SEA Environmental Report

National Investment Framework for Transport in Ireland

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Document history and status

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Appendix A. Review of Relevant Plans, Policies and Programmes
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Non-Technical Summary

Introduction to the National Investment Framework for Transport in Ireland (NIFTI)

The Irish Government has developed the Project Ireland 2040 to prepare for future population growth in a coordinated and sustainable way. As part of this vision, the National Planning Framework (NPF) provides the overarching strategic policy framework for Ireland’s social and economic development and establishes a macro spatial growth approach to promote balanced regional development, achieved through co-ordinated spatial planning, sustainable use of resources, protection of the environment and the Natura 2000 network of European conservation sites. The NPF coordinates regional and national investment strategies with respect to housing, water services, communications, energy, health, education and transport infrastructure.

The Department of Transport (DoT) is now in the process of updating the existing transport framework, the Strategic Investment Framework for Land Transport (SIFLT) 2015, to ensure alignment with the policies of the NPF. The new framework called: ‘National Investment Framework for Transport in Ireland (NIFTI)’ sets out the Department of Transport’s strategy for the development and management of Ireland’s land transport network (roads, public transport, walking and cycling) over the next two decades. The NPF and its projections around population and settlement patterns are central to the development of NIFTI.

The purpose of NIFTI is to enable the delivery of Project Ireland 2040 and the ten National Strategic Objectives (NSOs) by guiding the appropriate investment in Ireland’s roads, active travel and public transport infrastructure. The types of positive outcomes transport investment can deliver in support of this purpose include:

- Supporting the development of a land transport network that delivers a high level of service for everyone;
- Enabling the delivery of National Planning Framework objectives for where people will live and work;
- Increasing Ireland’s economic competitiveness;
- Realising a low-carbon, sustainable transport system in Ireland. (DoT, 2018)

Strategic Environmental Assessment Requirements

NIFTI is subject to Strategic Environmental Assessment (SEA) under the EU Council Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive). In accordance with the overall aim of the SEA Directive, SEA of NIFTI is required to:

Provide for a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.... (SEA Directive, Article 1)

Article 3(2) of the SEA Directive makes SEA mandatory for plans or programmes which are prepared for eleven different sectors; agriculture, forestry, fisheries, energy, transport, industry, tourism, land use, telecommunications, waste management, or water management. As NIFTI is a transport plan, it has been deemed appropriate to conduct SEA.

SEA is the process by which environmental considerations are taken into account during the preparation of Plans and Programmes prior to their finalisation. SEA is a legal requirement for plans and programmes under EU Directive (2001/42/EC) on the Assessment of Effects of Certain Plans and Programmes on the Environment or the “SEA Directive”. The SEA process can be defined by four stages as follows:

- **Stage 1 – Screening**: deciding whether SEA is required;
- **Stage 2 – Scoping**: establishing the scope of the SEA and a decision-making framework that can be used to evaluate likely significant effects;
• **Stage 3 – Identification, Prediction, Evaluation and Mitigation of Likely Significant Effects;** including assessment of cumulative and alternative effects; and  
• **Stage 4 – Consultation, Revision and Post-Adoption.** This includes the implementation of the SEA monitoring.

Screening for SEA for NIFTI was undertaken in mid-2018 and the outcome of this screening process was that SEA is required.

**Consultation on Stage 2: SEA Scoping Report**

The SEA Scoping for NIFTI was undertaken in early 2019 and the Scoping Report was circulated to the Environmental Authorities on 18 January 2019. It outlined information on NIFTI, including the need for the Strategy, its geographical area and overall objectives. The focus of the SEA Scoping Report was to provide an overview of the baseline conditions (state of the environment) and future trends in addition to the key issues related to NIFTI. The report also outlined the draft SEA objectives and the assessment approach which has been used in Stage 3.

The SEA Scoping Report was made available to the Environmental Authorities so that they could provide comment on the proposed scope for the assessment of NIFTI.

In addition to compliance with the SEA Directive, the preparation and implementation of NIFTI must meet the provisions of the EU Habitats Directive (92/43/EEC). Therefore, screening for Appropriate Assessment (AA) was undertaken and the AA Screening Report was published for consultation alongside the SEA Scoping Report. The AA Screening Report determined that the development of a Natura Impact Statement (NIS) was required and is published alongside this SEA Environmental Report.

Submissions on the SEA Scoping Report and AA Screening Report were reviewed and a number of key themes were identified from the submissions received including the importance of the following:

• Creating ambitious and measurable targets and appropriate mitigation;  
• Developing a robust strategy for the implementation of NIFTI;  
• Aligning NIFTI with other key national strategies, objectives, actions and measures including other national planning and development strategies and environmental strategies in relation to air quality, noise, climate change, biodiversity and other environmental areas;  
• Aligning the UN Sustainable Development Goals with NIFTI by incorporating them into the assessment of the plan;  
• Emphasising and exploring the relationship between public health and transport.

Comments were addressed throughout the SEA Environmental Report and NIS where appropriate. A summary of the responses received specific to the SEA Scoping Report are provided in Appendix B.

**Stage 3: SEA Environmental Report**

We are now at Stage 3 of the SEA process, Identification, Prediction, Evaluation and Mitigation of likely significant effects. These are all documented in this SEA Environmental Report. Within the context and parameters identified at the scoping stage, identification and evaluation of likely significant effects of the draft NIFTI is undertaken, including consideration of alternatives and determination of measures to mitigate and monitor potential residual effects.

**Content of the SEA Environmental Report**

*Review of the Baseline Environment and Plans, Policies and Programmes to inform SEA Objectives*
NIFTI is national in geographic scope, therefore, the baseline data review and assessment are focused at the national level. According to the EPA’s most recent publication, ‘Ireland’s Environment 2020; An Integrated Assessment’, Ireland’s natural environment, although under increasing pressure, generally remains of good quality and represents one of the country’s most essential national assets. The key messages from this 2020 state of the environment report for Ireland are as follows:

- **SOE1: Environmental Policy Position**: A national policy position for Ireland’s environment.
- **SOE2: Full Implementation**: Full implementation of existing environmental legislation and a review of the governance around the coordination on environmental protection across public bodies.
- **SOE3: Health and Wellbeing**: Protecting the Environment is an Investment in Our Health and Wellbeing.
- **SOE4: Climate**: Systemic change is required for Ireland to become the climate-neutral and climate resilient society and economy that it aspires to be.
- **SOE5: Air Quality**: Adoption of measures to meet the World Health Organization air quality guideline values should be the target to aim for in the Clean Air Strategy.
- **SOE6: Nature**: Safeguard nature and wild places as a national priority and to leave a legacy for future generations.
- **SOE7: Water Quality**: Improve the water environment and tackle water pollution locally at a water catchment level.
- **SOE8: Marine**: Reduce the human-induced pressures on the marine environment.
- **SOE9: Clean Energy**: Ireland needs to move rapidly away from the extensive use of fossil fuels to the use of clean energy systems.
- **SOE10: Environmentally-Sustainable Agriculture**: An agriculture and food sector that demonstrates validated performance around producing food with a low environmental footprint.
- **SOE11: Water Services**: Drinking water and wastewater infrastructure must meet the needs of our society.
- **SOE12: Circular Economy**: Move to a less wasteful and circular economy where the priority is waste prevention, reuse, repair and recycling.
- **SOE13: Land Use**: Promote integrated land-mapping approaches to support decision making on sustainable land use.

These key messages are necessary to meet people’s rightful expectations to live in a healthy environment, for Ireland to evolve as a sustainable, carbon neutral, climate-resilient economy, and to safeguard nature and protect people’s health and wellbeing (EPA, 2020) and have been used to inform the environmental baseline and assessment.

The EPA’s Key Messages for Ireland have been informed by the UN Sustainable Development Goals. Those important to future transport planning and investment in the context of the wider environmental protection and sustainable development agenda are detailed in Section 5.1 and are integrated into the baseline environment and key issues.

A review of relevant plans, policies and programmes as been undertaken to provide the context for the SEA. This review, along with the environmental baseline assessment, has helped to define the potential key environmental issues for NIFTI and to determine the strategic environmental objectives (hereafter referred to as SEA Objectives) for the SEA. These are:
Table 1: SEA Objectives

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>SEA Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, Human Health</td>
<td>Protect and enhance human health and quality of life in relation to increasing accessibility to economic, employment and community facilities through enhanced transport infrastructure and contributing to reduced transport emissions.</td>
</tr>
<tr>
<td>and Economy</td>
<td></td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>Protect recreation areas and amenity facilities and support and enhance access for tourism and recreation.</td>
</tr>
<tr>
<td>Biodiversity, Flora and Fauna</td>
<td>Protect and, where appropriate, enhance terrestrial, aquatic and soil biodiversity, particularly EU and national designated sites and protected species, and associated ecological corridors.</td>
</tr>
<tr>
<td>Landscape and Visual Amenity</td>
<td>Safeguard the character and diversity of the Irish landscape and minimise the visual effects on sensitive, designated landscapes and public views.</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>Protect cultural heritage resources and their settings.</td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>Protect geological sites of value and contribute towards the appropriate management of soil resources and quality.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Contribute to the reduction of air pollution (and improvement of air quality) resulting from transport.</td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>Contribute to mitigation of noise pollution issues resulting from transport.</td>
</tr>
<tr>
<td>Water Environment</td>
<td>Support the achievement of WFD objectives and avoid increasing flood risk.</td>
</tr>
<tr>
<td>Material Assets</td>
<td>Promote the sustainable use of natural resources (including land), encourage energy efficiency, materials reuse and recycling and the effective use of existing infrastructure.</td>
</tr>
<tr>
<td>Climate Change (Mitigation)</td>
<td>Minimise contributions to climate change (through reducing greenhouse gas emissions and decarbonisation of the transport fleet) as a result of construction of new and/or upgraded transport infrastructure or operation of existing and new transport networks and fleets.</td>
</tr>
<tr>
<td>Climate Change (Adaptation)</td>
<td>Ensure that resilience to climate change is incorporated within the existing transport network and any proposed new transport infrastructure and that environmental resilience to climate change is supported.</td>
</tr>
</tbody>
</table>

**SEA Assessment Approach**

The SEA for NIFTI takes an objective led approach. The SEA objectives set the framework for the assessment. The interactions between the SEA objectives and different elements of NIFTI will be used to identify the potential environmental effects of NIFTI. The SEA objectives provide the framework for considering potential alternative approaches for meeting NIFTI objectives and assessing cumulative effects of NIFTI in combination with the implementation of other plans and programmes. A clear description of the expected nature of these effects are given, for example whether they are short-term, long term, temporary, permanent, adverse or beneficial, in accordance with Schedule 2, part (f) of the SEA Directive and Schedule 2B of the Planning and Development (SEA) Regulations, 2004 (as amended).

**Summary of SEA Assessment**

The SEA assessment consisted of an assessment of the key elements of draft NIFTI. This included four key Investment Priorities and the Intervention Hierarchy. The findings of the assessment against the objectives are detailed in the tables below.
Table 2: Assessment of the Investment Priorities against the SEA Objectives

<table>
<thead>
<tr>
<th>NIFTI Investment Priorities</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>Decarbonisation</td>
<td>+/-</td>
</tr>
<tr>
<td>Protection and Renewal</td>
<td>+</td>
</tr>
<tr>
<td>Mobility of People and Goods in Urban Areas</td>
<td>+/-</td>
</tr>
<tr>
<td>Enhanced Regional and Rural Connectivity</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 3: Assessment of the Intervention Hierarchy against the SEA Objectives

<table>
<thead>
<tr>
<th>NIFTI Intervention Hierarchy</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>Maintain</td>
<td>+/-</td>
</tr>
<tr>
<td>Optimise</td>
<td>+/-</td>
</tr>
<tr>
<td>Improve</td>
<td>+</td>
</tr>
<tr>
<td>New</td>
<td>+</td>
</tr>
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</table>

Summary of findings of the SEA Assessment

The SEA Assessment of the plan elements highlighted a number of potential impacts associated with the investment priorities and intervention hierarchy proposed within the draft NIFTI report. These include but are not limited to:

Negative Impacts associated with NIFTI:
• There is potential to result in short term / localised negative impacts on water quality and increase noise pollution during construction.
• Localised increases in air/noise pollution or increased CO₂ emissions or localised climate vulnerability such as flooding.
• Long term impacts on biodiversity, landscape or cultural heritage features as a result of new infrastructure developments.
• Long term impacts as a result of land-take and changes in land use required for new developments.

Positive Impacts associated with NIFTI:

• Positive impacts to population and human health as a result of increased safety with improvements to signage, adequate road surfacing, junction upgrades or realignment works.
• Benefits for the economy, tourism and regional connectivity providing better social inclusion.
• Reduced carbon emissions and improved air quality as a result of sustainable travel developments.
• Reduction is localised noise pollution and vibration as a result of development in sustainable and active travel modes and actions to promote electric vehicles.

For further detail on the assessment of NIFTI see Section 8.3 of this Environmental Report.

Alternatives Assessment

The table below summarises the findings of the alternatives assessment conducted within this SEA Environmental Report.

Table 4: Assessment of the Alternatives to NIFTI against the SEA Objectives

<table>
<thead>
<tr>
<th>NIFTI Alternative</th>
<th>SEA Objectives</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>Alternative 1 No Plan Scenario</td>
<td>0/-</td>
</tr>
<tr>
<td>Alternative 2: Update SIFLT</td>
<td>+/-</td>
</tr>
<tr>
<td>Alternative 3: 'With Plan/NIFTI' Scenario</td>
<td>0/+</td>
</tr>
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</table>

Alternative 1 Do Minimum was not considered to be a reasonable alternative as it does not support the National Strategic Objectives identified within the National Planning Framework, Project Ireland 2040.

Alternative 2 Update SIFLT was considered a reasonable alternative and it could be argued it has the lowest environmental impact.
Alternative 3 NIFTI is the preferred scenario as it has the potential to result in the most positive impacts for the environment when measured against the SEOs, with notably positive impacts to population and human health, air quality and climate due to priorities focused on decarbonisation, and enhanced connectivity which will have benefits on reducing GHG emissions from the transport sector and improving social inclusion.

For further detail on the assessment of alternatives, see Section 8.4 of this Environmental Report.

**Monitoring the Implementation of NIFTI**

A draft Monitoring Framework has been developed for the implementation of the plan to allow for the ongoing monitoring of the implementation of NIFTI and the development of adequate mitigation measures should impacts arise. The Monitoring Framework, like the assessment of effects, is based around the SEA Objectives. A number of targets were identified to provide a basis for assessing the impact of NIFTI throughout its implementation. These are detailed in Table 5 below. More detail on the monitoring framework is provided in Section 9 of the SEA Environmental Report including key indicators which will allow quantitative measures of trends over the duration of NIFTI. Each target has a relevant indicator which will help identify any significant effects. Indicators selected for measurement are generally based on existing monitoring sources (see Section 9).

