**Proposed SEA Framework and Objectives** We welcome all issues being scoped-in to the SEA process for the new SWestrans Regional Transport Strategy. This reflects the wide range of possible impacts from transport policies and projects, as well as the range of opportunities for both environmental improvement and the use of nature-based solutions as part of transport infrastructure projects. However, we consider that some of the objectives and guide questions for proposed SEA Objectives 7 – 9 focus on socio-economic objectives rather than to environmental objectives. We've set out more detail on this below.	None required.
	Table 4.4: Proposed SEA Objectives for the emerging RTS **Accessibility and Connectivity:** The proposed SEA Objective could make reference to the accessibility and connectivity of sustainable modes of travel. The proposed guide questions should also be reviewed and refined to ensure that they relate to the environment, as opposed to socio-economic objectives. For example, "Improve availability and access to transport and travel information"; and "Respond to periods of increased travel demand e.g. during holiday periods, peak livestock season etc." appear to relate to socio-economic objectives. We recognise that there could also be indirect environmental effects, in which case the guide question should be amended to reflect this.	Guide questions will be amended to reflect the environmental focus of the objective over socio-economic. There are inherent linkages between socio-economic and environmental outcomes which this objective seeks to explore.
	Inclusive Growth: This proposed SEA Objective could make reference to the environment as a factor in inclusive growth, for example "Improve social and economic prosperity for all by enhancing productivity and competitiveness and through reducing societal *and environmental* inequalities." In addition, the	Wording changes will be made and guide questions reviewed.

SEA Consultation Body	Comment	Response
	proposed guide questions should be reviewed to ensure that they relate to the environment. For example, “Support increased and diversified employment opportunities” appears to be a socio-economic objective rather than an environmental one.	
	Human Health: We are pleased that the proposed assessment criteria includes “Contribution of biodiversity and the natural environment (and access to them) in people’s health”. We suggest including a guide question on this, for example, “…facilitate access to the natural environment for all?” We are not clear what is meant by the final guide question, “Safeguard sensitive environmental receptors to maintain and enhance human health?” – could this be made clearer?	Additional guide question will be included and final guide question reviewed and amended.
	Material Assets: We support the inclusion of natural resources and ecosystem services in this proposed SEA Objective. We consider that the guide questions could helpfully make specific reference to natural resources and ecosystem services. Additionally, the guide questions should be reviewed to ensure that they clearly relate to the environment. For example, “Unlock the delivery of housing to meet identified needs?” is a socio-economic objective rather than an environmental one.	Guide questions to be reviewed and amended.

SEA Consultation Body	Comment	Response
	5.3: Proposed SEA Methodology SWestrans propose to use SEA Objectives and assessment matrix to assess for significant environmental effects, which is a tried and tested approach. The proposed methodology set out in Section 5.3 of the Scoping Report presents a thorough and robust approach to SEA. We are pleased that the proposed assessment matrix for the proposed RTS policies, as set out in Table 5.3, includes consideration of enhancement measures in addition to mitigation. We consider that this will support identification of specific enhancement measures, particularly in relation to securing positive effects for biodiversity to align with the emerging National Planning Framework 4 (NPF4). Along with the specific mitigation measures identified, these should be used to directly inform the Plan by identifying precise requirements.	None required. The SEA team are integral to the development of the RTS, providing feedback on an iterative basis to directly inform the strategy.
Historic Environment Scotland	**Scope and level of detail** We welcome that the need to protect and enhance cultural heritage assets and their settings has been identified as a key issue for the development of the South-West of Scotland Regional Transport Strategy (RTS) and, as a result of this, that the cultural heritage topic area has been scoped-in to its Strategic Environmental Assessment (SEA).	None required
	Table 4.1: Previous SEA Framework – Assessment of Continuing Validity In addition to identifying opportunities for protecting, enhancing, promoting and providing access to the Region's heritage assets, we also suggest that the assessment criteria could include a consideration of opportunities for retaining and investing in the Region's heritage assets. It should be noted that several of Dumfries and Galloway's existing infrastructure assets also have heritage value. Options for the retaining and investing in existing infrastructure assets can therefore also give rise to positive effects on the Region's historic environment.	Key opportunities under the cultural heritage topic will be expanded to include retaining and investing in existing heritage assets.

