Sheffield City Region Combined Authority

Sheffield City Region Transport Strategy 2018 - 2040

Integrated Assessment
Environmental Report

Issue | 2 October 2017

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ARUP

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Non-Technical Summary

Introduction

This document is the updated Environmental Report that was originally published in April 2011 and focused on the 2011 Sheffield City Region (SCR) Transport Strategy. This update forms the Integrated Assessment (IA) of the 2018 SCR Transport Strategy (2018-2040), which is a refresh of the 2011 Transport Strategy. It builds on the previous Strategic Environmental Assessment (SEA) from 2011, and sets out what the issues are and the likely significant effects of implementing the 2018 Transport Strategy.

The statutory requirement for producing the Environmental Report is that it should accompany the final version of the Sheffield City Region (SCR) Transport Strategy (2018) and be made available for consideration by all parties. This report should therefore be read in conjunction with the 2018 SCR Transport Strategy.

This IA incorporates four key assessments:

- Strategic Environmental Assessment (SEA)

- Sustainability Appraisal (SA)

- Equalities Impact Assessment (EqIA)

- Health Impact Assessment (HIA)

The evidence provided within this report has been based on the 2011 Environmental Report, which has been updated through assessment of the 2018 Transport Strategy. The scope to refresh the Transport Strategy was high level, and a similar high level approach has been taken to update the Environmental Report. It should be made clear that the assessment objectives have not been changed from the 2011 Environmental Report and that this assessment and its supporting appendices draw on much of the underlying evidence base that supported the 2011 work, with this being considered an appropriate approach by Sheffield City Region in the context of the scope of the Transport Strategy refresh.

The Sheffield City Region Transport Strategy

The existing SCR Transport Strategy was published in 2011, and describes the transport priorities for SCR for the 15 year period up to 2026. Since then, SCR have made a successful devolution deal with Government and have worked hard to develop the SCR Inclusive Industrial Strategy, which is their strategic plan for economic growth to 2040. In light of this development in regional policy, it is necessary to refresh the Transport Strategy so that it aligns with, and supports the Inclusive Industrial Strategy, as well as wider national and pan-Northern policy that has been developed in the last seven years. Furthermore, the rate of technological change over the last decade has been unprecedented, which means that SCRs opportunities, challenges and possible solutions have changed. This

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refresh of the Transport Strategy will make SCR more prepared and better able to achieve their regional ambitions in a coordinated and coherent manner.

The Transport Strategy (2018) updates and supersedes the policies and measures of the previous SCR Transport Strategy (2011). It forms part of the Local Transport Plan (LTP) for South Yorkshire (as a Local Transport Body) and is adopted by the SCR Combined Authority.

The goals and policies of the Transport Strategy apply to South Yorkshire as part of its LTP. It also covers the wider SCR, which functions as a coherent economic area. Nottinghamshire and Derbyshire County Councils also have their own regional Transport Strategies, and therefore there is a degree of geographical overlap between all three regional strategies.

This IA has been produced alongside the 2018 SCR Transport Strategy. Due to the interactive nature of the IA process it is important to demonstrate that the IA process has been undertaken throughout, and contributed to, the development of the SCR Transport Strategy.

The Environmental Report of the 2018 SCR Transport Strategy

An SEA is required by European Directive 2001/42/EC (Strategic Environmental Assessment Directive) *"on the assessment of the effects of certain plans and programmes on the environment"*. The purpose of the SEA is to ensure that environmental effects are understood and considered. The assessment also identifies opportunities to improve environmental quality and mitigate any negative effects within the plan or programme. In this case, the 'plan' is the 2018 SCR Transport Strategy.

SEA is a process which ensures environmental impact is considered at the formation of plans stage (i.e. the strategic level). SA does the same, but it takes in a broader scope of impacts, looking at the economy and local communities/wider society as well as the environment (i.e. the assessment headings looked at under the banner of sustainability). For the purposes of the IA, the SEA includes the SA scope of appraisal.

There are set stages within the SEA process. These include:

- collecting baseline information;
- identifying sustainability issues;
- establishing appraisal objectives;
- developing strategic alternative;
- predicting the effects of the plan;
- evaluating the effects of the plan;
- considering ways of mitigating adverse effects; and
- proposing measures to monitor the environmental effects of the Plan.

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The IA that has been prepared, follows the SEA process in order to ensure that the above stages are all adequately covered.

The SEA Scoping Report was adopted in September 2010 by the South Yorkshire Local Transport Strategy Partnership. The Scoping Report forms the base line information for the appraisal process, and includes the ten SEA objectives in Table A.

Table A Transport Strategy IA objectives (SEA Scoping report)

No.	SEA Objective
1	Protect and enhance our environmental heritage
2	Minimise use and loss of environmental resources
3	Improve Air Quality
4	Support a managed response to climate change and reduce greenhouse gas emissions
5	Maximise access to jobs, training and skills and other services
6	Support economic growth and the creation of jobs within transport related sectors
7	Increased levels of physical activity
8	Improved road safety, reduced levels of transport related crime and reduced fear of crime
9	Improve Local Amenity
10	Transport interventions benefit everyone

The SEA Directive requires that information on the likely significant effects on the environment must be provided in the assessment report and Annex 1(f) of the Directive provides a list of specific environmental issues to be addressed.

Table B sets out these SEA environmental issues and how the relevant Transport Strategy SEA Scoping report objectives address them.

Table B SEA environmental issues and coverage by the IA Objectives

SEA Environmental Issues	Relevant IA objective
Biodiversity	Objectives: 1
Population	Objectives: 7, 8, 9
Human Health	Objectives: 7, 8, 9
Fauna	Objectives: 1
Flora	Objectives: 1
Soil	Objectives: 2, 4
Water	Objectives: 2, 4
Air	Objectives: 3
Climatic Factors	Objectives: 4, 3
Material Assets	Objectives: 5, 6, 10
Cultural Heritage	Objectives: 1
Landscape	Objectives: 1

The Sheffield City Region Combined Authority decided that this assessment should include Equalities, Health and Social considerations. Therefore, an

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Equalities Impact Assessment (EqIA) and Health Impact Assessment (HIA) are addressed in this IA.