Table 5: Proposed Monitoring Framework (Targets)

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>SEA Objective</th>
<th>Target</th>
</tr>
</thead>
</table>
| Population, Human Health and Economy | Protect and enhance human health and quality of life in relation to increasing accessibility to economic, employment and community facilities through enhanced transport infrastructure and reduced transport emissions. | • No adverse increase in the number of serious accidents as a result of future land transport maintenance and development, to comply with a reduction of serious accidents on Irish roads.  
• To maximise the extent of urban/suburban areas within the catchment of transport infrastructure and services  
• No spatial concentrations of health problems arising from environmental factors as a result of implementing NIFTI.                                                                 |
| Tourism and Recreation             | Protect recreation areas and amenity facilities through construction of new transport infrastructure and support and enhance access for tourism and recreation.                                                                 | • No temporary or permanent severance of existing footways, footpaths or cycleways.  
• No permanent unmitigated significant adverse effects on recreational facilities through land take or changes in amenity (noise, dust, views) as a result of development under NIFTI.  
• Achieve objectives and targets outlined in 2016-2019 Healthy Ireland Implementation Plan                                                                 |
| Biodiversity, Flora and Fauna      | Prevent damage to and, where appropriate, enhance terrestrial, aquatic and soil biodiversity, particularly EU and national designated sites and protected species., and                                            | • Maintenance of favourable conservation status for all habitats and species protected under national and European legislation to be unaffected by implementation of NIFTI.  
• Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites provided for by NIFTI.                                                                 |
<table>
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<tr>
<th><strong>Landscape and Visual Amenity</strong></th>
<th>Safeguard the character and diversity of the Irish landscape and minimise the visual effects on sensitive, designated landscapes and public views.</th>
<th>• No unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of planning authorities.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural Heritage</strong></td>
<td>Protect cultural heritage resources and their settings.</td>
<td>• No unmitigated conflicts with entries to the Record of Monuments and Places or Records of Protected Structures or Archaeological Conservation Areas.</td>
</tr>
<tr>
<td><strong>Geology and Soils</strong></td>
<td>Avoid conflicts with geological sites of value and contribute towards the appropriate management of soil resources and quality.</td>
<td>• No significant adverse effects on Geological Heritage Sites arising from development under NIFTI. • Soil Management Plans utilised to protect valuable soils from development under NIFTI as far as practicable.</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td>Contribute to the reduction of air pollution (and improvement of air quality) resulting from transport.</td>
<td>• To contribute towards compliance with legislative air quality limits and target values. • To facilitate a reduction in greenhouse gas emissions from transport.</td>
</tr>
<tr>
<td><strong>Noise and Vibration</strong></td>
<td>Contribute to mitigation of noise pollution issues resulting from transport.</td>
<td>• A reduction in the number of people/households affected by noise exposures greater than 55dB Lden and 50 dB Lnight from road &amp; rail transport [adapted from the Environmental Noise Directive].</td>
</tr>
<tr>
<td><strong>Water Environment</strong></td>
<td>Support the achievement of WFD objectives and avoid increasing flood risk</td>
<td>• Not to cause deterioration in the status of any surface water or ground water body or affect the ability of any surface water or ground water body to achieve ‘good status’. • For lower tier assessments and decision making to comply with the Flood Risk Management Guidelines.</td>
</tr>
<tr>
<td><strong>Land Use and Material Assets</strong></td>
<td>Promote the sustainable use of natural resources (including land), encourage energy efficiency, materials reuse and recycling and the effective use of existing infrastructure.</td>
<td>• Maximise the use of brownfield sites. • 10% of consumption in the transport sector from renewable sources by 2020 by a mixture of biofuels &amp; electric vehicles [adapted from the Renewable Energy Directive (2009/28/EC)] • Achieve target of 70% by weight of the re-use, recycling and other material recovery using waste to substitute other materials, of non-hazardous construction and demolition waste.</td>
</tr>
</tbody>
</table>
| Climate Change (Mitigation) | Minimise contributions to climate change (through greenhouse gas emissions and decarbonisation of the transport fleet) as a result of construction of new and/or upgraded transport infrastructure or operation of existing and new transport networks and fleets. | • An increase in the percentage of the population travelling to work, school or college by public transport or active travel.  
• Facilitate a reduction in energy use by the transport sector as a percentage of Total Final Energy Consumption.  
• Facilitate an increase in the proportion of energy from renewable sources by the transport sector.  
• Reduction in greenhouse gas emissions from transport sector within the LSMATS.  
• Positive contribution to Ireland’s GHG emission targets. |
| Climate Change (Adaptation) | Ensure that resilience to climate change is incorporated within the existing transport network and any proposed new transport infrastructure and that environmental resilience to climate change is supported. | • All new infrastructure resilient to future changes in air temperature, precipitation, wind speeds and flood risk throughout full design life. |

**Stage 3: Consultation**

This SEA Environmental Report has been published for public consultation alongside the draft NIFTI, Natura Impact Statement and Strategic Flood Risk Assessment Report for a period of 8 weeks.

Submissions or observations in relation to the Environmental Report and draft NIFTI may be made on or before 5pm on Friday 28th May 2021 as follows:

**By email:**
Transport2040@transport.gov.ie

**Stage 4: SEA Statement**

Following the consultation on the SEA Environmental Report and draft NIFTI, NIFTI will be finalised and published. An SEA Statement summarising how the SEA process including consultation has influenced the development of the final NIFTI will be published alongside the plan.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Appropriate Assessment</td>
<td>NPWS</td>
<td>National Parks and Wildlife Service</td>
</tr>
<tr>
<td>CFRAM</td>
<td>Catchment Flood Risk Assessment and Management</td>
<td>NSO(s)</td>
<td>National Strategic Objective(s)</td>
</tr>
<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
<td>NSS</td>
<td>National Spatial Strategy</td>
</tr>
<tr>
<td>DAFM</td>
<td>Department for Agriculture, Food and the Marine</td>
<td>OPW</td>
<td>Office of Public Works</td>
</tr>
<tr>
<td>DHPLG</td>
<td>Department for Housing, Planning, and Local Government</td>
<td>NIFTI</td>
<td>National Investment Framework for Transport in Ireland</td>
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<td>DoT</td>
<td>Department of Transport</td>
<td>pNHA(s)</td>
<td>Proposed National Heritage Area(s)</td>
</tr>
<tr>
<td>DTTAS</td>
<td>Department of Transport, Tourism and Sport (renamed to Department of Transport under S.I. 351 of 2020 on 15th September)</td>
<td>RBD</td>
<td>River Basin District</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
<td>RBMP</td>
<td>River Basin Management Plan</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
<td>RMP</td>
<td>Record of Monuments and Places</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
<td>RPS</td>
<td>Record of Protected Structures</td>
</tr>
<tr>
<td>ELC</td>
<td>European Landscape Convention</td>
<td>SAC</td>
<td>Special Area of Conservation</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
<td>SEA</td>
<td>Strategic Environmental Assessment</td>
</tr>
<tr>
<td>FRMP</td>
<td>Flood Risk Management Plans</td>
<td>SIFLT</td>
<td>Strategic Investment Framework for Land Transport</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td>SFRA</td>
<td>Strategic Flood Risk Assessment</td>
</tr>
<tr>
<td>GSI</td>
<td>Geological Survey Ireland</td>
<td>SPA</td>
<td>Special Protection Area</td>
</tr>
<tr>
<td>IGH</td>
<td>Irish Geological Heritage</td>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>LCA</td>
<td>Landscape Character Area</td>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organisation</td>
</tr>
<tr>
<td>NHA</td>
<td>National Heritage Area</td>
<td>WEC</td>
<td>Western European Countries</td>
</tr>
<tr>
<td>NIAH</td>
<td>National Inventory of Architectural Heritage</td>
<td>WFD</td>
<td>Water Framework Directive</td>
</tr>
<tr>
<td>NIS</td>
<td>Natural Impact Statement</td>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>NPF</td>
<td>National Planning Framework</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Glossary

<table>
<thead>
<tr>
<th>Glossary Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA Screening Report</td>
<td>The report which provides information on and assesses the potential for the proposed plan to impact on European sites within the Natura 2000 network.</td>
</tr>
<tr>
<td>AA Conclusion Statement</td>
<td>A document which summarises the findings of the AA and how they were factored into the plan, the reason for choosing the preferred plan in light of alternatives considered and a statement of the likely significant effects.</td>
</tr>
<tr>
<td>Appropriate Assessment</td>
<td>An assessment required under the Habitats Directive when a plan or project has the potential to affect a European site.</td>
</tr>
<tr>
<td>Baseline Environment</td>
<td>The state of the environment in the absence of NIFTI.</td>
</tr>
<tr>
<td>Catchment</td>
<td>The total area of land that drains into a watercourse.</td>
</tr>
<tr>
<td>Cumulative effect</td>
<td>The combined effects from several plans, programmes or policies.</td>
</tr>
<tr>
<td>SEA Environmental Report</td>
<td>The SEA report that documents the effects of investment priorities outlined in a plan.</td>
</tr>
<tr>
<td>Future Network Investment</td>
<td>Proposed investment which will help DoT meet future projected transport demand with consideration to key influences such as Climate Change, Brexit, Technological Capabilities and Economic Projections.</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product is a monetary measure of the market value of all goods and services produced in a period (in this case annually).</td>
</tr>
<tr>
<td>Invasive species</td>
<td>Non-native species that out-compete native species to the detriment of an ecosystem.</td>
</tr>
<tr>
<td>Mitigation</td>
<td>The implementation of measures designed to reduce the predicted effects of a plan or project on the environment.</td>
</tr>
<tr>
<td>Natura Impact Statement</td>
<td>The statement prepared following Appropriate Assessment of European sites as required under the Habitats Directive, which presents information on the assessment and the process of collating data on a plan or project and its potential significant impacts on European sites.</td>
</tr>
<tr>
<td>RAMSAR Site</td>
<td>International designation for important wetland sites under the Ramsar Convention.</td>
</tr>
<tr>
<td>SEA Screening Report</td>
<td>The report which determines whether the proposed plan requires SEA.</td>
</tr>
<tr>
<td>SEA Scoping Report</td>
<td>The SEA report that sets the scope and objectives of the SEA.</td>
</tr>
<tr>
<td>SEA Post Adoption Statement</td>
<td>The document which details how environmental considerations have been integrated into the plan, how the environmental report and consultation responses were taken into account, the reasons for choosing the plan as adopted in light of reasonable alternatives considered and the measures to be taken into account to monitor or mitigate the likely significant effects.</td>
</tr>
<tr>
<td>Special Area of Conservation</td>
<td>An international designation for habitats and/or species under the EC Habitats Directive.</td>
</tr>
<tr>
<td>Special Protection Area</td>
<td>A site of international importance for birds, designated as required by the EC Birds Directive.</td>
</tr>
<tr>
<td>SEA Objectives</td>
<td>Methodological measures against which the effects of NIFTI can be tested.</td>
</tr>
<tr>
<td>Steady State</td>
<td>The estimate of how much maintenance and renewal investment is required to keep the land transport network in an acceptable condition, as well as meeting contractual obligations arising from Public-Private Partnerships.</td>
</tr>
</tbody>
</table>
1. Introduction and Background

1.1. Background to The National Investment Framework for Transport in Ireland

The Department of Transport (DoT) is the Government Department responsible for the development of safe and sustainable transport, tourism, and sport to support economic growth and social progress in Ireland. DoT has oversight of the decision-making framework specific to transport investment and published the Strategic Investment Framework for Land Transport (SIFLT) in 2015. This framework set out the priorities for Ireland’s land transport (referring to roads, public transport, and walking and cycling) investment.

In February 2018, Project Ireland 2040 was launched with the publication of the National Planning Framework and National Development Plan. Project Ireland 2040 is the government’s strategy to prepare for future growth in population and employment; an overall increase in travel; and the changing demographic structure of Ireland. It provides the over-arching strategic policy framework for Ireland's social and economic development and has established a macro spatial growth approach to promote balanced regional development, achieved through coordinated spatial planning, sustainable use of resources and protection of the environment. The NPF coordinates regional and national investment strategies with respect to housing, water services, communications, energy, health, education and transport infrastructure.

Following the publication of the NPF, DoT initiated a programme to update the existing transport investment framework. The new strategy titled: ‘Planning Land Use and Transport – Outlook 2040 (NIFTI)’ will set out DoT strategy for the development and management of Ireland’s land transport network over the next two decades. The NPF and its projections around population and settlement patterns are central to the development of NIFTI.

1.2. Overview of the Plan

The purpose of NIFTI is to ensure that future transport investment is aligned with and enables Project Ireland 2040. It takes the ten National Strategic Outcomes as a starting point and develops priorities for investment in Ireland’s roads and public transport infrastructure on that will contribute to their realisation. An overarching challenge for NIFTI is to address the fact Ireland’s transport system faces competing policy priorities (such as expanding our transport infrastructure while keeping the existing infrastructure in good condition). The purpose of NIFTI is to develop a framework for Ireland’s land transport policy and investment which provides an appropriate balance between its objectives.

1.3. SEA Requirements

Investments in transport networks and services and therefore, the policies that drive these investments, can impact on the environment. Since NIFTI is prepared for transport land use and will ‘set the framework for future development consent of projects listed in the EIA Directive’ it requires a Strategic Environmental Assessment under the EU Council Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (SEA Directive).

This SEA Environmental Report is Stage 3 of the SEA Process and details the assessment of effects on the environment as a result of the preferred plan, cumulative impacts within the plan or with other plans and policies, and reasonable alternatives to the Plan. This assessment has been conducted on a draft version of NIFTI which has been published alongside this SEA Environmental Report. The final NIFTI will be published following consultation.

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Another important environmental protection mechanism is the requirement under The Birds and Habitats Directives to consider the possible nature conservation implications of any plan on European designated nature conservation sites. These effects must be considered as part of an Appropriate Assessment (AA). The SEA Directive states that any plan or programme which has been determined to require an assessment under the Habitats Directive, should be subject to SEA. This plan has therefore screened in for both AA and SEA; both assessments must be undertaken prior to the adoption of the plan.

The EU Directive on the assessment and management of flood risk (2007/60/EC), which is more commonly known as the 'Floods Directive' was transposed into Irish law by the European Communities Assessment and Management of Flood Risk Regulations, 2010 (SI 122/2010). The EU Directive recognises the importance of land use management and spatial planning in flood risk management, and brings a requirement to consider flood risk management in the implementation of NIFTI.

1.4. Purpose and Structure of this Report

NIFTI is subject to SEA under the EU Council Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive). In accordance with the overall aim of the SEA Directive, SEA of NIFTI is required to:

Provide for a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development ... (SEA Directive, Article 1)

Article 3(2) of the SEA Directive makes SEA mandatory for plans or programmes which are prepared for eleven different sectors; agriculture, forestry, fisheries, energy, transport, industry, tourism, land use, telecommunications, waste management, or water management. Due to the project being a transport plan, NIFTI has been ‘screened in’ for SEA (stage 1 of the SEA process), see Appendix A. SEA Screening Report.

The transposing Irish Regulations are:

- The European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011); and

The purpose of SEA is to provide plan-making authorities such as DoT with a basis for incorporating environmental considerations into decision-making at an early stage and in an integrated way throughout the plan-making process, and to:

- Identify, evaluate and describe the likely significant effects of implementing NIFTI on the environment;
- Ensure that identified effects are communicated and mitigated, and that the effectiveness of mitigation is monitored;
- Identify beneficial (and neutral) effects, and to ensure these are communicated; and
- Provide opportunity for stakeholder and public involvement in the NIFTI development process.

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The first 2 stages – Stage 1 Screening (deciding whether SEA is required or not) and Stage 2 Scoping (establishing the spatial and temporal scope and assessment framework) – have been completed for NIFTI. This SEA Environmental Report is the output of Stage 3 of the four-stage SEA process (detailed in Table 1-1 below). The objective of this SEA Environmental Report is to:

- Collect and present information on the environmental baseline and key issues relating to NIFTI, and their likely future trends;
- Identify and evaluate likely significant effects of the draft NIFTI and identify potential mitigation measures to address them;
- Consider the effects of alternatives to the draft NIFTI and potential interactions with other plans and programmes, including the potential for cumulative effects;
- Provide implementation recommendations in the form of a draft monitoring plan to monitor the environmental effects of NIFTI;
- seek feedback from stakeholders (statutory and non-statutory) on the above in order to finalise the draft NIFTI.

The SEA Environmental Report is the main written output of Stage 3 and the SEA process and will present information on the environmental assessment and likely environmental issues related to the implementation of NIFTI.

Table 1-1 Stages of the SEA

<table>
<thead>
<tr>
<th>Stage</th>
<th>Purpose &amp; Requirements</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1: Screening</td>
<td>Prior to starting the SEA process, a plan or programme undergoes ‘screening’ to determine whether it requires an SEA.</td>
<td>SEA Screening Statement – DoT (as the responsible authority) determined that SEA was required for NIFTI.</td>
</tr>
<tr>
<td>Stage 2: Scoping</td>
<td>Consideration of the context and objectives of the SEA, provides information on baseline data, identifies relevant environmental issues and trends, and defines the parameters of the scope of the SEA for the purpose of consultation.</td>
<td>SEA Scoping Report</td>
</tr>
<tr>
<td>Stage 3: Identification, Prediction, Evaluation and Mitigation of Potential Effects</td>
<td>Within the context and parameters identified at the Scoping Stage, identification and evaluation of likely significant effects of NIFTI (draft for consultation) is carried out, including consideration of alternatives and determination of measures to mitigate and monitor residual effects.</td>
<td>SEA Environmental Report.</td>
</tr>
<tr>
<td>Stage 4: Consultation, Revision and Post-Adoption</td>
<td>Consultation with statutory consultees and the public. This may require changes to the draft NIFTI in light of responses.</td>
<td>SEA Statement.</td>
</tr>
</tbody>
</table>

1.5. Consultation

Consultation to date on the SEA is summarised in Section 4.1.
Public Consultation on this SEA Environmental Report and draft NIFTI will be conducted in line with Article 9 (5) of the SEA regulations (S.I. No. 435 of 2004). This SEA Environmental Report will be published online and issued to the following Environmental Authorities:

- The Environmental Protection Agency (EPA);
- Department of Housing, Local Government and Heritage (formerly the Department of Housing, Planning, Community and Local Government);
- The Department of Culture, Heritage and the Gaeltacht (formerly the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs);
- The Department of Agriculture, Food and the Marine; and
- Department of Environment, Climate and Communications (formerly Communications, Climate Action and the Environment).

