


A96 Dualling Programme

Strategic Environmental Assessment

Tier 1 Environmental Report
Non-Technical Summary

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Transport Scotland

September 2014





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Document history

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Transport Scotland

This document has been issued and amended as follows:

Version	Date	Description	Created by	Verified by	Approved by
1.0	Aug 2014	Draft	G Greenwood	H Collin	J Fox
1.1	Sept 2014	Final	GG	HC	JF

Limitations

Halcrow Group Ltd has been instructed to provide a Strategic Environmental Assessment of the A96 Dualling Programme on behalf of Transport Scotland.

The assessment is based on the information that has been made available at the time of publication and this Environmental Report is presented as a consultation document. Any subsequent additional information arising during the public consultation period may require revision or refinement of the conclusions.

It should be noted that:

- The findings within this report represent the professional opinion of experienced environmental scientists, sustainability consultants and other specialists. Halcrow does not provide legal advice and the advice of lawyers may also be required.
- All work carried out in preparing this report has utilised and is based upon Halcrow's professional knowledge and understanding of current relevant European Union, UK and Scottish standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. Halcrow does not accept responsibility for advising of the facts or implications of any such changes.
- This report has been prepared using factual information contained in maps, documents and data prepared by others. No responsibility can be accepted by Halcrow for the accuracy of such information. All maps, illustrations and other sources of data are credited where appropriate.
- Every endeavour has been made to identify data sources, where appropriate. Additional data sources are listed in the baseline for reference.
- This report represents the independent views and recommendations of the consultants conducting the analysis, and may not necessarily reflect the opinions held by Transport Scotland.

A96 Dualling Programme SEA – Key Facts

Responsible Authority	Transport Scotland – MTRIPS Directorate
PPS Title	A96 Dualling Programme
What prompted the PPS	Strategic review of the Inverness to Aberdeen transport corridor following a refocus of national policy and changes to planned development on and adjacent to the corridor in recent years
PPS Subject	Transport Infrastructure
Period covered by PPS	Delivery programme to target completion by 2030
Frequency of updates	Live programme – ongoing review
Area covered by PPS	The Inverness to Aberdeen transport corridor
Purpose and/ or objectives of PPS	<p>The Plan objectives for the Inverness to Aberdeen transport corridor are:</p> <ol style="list-style-type: none"> 1. To improve the operation of the corridor and inter-urban connectivity between the cities of Aberdeen and Inverness, and their city regions, through: <ul style="list-style-type: none"> – Reduced journey times; – Improved journey time reliability; and – Reduced conflicts between local and strategic road based journeys. 2. To improve safety for motorised and non-motorised users through; <ul style="list-style-type: none"> – Reduced accident rates and severity; and – Reduced driver stress. 3. To provide opportunities to grow the regional economies on the corridor through; <ul style="list-style-type: none"> – Improved access to the wider strategic transport network; and – Enhanced access to jobs and services.
Contact points	<p>Yvette Sheppard Transport Scotland, Environment & Sustainability Manager Tel: 0141 272 7956 Email: Yvette.Sheppard@transportscotland.gsi.gov.uk</p> <p>John Fox, Halcrow, SEA Commission Manager Tel: 0141 404 2090 Email: foxj@halcrow.com</p>

A96 Dualling Programme – Tier 1 SEA Environmental Report – Non Technical Summary

1. Introduction

In 2008 the Scottish Government published the ‘Strategic Transport Projects Review’ (STPR) which set out transport investment priorities for the next 20 years. The review contained a number of options for the Inverness to Aberdeen transport corridor, an overview of which is shown in Figure 2 overleaf, including preliminary analysis of an option for full dualling of the A96 between Inverness and Aberdeen. This option was not taken forward, as alternative interventions were considered sufficient to address the corridor objectives at that time.

In 2011, two key documents that signified a change in policy were published by the Scottish Government; ‘Scotland’s Cities: Delivering for Scotland’ (the Agenda for Cities) and the ‘Infrastructure Investment Plan’ (IIP).

The Agenda for Cities sets out the vital contribution that Scotland’s major population centres can make in delivering the Government’s Economic Strategy, and identifies the aim to connect our cities with reliable and resilient transport infrastructure as a key characteristic in supporting growth.

The IIP outlined plans for infrastructure investment over the coming decades and complements the Agenda for Cities with a commitment to complete the dual carriageway network between Scotland’s cities by 2030.

This renewed focus on developing and promoting economic growth through Scotland’s cities and their regions will have potential implications for, and impacts on, the performance of the Inverness to Aberdeen corridor’s strategic transport networks, as well as on current and future aspirations for development along the corridor.

In response, Transport Scotland has undertaken an Inverness to Aberdeen strategic transport corridor study to inform a STAG (Scottish Transport Appraisal Guidance) based appraisal for alternative transport intervention options within the corridor.

In conjunction, the Environmental Assessment (Scotland) Act, 2005, requires the consideration of Strategic Environmental Assessment (SEA) for all public sector plans, programmes and strategies with the potential for significant effects on the

environment. As the implementation of a strategic transport intervention across the breadth of the corridor would fall within the definition of Section 5(3) of the Act, SEA is also therefore required.

In order to ensure a transparent framework for stakeholder consultation, identifying the potential for significant environmental effects at both the policy/ plan *and* programme levels, a two-tiered approach to SEA has been adopted.

A description of the reasoning behind this approach is provided in Sections 1 and 2 of the Environmental Report and an overview is shown in Figure 1 below.

This approach separates the strategic policy/ plan level assessment from the programme level assessment. Tier 1 SEA therefore provides the basis of the STAG assessment requirements for ‘environment’ issues in the Inverness to Aberdeen strategic corridor study.