The EqIA is not about treating everybody the same. Equality means making sure that the individual needs of different people and different communities are taken into account. Therefore, the likely impacts and barriers to the following groups have been considered:

- race/ethnicity;

- gender;

- disability;

- age;

- faith/religious or other beliefs;

- sexual orientation; and

- other groups who might not have equal access to services.

The HIA makes sure that health and well-being are included into national policy. It is important to understand that any plan or project could potentially have an impact on health. Many social or environmental factors can influence health for instance:

- poverty, unemployment, poor housing, crime, low educational attainment, social exclusion;

- agricultural and transport policies, and environmental issues, such as air

- pollution; and

- sustainable development issues in terms of health.

Recommendations

The Likely Significant Effects of the Transport Strategy

This assessment has demonstrated that in some instances, it is impossible to predict the effects of the plan with a degree of certainty and some assumptions have been made in relation to the timescales associated with climate change, air quality, economic growth and loss of environmental resources (namely minerals).

Whilst the majority of the transport policies have performed well against the IA objectives there are a few policies which have the potential to perform negatively against some of the objectives. This Environmental Report makes a number of policy recommendations as part of the final appraisal. The purpose of these recommendations are to help the Transport Strategy further improve, and these include the following:

- It is recommended that a policy matrix is established which considers the overlapping and feedback nature of specific policies within different policy 'goals'.

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- Historic and natural assets within the City Region are sensitively incorporated into any resultant policy proposals arising following the SCR Transport Strategy. Mitigation could include linkages to Policy 9 which would encourage all effects to be addressed through the Town Planning and Environmental Impact Assessment (EIA) processes.

- Impacts of targeted infrastructure interventions, particularly within the Integrated Infrastructure Packages, should be assessed against the EIA, Town Planning and Habitats Directive legislation (Policy 9).

- Effects of improved transport accessibility on air quality should be addressed through links to Policy 7, which seeks to actively improve air quality particularly in designated Air Quality Management Areas (AQMAs).

- Impacts on climate change should be addressed through connection to Policy 8, which seeks to actively reduce the impact on climate change.

- Linkages to Policy 4 and Policy 9 would ensure that temporary negative effects of construction of transport interventions is addressed through place-making and planning principles.

- Local employment requirements could be conditioned to the delivery of targeted infrastructure interventions.

- Introduction of low carbon technologies and public transport to be targeted towards reducing the use and loss of environmental resources, minimising climate change and minimising the effects on air quality within the City Region, both during construction of interventions and throughout operation.

- Negative effects on amenity from the delivery of transport interventions in the short term should be mitigated through good construction management and planning conditions.

- Emphasis should be placed on designing out opportunities for crime or the fear of crime on all modes of transport promoted through the Transport Strategy.

- Ensure low carbon transport networks are targeted towards reducing the use and loss of environmental resources, minimising climate change and minimising the effects on air quality within the City Region, both during construction of interventions and throughout operation.

The Transport Strategy needs to consider the Habitats Directive Legislation in order to ensure that future associate major transport interventions consider their impact on nationally and internationally designated sites (which include Thorne and Hatfield Moors as well as the Peak District National Park) together with wildlife corridors.

This IA appraisal will not meet or address the requirements of the 1992 Habitats Directive[1]. A separate report on the information to inform a Habitats Regulation Assessment also accompanies the IA and Transport Strategy.

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[1] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

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1   Introduction

1.1   This Environmental Report

This update on the 2011 Environmental Report has been prepared by Ove Arup and Partners ("Arup") on behalf of Sheffield City Region Combined Authority.

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This IA incorporates four key assessments:

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1.2   Strategic Environmental Assessment and Sustainability Appraisal

An SEA is required by European Directive 2001/42/EC (Strategic Environmental Assessment Directive) *"on the assessment of the effects of certain plans and programmes on the environment"*. The purpose of the SEA is to ensure that environmental effects are understood and considered. The assessment also identifies opportunities to improve environmental quality and mitigate any negative effects within the plan or programme. In this case, the 'plan' is the 2018 SCR Transport Strategy.

SEA is a process which ensures environmental impact is considered at the formation of plans stage (i.e. the strategic level). SA does the same, but it takes in a broader scope of impacts, looking at the economy and local communities/wider society as well as the environment (i.e. the assessment headings looked at under

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the banner of sustainability). For the purposes of the IA, the SEA includes the SA scope of appraisal.

Table 1.1 sets out the various stages which have been carried out as part of the SEA process. Stage A was carried out for the 2011 Environmental Report, whereas the subsequent stages have been updated for this version.

Table 1.1: Incorporating the SEA within the Transport Strategy Process

Number	Assessment Stage
Stage A: Setting the background, current situation and deciding on the range of the report.	
A1	Identifying other relevant policies, plans, programmes and environmental protection objectives.
A2	Collecting information on the current environmental, social and economic situation.
A3	Identify the environmental, social and economic issues which may exist at present.
A4	Develop and produce a draft list of Objectives.
A5	Consult for a period of five weeks on the Scoping Report.
Stage B: Developing and refining alternatives and assessing effects	
B1	Testing the Transport Strategy objectives against the SEA objectives.
B2	Set out the other alternatives to producing the new Transport Strategy.
B3	Predict what the effects of the new Transport Strategy will be.
B4	Evaluate what the likely effects of the new Transport Strategy will be.
B5	Consider ways in which any harmful effects can be lessened and favourable effects can be taken advantage of.
B6	Suggest measures to monitor the significant effects of putting the Transport Strategy in to action.
Stage C: Prepare the Strategic Environmental Assessment Report	
C1	Produce the Draft Environmental Report.
Stage D: Consulting on the Local Transport Strategy and Environmental Report	
D1	Consult with the general public and other consultation organisations on the Draft Transport Strategy and the Environmental Report.
D2	Collect and record all consultation responses. Take into account any significant changes which are suggested as a result of the consultation stage.
D3	Provide information about how the Transport Strategy and Environmental Report have taken into account the opinions of the people who were consulted in deciding the final version of the two reports.
Stage E: Monitor the significant effects of implementing the plan on the environment.	
E1	Develop ways of monitoring the Transport Strategy and Strategic Environmental Assessment and decide who will be responsible for the monitoring stage.
E2	During monitoring respond to any negative effects of the Transport Strategy.