Due to the potential for transboundary effects the following authorities will be consulted:

- Northern Ireland Environment Agency (NIEA).

Submissions or observations in relation to this SEA Environmental Report and the draft NIFTI may be made on or before 5pm on Friday 28th May 2021 to Transport2040@transport.gov.ie.

2.1. Need for NIFTI

Transport investment decisions have the potential to have significant and wide-ranging economic impacts. Effective transport networks are fundamental to sustained economic growth across all sectors. The land transport network in Ireland connects communities and businesses and provides a vital link to workforces, leisure and retail facilities, domestic markets and international gateways. It is essential to the provision of reliable services and goods that the appropriate transport infrastructure and services are in place. Where demand outstrips capacity, transport users experience increased congestion, delays and unreliable journeys. As a consequence, the network could adversely affect productivity, constrain business and harm economic growth. In 2017, DoT (formerly DTTAS) published a report on congestion in the Greater Dublin Area (GDA) which projected that the resulting cost of inadequate transport investment and planning would increase by more than a factor of 5 from 2012 to 2033, without further transport investment or other interventions (DoT, 2017a).

The National Planning Framework (NPF) estimates that there will be around one million extra people living in Ireland by 2040 with greater spatial balance across the country in line with a strategic macro spatial growth strategy. Population and employment growth will result in an increased reliance and pressure on existing transport networks. The challenge the Government faces is to effectively assign the considerable resources necessary to maintain and develop land transport networks in the context of competing policy priorities for resources, in a way that delivers on the objectives of the NPF. To ensure the success of the NPF, investment in land transport will need to be planned and delivered to support it.

The National Development Plan 2018–2027 (NDP) sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework (NPF). This will guide national, regional and local planning and investment decisions in Ireland, including in the transport sector.

NIFTI is necessary to strategically plan the way that transport infrastructure and services are delivered in Ireland at a national level. NIFTI provides the framework for decision making, determining investment priorities and guiding the allocation of resources. As a spatial planning strategy, NIFTI will coordinate the development of an efficient land transport network, tailored to meet transport-related challenges over the coming decades. The NPF has identified the need to prioritise projects which ensure urban growth is enabled, while also supporting rural development and inter-urban connectivity.

2.2. Purpose and Scope of NIFTI

The Department of Transport (DoT) has prepared a draft National Investment Framework for Transport in Ireland document. To provide context for NIFTI it is important to note the significance of the following plans and strategies:

- **National Planning Framework (NPF)**: The Government’s high-level strategic plan for shaping the future growth and development of Ireland up to the year 2040;
- **National Development Plan (NDP) 2018–2027**: The development plan which sets out the investment priorities that will underpin the successful implementation of the new National Planning Framework (NPF) from 2018 – 2027;
- **Strategic Investment Framework for Land Transport (SIFLT) 2015**: The existing framework for transport investment for Ireland. The framework established:
  1. High level priorities for future investment in land transport; and
  2. Key principles, reflective of those priorities, to which transport investment proposals will be required to adhere.

NIFTI is a high level strategic plan, which sets out the framework for investment in land transport that, in the short to medium term, will support the land transport element of the Government’s National Development Plan (NDP) 2018–2027, and, over the longer term, will provide a strategic framework for decision-making on the appropriate
public expenditure on land transport in light of the National Policy Objectives established in the National Planning Framework (NPF).

The purpose of NIFTI is to update the existing framework for transport investment for Ireland (SILFT 2015) to ensure a whole of government approach to land use and transport planning. NIFTI will ultimately set out DoT priorities and approach for future transport investment decisions.

2.2.1. National Strategic Outcomes

The purpose of NIFTI is to ensure that future investment in land transport is aligned with Project Ireland 2040 and supports the delivery of the National Strategic Outcomes published in 2018. The 10 National Strategic Objectives are:

- Compact Growth;
- Enhanced Regional Accessibility;
- Strengthened Rural Economies and Communities;
- Sustainable Mobility;
- A Strong Economy supported by Enterprise, Innovation and Skills;
- High-Quality International Connectivity;
- Enhanced Amenity and Heritage;
- Transition to a Low Carbon and Climate Resilient Society;
- Sustainable Management of Water, Waste and other Environmental Resources; and
- Access to Quality Childcare, Education and Health Services.

Some of the types of outcomes that transport investment as a result of NIFTI can deliver or enable in support of Project Ireland 2040 are detailed within the plan. These include:

- Delivering clean, low-carbon and environmentally sustainable mobility;
- Supporting successful places and vibrant communities;
- Facilitating safe, accessible, reliable and efficient travel on the network; and
- Promoting a strong and balanced economy.

These outcomes are discussed in more detail below.

2.2.1.1. Delivering clean, low-carbon and environmentally sustainable mobility

A sustainable transport system is one which can meet the needs of the population today without compromising its ability to meet the needs of the population tomorrow. In terms of environmental sustainability, the reduction in greenhouse gas emissions is a foremost priority. This is reflected in NPF National Strategic Outcome 8, which is the transition to a low-carbon and climate resilient society. It is also a national objective to achieve a low-carbon, economically competitive and environmentally sustainable economy by 2050. As the second largest source of greenhouse gas emissions in Ireland, the transport sector has a key role to play in achieving these objectives.

The different approaches which could mitigate and reduce emissions in the transport sector include: improving the emissions outputs of vehicles on the road; shifting to different modes of transport such as walking, cycling or use of public transport; or reducing the length and number of trips taken by people. It is likely that a combination of these approaches will be needed.

2.2.1.2. Supporting successful places and vibrant communities

The National Planning Framework estimates that the population of Ireland will grow by one million over the next twenty years to almost six million people; accommodating one quarter of the growth in Dublin, one quarter in the other four cities, and the remaining half in towns and rural areas.

The provision of appropriate transport infrastructure will play a crucial enabling role in the delivery of this objective.
2.2.1.3. Facilitating safe, accessible, reliable and efficient travel on the network
Delivering a high level of service means the provision of a transport network that is safe, reliable, efficient and accessible. Investment in the land transport network must support population growth targets without compromising on service levels. Moreover, investment must be financially sustainable, and among other things this means ensuring that the transport network is appropriate to the population’s needs rather than delivering high levels of excess capacity.

2.2.1.4. Promoting a strong and balanced economy
Ireland’s economy relies heavily on trade and tourism. As a small open economy, Ireland is dependent on high-quality international connectivity through its strategic links. The World Bank estimated that Ireland has the world’s 5th most open economy (measured as imports plus exports as a percentage of GDP). International tourism was estimated to have contributed €7.8bn to the Irish economy in 2016. In addition, the outcome of Brexit could potentially affect the ease with which goods and services can enter and leave Ireland, as well as potentially leading to a shift in the relative importance of strategic links. It may also impact upon the attractiveness of Ireland as a tourist destination. It is therefore important that we continue to improve our links to the rest of the world, including by making our seaports and airports as accessible as possible.

Ports and airports have the ability to raise their own finance so Exchequer funding for key projects is not necessary but enhancing surface access is of strategic importance. Moreover, many of Ireland’s strategic links are part of either the core or comprehensive Trans-European Transport Network and there will be certain infrastructure requirements arising from this.

Enhancing regional and rural accessibility, with improved services and reliable journey times to and between centres of scale, and pursuing compact growth are essential to ensuring that economic development and opportunity is distributed across the regions, with conditions that attract investment and foster opportunities for indigenous employment and enterprise growth.

2.2.2. Investment Priorities
As part of NIFTI, four high-level investment priorities for the land transport network have been developed to ensure that the transport sector plays its part in delivering Project Ireland 2040. Therefore, these investment priorities are informed by the ten National Strategic Objectives (NSO) underpinning the National Planning Framework and follow the three existing transport investment priorities identified in SIFLT. NIFTI’s four investment priorities are:

- Decarbonisation
- Protection and Renewal
- Mobility of People and Goods in Urban Areas
- Enhanced Regional and Rural Connectivity.

These key priorities are detailed in Figure 2-1 below.
2.2.2.1. Decarbonisation

The transport sector is Ireland's second largest source of greenhouse gas emissions, responsible for a fifth of emissions in 2017. To support the delivery of Project Ireland 2040 and the Government's ambitious targets set out in the Climate Action Plan, it is crucial that future transport investment decarbonises the transport sector to the greatest extent possible.

2.2.2.2. Protection and Renewal

Given its extent and value, protecting and renewing the existing land transport network is a foremost priority for transport investment. This is consistent with the recommendations of the Public Investment Management Assessment carried out for Ireland by the International Monetary Fund in 2017.

The SIFLT also recognised the importance of asset protection and renewal, using the terminology ‘steady state maintenance’. The terminology has been updated to Protection and Renewal to emphasise the fact that improvements for safety reasons are also priority interventions but are not strictly maintaining the network in its present state.

SIFLT recognised that there has already been considerable investment in our land transport infrastructure, and that a critical priority for investment is ensuring that the existing asset base is appropriately maintained in order that transport services can be operated in a safe and efficient manner. The funding required to keep these existing assets in optimal condition is known as the “steady state” investment level. SIFLT set out Ireland's steady-state maintenance requirement for land transport infrastructure, estimating it to be around €1.6bn per annum. Future expansions to the transport network will likely see the steady state requirement increase significantly in future years and decades. It is crucial to ensure our network is maintained to a high standard to ensure its continued ability to safely and efficiently support the movement of our goods and people.

2.2.2.3. Mobility of People and Goods in Urban Areas

To make our towns and cities more vibrant and sustainable places to live and work, Project Ireland 2040 seeks to deliver compact urban growth. Specifically, a target has been set that half of population growth in the next twenty years is accommodated in the five cities.

There are already acute congestion issues in certain parts of our cities today, and the modelling conducted as part of NIFTI supporting analysis indicates that these problems will considerably worsen in the 2040 Do-Minimum
scenario. Given spatial constraints within our cities, it is essential that urban congestion is tackled through measures such as improved and expanded walking and cycling infrastructure and the provision of better public transport.

2.2.2.4. Enhanced Regional and Rural Connectivity

Enhancing connectivity means delivering reliable, high-speed journey times to and between centres of scale for people and goods.

Connectivity ensures access to jobs, leisure and public services for everyone in Ireland, and is particularly important for those living in rural areas who are dependent on a small number of transport links. For freight, connectivity means ensuring that goods can get to market and access ports and airports in a timely manner from everywhere in the State, and that the use of strategic links for traffic of high economic and strategic value is secure.

2.2.3. Modal Hierarchy

In order for the National Strategic Outcomes to be met, a significant shift from low-occupancy private vehicles to more sustainable modes of travel will be required. For this reason, future transport planning will prioritise sustainable modes, while acknowledging that the private car travel will remain an important mode of travel in much of Ireland.

NIFTI sets out a hierarchy of travel modes to be accommodated and encouraged when investments and other interventions are made. Sustainable modes, starting with active travel and then public transport, will be encouraged over less sustainable modes such as the private car. It is acknowledged that some modes will not be appropriate to address some challenges—walking and cycling are not feasible modes of longer distance, interurban travel, and rural areas do not have the population density to make large-scale public transport an effective solution. Where more sustainable modes are feasible it will be the responsibility of the sponsoring agency to develop solutions involving those modes. Where more sustainable modes are infeasible, the onus will be on project sponsors to demonstrate their unsuitability.

2.2.4. Intervention Hierarchy

Addressing the challenges facing the Irish transport network, today and in the coming decades, and delivering the National Strategic Outcomes will require a certain level of public investment and intervention is required. However, interventions can take many different forms, and what is appropriate will depend on the specific problem being addressed.

A hierarchy of intervention types has been developed to ensure that investment is proportionate to the problem identified. The NIFTI intervention hierarchy set out four high-level categories of intervention, illustrated in Figure 2-2 which will be used to inform investment decisions, both at the budgetary level and the project level.
Maintaining the existing transport network will be given first priority, followed by maximising the value of the network through optimising its use. Infrastructural investments will only be considered after these two categories have been assessed as inappropriate for the identified problem, with upgrades to existing infrastructure to be considered before new infrastructure.

The NIFTI Investment Priorities are reflected in the Intervention Hierarchy. Whilst the Investment Priorities identify the parts of the network which need investment and types of investment which may be required, the hierarchy establishes how this will be achieved. The Intervention Hierarchy is a principle-based tool, rather than a strict rule. Investment planning will continue to be needs-based and objectives-led, and the hierarchy will assist, at both the project and budgetary levels, to identify the most appropriate solution to a given problem.

A number of example measures under each Intervention Hierarchy level have been identified are illustrated in Table 2-1 below.
Table 2-1 Types of Measures associated with the Intervention Hierarchy

<table>
<thead>
<tr>
<th>Description</th>
<th>Types of Measures</th>
</tr>
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</table>
| Maintain    | • All protection and renewal investment for road, rail and active travel;  
               • Drainage works;  
               • Climate resilience measures. |
| Optimise    | • Intelligent Transport Systems;  
               • Demand management, including user charging;  
               • Park and ride;  
               • Parking supply measures;  
               • Electric vehicle charging infrastructure;  
               • Rail signalling or track-relay enhancements;  
               • Integrated ticketing;  
               • Improved real-time information at bus stops and rail stations. |
| Improve     | • Active travel improvements including wider footpaths, segregated cycleways, improved signalling;  
               • Targeted road safety improvements e.g. removing dangerous bends;  
               • Railway line-speed or frequency improvements;  
               • Railway electrification;  
               • Light/heavy rail station improvements to accommodate larger trains;  
               • Shifting modal shares of infrastructure, e.g., dedicated bus corridors. |
| New         | • New roads, rail, or active travel infrastructure;  
               • Major road capacity upgrades including upgrading a road from single to dual carriageway;  
               • Major rail capacity upgrades such as upgrading from single to double track, or constructing infrastructure (e.g., loops) to accommodate greater frequency or speeds. |

2.2.5. Geographical Scale of NIFTI

Given that NIFTI is being developed in response to the National Planning Framework and National Development Plan which are national scale plans, the geographical scope of NIFTI must be of national scale also. The wide-ranging scope and the inherent uncertainties that must also be accommodated in the draft NIFTI, such as climate change and Brexit, support the need for a national scale plan, and as such the SEA will be limited geographically to land transport occurring within Ireland. However, NIFTI will have to consider the existing and potential future connections with Northern Ireland and as such the SEA will consider the potential for possible transboundary environmental effects.

2.2.6. Temporal Scope of NIFTI

NIFTI runs in parallel with the NPF time scale up to 2040, although the framework will be periodically reviewed to ensure its continued relevance and appropriateness. Taking this into account and in line with the SEA Directive, short, medium and long-term impacts (including reference to secondary, cumulative, synergistic, permanent and temporary, positive and negative effects) will be considered during the assessment.
2.2.7. Implementation of NIFTI

NIFTI provides a framework for future investment in transport programmes and projects. The Common Appraisal Framework (2016) published by DoT, sets out the process for appraising and selecting projects or programmes of investment. This includes a pre-appraisal stage to determine that proposed projects are consistent with higher level policies, strategies and plans.

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3. Strategic Environmental Assessment

3.1. The SEA Study Area

The broad Study Area for the SEA covers the entirety of the land mass of Ireland (including Northern Ireland) and will also assess any potential effects on the surrounding environment and/or cumulative and transboundary effects where applicable.

3.2. Transboundary Considerations

The SEA directive requires that where NIFTI has potential for transboundary environmental effects these must be addressed within the SEA.

The potential for impacts in relation to proposed or existing transport infrastructure across the land boundary between Northern Ireland and Ireland will be considered within NIFTI and the SEA.

Consultation will be undertaken with the Northern Ireland Environment Agency via this SEA Environmental Report and this follows on from the consultation undertaken on the SEA Scoping Report.

3.3. The SEA Process

3.3.1. Screening

The SEA Directive requires that certain plans and programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, be subject to the SEA process. Stage 1 (Screening) was completed in 2018 and this concluded that SEA was required for NIFTI, see Appendix A.

3.3.2. Scoping

Stage 2 of the SEA process (Scoping) was completed in March 2019 which involved publication of the SEA Scoping Report for consultation with statutory stakeholders. The SEA Scoping Report provided an outline of NIFTI based on available information on emerging proposals for NIFTI at that time and described the environmental characteristics of the study area, presented a review of relevant policies, plans and legislation and an understanding of the key environmental issues relation to the draft NIFTI. The assessment framework established through the scoping process has been used to evaluate the impact of NIFTI on the environment. This is achieved by:

- Establishing the preliminary baseline environmental conditions (both existing and future) against which the effects of NIFTI can be assessed during next stage of the SEA in stage 3;
- Identifying the relevant plans and policies that need to be taken into account in both the development of NIFTI and assessment of the Draft NIFTI;
- Identifying the key environmental issues in the Study Area which will provide focus for the SEA in stage 3;
- Defining a set of environmental objectives that can be used as a means of testing the environmental acceptability/performance of NIFTI, as well as providing a framework for targets and subsequent monitoring; and
- Identifying the alternative approaches considered for NIFTI and how environmental assessment will influence the development and implementation of NIFTI.