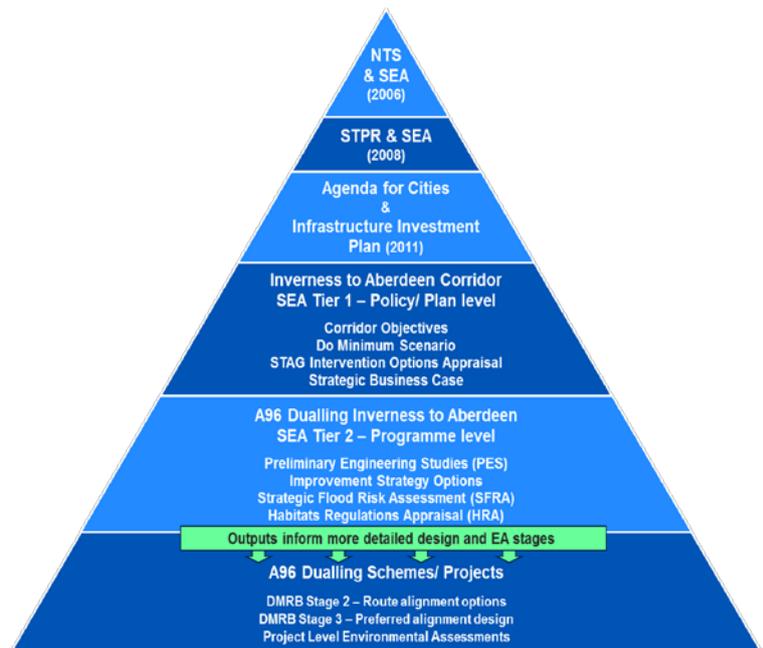


Figure 1 Overview of Tiered Approach to SEA

This particular document is presented as a Non-Technical Summary to accompany the more detailed SEA Tier 1 Environmental Report.

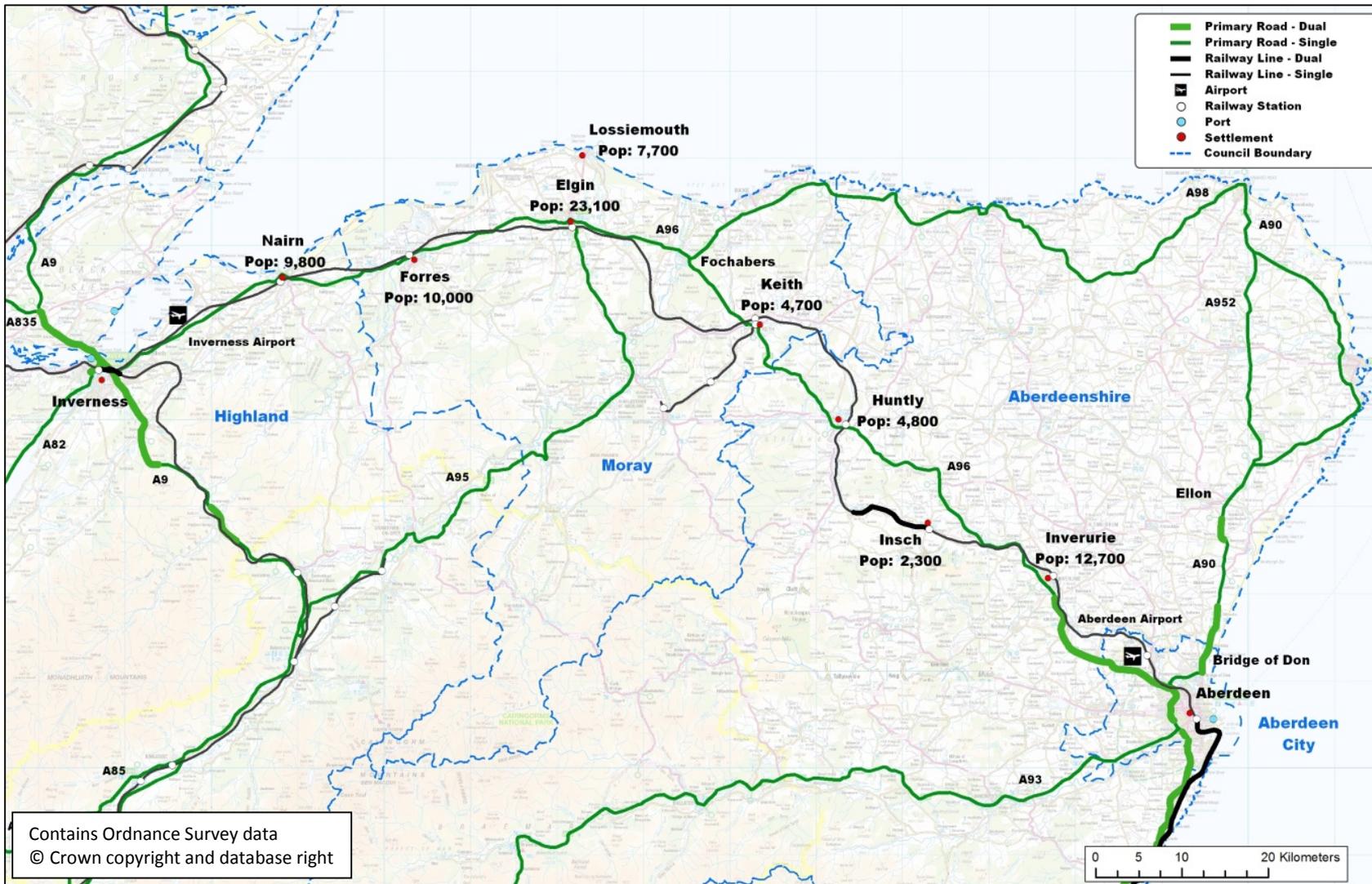


Figure 2 Overview of the Inverness to Aberdeen Corridor

2. The STAG Appraisal Process and Options for Assessment

Scottish Transport Appraisal Guidance (STAG) sets out an objective-led, evidenced based approach for the development and appraisal of alternative transport infrastructure options. The STAG approach is detailed in Section 5.1 of the Environmental Report and consists of a number of steps, summarised below.

Firstly, problems and opportunities relating to the transport system within the STAG study area, in this case the Inverness to Aberdeen Corridor, are identified and analysed; see Figure 3 below for a summary. Next, Transport Planning Objectives are developed in order to set the outcomes that the STAG appraisal will consider for each option.

The objectives established for the Inverness to Aberdeen Corridor are:

Objective 1

To improve the operation of the corridor and inter-urban connectivity between the cities of Inverness and Aberdeen and their city regions through;

- Reduced journey times;
- Improved journey time reliability; and
- Reduced conflicts between local and strategic road based journeys.

Objective 2

To improve safety for motorised and non-motorised users through;

- Reduced accident rates and severity; and
- Reduced driver stress.

Objective 3

To provide opportunities to grow the regional economies on the corridor through;

- Improved access to the wider strategic transport network; and
- Enhanced access to jobs and services.

A range of options which could potentially address the problems and opportunities previously identified, were then generated.