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1.3   The SEA Scoping Report

In May 2010 a SEA Scoping Report was produced by Doncaster Metropolitan Borough Council (DMBC) on behalf of the South Yorkshire Local Transport Strategy Partnership. This was the first stage of the SEA process for the 2011 Transport Strategy. The Scoping Report was distributed to the three statutory consultees – Natural England, Environment Agency, English Heritage and the four South Yorkshire local authorities as well as other interested stakeholders such as the Campaign to Protect Rural England (CPRE). The comments and recommendations from the consultation process were incorporated into the Scoping Report. The Scoping Report was endorsed by the partnership and adopted in September 2010. The updated information contained in the adopted Scoping Report has been used to inform this Environmental Report.

The Scoping Report and the objectives shown in Table 1.2 were used to assess the policies contained in the 2011 Transport Strategy and have since been used for this IA of the 2018 Transport Strategy.

Table 1.2 Transport Strategy IA objectives (SEA Scoping report)

No.	SEA Objective
1	Protect and enhance our environmental heritage
2	Minimise use and loss of environmental resources
3	Improve Air Quality
4	Support a managed response to climate change and reduce greenhouse gas emissions
5	Maximise access to jobs, training and skills and other services
6	Support economic growth and the creation of jobs within transport related sectors
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9	Improve Local Amenity
10	Transport interventions benefit everyone

The SEA Directive requires that information on the likely significant effects on the environment must be provided in the assessment report and Annex 1(f) of the Directive provides a list of specific environmental issues to be addressed.

Table 1.3 sets out these SEA environmental issues and how the relevant IA objectives address them.

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Table 1.3 SEA environmental issues and coverage by the IA Objectives

SEA Environmental Issues	Relevant IA objective
Biodiversity	Objectives: 1
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Human Health	Objectives: 7, 8, 9
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Material Assets	Objectives: 5, 6, 10
Cultural Heritage	Objectives: 1
Landscape	Objectives: 1

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2   The 2018 Transport Strategy

2.1   Overview

The existing SCR Transport Strategy was published in 2011, and describes the transport priorities for SCR for the 15 year period up to 2026. Since then, SCR have made a successful devolution deal with Government and have worked hard to develop the SCR Inclusive Industrial Strategy, which is their strategic plan for economic growth to 2040. In light of this development in regional policy, it is necessary to refresh the Transport Strategy so that it aligns with, and supports the Inclusive Industrial Strategy, as well as wider national and pan-Northern policy that has been developed in the last seven years. Furthermore, the rate of technological change over the last decade has been unprecedented, which means that SCRs opportunities, challenges and possible solutions have changed. This refresh of the Transport Strategy will make SCR more prepared and better able to achieve their regional ambitions in a coordinated and coherent manner.

2.2   The Vision, Goals and Policies of the Transport Strategy

The vision of the 2018 SCR Transport Strategy is:

By 2040 we will be a forward-looking City Region with integrated transport connections that support economic growth and improve quality of life for all.

The goals of the 2018 SCR Transport Strategy are to:

1. support inclusive economic growth;

2. create healthy streets where people feel safe;

3. improve the quality of our outdoors; and

4. promote, enable and adopt different technologies.

The vision and goals have been assessed against the adopted IA objectives as part of Stage B1. The full assessments of the Transport Strategy vision and goals are available in Appendix E, including recommendations. This part of the assessment identifies any synergies or tensions and can help in the refinement of the goals for the Transport Strategy.

The policies of the 2018 SCR Transport Strategy are shown in Table 1.4.

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Table 1.4 Transport Strategy Policies

Goal	Policy
Support inclusive economic growth	1. Improve access to jobs, markets, skills and supply chains 2. Enhance productivity by making our transport system faster, more reliable and more resilient 3. Invest in integrated packages of infrastructure to unlock growth and support Local Plans
Create healthy streets where people feel safe	4. Make our streets healthy and people feel safe 5. Enhance our multi-modal transport system which encourages sustainable travel choices and is embedded in the assessment of transport requirements for new development, particularly for active travel 6. Improve sustainable and inclusive access to our green and recreational spaces
Improve the quality of our outdoor	7. Actively improve air quality, especially in designated AQMAs 8. Deliver a low carbon transport network, including a zero carbon public transport network 9. Work in tandem with the planning and development community to create attractive places
Promote, enable and adopt different technologies	10. Be at the forefront of transport innovation 11. Enable different solutions to create a fully integrated transport and inclusive service 12. Adopt technology solutions to stimulate change

These policies have been assessed against the adopted IA objectives as part of Stages B3 and B4. The full assessments of the Transport Strategy policies are available in Appendix G, including recommendations.

2.3 The Transport Strategy in Relation to Other Strategies

The 2018 Transport Strategy updates and supersedes the policies and measures of the previous 2011 SCR Transport Strategy. It forms part of the Local Transport Plan (LTP) for South Yorkshire (as a Local Transport Body) and is adopted by the SCR Combined Authority.

The goals and policies of the Transport Strategy apply to South Yorkshire as part of its Local Transport Plan (LTP). It also covers the wider SCR, which functions as a coherent economic area. Nottinghamshire and Derbyshire County Councils

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also have their own regional Transport Strategies, and therefore there is a degree of geographical overlap between all three regional strategies.

This IA has been produced alongside the 2018 SCR Transport Strategy. Due to the interactive nature of the IA process it is important to demonstrate that the IA process has been undertaken throughout, and contributed to, the development of the SCR Transport Strategy.

A full review of all other relevant plans, programmes and environmental objectives has been completed (Appendix A). The initial baseline review was completed for the 2011 Transport Strategy and this was then updated for the 2018 Transport Strategy to ensure any documents that had been updated or superseded were captured and then were reflected through the Environmental Report.