SEA Consultation Body	Comment	Response
	Table 4.4: Proposed RTS SEA Framework As indicated above, we consider that it may also be helpful to include a guide question that will evaluate whether the RTS component will promote the continued use, retention and investment in the Region's designated and non-designated heritage assets.	Recommendation agreed and will be added.
	Appendix A Baseline Review We recommend that table A.1 could be usefully amended to include some information on larger cultural heritage designations such as Inventory Gardens and Designed Landscapes and Historic Battlefields. We do, however, welcome the overview of the cultural heritage baseline presented at paragraphs A.3.12 and A.3.13 and the consideration of relevant pressures and opportunities included at Section A.4	For proportionality, Table A.1 was taken from a previous published report which did not include this data. However, it is included in the subsequent paragraphs.
	Appendix B Review of Plans and Programmes We consider that the analysis of national (Scotland) legislative and policy frameworks for the cultural heritage topic area included at Appendix B could also be updated to include reference to the Historic Environment Policy for Scotland (HEPS, 2019). It should be noted that this document replaces the, now outdated, Historic Environment Scotland Policy Statement (HESPS, 2016).	Noted thank you. Suggested policy documents listed will be amended.
SEPA	**Alternatives** We note that alternatives are still being considered. Any reasonable alternatives identified during the preparation of the plan should be assessed as part of the SEA process and the findings of the assessment should inform the choice of the preferred option. This should be documented in the Environmental Report.	Alternatives will be included and documented in the Environmental Report to be published with the Draft RTS. The next stage of the RTS process will include consideration of various transport options.

SEA Consultation Body	Comment	Response
	Methodology When it comes to setting out the results of the assessment in the Environmental Report please provide enough information to clearly justify the reasons for each of the assessments presented. It would also be helpful to set out assumptions that are made during the assessment and difficulties and limitations encountered.	This information will be included within the narrative of the assessment.
	Mitigation and Enhancement Where the mitigation proposed does not relate to modification to the plan itself then it would be extremely helpful to set out the proposed mitigation measures in a way that clearly identifies: (1) the measures required, (2) when they would be required and (3) who will be required to implement them.	This information will be included within the narrative of the assessment.

D.1.1 The three statutory consultees responded to the Case for Change consultation, noting they had no further comments to make at that stage and were pleased previous comments had been addressed.

Appendix E Environmental Appraisal of RTS Priorities

E.1 Introduction

E.1.1 This appendix supports Section 5.3 of the Environmental Report and presents the findings of the environmental and climate appraisals of each individual Priority. As set out in Table 44, the significance criteria for assessing the environmental effects are:

Score	Description	Symbol
Significant (Major) Positive Effect	The proposed policy contributes significantly to the achievement of the SEA Objective	++
Minor Positive Effect	The proposed policy contributes to the achievement of the SEA Objective but not significantly	+
Neutral Effect	The proposed policy is related to but does not have any effect on the achievement of the SEA Objective	0
Minor Negative Effect	The proposed policy detracts from the achievement of the SEA Objective but not significantly	-
Significant (Major) Negative Effect	The proposed policy detracts significantly from the achievement of the SEA Objective. Mitigation is therefore required	--
Uncertain Effect	The proposed policy has an uncertain relationship to the SEA Objective or the relationship would be dependent on the way in which the aspect is managed	?
No Clear Relationship	There is no clear relationship between the proposed policy and the achievement of the SEA Objective, or the relationship is negligible	~