A total of six STAG options were taken forward for appraisal. Headline descriptions and a series of working assumptions for each option were generated to inform the appraisals, these are described in more detail in Section 5.3 and Appendix F of the Environmental Report. The six STAG options considered were:

Option 1

Rail enhancements/ rolling stock improvements to provide an end-to-end travel time of around 1hr 45mins

Option 2

Rail service enhancements to allow a 15 minute frequency into both cities during peak periods with a 30 minute frequency for services into both cities outside of peak

Option 3

Targeted trunk road improvements

Option 4

Targeted trunk road improvements and new (single carriageway) bypasses on A96

Option 5

Dual carriageway bypasses and dualling of heavily trafficked sections of the A96 plus targeted trunk road improvements

Option 6

A96 full dualling plus targeted trunk road improvements

Finally, each option was appraised against the Transport Planning Objectives and five STAG Criteria; Environment, Safety, Economy, Integration, Accessibility and Social Inclusion.

The findings of these appraisals are summarised in the A96 Dualling Inverness to Aberdeen Strategic Business Case.

The process provides a robust evidence base for decision makers and in this case, the Tier 1 SEA provides the basis and evidence of assessment for the STAG Environment criterion.

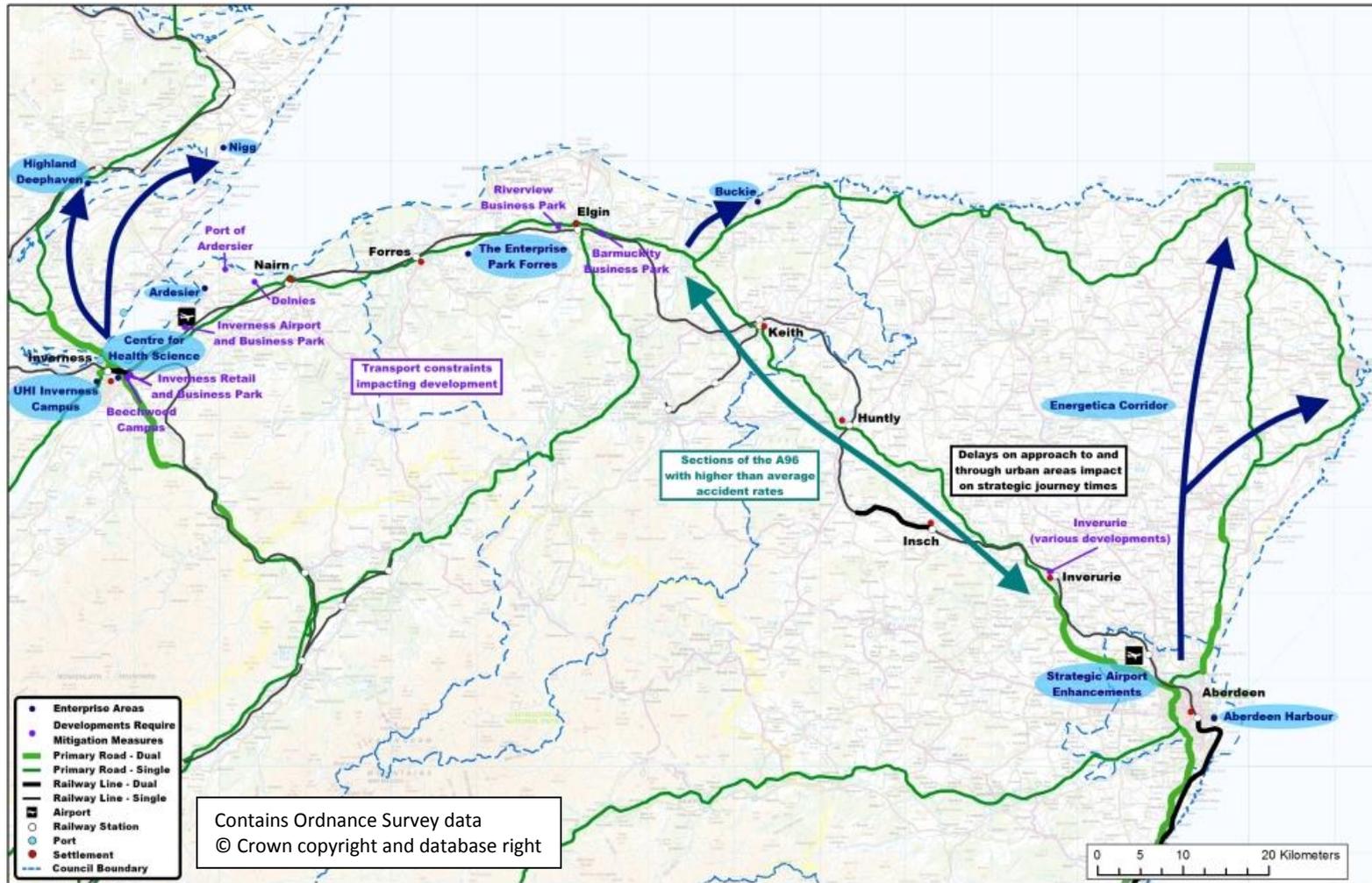


Figure 3 Summary of Key Problems and Opportunities

3. Summary of Tier 1 SEA Process

In order to capture environmental constraint data that might be affected by the STAG Options, the Tier 1 SEA adopted a 15km-wide baseline study area, i.e. 7.5km either side of the existing A96 route; this area also encompasses the Inverness to Aberdeen rail line.

The SEA approach to the option appraisals involved:

1. Scoping of SEA topics followed by preparation of, and consultation on, the Tier 1 Scoping report;
2. Updating the 15km-wide SEA study area constraints baseline;
3. Predicting environmental conditions in the absence of already committed transport schemes, or STAG Options, assuming current trends in population and traffic growth continue;
4. Assessing the effects of already committed transport schemes on future baseline environmental conditions (referred to as the 'Do Minimum' scenario);
5. Assessing the six STAG options against the future Do Minimum baseline, to predict how each option could affect each SEA topic;
6. Summarising the options appraisal against each SEA topic using the STAG seven point scale of impact significance; and
7. SEA appraisal outputs were included in the assessment of 'Environment' against the other STAG criteria to help inform the overall appraisal of options.

These steps are further briefly described under the following sections of this NTS, with more detailed descriptions provided through the Environmental Report.

4. SEA Scoping and Baseline Environmental Constraints

In December 2013 the Tier 1 Strategic Environmental Assessment Scoping Report (SR) was provided to the SEA Consultation Authorities (Scottish Natural Heritage, Historic Scotland and the Scottish Environment Protection Agency), and to Local Authorities within the Inverness to Aberdeen corridor.