Scoping was informed by the preliminary baseline information that has been identified and described within this report. Potential sources of additional baseline information for the assessment of NIFTI were identified in the relevant sections and stakeholders were invited to comment on any further information which was deemed to be relevant for this third stage of the SEA (Environmental Report).
Any relevant data gaps identified at from consultation on the Scoping Report have been reported in this SEA Environmental Report where relevant. Some of the key themes from the consultation are discussed in Section 4.1 and a summary of the submissions received and how they have been addressed is provided in Appendix B.

3.3.3. SEA Environmental Report

As discussed in Section 1.3, this Environmental Report is the output of Stage 3 of the SEA process. Table 3-1 below details the structure of the Environmental Report and how it meets the requirements of the SEA Regulations (S.I. No. 435 of 2004).

Table 3-1 Structure of this Environmental Report

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Relevant Requirement(s)</th>
<th>SEA</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Technical Summary</td>
<td>A summary in non-technical language of the content of the SEA Environmental Report.</td>
<td>Regulation 12-(1), Schedule 2 (j).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Introduction and Background</td>
<td>Introduction to NIFTI, background to the SEA process, other relevant legislative processes and the purpose of the environmental report. It also outlines the structure of the Environmental Report.</td>
<td>Regulation 12-(1), Schedule 2 (a).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 NIFTI</td>
<td>Description of the outcomes, Investment Priorities and Intervention Hierarchy of NIFTI, scope of NIFTI and the SEA and plan implementation.</td>
<td>Regulation 12-(1), Schedule 2 (a).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Development of the LSMATS and Integration of the SEA and AA</td>
<td>Description of the SEA process and how it has been integrated with the LSMATS development.</td>
<td>Regulation 12-(1) Schedule 2 (e). Regulation 12-(1) Schedule 2 (h).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Consultation</td>
<td>Describes consultation already undertaken at SEA scoping stage, as well as the approach to future consultation.</td>
<td>Regulation 12-(1), Schedule 2 (b). Regulation 12-(1), Schedule 2 (d). Regulation 12-(1), Schedule 2 (e).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Relevant plans and strategies</td>
<td>Describes the legal and policy context of NIFTI, including international, national and local strategies, objectives and environmental standards which may influence NIFTI.</td>
<td>Regulation 12-(1), Schedule 2 (a).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Baseline and Key Environmental Issues</td>
<td>Describes the characterisation of the existing and predicted future environment in the study area, focusing on the key environmental constraints, issues / problems, and potential opportunities for environmental improvement.</td>
<td>Regulation 12-(1), Schedule 2 (b). Regulation 12-(1), Schedule 2 (d). Regulation 12-(1), Schedule 2 (e).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 SEA Methodology</td>
<td>Details how the SEA process was undertaken, providing an outline of the techniques followed and legal requirements at the scoping and environmental assessment stages.</td>
<td>Regulation 12-(1), Schedule 2 (e). Regulation 12-(1) Schedule 2 (h).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8 Assessment of NIFTI, Cumulative Effects and Alternatives

Assessment of the preferred plan, cumulative impacts within the plan or with other plans and policies, and reasonable alternatives to the Plan under each SEA topic and objective, considering the key issues scoped into the SEA. Description of how the preferred alternative was selected in light of environmental effects.

Description of any SEA mitigation recommended in light of the assessment undertaken on the preferred alternative.

Regulation 12-(1), Schedule 2 (a).
Regulation 12-(1), Schedule 2 (b).
Regulation 12-(1), Schedule 2 (h).
Regulation 12-(1) (g).

9 Proposed Monitoring Framework

Provides a synopsis of the statutory SEA monitoring proposals.

Regulation 12-(1) (i).

Next Steps

Provides details on the next steps for the project following consultation.

Regulation 13-(1).

3.3.4. SEA Assessment Approach

NIFTI is a national level strategic plan; therefore, a strategic level environmental assessment is required. As such, the baseline environment has been considered within broad themes based on the environmental topics listed in the SEA Directive. A review of policy and plans has been undertaken for each topic, and from these reviews, issues relevant to the plan and the SEA have been identified. This has informed the development of high-level SEA objectives for each topic area.

These SEA objectives provide a framework for the assessment of the potential significant effects of the draft NIFTI. The assessment involves several steps:

1) A compatibility analysis of the SEA Objectives and with the draft NIFTI framework;
2) Assessment of draft NIFTI investments priorities and intervention hierarchy against the SEA objectives to characterise a range of potential adverse and beneficial effects;
3) Assessment of the potential for cumulative effects between draft NIFTI priorities and investment proposals and between draft NIFTI and other plans and programmes;
4) Assessment of the proposed NIFTI (‘with’ plan’) and consideration of reasonable alternative approaches including ‘without plan’;
5) Recommendations for ensuring the implementation of NIFTI is in line with the SEA objectives.

3.4. Appropriate Assessment (AA)

In addition to compliance with the SEA Directive, the preparation and implementation of NIFTI must meet the provisions of the EU Habitats Directive (92/43/EEC) and transposing regulations (European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)).

The Habitats Directive requires that:

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public. (EU Habitats Directive, Article 6-(3)).

To comply with this Directive, it must be first established, through an initial screening assessment, whether: (1) NIFTI is directly connected with or necessary for the management of a Natura 2000 site for nature conservation; and (2) it is likely to have a significant adverse effect on a Natura 2000 site, either individually or in combination
with other plans or projects. NIFTI is not directly connected with or necessary for the management of Natura 2000 sites and therefore AA screening focused on the potential for significant effects on Natura 2000 sites that may arise due to the implementation of NIFTI.

The AA process has been undertaken concurrently with the SEA, but both processes will be clearly distinguished, and the AA will be documented in an AA Screening Statement and Natura Impact Statement (NIS), as required for NIFTI.

![Integration of SEA and AA - Key Stages and Deliverables](image-url)
3.5. **Strategic Flood Risk Assessment (SFRA)**

The EU Directive on the assessment and management of flood risk (2007/60/EC), which is more commonly known as the ‘Floods Directive’ was transposed into Irish law by the European Communities Assessment and Management of Flood Risk Regulations, 2010 (SI 122/2010). The EU Directive recognises the importance of land use management and spatial planning in flood risk management and requires Member States to prepare catchment-based Flood Risk Management Plans (FRMPs) that set out flood risk management objectives, actions and measures to manage flood risk.

In a planning and land use management context, a framework established in NIFTI and any schemes informed by it will be, where necessary, subject to a flood risk assessment as part of a future planning application to ensure they are consistent with the appropriate FRMPs. In Ireland, flood risk assessments are carried out in accordance with ‘The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ (the FRM Guidelines), (OPW 2009). The FRM Guidelines were developed to integrate flood risk assessment and management into spatial planning development decisions and therefore are applicable to strategic objectives identified for NIFTI.

NIFTI is a national strategy that will set out high-level objectives for investment in Ireland’s roads and public transport infrastructure. The nature of transport schemes, which will follow the implementation of the NIFTI framework will bring a requirement to consider flood risk management for their implementation for the following reasons:

- Geographic extent and potential requirement for schemes to cross floodplains and affect flood prone areas;
- Flood Risk Management Guidelines classify transport infrastructure schemes as ‘highly vulnerable development’ meaning they should be located in areas that are at a low risk of flooding;
- Significant risk posed by fluvial and coastal flooding and erosion to the safe operation of transport infrastructure;
- Potential increase in runoff from the creation of paved surfaces on existing greenfield sites which could increase the risk of flooding to other receptors;
- Potential for groundwater flooding of new assets e.g. when crossing areas with underlying Karst conditions.
4. Consultation

4.1. Consultation to Date: Scoping Stage

NIFTI was introduced to stakeholders in January 2018 with the circulation of the SEA Scoping Report via email. In line with Article 9 (5) of the SEA Regulations (S.I. No. 435 of 2004), this SEA Scoping Report was made available to the following statutory Environmental Authorities for consultation for an eight week period between 18th January 2019 and 15th March 2019.

- Environmental Protection Agency (EPA)
- Department of Housing, Planning, Local Government and Heritage (formerly Department of Housing, Planning and Local Government);
- Department of Culture, Heritage and Gaeltacht;
- Department of Agriculture, Food and the Marine;
- Department of Environment, Climate and Communications (formerly Department of Communications, Climate Action and Environment); and
- Northern Ireland Environment Agency.

A number of key themes were identified from the submission received including the importance of the following:

- Creating ambitious and measurable targets and appropriate mitigation;
- Developing of a robust strategy for the implementation of NIFTI;
- Aligning NIFTI with other key national strategies, objectives, actions and measures including other national planning and development strategies and environmental strategies in relation to air quality, noise, climate change, biodiversity and other environmental areas;
- Aligning the UN Sustainable Development Goals with NIFTI by incorporating them into the assessment of the plan;
- Emphasising and exploring the relationship between public health and transport.

A summary of the responses received specific to the SEA Scoping Report and how they have been taken into account is provided in Appendix B.

4.2. Stakeholder Workshops and Briefings

A number of stakeholders were invited to attend a workshop to introduce NIFTI, the SEA, AA and SFRA approach and set out the timescales for the Scoping Report Consultation process and the remaining stages of the project. The stakeholder workshop was held on 31st January 2019. Feedback from the workshop was taken into consideration during the development of draft NIFTI and the SEA.

A stakeholder workshop on the draft NIFTI document and SEA Environmental Report will be held with key stakeholders shortly after the launch of the consultation. This will give key stakeholders an opportunity to engage with the plan team and receive an overview of the draft NIFTI, SEA, AA and SFRA to further inform the submissions process.

4.3. Consultation on draft NIFTI

The formal consultation period for the draft NIFTI and SEA Environmental Report will cover an eight-week period between 31st March 2021 and 28th May 2021. Submissions in relation to the draft NIFTI and/or the SEA Environmental Report or supporting environmental reports should be sent to Transport2040@transport.gov.ie.
5. Baseline Environment & Key Issues

5.1. Introduction

This section of the SEA Environmental Report describes the baseline environment of the study area. The baseline is simply the situation or current conditions in the absence of NIFTI at a defined point in time. This provides a benchmark to which the predicted environmental effects can be assessed. This section also outlines future trends and the potential evolution of the baseline in the absence of NIFTI. The baseline information sources are referred to and any key additional data or information which will be required for environmental assessment. Key issues from the baseline review considered relevant to transport development at this strategic scale are also identified.

Information provided in this section is based on readily available baseline data from web-based searches and Geographic Information Systems (GIS).

The Government’s National Planning Framework published in February 2018 is referenced throughout the report. The key trends expected in Ireland are outlined. The NPF sets out the objectives that will ensure Ireland’s long term economic, environmental and social progress for all parts of the country. These objectives are:

- Guide the future development of Ireland, taking into account a projected 1 million increase in our population, the need to create 660,000 additional jobs to achieve full employment and a need for 550,000 more homes by 2040;
- 25% of growth is planned for Dublin, recognised as our key international and global city of scale and principal economic driver;
- 25% growth across the other four cities combined (Cork, Limerick, Galway and Waterford), enabling all four to grow their population and jobs by 50–60%, and become cities of greater scale, i.e. growing by twice as much as they did over the previous 25 years to 2016; and
- With the remaining 50% of growth to occur in key regional centres, towns, villages and rural areas, to be determined in the forthcoming regional plans – Regional Spatial and Economic Strategies (RSEs);
- Enable people to live closer to where they work, moving away from the current unsustainable trends of increased commuting;
- Regenerate rural Ireland by promoting environmentally sustainable growth patterns;
- Plan for and implement a better distribution of regional growth, in terms of jobs and prosperity;
- Transform settlements of all sizes through imaginative urban regeneration and bring life / jobs back into cities, towns and villages;
- Co-ordinate delivery of infrastructure and services in tandem with growth, through joined-up NPF/NDP and consistent sectoral plans, which will help to manage this growth and tackle congestion and quality of life issues in Dublin and elsewhere.

Reference has also been made to the EPA’s State of the Environment Report published in November 2020. This report provides:

- An assessment of the overall quality of Ireland’s environment;
- An outline of the pressures being placed on this environment; and
- The key messages that can address these pressures.

The EPA State of the Environment Report recognises the importance of the natural environment and that the overall quality of Ireland’s environment is good. However, the report also acknowledges that many environmental issues such as air quality and water pollution can be more localised and can be subject to masking by the national level assessments and that the environment faces many challenges, particularly as the economy begins to grow (EPA, 2020). Section 5.2 to Section 5.14 includes an overview of the overarching state of the environment based on the EPA assessment, as relevant to the development of NIFTI (within the grey boxes). The 13 key messages within the State of the Environment report which aim to address the associated pressures (EPA, 2020). Those relevant to NIFTI are also presented throughout this Environmental Report (within the green boxes) and are as follows:

- **SOE1: Environmental Policy Position:** A national policy position for Ireland’s environment.
• SOE2: Full Implementation: Full implementation of existing environmental legislation and a review of the governance around the coordination on environmental protection across public bodies.

• SOE3: Health and Wellbeing: Protecting the Environment is an Investment in Our Health and Wellbeing.

• SOE4: Climate: Systemic change is required for Ireland to become the climate-neutral and climate-resilient society and economy that it aspires to be.

• SOE5: Air Quality: Adoption of measures to meet the World Health Organization air quality guideline values should be the target to aim for in the Clean Air Strategy.

• SOE6: Nature: Safeguard nature and wild places as a national priority and to leave a legacy for future generations.

• SOE7: Water Quality: Improve the water environment and tackle water pollution locally at a water catchment level.

• SOE8: Marine: Reduce the human-induced pressures on the marine environment.

• SOE9: Clean Energy: Ireland needs to move rapidly away from the extensive use of fossil fuels to the use of clean energy systems.

• SOE10: Environmentally-Sustainable Agriculture: An agriculture and food sector that demonstrates validated performance around producing food with a low environmental footprint.

• SOE11: Water Services: Drinking water and wastewater infrastructure must meet the needs of our society.

• SOE12: Circular Economy: Move to a less wasteful and circular economy where the priority is waste prevention, reuse, repair and recycling.

• SOE13: Land Use: Promote integrated land-mapping approaches to support decision making on sustainable land use.

These key messages are necessary to meet people’s rightful expectations to live in a healthy environment, for Ireland to evolve as a sustainable, carbon neutral, climate-resilient economy, and to safeguard nature and protect people’s health and wellbeing (EPA, 2020) and have been used to inform the environmental baseline assessment.

The EPA’s Key Messages for Ireland have been informed by the UN Sustainable Development Goals (SDGs) which are also referenced throughout the report are the relevant Sustainable Development Goals (within the blue boxes).

Those important to future transport planning and investment in the context of the wider environmental protection and sustainable development agenda are:

• GOAL 1: No Poverty: Economic growth must be inclusive to provide sustainable jobs and promote equality. NIFTI aims to improve access to employment and amenities to all people in Ireland.

• GOAL 3: Good Health and Well-being: Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development. NIFTI aims to improve access to health care and amenities to all people in Ireland.

• GOAL 6: Clean Water and Sanitation: Clean, accessible water for all is an essential part of the world we want to live in. NIFTI aims will ensure the protection of water quality in Ireland when constructing new or enhancing existing transport networks.

• GOAL 7: Affordable and Clean Energy: Energy is central to nearly every major challenge and opportunity. NIFTI will aim to reduce energy consumption in transport where possible, by promoting the use of low-emission public transport and private vehicles and improving the energy efficiency of the transport sector.

• GOAL 8: Decent Work and Economic Growth: Sustainable economic growth will require societies to create the conditions that allow people to have quality jobs. NIFTI will be important in facilitating access to quality jobs.

• GOAL 9: Industry, Innovation and Infrastructure: Investments in infrastructure are crucial to achieving sustainable development. NIFTI provides a framework for ensuring the most appropriate investments are made in transport infrastructure.

• GOAL 10: Reduced Inequality: To reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations. NIFTI aims to improve accessibility for all people and reduce inequalities in relation to access to health care, employment, amenities etc.

• GOAL 11: Sustainable Cities and Communities: There needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing, transportation and more. NIFTI aims
to improve accessibility for all people and reduce inequalities in relation to access to health care, employment, amenities etc.