2.4   Technical Difficulties in Carrying out the Assessment

The nature of national guidance and policy results in a constant evolution and therefore many strategies that have been reviewed, have been produced at different times and in some instances do not reflect comparable time periods. This may result in some gaps in the base line information which has been collected.

There is the danger of prioritising only economic, social or environmental interests, rather than balancing the needs of all three interests. In areas such as South Yorkshire, economic regeneration has, understandably, been seen as a key priority. However, it is essential that such regeneration takes place in such a way as to achieve win-win-win scenarios across all three sustainability topic areas.

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3 Setting the Context and Establishing the Baseline.

3.1 The Baseline Situation

The Baseline situation identifies and collects existing information (quantitative and qualitative) on the current environmental, social and economic situation. This information also provides the basis for forecasting and monitoring environmental effects and is often referred to as the Baseline Information Stage (Stage A1 – A5).

Baseline information has been collected for the area and can be found in Appendices 1 and 2 of this report. This information includes a full review of other relevant plans and programmes, a description of the main issues, data indicators and mapped information and has been added to and improved through the consultation process (with statutory consultees and other stakeholders) of the adopted SEA Scoping Report.

This information has been used to carry out this IA.

3.2 Environmental Problems and Opportunities

At this point, the information which was collected during stages A1 and A2 of the appraisal has been used together to identify what the key environmental, social and economic issues are for the South Yorkshire area, as part of assessment stage A3. A detailed description of these issues can be found in Appendix C and they are summarised below.

3.2.1 Environmental Issues

1. Avoiding impacts on statutory designations for nature conservation and cultural heritage
2. The protection of environmental resources
3. Providing resilience to climate change and flooding

3.2.2 Economic Issues

1. Limited interconnectivity with SCR
2. Localised transport deficiencies
3. The affordability of public transport
4. Potential growth in the transport sectors

3.2.3 Social Issues

1. Impacts on health and quality of life from traffic
2. The provision of sustainable transport to meet the housing supply

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3. Maintaining public safety on transport

4. Providing enough public transport to meet the needs of all ages

5. Providing enough accessible transport for the less able

6. Preventing cultural barriers to the use of transport modes

7. Promoting active travel options including green infrastructure

3.3 Developing the IA Objectives

Each of the issues identified as part of stage A3 have been used together with the review of plans and programmes and baseline information to produce the IA objectives as set out in Table 1.2 from the SEA Scoping Report.

The IA objectives have also been checked against each other to identify, reduce and if possible, remove any areas of irregularity or conflict and ensure compatibility. This process was carried out as part of the Scoping Report stage.

These objectives have formed the framework with which, the environmental, economic and social effects of the Transport Strategy have been described, assessed and compared.

For each objective, a set of indicators have been identified this will help monitor the performance of the Transport Strategy and any associated environmental effects identified in this Environmental Report, included in Appendix D.

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4   Developing and Identifying Alternatives

4.1   Appraisal of the Transport Strategy Vision and Goals

Within the original Transport Strategy which was prepared in 2011, the vision and goals were assessed against the SEA objectives. Overall, it was concluded that the Strategic Vision was compatible with the ten SEA objectives. The 2018 Transport Strategy has included an assessment of the vision and goals against the IA objectives, which have been carried forward from the previous SEA. The assessment highlights that the vision and goals are broadly compatible with the objectives, which is shown in detail in Appendix E.

The ethos of the refreshed 2018 Transport Strategy continues to favour a balanced approach to provision of transport across SCR, respecting the outcome of the previous alternatives appraisal process. The refreshed Strategy focuses on setting out the policy position of SCR; it does not advocate schemes and further work will be undertaken to develop an implementation plan. As part of this, further consideration will be given to potential alternatives and the impacts of these will be considered through further IA work and Environmental Impact Assessments (EIAs) as appropriate.

At this stage, no new alternatives have been proposed and the following section has been reviewed and updated to bring in line with the 2018 Transport Strategy.

4.2   Appraisal of Strategic Alternatives

The SEA Directive and the NATA guidance require the development of 'reasonable' alternatives. The purpose of this approach is to demonstrate the different ways of fulfilling the plan's objectives, and what the likely outcomes of the various alternatives will be. For this assessment, various alternatives were developed on the basis of a round table discussion in April 2010 taking into consideration the current transport situation in South Yorkshire, and SCR. These are still considered to be appropriate alternatives for the 2018 refresh of the Transport Strategy.

For the purposes of this study the following options were considered:

1. No refresh of the 2011 Transport Strategy

2. Develop a Transport Strategy with a robust approach to public transport

3. Develop a Transport Strategy with a robust approach to Highway Interventions.

Alternative 1 represented no change to the existing situation (business as usual) without the development of a refreshed Transport Strategy, but relying upon the existing Local Transport Plan. When this option was assessed against the SEA objectives it was found that once the plan was out of date other strategies and legislation would seek to reduce the need to travel, reduce vehicle emissions and improve air quality. However, without a refreshed Transport Strategy there would

be no sub-regional strategic overview on transport issues. Interventions to maximise public transport use, improve the network function of the highway, protect and improve the natural environment, ensure equality of opportunity, promote the regional economy and tackle deprivation will not be delivered with this alternative.

Alternative 2 (Public Transport Interventions) represented taking forward a refreshed Transport Strategy, which would facilitate strong growth and support of the public transport system. When this alternative was assessed against the SEA objectives it was found that this alternative may help to deliver increased use of public transport and healthier travel choices. However, it would be unrealistic to expect all journeys to be made by public transport, and so, some car use is likely to continue and without measures to manage this, there are likely to be lost opportunities (such as promoting car sharing) as well as a failure to address issues such as road safety.