The SR included a review of Policies, Plans and Strategies (PPS) identified as relevant to this SEA. Based on the PPS review and collation of a wide range of environmental constraint data, the SR recommended the removal (scoping out) of a number of topics from the SEA.

Taking into consideration comments made by the Consultation Authorities, the SEA topics scoped in and out of the Tier 1 environmental assessment are shown in Table 1 below.

Table 1 Summary of Scoped SEA Topics

SEA Topic	Scoped In/ Out
<ul style="list-style-type: none"> • Population and Human Health • Biodiversity, Flora, Fauna • Soil and Geodiversity • Water • Historic Environment • Landscape 	<p>Scoped in; relevant constraint criterion will be used in the SEA and managed via a Geographic Information System (GIS)</p>
<ul style="list-style-type: none"> • Air • Climatic Factors • Material Assets 	<p>Scoped out; not considered to usefully inform Tier 1 assessments</p>

A clear baseline of environmental designations and constraints, managed within a GIS, allowed consideration of the six options in relation to individual constraint types, or in relation to spatial clusters of constraints.

This, coupled with the problems and opportunities identified on the corridor through the STAG appraisal process (summarised in Figure 3), underpinned the options assessment.

5. SEA Appraisal of a Do Minimum Scenario and Future Baseline

The first step in the appraisal of the six options was based on an understanding of the future baseline conditions in the Inverness to Aberdeen transport corridor, in the absence of any already committed transport schemes or STAG Options.

This involved prediction of how the corridor would develop using the current environmental baseline and assuming that current trends in population and traffic growth continue; this projection was performed for each of the scoped in SEA topics.

Next, it was necessary to identify a reference case or “Do Minimum” scenario. This consists of committed transport schemes, and again takes account of predicted trends in population and traffic flows within the corridor.

The following schemes were assumed for the Do Minimum scenario:

- Aberdeen Western Peripheral Route (AWPR) including a new junction on the A96 near Dyce;
- Aberdeen to Inverness Rail Improvements Phase 1;
- Dalcross Park-&-Ride site with interchange facilities with Inverness Airport;
- Strategic Park and Ride at Dyce on the A96;
- Link road between A9 at Inshes and A96 at Smithton;
- A96 Inverness to Nairn (including Nairn Bypass) dual carriageway;
- Works at A96 Inveramsay Bridge to allow for the removal of traffic lights;
- Upgrading the junction at Threapland on the A96 trunk road approximately 1 kilometre east of Lhanbryde to improve safety;
- A90/A96 Haudagain Roundabout Upgrade.

Each Do Minimum scheme was assessed in order to ascertain its’ likely implications on the corridor’s environmental conditions; again grouped by SEA topic.

The predicted effects of each scheme were identified through reviews of available information and assessment reports.

Finally, a summary of the predicted change in the future baseline was produced for each SEA topic, taking account of the effects of the committed schemes and current trends within the corridor.

6. SEA Appraisal of STAG Options

The potential effects of each STAG option was assessed, against each SEA topic, within the context of the future baseline scenario. The assessment was recorded via a detailed commentary and summarised at local and regional scales.

To ensure consistency with the STAG appraisal process, this final step in the assessment was reported in line with the seven point scale of impact, advocated by STAG guidance:

- No benefit or impact (neutral);
- Minor benefit/ negative impact;
- Moderate benefit/ negative impact;
- Major benefit/ negative impact.

The following section of this NTS document presents summaries of the SEA assessment findings for each STAG option.

Full details of the SEA appraisal process and results are provided in the Environmental Report, Sections 5.3-5.4 and Appendix F.

Option	1. Rail enhancements/ rolling stock improvements to provide an end-to-end travel time of around 1hr 45mins
Description	Improved infrastructure to accommodate either electrified or high powered diesel rolling stock along the rail network.
<p>Assumptions</p> <ul style="list-style-type: none"> This option is based on the assumption that an average line speed of 60mph could be achieved along the route. Until further detailed assessment has been undertaken it will not be possible to determine what works would be required to deliver this option. The following potential infrastructure and rolling stock improvements may deliver these improvements and are assumed for assessment purposes only at this stage. Electrification of railway route involving overhead line gantries and conductors and associated electrical lineside control equipment High powered diesel or electric rolling stock capable of faster acceleration from stations to reduce journey times Possible localised works to rails/ formation to increase radii of curves or additional loops (mostly within existing rail corridor) 	 <p>The map displays the rail corridor from Inverness in the west to Aberdeen in the east. A thick orange line indicates the proposed improved rail infrastructure. Key stations are marked with blue dots, including Dalcross, Kintore, and others. The map also shows existing rail lines and surrounding geographical features like rivers and towns.</p> <p>Legend: — Improved Rail Infrastructure and/ or higher performance Rolling Stock ● New Stations (Do Minimum)</p>
SEA Summary	
<p>Population and Human Health</p> <ul style="list-style-type: none"> Neutral to minor, regional benefits for population and health in terms of opportunity for modal shift Neutral to minor, local benefits include reduced emissions through population centres, within commutable distance, associated with modal shift/ reduced peak hour congestion Neutral to minor beneficial effects on overall emissions within the SEA study area, depending on uptake/ modal shift realised and type of rolling stock favoured Overall, minor positive effects for population and human health at the regional scale 	
<p>Biodiversity, Flora and Fauna</p> <ul style="list-style-type: none"> Assessed as neutral at the regional scale with potential for minor adverse effects in some localised areas 	
<p>Water</p> <ul style="list-style-type: none"> Assessed as neutral at the regional scale 	
<p>Soils & Geodiversity</p> <ul style="list-style-type: none"> Assessed as predominantly neutral at the regional scale Areas better serviced by rail may become more attractive for development, with potential for minor indirect adverse effects on soil resources (soil sealing) at the local level 	
<p>Historic Environment</p> <ul style="list-style-type: none"> Assessed as neutral at the regional scale Potential for minor adverse localised effects on setting of historic environment features 	
<p>Landscape</p> <ul style="list-style-type: none"> Assessed as neutral to minor adverse at the regional landscape scale Neutral effects for visual receptors at local levels from marginally reduced trunk road traffic Potential for minor adverse effects for visual receptors at local levels 	

Option	2. Rail service enhancements to allow a 15 minute frequency into both cities during peak periods with a 30 minute frequency for services into both cities outside of peak
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Description
 Rail service enhancements to allow a 15 minute frequency between Inverurie and Aberdeen, and Nairn and Inverness, during peak periods.
 The remaining settlements which are within one hour of Aberdeen and Inverness will receive a 30 minute frequency, which forms part of the hourly service between both cities.