- **GOAL 12: Responsible Consumption and Production**: Responsible Consumption and Production. NIFTI will aim to reduce energy consumption in transport where possible.

- **GOAL 13: Climate Action**: Climate change is a global challenge that affects everyone, everywhere. NIFTI aims to mitigate the impacts of the transport sector on climate change as well as ensure the future adaptability of the network to the impacts of climate change.

- **GOAL 14: Life Below Water**: Careful management of this essential global resource is a key feature of a sustainable future. NIFTI will ensure that the strategy protects water quality where possible.

- **GOAL 15: Life on Land**: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss. NIFTI will ensure that the strategy protects terrestrial habitats where possible.

- **GOAL 17: Partnerships to achieve the Goal**: Revitalize the global partnership for sustainable development. Partnerships across government departments, private sector and the public will be required to ensure the success of the aims NIFTI.
5.2. Population, Human Health and the Economy

5.2.1. Population

Census 2016 results show that Ireland’s population stood at 4,761,865 in April 2016, an increase of 173,613 (3.8%) since April 2011. This is attributed to increasing birth rates, decreasing death rates, an increase in life expectancy and a decrease in net migration (Central Statistics Office (CSO), 2016a).

Population changes within each county have varied over recent years; ranging from a high of an over 8% increase in Fingal to a reduction of -1.5% in Donegal. The fastest growing counties were Dublin, Meath, Kildare and Laois and the fastest growing cities were Cork and Galway. Whilst most counties experienced some level of population growth, three counties witnessed population decline over the last five years, namely Donegal (-1.5%), Mayo (-0.2%) and Sligo (-0.1%) with three counties growing by less than 1% (CSO, 2016a). Figure 5-2 illustrates a clear geographic trend with population reduction experienced in the west of the country and the most significant increases in the south and east, and significant increases in the Dublin area.

The 5 main cities and their immediate suburbs together comprise over 34% of Ireland’s population. Nearly 75% of Ireland’s city dwellers and 26% of the entire population live in Dublin. The population distribution for each of the major cities, and the remainder of the country are illustrated in Figure 5-1 (Government of Ireland, 2018). These 5 cities are connected by the national road networks.

Population density is continually increasing in Ireland and had increased to 69 people per km² in 2016 (United Nations, 2017), up from 67 in 2011. The biggest growth is occurring in urban areas as the rural to urban shift continues. In 2016, 62.7% of the population lived in urban areas and 37.3% in rural areas (this is split between 7% of people who live in rural settlements and 30% who do not live in any settlement) (CSO, 2016a). Between 2011 and 2016, approximately 80% of the population increase was in urban areas. The density average in 2011 was 1,736 people per km² increasing to 2,008 in 2016 for urban areas; and 26 people per km² in rural areas increasing marginally to 27 in 2016 (EPA, 2016). In April 2016, 44% of Ireland’s urban population lived in Dublin, and 11% in Cork. The highest rate of urbanisation was seen in County Sligo, and the largest rural population increase in Cork, followed by Kildare. As the urban populations continue to grow there is continued strain on the transport network to facilitate the movement of people and goods in these areas.

* An urban area refers to towns with a total population of 1,500 or more. Similarly, the term rural area refers to the population outside urban areas and includes towns with a population of less than 1,500 persons.
One of the key areas of focus for NIFTI is ‘Compact Growth’. Looking more closely at the five cities as part of early analysis, CSO population data shows that a hollowing out has occurred between 1991 and 2016. The population living on the urban fringes has typically increased by upwards of 50%, while the number of people living in the city centres has declined. (DoT, 2018j)

Similarly, as the population in rural areas declines there is an increased strain on the transport network to link these communities with surrounding urban areas. Population density across Ireland (from the 2011 census1) is illustrated in Figure 5-3. This figure indicates where the key settlements in Ireland are and in turn where the greatest demands for transport links are likely to be.

5.2.1. Economy

Between 1990 and 2000 the Irish economy grew with the Gross Domestic Product (GDP) growth per year averaging 9% for most of this period. Between 2001 and 2007 the GDP increase was high compared to other countries in the EU. The Irish GDP growth can be linked to the labour market, where employment rates rose by almost 50% from the late 1990s to 2006/2007. The global economic crash in 2007/08 resulted in GDP falling by 10% between 2008 and 2010.

Since 2015, there have been indicators that the Irish economy is recovering and GDP rose by 5.5% in Quarter 4 of 2019. (CSO, 2020a) GDP is only one method of measuring economic performance. Employment is also a good indicator of Ireland’s economic recovery. In addition, since December 2011, unemployment in Ireland has fallen by over 10 percentage points from almost 16% to 4.7% in Quarter 4 of 2019. (CSO, 2020b) Section 5.2.2 covers the link between these economic trends, transport demand and pressures for transport investment.

The UK is a very important partner for Ireland and as a result, Ireland is uniquely exposed to Brexit. Irish exports of goods and services to the UK equalled almost €37 billion in 2015, while imports from the UK reached €31 billion (DBEI, 2018). The Department of Business, Enterprise and Innovation published the report ‘Ireland and the Impacts of Brexit’ in 2018 and analysed a number of EU-UK trading scenarios and how this would impact Ireland in the long term. The report determined that Ireland would be negatively impact by all scenarios.

Transport Infrastructure is considered a key component for sustainable economic development. A good transport network is important in sustaining economic success in modern economies as it:

- Links people to jobs;
- Delivers products to markets;
- Underpins supply chains and logistics networks; and
- Facilitates domestic and international trade.

Ireland’s economy has been technologically advancing in recent years. In 2018, Ireland moved up to 6th place on the Digital Economy and Society Index, up from 8th place in 2017, and behind Denmark, Sweden, Finland, the Netherlands and Luxembourg. The Digital Economy and Society Index monitors the performance of EU Member States in five areas: digital connectivity, digital skills, online activity, the digitisation of businesses and digital public services. In order to continue to support economic growth, the transport industry will need to be able to cope with technological advancements. (European Commission, 2018) The introduction of several innovations in the provision of transport as a service, including app-enabled, on-demand transport services, car- and bicycle-sharing, and ride-sharing platforms, has already made an impact on transport systems and promises to grow in importance as the enabling technology advances. Brexit and technology are key themes influencing and shaping NIFTI (DoT, 2018d, DoT, 2018e).

5 Population density figures from the 2016 census are not publicly available.
Figure 5-2 Percentage Population Change per county in Ireland 2011 – 2016
Population Density

Legend
Pop Density per sqkm, ’11 Small Areas (CSO)
- 0 - 10
- 11 - 30
- 31 - 100
- 101 - 300
- 301 - 500
- 501 - 1000
- 1001 - 2000
- 2001 - 3000
- 3001 - 4000
- 4001 - 5000
- 5001 - 37556

Figure 5-3 Population Density in Ireland 2011
5.2.2. Transport

The road network is an essential piece of national public infrastructure. It facilitates the movement of strategic and local traffic throughout Ireland, sustains national, regional and local development and facilitates access and safety. The network has developed to serve settlement patterns, which includes urban areas and low-density population centres in addition to clusters of one-off housing and linear development along roads which is a unique pattern to Ireland. This transport network provides strategic access to population centres, ports and airports.

The key challenge in the development of the transport network will be to prioritise future transport resources to promote connectivity and sustainable settlement patterns to avoid urban sprawl and balancing this with the need to ensure that the population has access to employment and services and to avoid social exclusion in rural areas.

Demand for transport grew significantly in Ireland in between 1990 and 2009 due to economic and population growth. The number of people travelling to work almost doubled, car ownership increased from 798,000 in 1990 to 1.88 million in 2008 and the commercial vehicle fleet doubled in scale. Investment significantly increased and focussed on national motorway network, and relatively little investment was targeted to urban areas, aside from the two LUAS lines. As discussed in Section 5.2.1, population on the urban fringes has increased. The growth of dispersed commuter belts resulted in an increase in car ownership and use, and a declining use of public transport and active travel were striking trends over this period (DTTAS, 2015). The provision of good quality urban public transport is contingent on population density, which means that these trends have undermined the delivery of an attractive service. As a consequence, an increasing number of inhabitants in our cities have become reliant on the private car as the only practical mode of transport and congestion in our cities has been exacerbated. (DoT, 2018j)

Since 2008, following the economic recession, travel demand has stabilised. Recent trends show a steadier increase in demand and an uptake in sustainable modes of travel as economic performance in Ireland has improved (DTTAS, 2015). The overall number of people commuting to work in Ireland increased by 10.7% between 2011 and 2016. The number of people driving to work increased by almost 8% to 1,152,631 and was the largest increase of all categories (85,180 people). Car passengers increased by a smaller amount (8,171 people) but saw a larger percentage increase of 11.8% from 2011 to 2016. The use of public transport to get to work has increased by 30,144 persons over the five years, bringing the total to 174,569. With this 20% increase between 2011 and 2016, public transport now represents 9.3% of all working commuters. Cycling to work has shown the largest percentage increase of all means of transport, rising from 39,803 in 2011 to 56,837 in 2016, an increase of 42.8% over the five years (CSO, 2016b).

Environment and Transport (EPA, 2020)
The transport sector has a significant impact on the environment, including being responsible for 20 per cent of Ireland’s greenhouse gas emissions. A sustainable mobility transformation is required, with the next decade crucial, whereby necessary journeys are made by sustainable modes such as walking, cycling and public transport, followed by using electric vehicles where unavoidable. For this transformation to happen we need to start fast-tracking the measures in the Climate Action Plan and other necessary measures.
5.2.3. Human Health

The health of the population within Ireland is generally ‘Good’ to ‘Very Good’ based on the Healthy Ireland Survey 2016, published by the Department of Health as part of the Healthy Ireland Framework. 84% of the population aged 15 and older perceived their health to be in very good health, whilst 3% perceived their health to be in bad or very bad health. 28% indicate that they have a long-standing illness or health condition. 10% of people indicated a mental health problem (Department of Health, 2016).

The 2016 Census data indicates that 13.5% of the population have a disability, with the vast majority being over 85 years old. The number of young people (under the age of 24) with a disability increased in the last 5 years, whilst all other age groups decreased (CSO, 2016b).

The impact of road traffic injuries and fatalities is the most obvious and direct link between transport and health. The Road Safety Authority (RSA) reported that a total of 148 people lost their lives in 2019, which was a 4% increase on 2018 figures. However, it is important to note that 2018 was the safest year on Irish roads on record. This included a 36% decrease in pedestrian deaths, whilst motorcyclist and cyclist deaths have remained comparable to 2018. Dublin (19) and Cork (16) had the highest number of fatalities overall (RSA, 2020). Statistics on non-fatal injuries as a result of a road traffic accidents are not available for 2019. Road traffic accidents can also have an indirect effect on the entire community when these events occur, through changing people’s perceptions of safety. The Institute of Public Health in Ireland (2011) suggests that road traffic injuries can lead to long term psychiatric consequences for individuals involved in accidents.

Aside from road traffic injuries and fatalities, transport is known to influence human health in a number of other ways. There are many disadvantaging health impacts associated with transport such as stress and anxiety, the risk of accident constraints to mobility, access and independence and air and noise pollution (Institute of Public Health in Ireland, 2011). Air pollution and noise is a key public health issue related to transport. The transport sector accounted for 12% of all air pollutant emission in 2015. The predominant health impacts from transport are from particulate matter and nitrogen oxides emissions, contributing to cardiovascular disease, lung disease and heart attacks which points to a clear need to reduce transport-related pollution emissions. Excessive noise can seriously harm human health, including mental health, and interfere with people’s daily activities at school, at work, at home.

**Figure 5-4 Change in Mode of Transport for Commuting to Work 2011 – 2016**

**Environmental Health & Wellbeing (EPA, 2020)**

Our health and wellbeing are inextricably linked to our surrounding environment. Many of the issues we face that damage our environment and our health and wellbeing are closely interconnected. Harnessing the co-benefits of solutions is essential for effective and efficient environmental and health protection.
and during leisure time. It can disturb sleep, cause cardiovascular and psychophysiological effects, reduce performance and provoke annoyance responses and changes in social behaviour (EPA, 2020). Air pollution and noise from transport is discussed in more detail in Section 5.8.

Rush hour commuting can significantly impact health and wellbeing. Research has shown that long commutes can reduce mental and physical health and wellbeing, by raising blood pressure as well as reducing free time, for physical activity and personal time. Therefore, the Institute of Public Health in Ireland are promoting active travel as much as possible. Activities such as walking and cycling have many benefits including a reduction in mortality, death from obesity and obesity related diseases such as cardiovascular diseases, and certain type of cancers, and also improves mood and quality of life. In addition to this a greater shift to active travel can help reduce air and noise pollution, and road traffic accidents (Institute of Public Health in Ireland, 2011).

There is an obvious positive link between active travel and human health, but health inequalities can also limit access to transport or the opportunity to engage in active travel. Health inequalities are disparities in health outcomes and life expectancy between different population groups, for example socio-economic group, age or gender. Health inequalities can be affected by investments to increase active travel in a number of ways. Some of the key health inequalities related to transport are:

- Some groups, such as children and older people, are more susceptible than the general population to negative health impacts associated with car travel thus investments to increase active travel may benefit such groups more;
- Traffic, noise, crime, litter, poor street lighting and poor quality public transport discourage people from walking and cycling, and these factors can be more prevalent in disadvantaged communities;
- Air and noise pollution are also more common in deprived areas, largely due to higher road and traffic density;
- People from lower socioeconomic groups or those on low incomes are less likely to own a car which can limit access to services that are difficult to reach by other means such as walking or public transport;
- Older people are more likely to suffer adverse outcomes from road traffic collisions and may also be more vulnerable to negative health impacts of transport related air and noise pollution;
- Other factors such as limited ability to walk long distances and short-term memory loss can decrease the likelihood of those affected by such impairments to choose active forms of travel.

However, the influence of culture and social norms should not be ignored, in addition to policy drivers and provision of infrastructure, for example in countries such as the Netherlands and Germany, elderly people use active travel for around half of all their trips compared to the USA where active travel accounts for only 6% of all trips made by the same age group (Institute of Public Health, 2011).

The Irish Longitudinal Study on Aging concluded in 2011 that 75% of people over the age of 50 in Ireland relied on private car as their main mode of transport. A poor perception of the public transport system in Ireland was apparent with over 70% of the rural population regarding local public transport as poor. The results from the over 50 population in Dublin was quite different however, with less than 20% having this opinion.
5.2.4. Future Trends

Population

The population throughout the study area is predicted to increase during the lifespan of NIFTI. According to CSO projections, the population is to exceed 5 million by 2025 and 5.5 million by 2040.

Ireland’s population has been ‘aging’ in an unprecedented trend in recent years and this is expected to continue during the NIFTI plan period. The 11.4% of the total population were aged 65 in 2011 and this is expected to increase to 14.1% by 2021; an increase of 44%. The number of those aged 80 and over is expected to rise by 45% over the same ten year period (from 2.8% of the population in 2011 to 3.5% in 2021). The number of people aged 65 and over from 2011 to 2041 is projected to increase by 160%. As a proportion of the population, those over 65 will represent 22.4% of the population in 2041. While the projected changes in the population aged 65 and over are striking, changes for the group aged 80 and over are even more dramatic. Over the same 30 year period, the number of people aged 80 and over is projected to increase by 250%.

Mobility is a key determinant of an individual’s ability to access services, whether social or practical, and to engage in community activities. Mobility decreases with age, which increases the need for assistance from public transportation and from family and community resources. Therefore, the accessibility and affordability of different modes of transportation are essential factors to ensuring that older people can remain actively engaged in their communities. (Tilda, 2011)

Over lifetime of NIFTI the percentage of people living in urban areas will increase from approximately 63% to 73.5% and the population density per square km will increase to approximately 80 persons per km² (CSO, 2016). The National Planning Framework published in February 2018 aims to address “the legacy of rapid unplanned growth into expanded commuter settlements of all sizes, by facilitating amenities and services catch-up, jobs growth and/or improved sustainable transport links to the cities, together with a much slower, more sustainable rate of population growth than in recent decades”.

Economy

The Irish economy has experienced growth in recent years and is projected to continue in the medium term, according to Dept. of Finance projections, although the impact of shocks such as Brexit cannot yet be fully known. The government has set out key strategic goals for employment within the Action Plan for Jobs 2017. Some of the key aims are to: create 200,000 jobs by 2020, 135,000 of which need to be outside Dublin; drive productivity; and deliver competitive regions to drive regional employment. The government has also identified cluster sectors for growth including; Agri-Food and Marine, Retail, Design, Construction and Housing, and Financial Services.

Key Message (SOE12): Circular Economy (EPA, 2020)

Move to a less wasteful and circular economy where the priority is waste prevention, reuse, repair and recycling.