RTS Theme and Priority	SEA Objective									
	Climate	Air	Biodiversity	Water	Heritage	Landscape	Access	Growth	Health	Materials
Theme 1: **Enabling More Sustainable Development**										
i: *Sustainably locate development to reduce need to travel first and foremost*	++	++	0	0	0	0	++	+	+	++
ii. *Locate new development where it can be easily served by existing active travel and public transport links or, if not possible, by new active travel and public transport links which are accessible to all*	++	++	0	0	0	0	++	+	++	++
iii*. Sustainable transport measures and ancillary infrastructure for new development will be delivered through developer contributions as appropriate*	++	++	0	0	0	0	++	+	+	++
iv*. The concept of '20-minute neighbourhoods' will be incorporated into all future development and land-use planning processes*	++	++	0	0	0	0	++	+	++	++
v*. Transport interventions should be carefully sited and designed to prevent and minimise negative environmental impacts*	+	+	+	+	+	+	+	+	+	+
vi*. New major developments, including those proposed at Chapelcross Power Station and Stranraer Gateway, should apply an 'infrastructure first' approach*	++	++	0	0	0	0	++	++	+	++
vii*. At existing developments sustainable transport and ancillary infrastructure measures should be introduced to encourage the uptake of more sustainable transport by coordinated engagement with employers and other large organisations*	++	++	0	0	0	0	++	+	+	++
Overall assessment	**++**	**++**	**0**	0	0	0	**++**	**+**	**+**	**++**
Theme 2: **Connecting Our Communities**										
i*: Improvements to the active travel network will be delivered through a combination of incremental improvements to existing routes and new bespoke routes where appropriate*	++	++	+?	+?	+?	+?	++	+	++	+
ii*: The active travel network will be developed in accordance with Cycling by Design, Designing Streets and other relevant technical guidance*	++	++	+	+	+	+	++	+	++	+
iii*: An integrated active travel network linking both within and between our settlements will be developed in line with the Active Travel Spatial Strategy*	++	++	+?	+?	+?	+?	++	+	++	+
iv*: The Active Travel Strategy 2 will be kept under review and updated on a regular basis to ensure it is being effectively implemented*	++	++	0	0	0	0	++	+	++	+
v*: A dedicated Active Travel Team will work on prioritising, designing, and delivering schemes and projects in collaboration with funding partners*	++	++	+?	+?	+?	+?	++	+	++	+
vi*: Awareness raising to facilitate behaviour change will be delivered through close community engagement and campaigns to encourage the use of active travel*	++	++	0	0	0	0	++	+	++	+
vii*: SWestrans will spend at least 50% of its capital budget on active travel*	++	++	+?	+?	+?	+?	++	+	++	+

RTS Theme and Priority	SEA Objective									
	Climate	Air	Biodiversity	Water	Heritage	Landscape	Access	Growth	Health	Materials
Overall assessment	++	++	+?	+?	+?	+?	++	+	++	+
Theme 3: **Transforming Travel in Our Towns**										
***i**: Roadspace should be reallocated to prioritise walking, wheeling, cycling and public transport particularly within our towns and settlements in order to create a more attractive public realm across Dumfries and Galloway*	++	++	+?	+?	+?	+?	++	+	++	+
***ii**: The National Transport Strategy 2's sustainable travel hierarchy should be applied to reprioritise the road network wherever possible*	++	++	0	0	0	0	++	+	++	+
***iii**: Detailed analysis should be undertaken to identify suitable locations and interventions for the reallocation of roadspace away from general traffic to active travel and public transport*	++	++	+?	+?	+?	+?	++	+	++	+
Overall assessment	++	++	+?	+?	+?	+?	++	+	++	+
Theme 4: **Reducing the Impact of Transport on Our Communities**										
***i**: Investigate the feasibility of bypasses for Crocketford and Springholm on the A75 as well as other communities on the A7, A75, A76, A77 and A709 including Dumfries*	--?	?	-?	-?	-?	-?	++	++	?	-
***ii**: Support the decarbonisation of the car, taxi and commercial vehicle fleet through investigation and delivery, as appropriate, of measures such as:* *a. Electric Vehicle charging points* *b. Regional Electric Vehicle carsharing* *c. Grants / loans for Electric / Hybrid vehicles* *d. (see below)* *e. (see below)* *f. Alternative fuels e.g. green hydrogen*	++	++	+	0	0	0	+	+	+	+
d. Low Emission Zones (LEZs)	++	++	+	0	0	0	?	?	+	+
e. New rail freight hubs	++	+	-?	-?	-?	-?	+	++	+	+
Overall assessment	+	++	+	0	0	0	+	++	+	+
Theme 5: **Enhancing Access to Transport Services**										
***i.** Opportunities to enhance the customer experience when using public transport should be explored, particularly for vulnerable users who may require additional assistance or chaperoning in order to make their journey*	0	0	0	0	0	0	+	+	+	0
***ii**: The public and active travel networks should provide equal access for all including vulnerable groups such as women, elderly and younger people, ethnic minorities, people with mobility impairments or disabilities as well as those on low incomes*	0	0	0	0	0	0	+	+	+	0