- Assumptions**
- Track and signalling enhancements have been delivered through the Aberdeen to Inverness rail improvements project
 - The route has been electrified
 - 15 minute frequency of rail passenger services during the peak periods between Inverness and Nairn, and, Inverurie and Aberdeen (including stops at Dalcross and Kintore)
 - 30 minute service between Aberdeen and Huntly and Inverness and Elgin calling at all stations
 - Hourly service between Inverness and Aberdeen which does not call at all intermittent stations during peaks to make way for stops at Dalcross and Kintore



SEA Summary

- Population and Human Health**
- Neutral to minor, regional benefits for population and health in terms of opportunity for modal shift
 - Neutral to minor, local benefits include reduced emissions through population centres, within commutable distance, associated with modal shift/ reduced peak hour congestion
 - Neutral to minor adverse effects on overall emissions within the SEA study area, depending on uptake/ modal shift realised
 - Minor, locally adverse effects to noise sensitive receptors around the rail corridor associated with increased service frequency
 - Overall, a combination of minor positive and minor adverse (mixed) effects for population and human health at the regional scale
- Biodiversity, Flora and Fauna**
- Assessed as neutral at the regional scale
- Water**
- Assessed as predominantly neutral, but with potential for minor adverse impact on track drainage runoff, at the local scale
- Soils & Geodiversity**
- Assessed as predominantly neutral at the regional scale
 - Areas better serviced by rail may become more attractive for development, with potential for minor indirect adverse effects on soil resources (soil sealing) at the local level
- Historic Environment**
- Assessed as neutral at the regional scale
- Landscape**
- Assessed as neutral at the regional landscape scale
 - Potential for mixed (minor positive to minor adverse) effects for visual receptors at local levels

Option	3. Targeted trunk road improvements
<p>Description</p> <p>Physical works to improve safety and operational efficiency of the A96, such as: WS2+1 sections; climbing lanes; hard strip provision; local realignments and junction improvements.</p>	 <p>The map shows the A96 route from Inverness in the north to Aberdeen in the south. A purple line indicates targeted physical works to improve safety and operational efficiency, covering sections from near Inverness through Elgin, Forres, and Hume. Red lines indicate dual carriageway sections, with some marked as 'Do-Minimum' (Do-Minimum) or 'Dual Carriageway Bypass (Do-Minimum)'. A legend in the bottom left of the map defines these symbols.</p>
<p>Assumptions</p> <ul style="list-style-type: none"> • Assume generally where possible to complete on-line and where land allows for junction improvements • Works targeted on sections where safety and operation are issues • Assume avoidance of most severe effects on constraints, designations and communities 	
<p>SEA Summary</p>	
<p>Population and Human Health</p> <ul style="list-style-type: none"> • Minor benefits at the local scale where improved sections address operational issues and improve road safety • Potential for locally adverse effects for road users in relation to new transition zones where there are changes in carriageway standard • Neutral to minor benefits at the regional scale in terms of reduced accident rate and journey times <p>Biodiversity, Flora and Fauna</p> <ul style="list-style-type: none"> • Assessed as minor adverse at the regional scale • Severity of adverse effects will depend on design, location and scale of improvement works <p>Water</p> <ul style="list-style-type: none"> • Minor benefits to surface water runoff discharge quality at local and regional scales • Neutral effect on flooding and flood risk at the regional scale • Locally minor to moderate adverse effects associated with channel/ bankside works for crossings and culverts • Potential for neutral to minor adverse effects on wetland habitats at the regional level • Overall, mixed effects ranging from minor positive (e.g. discharge quality) to minor negative, depending on final locations of widened or realigned sections <p>Soils & Geodiversity</p> <ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, the option to provide targeted trunk road improvements is assessed as having the potential for locally minor to moderate adverse impacts on soil resources, depending on final locations • Overall, assessed as likely to present minor adverse effects at the regional level <p>Historic Environment</p> <ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, the option to provide targeted trunk road improvements is assessed as having the potential for locally minor to moderate adverse impacts (direct and on setting) on historic environment features, depending on final locations • Overall, assessed as likely to present minor to moderate adverse effects at the regional level <p>Landscape</p> <ul style="list-style-type: none"> • Given that the A96 is already a feature in the landscape, the option to provide targeted trunk road improvements is assessed as having the potential for locally minor to moderate adverse impacts at the landscape character type scale • Minor to major adverse effects for sensitive visual receptors local to some areas of improvement locations • Overall, minor to moderate adverse landscape and visual effects at the regional level, softening over the longer term as mitigation planting matures 	

Option	4. Targeted trunk road improvements and new (single carriageway) bypasses on A96
<p>Description</p> <p>Single carriageway bypasses of Forres, Elgin and Keith.</p> <p>Targeted Trunk Road Improvements (Option 3) for the remaining sections of the A96.</p>	
<p>Assumptions</p> <ul style="list-style-type: none"> Assumes that all three bypasses are constructed Assume avoidance of most severe effects on constraints, designations and communities On remainder of the route as Option 3 	
<p>SEA Summary</p>	
<p>Population and Human Health</p> <ul style="list-style-type: none"> Minor benefits at the regional scale in terms of reduced accident rate, journey times and improved connectivity Minor to moderate benefits at the local scale where improved sections address operational issues and improve road safety Moderate benefits at the local scale for bypassed population centres, in terms of reduced congestion, emissions and noise and improved road safety Locally minor to moderate indirect benefits to human health in bypassed population centres Mixed effects on businesses depending on use/ reliance on the A96 Potential for locally adverse impacts on some isolated properties/ residents affected by new bypasses, that are not currently affected by A96 issues Potential for locally adverse effects in relation to new transition zones between carriageway standard <p>Biodiversity, Flora and Fauna</p> <ul style="list-style-type: none"> Mixed impacts, ranging from minor positive to moderate adverse predicted at the regional scale Highly dependent on final route selection/ location of improvement works and avoidance of valuable/ sensitive/ designated biodiversity sites Potential for locally minor to major adverse impacts should sensitive sites/ features/ habitats prove unavoidable Neutral effect on mobile species, recognising potential barrier to movement, but with improved route permeability through passes, crossings and SuDS <p>Water</p> <ul style="list-style-type: none"> Minor benefits to surface water runoff discharge quality at local and regional scales Neutral effect on flooding and flood risk at the regional scale Locally minor to moderate adverse effects associated with channel/ bankside works for crossings and culverts Potential for minor adverse effects on wetland habitats at the regional level Overall, mixed effects ranging from minor positive (e.g. discharge quality) to minor negative, depending on final locations of bypass sections/ improvement works <p>Soils & Geodiversity</p> <ul style="list-style-type: none"> Given the assumption that the most severe effects on constraints and designations will be avoided, this option is assessed with the potential for locally minor to moderate adverse impacts on soil resources, depending on final alignments/ improvement locations Overall, assessed as likely to present minor adverse effects at the regional level <p>Historic Environment</p> <ul style="list-style-type: none"> Given the assumption that the most severe effects on constraints and designations will be avoided, this option is assessed with the potential for locally minor to major adverse impacts (direct and on setting) on historic environment features, depending on final alignments/ improvement locations Some potential for locally minor benefits in bypassed areas Overall, assessed as likely to present minor to moderate adverse effects at the regional level <p>Landscape</p> <ul style="list-style-type: none"> Given that the A96 is already a feature in the landscape, this option is assessed as having the potential for locally minor to moderate adverse impacts at the landscape character type scale Minor benefits at the local scale for bypassed receptors Moderate to major adverse visual effects for some sensitive receptors local to bypass locations/ improvement works Overall, minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures 	