Alternative 3 (Highway Interventions) represented taking forward a refreshed Transport Strategy, which would favour support for strategic highway interventions. When this alternative was assessed against the SEA objectives it was found that this alternative would result in a more efficient highway network, reductions in congestion, improved road safety for all road users (including cyclists) and promote the creation of jobs within such sectors as logistics. However, more importantly, it was found that issues of inequalities, and mobility of those without access to private cars, are unlikely to be addressed, meaning that deprived communities may be unable to access educational, employment, health and cultural opportunities. The wider implications are, that Council strategies to address such issues as deprivation will be undermined. However, to have a scenario purely based upon highways interventions (in relation to Air Quality) would be contrary to government policy and legislation (Climate Change Act 2008).

4.3   Preferred Alternative

The assessment of the various alternatives and their performance is presented in Appendix F. It is not the role of the IA to decide which alternative should be chosen, but to reflect the overall sustainability of each alternative. This approach will aid in the decision making process.

The assessment of the alternatives indicated that overall, alternative 1 'business as usual' would no longer deliver the region's long term challenges to address such significant issues as climate change, air quality, regeneration, equalities and deprivation. The appraisal of alternative 2 demonstrated that this choice could potentially have more positive results in addressing air quality, climate change, access to jobs, support for the economy, physical activity, improving road safety and fear of crime, improve local amenity and equalities and deprivation. Alternative 3, whilst having the potential to score positively against improving road safety, fear of crime, improve local amenity, and support for the economy would not address important issues such as climate change, environmental protection, equalities, health and well-being.

5 Detailed Policy Appraisal and Recommendations

5.1 How the Assessment was Undertaken

Policies within the 2018 Transport Strategy are collated under the four Transport Strategy goals.

The terminology for assessment, set out in Table 4.1 and applied in the assessment matrices in Appendix F, focusses on effects, which is consistent with the terminology within the SEA directive. To assess the extent of the effect of the proposed SCR Transport Strategy policy, the terminology for assessment was applied alongside a level of subjective professional judgement to quantify and express what the effects of the policies in the Plan will be.

Table 4.1 Definitions of Terminology

Effect	Notation
Major positive effects	++
Mainly positive effects	+
Neutral effects	0
The effects are uncertain	?
Positive and negative effects	+/-
Mainly negative effects	–
Major negative effects	--

Combined symbols are sometimes used in the assessment, for example (+/?) or (-/?). This represents an effect where there is a strong likelihood of a positive or negative impact; however, there is insufficient information at the time to achieve certainty at this stage. Alternatively, there may be both a combination of positive or negative effects, depending on how the option under consideration is delivered.

In addition, the potential effects of the Policy 'Goal' groups can vary over time and are dependent upon the type of impact (temporary, permanent), whether the impact would be direct or indirect, scale of impact (local, city-regional, national), and location of impact (natural and built environment). Commentary will be provided as applicable on the description of likely receptors or affected groups, along with any cumulative effects that may occur. For the Purposes of the appraisal, the timescales in Table 4.2 have been used.

Table 4.2 Timescale Definition

Timescale Category	Assessment
Short	5 years
Medium	5-10 years
Long	10+ years

In some instances it is impossible to predict the effects of the plan with a degree of certainty, and some assumptions have been made in relation to the timescales associated with climate change, air quality, economic growth and loss of environmental resources.

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The assessment has shown that the policies within the Transport Strategy have positive, neutral and negative impacts. The assessment of these is provided in detail in Appendix G, however the key negative impacts and the opportunities for mitigation are provided below:

5.2 Objective 1: Protect and enhance our environmental heritage

This IA objective aims to ensure that any effects of the Transport Strategy on the natural environment (within the South Yorkshire Region) are minimised. The objective also ensures that where practicable, the quality, connectivity and extent of such areas is protected and enhanced.

Potential Negative Impacts

1. There may be instances where investment in integrated packages of transport infrastructure may have an impact on historical assets within the City Region. The scale and the magnitude of these impacts is currently unknown. Historic assets should be sensitively incorporated as necessary into the design of integrated packages of infrastructure; an approach which may be managed through the Town and Country Planning process.

2. Improvements to transport innovation may increase the extent to which heritage features and natural assets within the City Region are considered accessible, and there may be an impact on the historical assets as features are adapted however the scale and magnitude of these is currently unknown.

Recommendations/Mitigation

1. It is important that any development takes steps to mitigate any potential impact on heritage assets and plan to be sensitive to the setting of these buildings and structures. There it should be encouraged that impacts are addressed through the Town and Country Planning and through EIA Assessment process.

5.3 Objective 2: Minimise the use and loss of environmental resources (including Landscape, Townscapes, Biodiversity and Geodiversity)

This IA objective aims to offer protection to the regions finite mineral (Limestone, Sand, Coal etc) resource including soil to prevent sterilisation and ensure a sustainable use of such resources.

Potential Negative Impacts

1. Policies which seek to invest in integrated packages of transport infrastructure have the potential to have negative effect as the siting of these could result in the loss and fragmentation of habitats and environmental resources, altering the spatial distribution of air pollution, altering land drainage and disturbing wildlife.

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2. The innovative technologies have not yet been determined, therefore it is possible that the 'step-change' in technologies results in greater use of environment resources in the short-term. In the longer-term, it is anticipated that a move towards innovative and fully-integrated technologies would reduce the use and loss of environmental resources, however there is insufficient information at this stage to draw this conclusion.

Recommendations/Mitigation

1. The impacts of these can be impacted through the detailed design process, looking at the siting of infrastructure and also the EIA processes.

2. Introduction of transport innovation, technology solutions and a fully-integrated transport service should encourage the efficient use of environmental resources during construction.

5.4   Objective 3: Improve air quality

This IA Objective aims to ensure that the effects of the Transport Strategy help improve air quality by promoting more sustainable travel options, reduce the level of congestion and support new innovations such as alternative fuels.

Potential Negative Impacts

1. Increasing access to markets and employment through improved accessibility and increasing the speed, reliability and resilience of transport systems is likely to have permanent long-term implications for air quality. With regard to the seven priority spatial growth areas, it may be the case that the effect on air quality is more pronounced within these areas.