RTS Theme and Priority	SEA Objective									
	Climate	Air	Biodiversity	Water	Heritage	Landscape	Access	Growth	Health	Materials
***iii**: Journey planning information should be available in various formats to meet needs of differing users including online, traditional paper copies, braille, large print, and audio*	0	0	0	0	0	0	+	+	+	0
***iv**: Real Time Passenger Information should be made available for all public transport modes at stations, stops and on-board services wherever possible and practical*	0	0	0	0	0	0	+	+	+	0
***v**: Soft measures should be implemented to encourage the use of active travel through measures such as additional information online and in the form of maps and signs within towns accompanied by public awareness campaigns*	+	+	0	0	0	0	+	+	+	+
***vi**: Access to bicycles, including e-bikes, should be facilitated through a combination of grants / loans for those that wish to purchase their own and provision of a regional cycle hire scheme for people that only require occasional access to a bike*	+	+	0	0	0	0	+	+	+	+
***vii**: Improving accessibility to railway stations should be prioritised in Annan, Dumfries, Kirkconnel and Sanquhar where access arrangements could be limited for some disabled users*	0	0	0	0	0	0	+	+	+	0
***viii**: Measures to encourage access to railway stations in line with the Scottish Government's Sustainable Travel Hierarchy should be taken forward*	+	+	0	0	0	0	+	+	+	+
***ix**: The security of taxi users should be improved by undertaking additional background checks prior to granting taxi licences*	0	0	0	0	0	0	+	+	+	0
Overall assessment	**+**	**+**	**0**	**0**	**0**	**0**	**+**	**+**	**+**	**+**
Theme 6: **Sustainable and Extended Local and Regional Public Transport Connectivity**										
***i**.: SWestrans and its partners will work to deliver a new public transport model based around a needs-based approach applying a three tier framework as follows:* *Tier 1 – Community Level Provision* *Tier 2 – Supported Local Bus and Community Transport Services* *Tier 3 – Commercial Local Bus and Rail Services*	+	+	0	0	0	0	++	++	+	+
***ii**.: Bus service improvements should be focused in areas identified as at greatest risk of both transport poverty and deprivation. This should be informed by further analysis to develop options to improve bus service connectivity such as increased service frequencies, new services, more direct services and / or more express services*	+	+	0	0	0	0	++	++	+	+
***iii**.: Where no bus service exists, demand responsive transport (DRT) solutions will be developed and operated by third sector community transport operators, DGC Buses and the community*	+	+	0	0	0	0	++	++	+	+