Option	5. Dual carriageway bypasses and dualling of heavily trafficked sections of the A96 plus targeted trunk road improvements
<p>Description</p> <p>Dual carriageway bypasses of Forres, Elgin and Inverurie and dualling of heavily trafficked sections of the A96.</p> <p>Single carriageway bypass of Keith.</p> <p>Targeted Trunk Road Improvements (Option 3) for the remaining sections of the A96.</p>	 <p>Legend:</p> <ul style="list-style-type: none"> → Dual Carriageway (Do-Minimum) • Dual Carriageway Bypass (Do-Minimum) ← Dual Carriageway • Dual Carriageway Bypass • Single Carriageway Bypass — Targeted physical works to improve safety and operational efficiency
<p>Assumptions</p> <ul style="list-style-type: none"> • Dual carriageway on the most heavily trafficked sections • Bypasses around Forres, Elgin, Keith and Inverurie (assume avoidance of most severe effects on constraints, designations and communities) • On remainder of the route as Option 3 	
<p>SEA Summary</p>	
<p>Population and Human Health</p>	
<ul style="list-style-type: none"> • Moderate to major benefits at the local scale where improved sections address operational issues and improve road safety • Moderate benefits at the regional scale in terms of improved operational efficiency, connectivity and safety • Moderate benefits at the local scale for bypassed population centres, in terms of reduced congestion, emissions and noise and improved road safety • Locally minor to moderate indirect benefits to human health in bypassed population centres • Mixed effects on businesses depending on use/ reliance on the A96 • Potential for locally moderate adverse impacts on some isolated properties/ residents affected by this option that are not currently affected by A96 issues • Potential for locally adverse effects in relation to new transition zones between carriageway standard 	
<p>Biodiversity, Flora and Fauna</p>	
<ul style="list-style-type: none"> • Mixed impacts, ranging from minor positive to moderate adverse predicted at the regional scale • Highly dependent on final route selection/ location of improvement works and avoidance of valuable/ sensitive/ designated biodiversity sites • Potential for locally minor to major adverse impacts should sensitive sites/ features/ habitats prove unavoidable • Neutral effect on mobile species, recognising potential barrier to movement, but with improved route permeability through passes, crossings and SuDS 	
<p>Water</p>	
<ul style="list-style-type: none"> • Minor benefits to surface water runoff discharge quality at local and regional scales • Neutral effect on flooding and flood risk at the regional scale • Locally minor to moderate adverse effects associated with channel/ bankside works for crossings and culverts • Potential for minor adverse effects on wetland habitats at the regional level • Overall, mixed effects ranging from minor positive (e.g. discharge quality) to minor negative, depending on final locations of improved/ bypass sections 	
<p>Soils & Geodiversity</p>	
<ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, this option is assessed with the potential for locally minor to moderate adverse impacts on soil resources, depending on final alignments/ improvement locations • Overall, assessed as likely to present minor adverse effects at the regional level 	
<p>Historic Environment</p>	
<ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, this option is assessed with the potential for locally minor to major adverse impacts (direct and on setting) on historic environment features, depending on final alignments/ improvement works • Some potential for locally minor benefits in bypassed areas • Overall, assessed as likely to present minor to moderate adverse effects at the regional level 	
<p>Landscape</p>	
<ul style="list-style-type: none"> • Given that the A96 is already a feature in the landscape, this option is assessed as having the potential for locally minor to moderate adverse impacts at the landscape character type scale • Minor benefits at the local scale for bypassed receptors • Moderate to major adverse visual effects for some sensitive receptors local to bypass/ improvement locations • Overall, minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures 	