As the population grows and the economy strengthens it is likely that increased transportation will be needed in order to facilitate this growth. As expected, the greatest demand will be in the urban areas. The National Development Plan 2018 – 2027 outlines the investment priorities in national infrastructure over that period to support the implementation of the National Planning Framework. The NDP investment accumulates to €116 billion with specific budgets for transport including €4.5 billion for regional and local roads and €8.6 billion for public transport.

The sudden onset of the CoVID-19 pandemic and the resultant public health protocols resulted in a large increase in the number of workers working from home in Ireland. This sudden shift in working practices and attitudes among certain workers could accelerate what was already a pre-existing trend of increased utilisation of teleworking which in turn would have implications for both travel demand and travel patterns. There is considerable uncertainty about long-term trends at this time.
**Transport**

The Strategic Investment Framework for Land Transport (SIFLT) details the expected future transport demand. It assumes commuting trips to increase by 35% by 2040, implying at least an additional 650,000 daily trips to and from work. The existing land transport system cannot cater for this increase. Without investment to cater for this demand, our main urban centres will become severely congested which will hinder economic development. Investment is critical to ensure that we can adequately provide for the travel needs of the future Irish workforce and maintain sustainable economic growth and competitiveness (DTTAS, 2015). The National Planning Framework sets out Strategic Investment Priorities, one of which is “Environmentally Sustainable Public Transport”. A number of National Strategic Outcomes have been identified which include transport specific aims and targets, focusing on encouraging sustainable modes of travel, road safety, improving journey times, traffic management in cities, and transport links to rural areas and between Ireland and Northern Ireland (Government of Ireland, 2018).

The impact of the CoVID-19 pandemic and the resulting lockdown on transport demand is a good illustrative example of the impact that a sudden change in travel patterns can have on assumptions around travel demand and public transport usage rates. At the height of travel restrictions in Spring 2020, part of public health efforts to contain the pandemic, traffic volumes had fallen to approximately 30% of normal levels. (DoT, 2020). As increased teleworking continues into the short to medium term, there is potential for:

- Fewer trips made during peak hours; possible for even more distribution of trips during the day;
- Impacts on distances travelled if people relocate out of urban centres;
- Potential increase in private car and localised active travel modal shares with a decrease in peak time public transport use;
- Reduction in trips to/from urban centres and increase in locally based trips; and
- Potential for some change in carbon emissions as a result.

The impacts of the current CoVID-19 crisis have demonstrated the need for transport planning to account for low-probability, high-impact events. Furthermore, the complex interactions between transport, land use planning and digital connectivity have also led to increased uncertainty about society’s future accessibility needs and how the transport system should be designed to address them. (DoT, 2020) There is considerable uncertainty about long-term trends at this time.

**Human Health**

The government is aware of ongoing health trends and in 2013 the Healthy Ireland Framework was adopted by the government in response to Ireland’s changing health and wellbeing profile. The four high-level goals to improve health in Ireland set out by Healthy Ireland going forward, are:

- Increasing the proportion of Irish people who are healthy at all stages of life;
- Reducing health inequalities;
- Protecting the public from threats to health and wellbeing; and
- Creating an environment where every sector of society can play its part in achieving a healthy Ireland. (Government of Ireland, 2018)

The health of the population is intrinsically linked to the environment. Scientists have also linked exposure to nature to benefits in coping with mental stress and fatigue. It has been shown that getting out in nature, whether in a park, on a beach or walking on a road, can bring real benefits to our mental health and general wellbeing (Environmental Protection Agency, 2016). The National Planning Framework therefore aims to enhance “public health by encouraging and facilitating more active lifestyles and by creating a more walkable and cycling friendly urban environment” (Government of Ireland, 2018).

The framework set out by NIFTI will therefore support active travel, such as walking or cycling. Modal shift in favour of more active modes has the potential to contribute to the achievement of the high-level goals of Healthy Ireland mentioned above.
5.2.5. **Key Issues related to NIFTI**

The key issues in relation to Population, Human Health and Economy are:

- Population increase, including specific trends such as an aging population and economic growth will increase the demand for transport infrastructure within Ireland and has the potential to affect traffic;
- The construction of transport infrastructure may cause temporary disruption to the local community for example, in the form of noise, disruption to transport services/utilities and increased traffic;
- Potential for loss/gain of public amenity as a result of transport related development;
- Patterns for settlement and economic growth will influence the demand for and location of transport infrastructure and the accessibility related to transport infrastructure will in turn influence future development and economic growth; and
- Potential for increased active travel and public transport usage to result in a reduction of carbon emissions and air and noise pollution (or vice versa).

5.2.6. **Baseline information Sources for the SEA**

The assessment in relation to Population, Human Health and Economy will refer to the following information sources:

- OSI Mapping;
- CSO;
- ESRI;
- Health Service Executive (HSE);
- Department of Health;
- Department of Finance;
- Department of Public Expenditure and Reform;
- World Health Organization (WHO);
- National Planning Framework;
- State of the Environment Report 2020;
- National Development Plan 2018-2027;
- Department of Transport.

5.2.7. **Scope of the Assessment**

Population increases and the ability to continue to provide effective and efficient transport links are not only a driver for this Plan but vital to the health of the population and the economic development of the country. Transport is intrinsically linked to the economic performance and vital in terms of providing the population with access to jobs and amenities. Promotion of active travel, walking routes and cycle paths contribute to the physical and mental health of the population. Therefore, Population, Human Health and the Economy are scoped in to the SEA.

5.3. **Tourism and Recreation**

Tourism and recreation are influenced by a range of factors in Ireland. For example, natural heritage in Ireland is characterised by a range of scenic landscapes which offer tourism and recreational opportunities such as walking, beaches, equestrian activities and golfing.

As a result of tourism being impacted by the economic downturn in 2008, the Government and tourist bodies developed a number of initiatives to counteract the negative impact and to begin promoting Ireland as a tourist destination, including ‘The Gathering’, Ireland’s Ancient East and the Wild Atlantic Way.

**Environmental Health & Wellbeing (EPA, 2020)**

Ireland has an abundance of ‘green spaces’ – parks, forests, communal gardens and meadows – and ‘blue spaces’ – rivers, lakes, canals and coastlines. There is an ever-growing body of evidence showing that engagement and contact with the surrounding natural environment is associated with measurable improvements in the health and wellbeing of the population (Lovell et al., 2018).
The Wild Atlantic Way is a long-distance touring route along the west coast from Donegal to West Cork managed by Fáilte Ireland. This development aims to achieve greater visibility for the west coast of Ireland in overseas tourist markets. The route encompasses major scenic areas including Malin Head, Downpatrick Head, Cliffs of Moher, Skellig's Viewpoint, Mizen Head and Old Kinsale Head and cultural towns including Bundoran, Westport and Dingle. In addition to the Wild Atlantic Way, Ireland’s Ancient East has also been promoted by Fáilte Ireland as a touring region. The Ireland’s Ancient East covers the area outside of Dublin and east of the River Shannon, extending from Carlingford to Cavan and south to Cork City, including East County Cork and East County Limerick. Transport networks to and around these routes are vital to their success.

International tourism has increased in recent years. Approximately 32.9 million passengers passed through Dublin airport in 2019 and 1.7 million passengers in Shannon. There was an overall 4.4% increase in the number of passengers travelling through Irish airports in 2019 when compared with 2018 figures. A total of 300 cruise vessels arrived into Irish ports in 2019, carrying approximately 398,505 passengers (CSO, 2019).

Tourism and recreation are important to the health and wellbeing of people but also contribute to the economy at a local and national level. Tourism is a very important sector in Ireland. In 2019 11.2 million overseas visitors came to Ireland spending €5.8bn. 325,000 people were employed in the tourism industry in 2019. (Tourism Ireland, 2019).

Ireland supports a number of water-based activities such as fishing/angling, water sports, boating and surfing. Angling is an important amenity activity and some of the more popular angling areas include Lough Derg and Lough Ree in the midlands. There is a number of sea angling centres located around the coast of Ireland ranging from Dún Laoghaire (south of Dublin) to Donegal Bay on the west coast. The Shannon region encompassing parts of Co. Clare, and Co. Limerick is a popular boating and angling location in Ireland and is home to Lough Derg, previously mentioned.

Many of the cutaway bogs of the midlands have been transformed into a sanctuary for wildlife and amenities. Bord na Móna harvested peat in the Boora Bogs during the twentieth century and have since rehabilitated the site into the Lough Boora Parklands. The parklands are a tourist attraction with cycling and walking routes.

The National Trails Office promotes the use of recreational trails in Ireland and maintains a National Trails Register, under which there are more than 780 trails listed.

Cultural Heritage sites in Ireland also support heritage-related tourism and recreation, see Section 5.6. Landscape is also an important aspect in term of Tourism, see Section 5.5.

5.3.1. Future Trends

Many of the County Development Plans report that the growth of tourism plays a major role in future development.

Transport infrastructure is continuously developing to cater for increased tourism. Dublin Airport Authority (DAA) is currently in the planning stages of delivering a new runway, which is expected to be completed in 2021.

Dublin Port Company prepared a Masterplan covering the period 2012-2040 in order to allow planning for sustainable growth of the Port including increased cruise liner capacity.

Uncertainty surrounding the decision in the UK to leave the European Union is already having an effect on the rate of sterling and Ireland’s tourism business from Britain may be negatively impacted.

NIFTI aims to ensure that land transport infrastructure is fit to support continued growth of the tourism industry in Ireland, whilst protecting the environment and ensuring that the transport network of Ireland is resilient to the effects of climate change and fit to cope with the impacts of Brexit and technological change.

5.3.2. Key Issues relating to NIFTI

The key issues in relation to Tourism and Recreation are:
5.3.3. Baseline Information Sources for the SEA

The assessment in relation to Tourism & Recreation will use information from the following sources:

- Department of Transport;
- CSO;
- Fáilte Ireland;
- Tourism Ireland; and
- National Trails Office.

5.3.4. Scope of the Assessment

Tourism has the potential to be positively and negatively impacted by NIFTI and is therefore scoped in to the SEA assessment.

5.4. Biodiversity, Flora and Fauna

There are a number of Nature Conservation designations in Ireland at an International, European and National level including:

- At International level:
  - UNESCO (United Nations Educational, Scientific and Cultural Organisation) World Heritage and Biosphere sites; and
  - sites designated as Wetlands of International Importance or RAMSAR sites.

- At a European level:
  - Special Areas of Conservation (SACs); and
  - Special Protection Areas (SPAs);

- At a National level:
  - National Heritage Areas (NHAs) and proposed National Heritage Areas (pNHAs); and
  - Other designations e.g. Salmonid Waters, Freshwater Pearl Mussel (FWPM) Catchments.

The Habitats Directive (92/43/EEC) was transposed into Irish law in 1997 by the European Communities (Natural Habitats) Regulations, S.I. 94 of 1997. The Regulations were subsequently revised and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011, S.I. 477 of 2011. The main purpose of the Habitats Directive is to ensure the appropriate conservation of natural habitats and of wild fauna and flora. Under the directive, Ireland like other Member States was required to establish an ecological network of SACs (sites which host a range of natural habitats and species listed in Annex I and II of the Directive) and SPAs as designated under the Birds Directive (2009/147/EC).

SDG 15: Life on Land

Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.

There are approximately 430 SACs in Ireland, covering 13,500km². Roughly 53% are land-based designations, the remainder being marine environments or large lakes (NPWS, 2016b) see Figure 5-5. There are over 150 SPAs encompassing over 5,700km² of marine and terrestrial habitats (NPWS, 2016c) see Figure 5-6. These European

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6 The transport sector can have a direct impact on biodiversity as a result of air and noise pollution. These links will be discussed in the relevant baseline sections below.
sites occur in greatest concentrations in the west of Ireland and in particular, along the western, north-western and south-western coasts.

The National Parks and Wildlife Service (NPWS) monitor and assess the status of protected species (Annex I of 92/43/EEC) and habitats in Ireland (Annex I of 92/43/EEC). This takes into account the status of the range, area, structure and functions and future prospects of each species/habitat before defining an overall status for each. A total of 59 different habitats and 61 species are listed.

The overall status of Annex I habitats as of 2019 are as follows (EPA, 2020):

- 15% as ‘Favourable’;
- 46% as ‘Inadequate’; and
- 39% as ‘Bad’.

The overall status of Annex II species as of 2019 is as follows (EPA, 2020):

- 57% as ‘Favourable’;
- 15% as ‘Inadequate’;
- 15% as ‘Bad’; and
- 13% as ‘Unknown’.

There are 155 NHAs across the country, the majority of which are bog-related, and 630 pNHAs which have yet to be statutorily proposed or designated (NPWS, 2016a) as illustrated on Figure 5-7. Other ecological designations across Ireland include:

- Six National Parks;
- 45 sites designated as RAMSAR sites (RAMSAR, 2016);
- Two designated UNESCO World Heritage Sites and a further seven heritage sites currently listed as tentative, but yet to be officially designated (UNESCO, 2016); and
- Protected sites e.g. Nature Reserves or Wildlife Refuges identified in County Development Plans.

Under the EU Biodiversity Strategy, Ireland must halt biodiversity loss by 2020. On the back of the EU plan Ireland has published its 2nd National Biodiversity Plan, Actions for Biodiversity 2011 – 2016. This set out several Strategic Objectives and over 100 actions to achieve these objectives. In 2015, an Interim Review of the 2011-2016 Plan was published and indicated that the majority of targets were implemented or that implementation was in progress. Specific targets which required further action were highlighted. The 3rd National Biodiversity Plan 2017-2021 was published in 2017 and builds on the actions not completed in the previous plan.
Special Areas of Conservation

Legend

- Special Areas of Conservation
- National Road Network
- Irish Rail Routes
- County Boundaries

Figure 5-5 Special Areas of Conservation
Figure 5-6 Special Protection Areas
Figure 5-7 NHA and pNHAs
Aquatic Biodiversity

Aquatic biodiversity encompasses freshwater ecosystems including lakes, ponds, reservoirs, rivers, streams, groundwater, wetlands, coastal and marine. Aquatic species are dependent on clean water and suitable flows; macro-invertebrates and some species of fish such as Atlantic salmon are therefore good indicators of the condition of the overall water environment. Modification of watercourses such as channel straightening and bank protection can negatively affect aquatic habitats, and construction of river crossings to facilitate transport schemes can potentially impact upon aquatic ecosystems by posing a risk to the physico-chemical and ecological quality of the aquatic environment. (Cocchiglia, et. al, 2012)

The NPWS has identified 44 different water dependent habitat types and 22 water dependent species in Ireland. Of the water dependent habitats, 11% are deemed to be at Favourable Conservation Status, while 50% of water dependent species are at Favourable Conservation Status. (Various authors, 2009)

Birds

BirdWatch Ireland and the Royal Society for the Protection of Birds (RSPB) in NI provide a list of priority bird species for conservation on the island of Ireland. This list\(^7\) is referred to as the Birds of Conservation Concern in Ireland BoCCI List. In this list, birds which breed and/or winter in Ireland are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. Birds on the Red List birds are those of highest conservation concern, Amber List birds are of medium conservation concern and the Green List birds are not considered threatened (BirdWatch Ireland, 2016).

The number and breakdown of bird species on the Red list is as follows:
- 21 Breeding birds;
- 2 Passage birds;
- 9 Wintering birds; and
- 5 Breeding and Wintering birds.

The number and breakdown of bird species on the Amber list is as follows:
- 60 Breeding birds;
- 5 Passage birds;
- 15 Wintering birds; and
- 11 Breeding and Wintering birds.

Invasive Species

The spread of invasive species can have a significant negative effect on wildlife and habitats and the significance of this is reflected in Ireland’s second National Biodiversity Plan (2010-2015) and recent European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). Common invasive species in Ireland include:
- Giant Hogweed (Heracleum Mantegazzianum);
- Giant Rhubarb (Gunnera Tinctoria);
- Himalayan Balsam (Impatiens Glandulifera);
- Japanese Knotweed (Fallopia Japonica); And
- Rhododendron (Rhododendron ponticum).

5.4.1. Future Trends

Increasing land-use change such as urbanisation, afforestation and its associated management and changing agricultural practices are likely to continue to pose risks to the quality and distribution of aquatic and terrestrial

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\(^7\) The conservation of birds and their habitats in Ireland is governed by the EU Birds Directive (Directive 2009/147/EC on the Conservation of Wild Birds) and the Wildlife (Amendment) Act 2000. Rare and threatened birds and migratory species are subject to special conservation measures under Annex I of the Birds Directive through the establishment of SPAs to protect their habitat.
habitats and species, both within and outside protected sites. However, the continued implementation of measures required in achieving the objectives of the WFD and the requirements of the Habitats Directive are likely to benefit protected sites and the wider aquatic environment into the future.