RTS Theme and Priority	SEA Objective									
	Climate	Air	Biodiversity	Water	Heritage	Landscape	Access	Growth	Health	Materials
***iv**.: Dumfries and Galloway council will undertake work to develop a business case for DGC Buses to become a Passenger Service Vehicle (PSV) Operator as a prudent step should a bus operator of last resort be needed in Dumfries and Galloway*	0	0	0	0	0	0	+	+	0	0
***v**.: Further analysis should be undertaken to assess the potential to provide a bus station in Dumfries and, if found to be feasible and beneficial, partners should work together to facilitate its delivery*	+	+	-?	-?	-?	-?	+	+	+	+
***vi**.: Opportunities to increase the carriage of bikes on buses will be explored*	+	+	0	0	0	0	+	+	+	+
vii.: A network of mobility hubs should be developed and implemented across Dumfries and Galloway	++	++	0	0	0	0	++	++	+	+
***viii**.: A Bus Service Improvement Partnership (BSIP) should be created in Dumfries and Galloway using the powers set out in the Transport (Scotland) Act 2019 and will entail SWestrans working in partnership with the commercial sector, DGC Buses, community transport and NHS Dumfries and Galloway along with other partners as appropriate*	0	0	0	0	0	0	+	+	0	0
***ix**.: Improvements to rail services at stations where provision is poor should be taken forward in close coordination with key stakeholders including ScotRail and Transport Scotland*	+	+	0	0	0	0	+	+	+	+
***x**.: Opportunities should be investigated to run a local service on the WCML between Carlisle and Edinburgh / Glasgow*	+	+	0	0	0	0	+	+	+	+
***xi**.: Consideration should be given to rail network upgrades to decrease journey times and increase capacity including the replacement of semaphore signalling, passing loops and upgrades to track geometry at key locations*	++	+	-?	-?	-?	-?	+	+	+	+
***xii**.: Opportunities should be explored to quadruple track the West Coast Main Line (WCML) through Lockerbie and at other appropriate locations*	++	+	-?	-?	-?	-?	+	+	+	+
***xiii**.: The potential for more locally situated train crews should be investigated to provide additional resilience to staffing related service issues*	0	0	0	0	0	0	+	+	0	0
***xiv**.: The reopening of stations at Beattock on the WCML, and Eastriggs and Thornhill on the GSWL is supported and their delivery will be pursued with industry partners*	++	+	0	0	0	0	+	+	+	++
***xv**.: The potential to relocate the station at Stranraer should be explored to provide easier access for rail users and better integrate it with the rest of the town centre*	+	+	-?	-?	-?	-?	+	+	+	+
***xvi**.: Consideration should be given to reinstating the Castle Douglas and Dumfries railway between Dumfries and Stranraer along with delivering an extension to the Borders railway*	++	+	-?	-?	-?	-?	+	+	+	++

RTS Theme and Priority	SEA Objective									
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from Tweedbank serving Langholm and terminating at Carlisle with appropriate business case development being taken forward for each										
***xvii**.: Lighter rail solutions should be explored as an alternative to heavy rail where it may provide a more practical or affordable solution for fixed public transport links*	++	+	-?	-?	-?	-?	+	+	+	+
Overall assessment	**++**	**+**	**0**	**0**	**0**	**0**	**++**	**++**	**+**	**+**
Theme 7: Improving the Quality and Affordability of Our Public Transport Offer										
***i**.: Opportunities to expand the eligibility of existing concessionary travel schemes or to create new schemes to allow more users access to reduced / no fare journeys should be explored with key partners including Transport Scotland*	0	0	0	0	0	0	+	+	0	0
***ii**.: Expansion of existing concessionary travel schemes to cover rail should be considered to enable more users to access affordable rail travel*	0	0	0	0	0	0	+	+	0	0
***iii**.: The introduction of new rail fare structures should be explored to remove inequalities and to ensure that journeys to similar destinations incur similar costs which are affordable for all users*	0	0	0	0	0	0	+	+	0	0
***iv**.: Integrated ticketing solutions should build upon and better promote existing schemes such as PlusBus and Rail and Sail as well as seeking new opportunities to deliver integrated ticketing measures for bus, rail and ferry in the region*	0	0	0	0	0	0	+	+	0	0
***v**.: Improving links between different modes of transport by reducing the distance between connecting modes and coordinating the timing of services should be taken forward as a priority wherever possible*	+	+	0	0	0	0	++	+	0	0
***vi**.: Enhancements to existing bus stops will be implemented where practical to improve security, accessibility and the attractiveness of bus services for all users*	0	0	0	0	0	0	+	+	0	0
vii.: Support the decarbonisation of the rail network in Dumfries and Galloway and explore along with rail industry partners opportunities to electrify the line south of Ayr to provide greater scope for through services and to accommodate increased demand from a relocated Stranraer station	++	++	0	0	0	0	0	0	+	0
***viii**.: The replacement of the bus fleet with low emission vehicles will be taken forward in conjunction with partners*	++	++	0	0	0	0	0	0	+	0
***ix**.: Replacement of rail rolling stock should be taken forward considering proposals for electrification of parts of the network in the region with the appropriate traction being based upon this and giving due consideration for the need to enhance the quality, accessibility and standard of rolling stock serving Dumfries and Galloway*	++	++	0	0	0	0	0	0	+	0