2. Given the innovative technologies have not yet been determined, it is possible that the 'step-change' in technologies results in greater use of environment resources and increase in carbon emissions in the short-term through construction. In the longer-term, it is anticipated that a move towards innovative and fully-integrated technologies would improve overall air quality and reduce greenhouse gas emissions.

Recommendations/Mitigation

1. It is suggested that all forms of transport and transport development adopt measures that minimise air pollution, seeking to actively improve air quality, especially in designated AQMAs.

2. Introduction of transport innovation, technology solutions and a fully-integrated transport service should encourage measures which minimise polluting emissions during the construction phases.

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5.5   Objective 4: Support a managed response to Climate Change and reduce greenhouse gas emissions

This IA Objective aims to ensure that the effects of the Transport Strategy address issues relating to climate change, and where possible incorporate adaption and mitigation to such effects.

Potential Negative Impacts

1. Increasing access to jobs, markets, skills and supply chains will likely increase the ability for people to live and work in increasingly separate destinations, which is likely to have an impact on carbon emissions and a resultant impact on climate change. Improving accessibility may however reduce travel times and congestion, which in turn could result in a positive impact on minimising climate change.

2. Given innovative technologies have not yet been determined, it is possible that the 'step-change' in technologies results in greater use of environment resources and increase in carbon emissions in the short-term through construction. In the longer-term, it is anticipated that a move towards innovative and fully-integrated technologies would reduce greenhouse gas emissions.

Recommendations/Mitigation

1. Mitigation seeks to actively reduce the impact on climate change, through delivering a low carbon network, integrating transport with land-use and seeking to reduce the impact on air quality.

2. Introduction of transport innovation, technology solutions and a fully-integrated transport service should encourage measures which minimise greenhouse gas emissions and manage climate change during the construction phases.

5.6   Objective 5: Maximise access to jobs, training and skills and other services

This IA Objective aims to ensure that the Transport Strategy supports the region's economy, by improving connectivity with the wider City Region and promoting more sustainable transport options which foster greater equality and access to jobs and training.

Potential Negative Impacts

1. None Identified.

Recommendations/Mitigation

1. Emphasis should be placed on transport remaining affordable for the most deprived members of society.

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5.7 Objective 6: Support economic growth and the creation of jobs within transport related sectors

This IA Objective aims to ensure that the Transport Strategy supports the important employment and growth sectors within the region and tackle deprivation.

Potential Negative Impacts

1. None identified.

Recommendations/Mitigation

1. It is recommended that that any employment provision is linked to provision of education and training and should also link with other sustainable modes of travel.

2. Emphasis should be placed on transport remaining affordable for the most deprived members of society.

5.8 Objective 7: Increased levels of physical activity

This IA Objective aims to ensure that the Transport Strategy advocates the interchange between more sustainable modes of travel such as cycling and walking to increase physical activity and promote health and well being.

Potential Negative Impacts

1. None identified.

Recommendations/Mitigation

1. 1. Mitigation links to Policy 5 which specifically encourages multi-modal travel and opportunities for sustainable travel choices.

5.9 Objective 8: Improved road safety, reduced levels of transport related crime and reduced fear of crime

This IA Objective aims to ensure that the Transport Strategy works to design out crime applied to transport sites, introduce traffic calming measures and ensure any transport interventions take account of the needs of vulnerable groups and promote social inclusion.

Potential Negative Impacts

1. None identified

Recommendations/Mitigation

1. Mitigation links to Policy 4 which states that safety, crime and the needs of vulnerable groups is addressed.

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2. Emphasis should be placed on designing out opportunities for crime or the fear of crime on all modes of transport.

3. Safe by design elements should be embedded within all new sustainable transport measures to reduce opportunities for crime and fear of crime for all groups.

5.10   Objective 9: Improve local amenity

This IA Objective aims to protect the regions local amenity and health from the associated effects of transport such as noise, light pollution and vibration.

Potential Negative Impacts

1. Improving access to jobs and markets, skills and supply chains through improvements to transport infrastructure can have a short- and long-term impact on receptors within proximity of enhancements, particularly in relation to the Spatial Priority Areas. During implementation, effects are likely to be temporary, however once completed the potential effects of such infrastructure will be permanent. Potential negative effects, such as noise or vibration, should be mitigated accordingly through the town planning and environmental impact processes. Amenity is likely to be effected negatively during the construction of specific interventions to facilitate active travel.

Recommendations/Mitigation

1. Mitigation links to Policy 4 which requires streets to be made healthy and people to feel safe. In addition, Policy seeks to work in tandem with town planning initiatives and policies to create attractive places. Negative effects on amenity in the short term should be mitigated through good construction management and planning conditions.

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6 Cumulative Effects

Cumulative effects are defined in the SEA guidance as effects which *"arise, for instance, where several developments each have insignificant effects but together have a significant effect; or where several individual effects of the plan (noise, dust and visual) have a combined effect"* (Department of Energy (DOE), 2005). Due to the very strategic nature of this plan, which is not a development plan, it is difficult to say with certainty what the cumulative outcome of this plan will be. In the appraisal, some assumptions have been made and these have been clearly stated. It is assumed that if all the policies and transport interventions are delivered within the plan period that there will be some degree of environmental impact.