NPWS are developing Conservation Management Plans and conservation objectives for many of the European sites, as well as other management plans for declining species (e.g. Species Management Plans) which will help protect biodiversity resources going forward. It should be noted that the development of these Conservation Management Plans and site-specific conservation objectives are unlikely to be developed for every site.

Future trends will be influenced by changes/additions to existing designated sites (SACs, SPAs and NHAs). A number of pNHAs may be reviewed and upgraded to NHAs and, similarly, sites listed as tentative on the UNESCO Heritage List may be upgraded to designated heritage sites.

There are currently 29 established and 18 potential invasive species threats. Species which are listed as potential threats may become established threats in the near future. The EPA’s report on alien invasive species and the continuing development of the National Biodiversity Data Centre National Invasive Species Database will aid in the documentation of the distribution of invasive species in Ireland. These reports and datasets will go towards the implementation of the recent European legislation on halting the spread of invasive species (Regulation 1143/2014, entered into force on 1 January 2015).

5.4.2. Key Issues relating to NIFTI

The key issues in relation to Biodiversity are:

- Potential to affect protected areas including European Sites (SAC (54), SPA (16) and RAMSAR(20)), and National Sites (NHAs, pNHAs) and other sites of regional or local importance (Areas of Special Scientific Interest (ASSI) (394), Areas of Outstanding Natural Beauty (AONBs) (8), Nature Reserves (50), National Heritage Sites, Wildlife Reserves);
- Potential to impact both terrestrial and aquatic biodiversity in non-designated areas;
- Potential to spread invasive species during construction.

5.4.3. Baseline Information Sources for the SEA

The assessment of biodiversity will use information from the following sources:

- NPWS;
- UNESCO;
- The RAMSAR Convention;
- Department of Agriculture, Food and the Marine;
- Invasive Species Ireland; and
- Biodiversity Data Centre National Invasive Species Database.

5.4.4. Scope of the Assessment

Biodiversity, flora and fauna have the potential to be impacted by NIFTI, through loss of habitat or spread of invasive species as a result of construction. Biodiversity designations and regulations must be integrated into the framework for prioritising transport investments and developments; therefore biodiversity, flora and fauna are scoped in to the SEA assessment. The SEA will focus on international, national and local designated sites with some focus on specific habitats and species within the AA Natura Impact Statement (NIS).
5.5. **Landscape and Visual Amenity**

There is currently no published national level landscape mapping for Ireland. In accordance with the Planning and Development Act 2010 all Local Authorities need to identify Landscape Character Areas (LCAs) within their Development Plans to ensure that defining features are protected and managed. There is no national classification system for LCAs as these are geographically specific and have their own distinctive character based on its location and surrounding environment. Some County Councils have yet to formally document LCAs. Many Local Authorities have incorporated landscape designation into their Development Plans in the form of protected views, prospects, landscape conservation areas and scenic routes etc. Similarly, to the LCAs, there is no national standardised approach for designating these landscape features/sites.

The European Landscape Convention (ELC) is the first international treaty to focus solely on landscape. The Convention promotes the protection, management and planning of European landscapes. The Irish government ratified the Convention in 2002. The National Landscape Strategy 2015-2025 published by the Department of Culture, Heritage and the Gaeltacht was put in place to drive compliance with ELC by establishing principles that provide the high-level policy framework to achieve the Convention objectives.

The landscape of Ireland is varied with a mix of lowland and upland, rivers, lakes and shores. The majority of uplands in Ireland are close to the coast. There are 45 peaks which exceed 750 metres, and which are within 56km from the coast. However, most of the landmass of Ireland, particularly the centre, is low-lying land; less than 5% lies above 500 metres and over 80% is below 200 metres.

The EPA CORINE land cover data series specifies that the dominant land cover type in Ireland is agricultural land, which accounts for over 68% of the national landmass, followed by peatlands and wetlands, covering 20.6% and forestry and semi-natural areas covering almost 11.5%. Forests in Ireland are relatively young, with almost 40% of total forest areas planted since 1990.

Another important characteristic of the Irish landscape is that there are extensive tracts of peat bog, both raised bog in the midlands, and blanket bog in the uplands and along the western seaboard, which have important ramifications for landslide susceptibility and land transport construction.

5.5.1. **Future Trends**

The existing landscape is not expected to change significantly in the immediate future. The National Landscape Strategy will be used to aid compliance with the ELC and as part of this, a National Landscape Character Assessment is currently being developed. It is a high-level policy framework aimed at achieving a balance between the protection, management and planning of the landscape by way of supporting actions (DCHG, 2015). The Planning and Development (Amendment) Act 2010 defines the term ‘landscape’, and to support this, complementary legislation and codes will be examined to see whether gaps need to be addressed therefore there may be legislation specific to landscape protection in the near future.

The main changes to landscape/cover in Ireland between the 2006 and 2012 CORINE programmes was the afforestation. There was an increase of 0.13% in the national area covered by forestry and a resultant decrease in agricultural (0.12%) and peatlands (0.04%) areas. There was also a small increase in urban fabrics/industrial or commercial units and road and rail networks and construction sites. Given the projected trend for urbanisation as discussed in Section 5.2.4, it is anticipated that these land cover trends will continue. Other future trends for land use which will affect the landscape of Ireland are detailed in Section 5.11.

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8 Landscape has the same meaning as it has in Article 1 of the European Landscape Convention which states The landscape covers the national territory, including land, inland water and seascapes of each member state. It refers equally to natural, rural, urban and peri-urban areas, from the outstanding to the degraded. It covers, in short, the entire physical environment as specified by each country upon ratification of the Convention.
5.5.2. **Key Issues relating to NIFTI**

The key issues in relation to Landscape and Visual Amenity are:

- Potential for permanent infrastructure to impact landscape and visual amenity temporarily during construction or permanently throughout operation;
- Potential for transport development to be constrained by the need to protect the landscape character and local visual amenity.

5.5.3. **Baseline Information Sources for the SEA**

The assessment in relation to landscape will use information from the following sources:

- The National Landscape Strategy for Ireland;
- CORINE Land Cover; and
- County Development Plans (as appropriate).

5.5.4. **Scope of the Assessment**

Landscape and visual amenity have the potential to be impacted by NIFTI, therefore it is scoped in to the assessment.

5.6. **Cultural Heritage - Archaeological and Architectural**

The designations considered as part of the cultural heritage baseline are:

- Record of Monuments and Places (RMPs);
- National Inventory of Architectural Heritage (NIAH);
- Record of Protected Structures (RPSs);
- Sites and Monuments Record (SMR);
- UNESCO World Heritage Sites; and
- Unknown archaeological remains.

The National Monuments Service provides an interactive mapping search facility maintained by the Archaeological Survey of Ireland which has access to all records relevant to the archaeological heritage of Ireland. This extensive body of records stores a list of recorded archaeological monuments for each county is available at www.archaeology.ie based on ordnance survey mapping.

**Record of Monuments and Places (RMP)**

The Record of Monuments and Places (RMP) is the statutory list of recorded monuments. Monuments listed in the RMP are afforded legal protection under the National Monuments Act 1930 – 2004 and any work taking place at or in relation to a Recorded Monument will typically need to be notified to the Minister.

The National Monuments Act 1930-2004 was enacted to make provision for the protection and preservation of national monuments and archaeological objects and provides for the protection of monuments and archaeological sites, the protection of the portable archaeological heritage and the regulation of archaeological works.

**National Inventory of Architectural Heritage (NIAH)**

The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 was enacted to provide for the establishment of a National Inventory of Architectural Heritage and to provide for the obligations of sanitary authorities in respect of these historic monuments. In this Act “architectural heritage” means all structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of such structures and buildings; and sites which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.
Each structure is given a rating: National, Regional, Local or Record Only. Any structure rated as being Regional or higher importance will be recommended to have a separate record under the Record of Protected Structures (RPS).

**Record of Protected Structures (RPS)**

The Planning and Development Act 2000 (as amended) requires each planning authority to compile and maintain a Record of Protected Structures (RPS) that forms part of each planning authority's development plan. The purpose of the RPS is to protect structures, or parts of structures "which form part of the architectural heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest." Sites, structures and groups of structures rated by the National Inventory of Architectural Heritage (NIAH) as being of Regional or above importance are included in the RPS which provides statutory protection for Ireland's architectural heritage.

While the prime objective of the RPS is to protect the structure and its setting, proposals for the sensitive restoration, extension and alteration of Protected Structures are positively encouraged by the Planning Authority.

**Sites and Monuments Record (SMR)**

The SMR appear on the ASI Map Viewer, however it does not, of itself, confer legal protection. Not all of these are included in the RMP and hence have no statutory protection.

**UNESCO World Heritage Sites**

There are two registered UNESCO World Heritage Sites in Ireland: Brú na Bóinne - Archaeological Ensemble of the Bend of the Boyne in Co. Meath and Skellig Michael off the coast of Co. Kerry. Since 2010 a number of sites have been on the UNESCO tentative list.

**Unknown Archaeological Remains**

There are also potentially unknown, undesignated archaeological and architectural remains including underwater archaeology throughout Ireland which could be disturbed due to the development of the land transport network.

### 5.6.1. Future Trends

It is unlikely that the cultural heritage environment will change significantly in the near future due to the continued protection of cultural, archaeological and architectural heritage in National legislation. However, there could be minor revisions to the cultural heritage datasets within the lifetime of NIFTI, and there are also a number of sites on the UNESCO tentative list that could be designated within that timeframe.

### 5.6.2. Key Issues relating to NIFTI

The key issues in relation to Cultural Heritage are:

- The potential for the construction of transport infrastructure to permanently or temporarily damage archaeological and architectural heritage monuments/sites;
- The potential for permanent structures to impact the setting of heritage sites/monuments;
- New developments could be constrained by the need to protect the character of areas;
- The potential to uncover (and/or damage) unknown, undesignated remains, including underwater archaeology.

### 5.6.3. Baseline Information Sources for the SEA

The assessment in relation to Cultural Heritage will use information from the following sources:

- The Department of Culture, Heritage and the Gaeltacht;
- National Monuments Service;
- Built Heritage and Architectural Policy Section (the NIAH);
5.6.4. **Scope of the Assessment**

Cultural Heritage sites and their settings, including architectural and archaeological sites, have the potential to be impacted by the implementation of NIFTI which sets the framework for the selection and development of specific transport infrastructure projects, and are therefore **scoped in** to the assessment.

5.7. **Geology and Soils**

**Geology**

The Geological Survey of Ireland (GSI) have identified Irish Geological Heritage Sites (IGHS) as part of their Irish Geological Heritage (IGH) Programme, a partnership between GSI and the NPWS. There are over 900 IGHS areas in Ireland.

The geology of Ireland is varied and influenced by the topography, landscape, soils, and water environment. Figure 5-8 presents an overview of the Geology of Ireland. The main rock type in Ireland is Carboniferous limestone, which covers approximately 50% of Ireland in the low-lying centre of the country. Limestone pavement is a priority habitat for conservation under the EU Habitats Directive due to habitats relying on hydrological, hydrogeological and geological conditions. The most extensive limestone pavement occurs in the Burren/East Galway area. The nature of the limestone strongly influences its susceptibility to karstification. Most of the large springs in Ireland emerge from karst. Karst springs, both large and small, are ready sources of drinking water.

Due to its particular characteristics, including an irregular bedrock surface, the presence of large voids and rapid underground drainage, karst limestone presents special problems for engineering projects such as roads, bridges and tunnels and requires construction responses to some unique engineering challenges to ensure the safety and stability of foundation control, slope instability and control of drainage. In addition, due to the conduit nature of the karst structure, there is a potential pathway for groundwater contamination to occur from surface water run-off from roads, with contaminants entering the groundwater with little or no filtration or attenuation.

The mountainous areas on the coast of Ireland surrounding this are varied. The west coast of Ireland (Donegal, Mayo and Galway) has the most varied bedrock and is made up of Precambrian Dalradian rocks and Quartzites, as well as deposits of Ordovician, Silurian and Granite. The mountains to the east of Ireland (Wicklow) mainly comprise Ordovician and Granite, and the bedrock in the south of Ireland primarily comprises Old Red Sandstone.

**Soils**

There is relatively little legislation relating directly to soil and soil protection at an international level and there is no legislation solely directed to soil protection in Ireland. In 2006, the EU published a Thematic Strategy for Soil Protection and introduced a proposed Soil Framework Directive; but in 2014 this was withdrawn.

The soils of Ireland are an immensely valuable, and finite, national resource, which forms and evolves slowly over very long periods of time and can easily be damaged and lost. Soil is a biologically active, complex mixture of weathered minerals (sand, silt and clay), organic matter, organisms, air and water that provides the foundation for life in terrestrial ecosystems. There are 10 great soil groups in Ireland, including Podzols, Brown Podzolics, Brown Earths, Grey Brown Podzolics, Blanket Peats, Gleys, Basin Peats, Rendzinas, Lithosols and Regosols (EPA, 2008). Soil types across Ireland are illustrated in Figure 5-9 below.

Subsoils in Ireland are made up of glacial and post-glacial sediments. Glacial till makes up the majority of subsoil, while other subsoils found in Ireland are sand and gravel, lake deposits, alluvium and peat.

Soil quality in Ireland is regarded as generally good. However, soil is increasingly under pressure from population growth and land use changes such as agriculture, erosion, afforestation and overgrazing. Agricultural activity has
had a huge impact on soil in Ireland, where the excessive use of nutrients (i.e. phosphorus) has had a knock-on effect for water quality deterioration. Soil contamination can also occur from leakages, spillages from industry, old mining sites and landfills. Diffuse pollution will usually arise from primary activities such as agriculture, forestry and horticulture.

In Ireland, peatland areas comprise 20.6% of our land area (An Taisce, 2016). Peatlands include blanket bogs, raised bogs, fens and wet and dry heath. The main threats to peatland areas in Ireland are peat extraction, habitat changes, invasive alien species, nutrient pollution and climate change (Teagasc, 2016). The loss and degradation of peatlands can affect biodiversity, flooding and climate change (carbon sinks).

5.7.1. Future Trends

Changes in geology are generally considered to happen over very long timescales, therefore baseline forecasting is not considered to be critical with regards to geology and soils over the lifetime of NIFTI. However, as discussed above, the NPWS are evaluating proposed IGH sites and, in the near future, some of these will be designated as NHAs and gain statutory protection.

5.7.2. Key Issues related to NIFTI

The key issues in relation to Geology and Soils are:

- Potential for impacts on geological resources (primarily related to karst) or geological conditions to pose problems for construction or new transport links;
- Potential for impacts on geological designations;
- Potential for impacts on soil resources;
- Potential impacts to soils (land) vulnerable to erosion; and
- Potential for unearthing contaminated material.
Figure 5-8 Geology of Ireland
Figure 5-9 Soil Types Ireland
5.7.3. **Baseline information Sources for the SEA**

The assessment in relation to Geology and Soils will utilise the following information sources:

- GSI;
- NPWS;
- Teagasc; and
- EPA.

5.7.4. **Scope of the Assessment**

Geology has been scoped in to the SEA, primarily related to karst features and the problems which karst limestone can present to engineering projects and the potential for it to act as a pathway for groundwater contamination. There is also potential for future development to impact on geological heritage. Soil has been scoped in to the assessment, as infrastructure developments have the potential to affect soil resources.

5.8. **Air Quality**

The biggest contributors to air pollution in Ireland are vehicle emissions. Road transport was the largest contributor to Ireland’s energy-related pollutant emissions such as particulate matter, nitrogen oxides and carbon dioxide in 2018. Electricity generation and burning solid fuels in our homes, industry and agriculture are the other key contributors. (EPA, 2020). Air Quality Ireland’s air quality is generally good in comparison to other EU member states, largely down to the prevailing Atlantic air-flow and the absence of large cities and heavy industries. The EPA is responsible for monitoring the nation’s levels of air pollutants within four zones as follows:

- Zone A: Dublin;
- Zone B: Cork;
- Zone C: Other cities and large towns in Ireland; and
- Zone D: Rural Ireland.

According to the most recent ‘Air Quality in Ireland’ reports, there was an exceedance of nitrogen dioxide at one Dublin monitoring site in 2019. This exceedance is a warning about not being complacent in tackling air pollution. On occasions, air quality is not meeting all World Health Organization guideline values for some air pollutants (mainly particulates) that have serious potential health impacts. Ireland is not meeting EU targets on emissions of ammonia to air under the National Emissions Ceiling (NEC) Directive (2016/2284/ EU); agriculture is the main source of ammonia emissions. Mixed progress in reducing the overall emissions to air from transport and energy sources.