Option	6. A96 full dualling plus targeted trunk road improvements
<p>Description</p> <p>Provide full dual carriageway between east of Nairn and Aberdeen (i.e. Inverness to Nairn including Nairn Bypass in the do-minimum).</p>	 <p>The map shows the A96 route from Inverness in the north to Aberdeen in the south. Key locations marked include Inverness, Nairn, Forres, Elgin, Keith, Huntly, Inverurie, and Aberdeen. A legend in the bottom-left corner of the map area defines the symbols: a red dashed line for 'Dual Carriageway (Do-Minimum)', a blue dashed line for 'Dual Carriageway Bypass (Do-Minimum)', a blue solid line with arrows for 'Dual Carriageway', a blue dashed line with a circle for 'Dual Carriageway Bypass', and a purple solid line for 'Targeted physical works to improve safety and operational efficiency'. The map also shows other roads and geographical features in the region.</p>
<p>Assumptions</p> <ul style="list-style-type: none"> • A combination of on-line and off-line works allowing for avoidance of most severe effects on constraints, designations and communities • Grade separated junctions, at least one per major settlement • Bypasses around Forres, Elgin, Keith, Huntly and Inverurie 	
<p>SEA Summary</p>	
<p>Population and Human Health</p> <ul style="list-style-type: none"> • Major benefits at the local scale where dualling addresses current accident hotspots and improves road safety • Moderate benefits at the regional scale in terms of reduced journey times and improved connectivity • Moderate to major benefits at the local scale for bypassed population centres, in terms of reduced congestion, emissions and noise and improved road safety • Locally moderate indirect benefits to human health in bypassed population centres • Mixed effects on businesses depending on use/ reliance on the A96 • Potential for locally adverse impacts on some isolated properties/ residents affected by full dualling that are not currently affected by A96 issues <p>Biodiversity, Flora and Fauna</p> <ul style="list-style-type: none"> • Mixed impacts, ranging from minor positive to moderate adverse predicted at the regional scale • Highly dependent on final route selection and avoidance of valuable/ sensitive/ designated biodiversity sites • Potential for locally minor to major adverse impacts should sensitive sites/ features/ habitats prove unavoidable • Neutral effect on mobile species, recognising potential barrier to movement, but with improved route permeability through passes, crossings and SuDS <p>Water</p> <ul style="list-style-type: none"> • Minor benefits to surface water runoff discharge quality at local and regional scales • Neutral effect on flooding and flood risk at the regional scale • Locally minor to moderate adverse effects associated with channel/ bankside works for crossings and culverts • Potential for minor adverse effects on wetland habitats at the regional level • Overall, mixed effects ranging from minor positive (e.g. discharge quality) to minor negative, depending on final route alignment <p>Soils & Geodiversity</p> <ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, the full dualling option is assessed with the potential for locally minor to moderate adverse impacts on soil resources, depending on the final route alignment • Overall, assessed as likely to present minor adverse effects at the regional level <p>Historic Environment</p> <ul style="list-style-type: none"> • Given the assumption that the most severe effects on constraints and designations will be avoided, the full dualling option is assessed with the potential for locally minor to major adverse impacts (direct and on setting) on historic environment features, depending on the final route alignment • Some potential for locally minor benefits in bypassed areas • Overall, assessed as likely to present minor to moderate adverse effects at the regional level <p>Landscape</p> <ul style="list-style-type: none"> • Given that the A96 is already a feature in the landscape, full dualling is assessed as having the potential for locally minor to moderate adverse impacts at the landscape character type scale • Minor benefits at the local scale for bypassed receptors • Moderate to major adverse visual effects for some sensitive receptors local to upgraded route • Overall, minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures 	

7. SEA Assessment Summary and Linking to STAG Appraisal

The aim of the Tier 1 SEA was to consider each STAG option in isolation, providing an assessment of the predicted environmental effects of each option against a reference case, 'Do Minimum' future baseline scenario.

As can be seen from the previous summary tables, STAG options 1 and 2 (rail intervention options) were generally considered by the SEA to present low risk of significant environmental impacts, mainly due to the assumption that rail improvement works would be within the existing railway footprint.

STAG options 3 to 6 (trunk road intervention options) were presented in increasing scale, where option 3 represented targeted improvements at local levels, option 4 added single carriageway bypasses, option 5 increased these to dual carriageway bypasses and dualling of the most heavily trafficked sections, and option 6 represented full dualling of the route.

Accordingly, the scale of potential environmental effects increase in line with the scale of the intervention; for example, water quality/ drainage runoff was assessed as improving with greater incorporation of route-wide SuDS treatment, whereas potential impacts associated with land use change would increase in proportion to the amount of agricultural land or woodland areas affected.

Effects on biodiversity (species) were considered as likely to be mixed; where the increasing scale of intervention could create a wider barrier for species movement and remove more habitat or, with suitable species crossings embedded through design mitigation, could improve permeability for species.

Given that the options include assumptions to avoid severe environmental effects, effects on biodiversity conservation sites are assessed as up to moderate; however, there will be requirements for watercourse crossings which may affect part of a designated site. At this level of assessment, best practice design processes and construction stage mitigation are expected to minimise risks.

A key issue for any scale of A96 trunk road intervention will be the potential for effects on historic environment features, due to the extensive range of heritage assets identified within the baseline study area. Similarly, the landscape and visual effects will depend on the scale of intervention and the sensitivity of the differing receiving landscape types along the route.

The Tier 1 Environmental Report provides the evidence base and audit trail for the assessment of the 'Environment' criterion which feeds into the STAG process.

In order to link into the STAG appraisal, the SEA assessment findings were translated for inclusion in STAG Appraisal Summary Tables (AST). The AST is a tool used in the STAG process to record summaries of the appraisal against the transport planning objectives, and the range of STAG criteria referred to earlier.

A summary impact range of potential effects is used to report the findings in the assessment tables (e.g. 'moderate negative to minor beneficial') to reflect the strategic nature of the assessment, as shown in Table 2 overleaf.

Further details are provided in the Environmental Report Section 5.5 and Appendix F.

Table 2 SEA Findings – Impact Range for STAG Appraisal Summary Tables (AST)

Option	Impact Range for STAG AST	
1. Rail enhancements/rolling stock improvements to provide an end-to-end travel time of around 1hr 45mins	Population and Human Health Neutral to minor positive effects at the regional scale associated with modal shift and reduced emissions through population centres Potential for increased benefit with electrified rolling stock	Biodiversity, Flora and Fauna Predominantly neutral, but with some potential for locally minor adverse effects depending on the location and scale of enhancement works
	Water Predominantly neutral	Soils & Geodiversity Predominantly neutral
	Historic Environment Predominantly neutral, but with some potential for locally minor adverse effects depending on the location and scale of enhancement works	Landscape Predominantly neutral, but with potential for minor adverse effects depending on the location and scale of enhancement works
2. Rail service enhancements to allow a 15 minute frequency into both cities during peak periods with a 30 minute frequency for services into both cities outside of peak	Population and Human Health Minor positive effects at the regional scale associated with modal shift and reduced emissions through population centres Minor adverse effects at local levels for sensitive noise receptors	Biodiversity, Flora and Fauna Predominantly neutral
	Water Predominantly neutral, but with some potential for minor adverse effects on runoff water quality at the local scale	Soils & Geodiversity Predominantly neutral
	Historic Environment Predominantly neutral	Landscape Predominantly neutral, but with some potential for mixed effects for visual receptors at local levels
3. Targeted Trunk Road Improvements	Population and Human Health Neutral to minor benefits at the regional scale in terms of reduced accident rates and journey times Mixed effects at the local scale associated with road safety at targeted locations and transition zones	Biodiversity, Flora and Fauna Minor adverse effects at the regional scale dependent upon design, location and scale of improvement works
	Water Mixed effects ranging from minor positive at the regional scale to moderate negative at the local scale, depending on final locations of improvements	Soils & Geodiversity Minor adverse effects at the regional level depending upon final locations of improvements
	Historic Environment Minor to moderate adverse effects at the regional level due to the wide range of historic environment features in the area	Landscape Minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures Minor to major adverse effects for sensitive visual receptors at the local scale