Table 5.1 – Summary of the potential duration and type of cumulative effects of the Plan

IA Objective	Interventions which in combination with each other will provide cumulative effects	Type and duration of effects
1: Protect and enhance our environmental heritage	The transport interventions associated with Policies 5, 6 and 9 will have positive and indirect effects on protecting the environment as they encourage more sustainable forms of travel than the private car and encourage the development and enhancement of green, recreational and attractive spaces. Policies 2, 3 and 10 will have the potential to have negative cumulative effects on the natural and built environment through potential habitat loss and fragmentation however this is not a direct effect in all cases.	There are significant positive effects in the short To long term with new spaces and active transport modes encouraged. There are potential adverse significant effects in the long term depending upon the location, size and duration of these transport interventions and how other mitigation measures are applied.
2: Minimise use and loss of environmental resources	Major strategic transport interventions supported by Policies 3 and 11 will have potential negative cumulative impacts on the loss of natural resources. The cumulative impacts will be dependent upon the size and location of the proposed development.	In the long term, the negative effects associated with these policies will be permanent but are dependent upon supporting measures contained in the Local Plan Documents of the respective local authorities. In addition, if there is (where necessary), a policy direction to avoid the sterilization of the mineral resource. Local Plans may need to undertake further

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IA Objective	Interventions which in combination with each other will provide cumulative effects	Type and duration of effects
		assessments in order to address any negative cumulative environmental effects.
3: Improve air quality	Transport Policies 5, 7 and 8 will have a positive cumulative impact on air quality through supporting a reduction in congestion, traffic flows and encouraging more sustainable active travel, improving air quality and delivering a low carbon transport network. Without further detail in relation to the implementation of Policies 1 ad 2, this assessment assumes that this policy promotes the use of the car and as such, could potentially have a cumulative negative impact on the increase of emissions.	There are significant positives effects in the short, medium and long term. It is assumed that the potential impacts on air quality will be long term
4: Support a managed response to climate change and reduce greenhouse gas emissions	The implementation of the following Policies 5, 7 and 8 will encourage more sustainable forms of travel including cycling, walking, public transport and low carbon modes of travel which will have a cumulative impact on improving emissions and secondary cumulative impacts on improving air quality. Without further detail in relation to the implementation of Policies 1 and 2, this assessment assumes that this policy promotes the use of the car and as such, could potentially have a cumulative negative impact on the increase of CO_2 emissions.	There are significant positive effects in the short medium and long term once these policies are implemented. It is assumed that the potential impacts on climate change will be permanent and long term and greenhouse gases will increase.
5: Maximise access to jobs, training and skills, and other services	Policies 1 and 3 will provide cumulative benefits to SCR's ability to maximise access to employment, training and choice for all equality groups.	There are significant long term effects.

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IA Objective	Interventions which in combination with each other will provide cumulative effects	Type and duration of effects
6: Support economic growth and the creation of jobs within transport related sectors	The application of Policies 1, 2, 3, 10, 11 and 12 will create cumulative effects directly or indirectly on the economy of SCR, through direct job creation or interventions which support business development in a proactive way.	There will be significant long term benefits from the application of these policies. However the extent of these benefits will be dependent upon the delivery of major transport interventions unlocking the region's economic opportunities. A number of these are based on technologies and therefore would create jobs in various sectors as well as transport.
7: Increase levels of physical activity	Transport interventions promoted in Policies 5 and 6 will have cumulative effects by encouraging walking, cycling and the use of public transport. The use of such interventions will have secondary health benefits for all groups and help tackle social inclusion.

However, making places more accessible through Policies 5 and 6, if unmanaged, has the potential to cause negative cumulative impacts on some natural environments and habitats through disturbance to wildlife, nesting sites and predation by household pets. | There are significant positive long term effects and benefits to all equality groups.

However, in the long term the implementation of these policies will require careful management to avoid any cumulative effects on protected sites from recreational and access pressure. |
| 8: Improve road safety, reduced levels of transport related crime and reduce fear of crime | Policies 4, 5 and 6 will have positive cumulative effects on all equality groups and will have secondary benefits by encouraging people to use more sustainable forms of travel which can potentially mean improvements to air quality, health and well-being and deprivation. | The benefits of safety will be felt within the short to long term. However, reducing levels of transport related crime and fear of crime will take longer as this means altering people's perceptions and experiences, especially for the more vulnerable groups in society. |
| 9: Improve local amenity | Policies 2, 4, 5, 6, 7, 8 and 9 will have direct benefits to improving local amenity through improving air quality (Policy 7), encouraging active travel modes (Policy 5) thereby reducing noise, and | Some of the cumulative benefits associated with these policies will be experienced over the long term as new technologies are developed and implemented. However, some of the more locally focused |

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IA Objective	Interventions which in combination with each other will provide cumulative effects	Type and duration of effects
	measures to improve the efficiency of lower carbon modes (Policy 8) which will help air quality and noise. Other policies will also have secondary cumulative benefits such as ensuring the transport network is resilient (Policy 2), making streets more healthy (Policy 4), improving access to green and recreational spaces (Policy 6) and creating attractive places (Policy 9).	initiatives will provide positive impacts in the short term.
10: Transport interventions benefit everyone	Many of the above comments made in respect of the above objectives (in relation to transport interventions) will have positive beneficial cumulative effects on most sections of society. The extent to which these interventions will have a beneficial cumulative impact on the more vulnerable groups within South Yorkshire will be difficult to measure.	How transport interventions benefit people is largely dependent upon the scale and duration of implementation (permanent, temporary, short or long term) when they are undertaken and who they are aimed at.

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7   Equalities Impact Assessment and Health Impact Assessment

An EqIA has been completed within the IA. An IA often covers this alongside the SEA objectives, and therefore the policies have been assessed against equality groups during the policy development. Assessing the policies in this way has ensured that each of the equality groups have been considered in detail throughout this stage of the IA process.

The EqIA is not about treating everybody the same. Equality means making sure that the individual needs of different people and different communities are taken into account. Therefore, the likely impacts and barriers to the following groups have been considered:

- race/ethnicity;
- gender;
- disability;
- age;
- faith/religious or other beliefs;
- sexual orientation; and
- other groups who might not have equal access to services.

The results of the EqIA (Appendix G) has demonstrated that due to the strategic nature of the document (and the policies contained therein), that there will be no adverse impacts on any of the equality groups.

It is reasonable to assume that any policies which encourage future development to consider better access to facilities, more choice of transport modes, provide a range of housing types (for those with additional needs), training opportunities, and make environments safer and more legible will benefit all the equality groups.

It is not possible at this stage (due to the strategic nature of the policies) to try to enforce the implementation of certain requirements (for example drop curbs, tactile pavements, etc) for specific equality groups as these issues will be addressed by other legislation such as Building Regulations, and other more detailed policies which will appear in a lower tier plan, which should address the specific design issues and detail (for all equality groups) of major developments.