RTS Theme and Priority	SEA Objective									
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***x**.: Opportunities for the carriage of bikes on board trains should be explored as new rolling stock is procured*	+	+	0	0	0	0	++	+	+	0
Overall assessment	**+**	**+**	**0**	**0**	**0**	**0**	**++**	**+**	**+**	**0**
Theme 8: Supporting Safe, Effective and Resilient Connections to Loch Ryan and Other Strategic Sites										
***i**.: Increasing the connectivity to Lockerbie station by a variety of modes should be explored given its strategic importance to the region*	0	0	0	0	0	0	+	+	0	0
***ii**.: Enhancements to the strategic road network including the A7, A75, A76, A77 and A709 should be taken forward to improve safety, journey times, diversionary routes and improve access to key locations across the region*	--?	-?	-?	-?	-?	-?	+	++	+	+
***iii**.: Opportunities should be sought to shift goods from HGVs onto the rail network by the creation of new rail freight hubs including the potential for the creation of an intermodal freight hub at Cairnryan / Stranraer*	++	++	-?	-?	-?	-?	+	+	+	+
***iv**.: Junction improvements should be taken forward at locations of collision clusters*	0	0	0	0	0	0	+	+	++	0
***v**.: Appropriate road safety, traffic calming and management measures should be used to provide a safe environment for all road users*	0	0	0	0	0	0	+	+	++	0
***vi**.: Improvements to the quality of the road network should be prioritised through an enhanced programme of resurfacing in Dumfries and Galloway initially focused on segments of road that have poor surfacing on major routes*	0	0	0	0	0	0	+	0	0	0
***vii**.: Opportunities for additional dedicated rest areas and motorhome park-ups across the region should be explored and implemented as appropriate*	0	0	0	0	0	0	+	+	+	0
Overall assessment	**-**	**-**	**-?**	**-?**	**-?**	**-?**	**+**	**+**	**+**	**0**
Theme 9: Managing Our Car Traffic										
***i**.: Dumfries and Galloway will make its contribution to delivering the Scottish Government's target to reduce car km by 20% by 2030 reflecting the regional circumstances*	++	++	0	0	0	0	?	?	0	0
***ii**.: A combination of enhanced active travel, public transport, shared mobility and digital infrastructure will be used to provide an effective alternative to car travel with a particular focus on reducing single occupancy car journeys*	++	++	0	0	0	0	++	+	+	+
***iii**.: Proportionate behaviour change, demand management and parking measures will be taken forward to support modal shift to more sustainable modes of transport and reduce car dependency across the region*	+	+	0	0	0	0	?	?	0	0
Overall assessment	**++**	**++**	**0**	**0**	**0**	**0**	**+**	**+**	**+**	**+**

RTS Theme and Priority	SEA Objective									
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Theme 10: **Making the Most of New Opportunities**										
i.: *The implementation of Mobility of a Service (MaaS) in Dumfries and Galloway will be taken forward in close coordination with the delivery of the new public transport model*	+	+	0	0	0	0	+	+	0	+
ii.: *A range of shared mobility measures should be taken forward across the region taking into account its varying characteristics and dispersed population to provide access to a variety of transport options without requiring ownership*	+	+	0	0	0	0	+	+	0	+
iii.: *Opportunities to capitalise upon the growth of micro mobility should be explored alongside the development of mobility hubs*	+	+	0	0	0	0	+	+	0	+
iv.: *Intelligent Transport Systems (ITS) should be implemented alongside other enhancements to the strategic road network to improve the safety and efficiency of its operation*	+	+	0	0	0	0	+	+	0	+
Overall assessment	**+**	**+**	**0**	**0**	**0**	**0**	**+**	**+**	**0**	**+**