Option	Impact Range for STAG AST	
<p>4. Targeted Trunk Road Improvements and New (Single Carriageway) Bypasses on A96</p>	<p>Population and Human Health</p> <p>Minor benefits at the regional scale in terms of reduced accident rate, journey times and improved connectivity</p> <p>Some potential for moderate beneficial effects at the local scale in bypassed population centres</p> <p>Potential for locally adverse impacts on some isolated properties/ residents affected by new bypasses, that are not currently affected by A96 issues</p> <p>Potential for locally adverse impacts associated with transitions between carriageway standards</p>	<p>Biodiversity, Flora and Fauna</p> <p>Mixed impacts, ranging from minor positive to moderate adverse predicted at the regional scale</p> <p>Potential for locally minor to major adverse impacts, dependent on final route selection</p>
	<p>Water</p> <p>Mixed effects ranging from minor positive at the regional scale to moderate negative at the local scale, depending on final locations of bypass sections/ improvement works</p>	<p>Soils & Geodiversity</p> <p>Minor adverse effects at the regional level, due to soil sealing associated with this option, depending upon final alignments/ improvement locations</p>
	<p>Historic Environment</p> <p>Minor to moderate adverse effects at the regional level due to the wide range of historic environment features in the area</p> <p>Some potential for minor beneficial effects at the local scale in bypassed centres</p>	<p>Landscape</p> <p>Minor to moderate adverse effects at the regional landscape scale, softening over the longer term as mitigation planting matures</p> <p>Mixed effects for sensitive visual receptors at the local scale</p>
<p>5. Dual Carriageway Bypasses and Dualling of Heavily Trafficked Sections of the A96 plus Targeted Trunk Road Improvements</p>	<p>Population and Human Health</p> <p>Moderate positive effects at the regional scale in terms of improved operational efficiency, connectivity and safety, and at the local scale in terms of reduced emissions through population centres</p> <p>Potential for locally adverse impacts on some isolated properties/ residents affected by this option that are not currently affected by A96 issues</p> <p>Potential for locally adverse impacts associated with transitions between carriageway standards</p>	<p>Biodiversity, Flora and Fauna</p> <p>Mixed impacts, ranging from minor positive to moderate adverse at the regional scale</p> <p>Potential for locally minor to major adverse impacts depending on final location of bypasses/ upgrades</p>
	<p>Water</p> <p>Mixed impacts ranging from minor positive at the regional scale to minor negative at the local scale, depending on final location of bypasses/ upgrades</p>	<p>Soils & Geodiversity</p> <p>Minor adverse effects at the regional level due to soil sealing associated with this option</p>
	<p>Historic Environment</p> <p>Minor to moderate adverse effects at the regional level (recognising potential for major adverse effects if losses are unavoidable at the local level) due to the wide range of historic environment features in the area</p> <p>Some potential for minor beneficial effects at the local scale in bypassed centres</p>	<p>Landscape</p> <p>Minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures</p> <p>Mixed effects for sensitive visual receptors at the local scale</p>
<p>6. A96 Full Dualling plus Targeted Trunk Road Improvements</p>	<p>Population and Human Health</p> <p>Major positive effects at the regional and local scales in terms of improved safety, journey times and connectivity and reduced emissions through population centres</p> <p>Potential for locally adverse impacts on some isolated properties/ residents affected by full dualling that are not currently affected by A96 issues</p>	<p>Biodiversity, Flora and Fauna</p> <p>Mixed impacts, ranging from minor positive to moderate adverse at the regional scale</p> <p>Potential for locally minor to major adverse impacts depending on final route alignment</p>
	<p>Water</p> <p>Mixed impacts ranging from minor positive (e.g. improved drainage and discharge quality) at the regional scale to moderate negative (e.g. construction risks to watercourses) at the local scale, depending on final route alignment</p>	<p>Soils & Geodiversity</p> <p>Minor adverse effects at the regional level due to soil sealing associated with full dualling</p>
	<p>Historic Environment</p> <p>Minor to moderate adverse effects at the regional level (recognising potential for major adverse effects if losses are unavoidable at the local level) due to the wide range of historic environment features in the area</p> <p>Some potential for minor beneficial effects at the local scale in bypassed centres</p>	<p>Landscape</p> <p>Minor to moderate adverse effects at the regional level, softening over the longer term as mitigation planting matures</p> <p>Mixed effects for sensitive visual receptors at the local scale</p>

8. Business Case Appraisal Outcome

The Transport Scotland Inverness to Aberdeen Corridor Study – A96 Strategic Business Case is submitted as an accompanying document to the Environmental Report. It summarises the wider economic assessment undertaken within the context of the SEA/ STAG appraisals. It concludes with the following summary:

- *the appraisal evidence demonstrates that the options for further improving the transport links between Inverness and Aberdeen over and above existing commitments should be road based infrastructure interventions;*
- *full dualling of the A96 between Inverness and Aberdeen is the best performing option in terms of the transport planning objectives and the STAG criteria; and*
- *more detailed work on the Outline Business Case will help to refine the phasing and programme.*

Given the outcome that full dualling represents the best performing option overall, the SEA process will move to a second tier of assessment which will focus on Improvement Strategy Options for alternative dualling solutions.

9. Next Steps

Environmental Report Consultation Period

To help maintain progress on the wider A96 delivery programme, a 6-week consultation period has been agreed for the Tier 1 Environmental Report.

The consultation period will therefore close on Monday 3rd November 2014.

Key aspects for feedback should relate to the findings and recommendations of the Tier 1 SEA assessment, particularly any areas where respondents feel that the SEA may have omitted important factors.

Written feedback is welcomed and should be addressed to:

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Statutory consultees should respond via the Scottish Government SEA Gateway.

Consultation Feedback Review

Following the close of the Tier 1 Environmental Report consultation period, all written feedback will be collated, and a record of how it has been taken into consideration will be documented in the Tier 2 SEA Scoping Report.

10. Post Adoption Statement & Monitoring Framework

SEA monitoring proposals will be informed by the Tier 2 assessment and will therefore be deferred to the Tier 2 SEA Environmental Report, for finalisation via a single Post Adoption Statement (PAS), upon completion of the Tier 2 process.

Conclusion of Tier 1 and Tier 2 SEA processes via a single Post Adoption Statement is expected to better enable a synopsis of the full process, demonstrating linkages between the two levels of assessment, the levels of detail incorporated at each stage and the resultant monitoring framework.

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