It is recommended that future Plans should be subject to an EqIA, and strategic highway interventions at the design and planning stage should also be subject to Equality Appraisal to ensure that the needs of all groups are considered.

The HIA makes sure that health and well-being are included into national policy. It is important to understand that any plan or project could potentially have an impact on health. Many social or environmental factors can influence health for instance:

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- poverty, unemployment, poor housing, crime, low educational attainment, social exclusion;

- agricultural and transport policies, and environmental issues, such as air pollution; and

- sustainable development issues in terms of health.

It is considered that this is covered within the existing assessment objectives and therefore a separate HIA was not required.

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8 Recommendations

This assessment has demonstrated that in some instances, it is impossible to predict the effects of the plan with a degree of certainty and some assumptions have been made in relation to the timescales associated with climate change, air quality, economic growth and loss of environmental resources (namely minerals).

Whilst the majority of the transport policies have performed well against the IA objectives there are a few policies which have the potential to perform negatively against some of the objectives. This Environmental Report makes a number of policy recommendations as part of the final appraisal. The purpose of these recommendations are to help the Transport Strategy further improve, and these include the following:

- It is recommended that a policy matrix is established which considers the overlapping and feedback nature of specific policies within different policy 'goals'.

- Historic and natural assets within the City Region are sensitively incorporated into any resultant policy proposals arising following the SCR Transport Strategy. Mitigation could include linkages to Policy 9 which would encourage all effects to be addressed through the Town Planning and Environmental Impact Assessment (EIA) processes.

- Impacts of targeted infrastructure interventions, particularly within the Integrated Infrastructure Packages, should be assessed against the EIA, Town Planning and Habitats Directive legislation (Policy 9).

- Effects of improved transport accessibility on air quality should be addressed through links to Policy 7, which seeks to actively improve air quality particularly in designated Air Quality Management Areas (AQMAs).

- Impacts on climate change should be addressed through connection to Policy 8, which seeks to actively reduce the impact on climate change.

- Linkages to Policy 4 and Policy 9 would ensure that temporary negative effects of construction of transport interventions is addressed through place-making and planning principles.

- Local employment requirements could be conditioned to the delivery of targeted infrastructure interventions.

- Introduction of low carbon technologies and public transport to be targeted towards reducing the use and loss of environmental resources, minimising climate change and minimising the effects on air quality within the City Region, both during construction of interventions and throughout operation.

- Negative effects on amenity from the delivery of transport interventions in the short term should be mitigated through good construction management and planning conditions.

- Emphasis should be placed on designing out opportunities for crime or the fear of crime on all modes of transport promoted through the Transport Strategy.

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- Ensure low carbon transport networks are targeted towards reducing the use and loss of environmental resources, minimising climate change and minimising the effects on air quality within the City Region, both during construction of interventions and throughout operation.

The Transport Strategy needs to consider the Habitats Directive Legislation in order to ensure that future associate major transport interventions consider their impact on nationally and internationally designated sites (which include Thorne and Hatfield Moors as well as the Peak District National Park) together with wildlife corridors.

This IA appraisal will not meet or address the requirements of the 1992 Habitats Directive[2]. A separate report on the information to inform a Habitats Regulation Assessment also accompanies the IA and Transport Strategy.

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[2] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

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9 Conclusion

9.1 Summary of the Findings

This document is a high-level strategic document and as such its policies have to capture the aspirations and requirements of international, national and local policy. This plan will ensure that development is carried out in a sustainable way whilst still allowing the plan to deliver its economic objectives for the South Yorkshire area and the wider SCR.

The appraisal has identified that on the whole, the effects of the 2018 Transport Strategy over the long term will be mainly positive. However, it is very difficult to say at this stage what the full range of cumulative effects are likely to be. These effects will become more apparent as definitive information is available on the strategic transport interventions (such as site location, scale, phasing, development duration, mitigation etc.) and when lower tier implementation plans are developed, and the policies within the plans are implemented and monitored.

At this stage, even though the plan is very strategic in nature, it is unrealistic to assume that the level of growth proposed will not have some environmental impact within the plan period. Clearly, some impacts may be temporary as sites are developed and mitigation is implemented and as technologies change, and some may be permanent, such as the loss of agricultural land to development of major transport proposals. It is therefore important to take a balanced view when considering all the tensions that exist between economic growth, environmental protection and social deprivation.

A significant challenge that this appraisal has had to address is how to predict and quantify the impacts of climate change considering that climate change is a global event and is 'the greatest long-term challenge facing the world today' (PPS1).

Government transport guidance makes it clear that transport has a fundamental and important role to play in delivering sustainable development and tackling climate change. As such issues around climate change are well embedded into the Transport Strategy.

9.2 Incorporating IA findings into the SCR Transport Strategy

The SEA Directive states that:

"When a plan is adopted, the environmental authorities and the public are informed of:

a. when a plan is adopted; and

b. a statement summarising how environmental considerations have been integrated into the plan and (c) the measures decided concerning monitoring (Article 9 (1))."

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The Transport Strategy and the IA will go out to consultation in the autumn of 2017. The comments following the consultation period will then be incorporated into this report and how these will be taken into consideration in the Transport Strategy will be highlighted.

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10   Monitoring

The SEA Directive (Article 10.1) requires the Transport Strategy to be monitored during its implementation, rather than during its preparation and adoption. The SEA objectives table (see Appendix D) suggests some ways of monitoring the effects of the plan by using indicators to monitor environmental effects. Where possible, the table has also identified other existing sources of monitoring to help to provide information for monitoring the SEA objectives.

Monitoring also provides the opportunity to determine if the mitigation of significant environmental effects (identified within this report) are being carried out, and allows for any other unanticipated environmental effects to be documented and addressed (mitigation) during the period of the plan.

The effects of the Transport Strategy and subsequent monitoring of this IA report can also be linked to the report on 'Conditional Outcomes: Methodology for quantification'. This document sets out quantifiable outcomes for each goal, and therefore it can be noted where these have been achieved and whether the goal is achieving what was set out.

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