Air Quality Zones and Air Quality Monitoring Sites in Ireland are illustrated in Figure 5-10 below.

In the State of the Environment Report, the EPA and WHO have estimated that more than 400,000 premature deaths are attributable to poor air quality in Europe annually, including 1,300 deaths in Ireland, and therefore the EPA recognises the importance of these more stringent limits. (EPA, 2020)

Ireland’s air quality standards have been dictated by the EU Directive on Ambient Air Quality and Cleaner Air for Europe (CAFE Directive 2008/50/EC). In 2016 the EU introduced the National Emissions Ceilings Directive (2016/2284). The directive introduces reporting obligations and submission deadlines on member states on emission inventories, emission projections and national air pollution control programmes to name a few.
Ireland’s Transboundary Emissions Report in 2016 it was reported that the transport sector, which mainly consists of road transport, is the principle source of Nitrogen Oxides emissions, contributing to approximately 41% of the total in 2016. (EPA, 2018)

The National Emissions Ceilings Directive requires Ireland to prepare and publish an Irish Air Pollution Control Programme which is published for consultation by the Department of Communications, Climate Action and the Environment (DCCAE). The Programme includes an outlook at compliance towards National Emissions Ceiling targets, projects against those targets for 2030, and policy options and measures across key sectors. Transport is the fastest growing sector in terms of GHG emissions and will require a multi-faceted response in terms of mitigation solutions. Electric vehicles currently occupy a central position in terms of a policy response in Ireland, with the Climate Action Plan targeting to increase the number of electric vehicles by 2030 to about one million and preparing additional charging infrastructure to cater for planned growth. (EPA, 2020)

In the EPA’s recent Transboundary Emissions Report published in 2018 has reported that Ireland was 42.3 kilotonnes above the 2010-2019 emission ceiling in 2016. The ceiling target of 65 kt for NOx, of which transport contributes 41% has proved difficult to achieve event with improved technologies. Despite an 18.6% decline in emission from road transport from 2008 to 2016, which the economic recession contributed to, emission from the transport sector have shown a 7.5 per cent increase between 2015 and 2016 due to increased vehicle numbers and mileage. (EPA, 2018)

In recent years there has also been increasing concern regarding the impact of air pollution on ecosystems and biodiversity in addition to human health. Nitrogen oxides deposit in water, on vegetation and on soils as acid rain and thereby cause adverse effects on flora and fauna. This ultimately effects the ability of ecosystems to provide ecosystem services such as nutrient and carbon cycling but also on water provision. (UNECE, no date)
Air Quality Map

Legend
Air Monitoring Sites, EPA
- Green: Active
- Blue: Inactive
- Blue with dot: Air Zone A
- Red: Air Zone B
- Purple: Air Zone C
- Yellow: Air Zone D
- White: County Boundaries

Figure 5-10 Air Quality Zones and Monitoring Sites
5.8.1. Future Trends

Although air quality in Ireland is good, there is potential for emerging pollutants to rise above limits/targets in the future. Key contributors to emissions in Ireland are the transport and agriculture sectors.

The EPA published a report titled ‘Ireland’s Air Pollutant Emissions – 1990–2030’ detailing emissions of air pollutants in Ireland in the period 1990 to 2018 and projected emissions of these pollutants for 2020 and 2030. It highlighted challenges for Ireland in relation to continued compliance with its obligations under the National Emissions Ceiling Directive. Whilst Ireland is currently in compliance with its international ceilings for most gases, the latest trends and projections indicate that Ireland will have to implement significant mitigation measures to remain in compliance out to 2030. The report emphasised that “implementing the measures announced in the Climate Action Plan will be important but not sufficient to meet all future ceilings”.

Looking towards the future, non-compliance with emission ceilings for NOx and NMVOCs (methane gas) and NH3 (ammonia) are expected to be the major challenges; highlighting “increased animal numbers and fertiliser nitrogen” as primary drivers, recommending widespread adoption of on farm measures aimed at reducing emissions, such as the use of protected urea fertilisers and low emissions slurry spreading to reduce emissions and decouple them.

A number of plans which are currently being drafted by the DCCAE are important to the achievement of the emissions targets for the transport sector including the National Clean Air Strategy, draft National Energy and Climate Plan, the Renewable Electricity Policy and Development Plan and the All of Government Plan on Climate Disruption. In addition to this the National Mitigation Plan is to be redrafted following a successful legal challenge in July 2020.

5.8.2. Key Issues relating to NIFTI

The key issues in relation to air quality are:

- Temporary generation of air pollution during infrastructure construction;
- New or expanded transport networks could increase the number of people affected by transport related air pollution;
- Changes to traffic levels, transport modes and technological development will have implications for transport related air pollution emissions.

5.8.3. Baseline Information Sources for the SEA

The assessment in relation to Air Quality will use information from the following sources:

- EPA;
- TII; and
- WHO.

5.8.4. Scope of the Assessment

Transport is one of the most significant contributors to air pollution. There is potential for significant construction and operational impacts as well as secondary and indirect effects for example to population and human health, and biodiversity therefore Air Quality has been scoped in to the assessment.

5.9. Noise and Vibration

Noise is defined as unwanted sound and can be harmful to human and ecosystem health. Noise pollution is an important health concern affecting quality of life and wellbeing, and road transport is one of the main sources of environmental noise pollution in Europe, as outlined in Section 5.2.2 of this report. The health impacts of transport
noise have been touched on in Section 5.1. According to WHO, noise is the second greatest environmental cause of health problems after air quality.

“Environmental noise exposure is responsible for a range of health effects, including increased risk of ischaemic heart disease as well as sleep disturbance, cognitive impairment among children, annoyance, stress-related mental health risks, and tinnitus.” (WHO, no date)

The effects of noise pollution on human health are well known, however the effects noise pollution has on wildlife is being explored more recently. An example of such a study is that traffic noise can reduce the distance over which acoustic signals such as song can be detected, an effect known as acoustic interference or masking making it more difficult for birds to establish and maintain territories, attract mates and maintain pair bonds, and possibly leading to reduced breeding success in noisy roadside habitats. (Parris, K. and Schneider, A., 2009)

Land use planning to safeguard the protection of quiet areas not affected by noise can bring environmental health benefits. Quiet areas are important in providing a haven of natural soundscape for citizens, particularly in urban areas, as well as benefiting biodiversity (EEA, 2014). Public parks and other green and blue spaces often represent more tranquil environments that not only provide a buffer against excessive urban noise but also provide a multitude of additional benefits that can improve our health and wellbeing, e.g. attenuating air pollution, reducing flood risk, reducing excessive temperatures. (EPA, 2020). The National Planning Framework further states that ‘as we seek to promote more compact and efficient forms of development within our settlements, it is important to more proactively manage noise’. For larger urban areas, the extra value placed on ‘quiet areas’ is also highlighted as a key priority.

The Noise Directive (2002/49/EC) relates to the assessment and management of environmental noise and was transposed into Irish national legislation via the Environmental Noise Regulations (S. I. No. 140 of 2006). This Directive called for the development of strategic noise maps and action plans for major roads, railways, airports and cities. TII are responsible for the development of strategic noise maps for all national roads carrying in excess of 3 million vehicles a year and for light rail lines (i.e. the Luas network) which has more than 30,000 passengers per year). An example of Noise Mapping for Transport Noise in Ireland can be seen in Figure 5-11 below.

All noise maps are presented in terms of two noise indicators: Lden and Lnight.

- Lden is the day-evening-night noise indicator and it represents the noise indicator for overall annoyance. It is ‘weighted’ to account for extra annoyance in the evening and night periods.
- Lnight is the night time noise indicator and is used in the assessment of sleep disturbance.

These indicators are based on yearlong averages of the day (07:00-19:00), evening (19:00-23:00) and night (23:00-07:00) time periods.

5.9.1. Future Trends

Future noise trends are difficult to predict. The Environmental Noise Regulations 2006 may be revised in future to enforce a stricter level of noise management, and further strategic noise maps and plans may be developed.

5.9.2. Key Issues relating to NIFTI

The key issues in relation to Noise and Vibration are:

- Temporary generation of noise pollution during infrastructure construction;
- New or expanded transport networks could increase the number of people affected by transport noise pollution;
- Changes to traffic levels, transport modes and technological development will have implications for transport related noise pollution.
5.9.3. **Baseline Information Sources for the SEA**

The assessment in relation to noise and vibration will use information from the following sources:

- EPA;
- TII; and
- WHO.

5.9.4. **Scope of the Assessment**

Transport is a significant contributor to noise pollution. Depending on proximity of receptors, there is potential for significant construction noise and for long term operational noise impacts linked to population and human health, and biodiversity, therefore noise impacts have been scoped in to the assessment.
Figure 5-11 Transport Noise in Ireland
5.10. Water Environment

Land transport construction and operational use have potential to impact the ecological status of waterbodies. Pollution by suspended solids and other pollutants are a potential significant problem where a new infrastructure is constructed close to or over watercourses, particularly where this involves in-stream works, construction of culverts or river diversion, all of which can have severe negative impacts on invertebrate and plant life and on all life stages of fish as a result of changes in water quality and/or surface water hydrology. In addition, the run-off from roads and rail can contain contaminants from various sources, which can also impact negatively on aquatic life including fish and shellfish, seabirds and marine mammals, ecosystem structuring and functioning, fish spawning and nursery areas, passage of migratory fish.

Transport and strategic utilities infrastructure can be particularly vulnerable to flooding pressure as interruption of their function can have widespread effects well beyond the area that is flooded. For example, flooding of roads or railways can deny access to large areas beyond those directly affected by the flooding for the duration of the flood event, as well as causing long term damage to the road or railway itself.

The quality of the water environment is also vitally important to the operation of commercial or recreational water based activities in Ireland including commercial and recreational fishing and angling, amenity and recreational areas, mineral and aggregate resources, and navigation.

The EU Water Framework Directive (2000/60/EC) establishes a framework for the protection of both surface and groundwater. Transposing legislation outlines the water protection and water management measures required in Ireland to maintain high status of waters where it exists and to prevent any deterioration in existing water status:
- European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003);
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009);
- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010);
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010 (S.I. No. 610 of 2010);
- European Communities (Technical Specifications for the Chemical Analysis and Monitoring of Water Status) Regulations, 2011 (S.I. No. 489 of 2011); and

WFD Status

2,355 Rivers, 215 Lakes and 9 Reservoirs, 79 Transitional Water Bodies, 45 Coastal water bodies and 514 ground water bodies have been assessed as part of the most recent EPA Water Quality reporting cycle. The WFD status of waterbodies in Ireland is detailed in Table 5-1 below.

WFD classification consists of chemical and ecological status. There are five classes of status for surface water bodies, and the status is determined by that of the poorest quality element. Table 5-1 summarises the WFD status of all water bodies including surface and groundwater over the period 2013-2018.

Table 5-1 WFD Status of Rivers, Coastal Waters, Estuaries, Lakes and Groundwater (2013-2018)

<table>
<thead>
<tr>
<th>Waterbody Type</th>
<th>High</th>
<th>Good</th>
<th>Moderate</th>
<th>Poor</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivers</td>
<td>8%</td>
<td>45%</td>
<td>28%</td>
<td>19%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Coastal</td>
<td>22%</td>
<td>58%</td>
<td>18%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Estuaries</td>
<td>9%</td>
<td>29%</td>
<td>37%</td>
<td>18%</td>
<td>7%</td>
</tr>
<tr>
<td>Lakes</td>
<td>8%</td>
<td>43%</td>
<td>32%</td>
<td>13%</td>
<td>%</td>
</tr>
<tr>
<td>Groundwater</td>
<td>N/A</td>
<td>92%</td>
<td>N/A</td>
<td>7.4%</td>
<td>N/A</td>
</tr>
</tbody>
</table>


Key Message (SOE7): Water Quality (EPA, 2020)

Improve the water environment and tackle water pollution locally at a water catchment level.
Over 50% of Irish river and coastal waters are at good or high status but over 50% of estuarine and lacustrine waters are at moderate or less status. A long-term trend that has been previously observed is the decline in the number of high status river water bodies (DHPLG, 2017). The status of waterbodies in Ireland are illustrated in Figure 5-12 and Figure 5-13 below.

It is generally understood that mercury and polycyclic aromatic hydrocarbons (PAH) are widespread in the environment, a trend seen globally and in the EPA monitoring data for the WFD. In addition, four of the 297 water bodies were at poor chemical status for exceedances in standards for metals (cadmium, lead and nickel), two pesticides (atrazine and simazine) and the plastic iser Di(2ethylhexyl)-phthalate (DEHP) (DHPCLG, 2017).

**River Basin Management Plan**

The River Basin Management Plan is produced as part of the WFD requirements and is key to the protection of the water environment in Ireland. The first cycle of the River Basin Management Plan (RBMP) ran from 2009-2015, where separate plans were devised for all eight River Basin Districts (RBDs) with the objective of achieving at least ‘good’ status for all waters by 2015. The second cycle of the River Basin Management Plan: 2015-2021 have merged the Eastern, South Eastern, Western, South Western and Shannon Districts to form one national RBD. The North Eastern, North Western and Neagh Bann RBDs remain the same and a single administrative area will be established in the Republic of Ireland for these areas. The third cycle of the River Basin Management Plan 2018-2021 outlined the updated figures regarding water bodies at risk.

The RBMP outlined that of the water bodies assessed to date:
- 44% are “Not at Risk”;
- 30% are “At Risk” of not meeting their environmental objective of good or high status; and
- 26% are currently under review.

A number of significant pressures causing At Risk status of water bodies have been identified and outlined in the RBMP, one of which was Urban Run-off.

Other pressures include agriculture, urban waste-water, domestic waste-water, forestry, and extractive industries. Significant pressures have been classified into 14 categories and eight categories of measures were identified to address the significant pressures each with a specific programme of measures or actions to address the pressure category. (Government of Ireland, 2018)

**Key Message (SOE8): Marine (EPA, 2020)**

Reduce the human-induced pressures on the marine environment.
Surface Water (WFD Quality)

Legend

Water Status (2013-2018)
- High
- Good
- Moderate
- Poor
- Bad
- Unassigned

Figure 5-12 Surface Water Quality Ireland
Groundwater (WFD Quality)

Legend
Water Status (2013-2018)
- Good
- Poor

Figure 5-13 Groundwater Quality Ireland
Floods Directive

Flooding is becoming a bigger issue in Ireland; the frequency of flood events has been increasing and with climate change, is expected to increase further. Increased flooding can cause pressure transport infrastructure in terms of denying access to roads, railways or services, and long-term damage to roads and railways. Figure 5-14 shows the fluvial and coastal flood hazard areas in relation to the main road and railway network across Ireland.

The EU Floods Directive (2007/60/EC) required member states to develop Flood Risk Management Plans for areas of existing and future potentially significant flood risk. The Floods Directive was transposed into Irish law by the EU (Assessment and Management of Flood Risks) Regulations 2010 and sets out the responsibilities of Office of Public Works (OPW). The OPW has been implementing the Directive mainly through the Catchment-based Flood Risk Assessment and Management (CFRAM) Programme, through which 29 draft FRMPs have been developed. Approximately 300 Areas for Further Assessment (AFAs) have been established and a range of measures to reduce or manage the flood risk within each catchment. CRFAMS mapping for all AFAs is available to view on the CRFAMS website (http://maps.opw.ie/floodplans/fhr_map/en/).

5.10.1. Future Trends

Ireland currently has a good understanding of the causes of water pollution, due to the implementation of the WFD. Proposed future development must meet the requirements of the WFD and aim to drive improvements and maintenance of water quality in the short term and provide a basis for the continued maintenance of good status in the future.

The EPA will continue to monitor the status of surface and groundwater bodies, throughout implementation of the second cycle of RBMP.

With the publication of the OPW FRMPs there will be a number of flood management projects rolled out across the country in the next number of years, and like the RBMP, these will be updated on a five-year cycle.

5.10.2. Key Issues related to NIFTI

The key issues in relation to the Water Environment are:

- Potential pressures and impacts on water body status from the construction of transport infrastructure i.e. increased sedimentation, accidental spillages or creeping pollution and unnecessary culverting;
- Potential pressures and impacts on water body status from the operation of new transport infrastructure i.e. accidental fuel spillages and increased road run-off or creeping/chronic pollution;
- Potential for impacts on hydrological processes and/or biodiversity as an indirect effect as a result of impacts on water quality;
- Potential for climate change and the effects of climate change, such as increased flooding, to impede access to transport infrastructure or damage transport infrastructure.
Figure 5-14 Fluvial and Coastal Flood Hazard Areas
5.10.3. **Baseline information Sources for the SEA**

The assessment in relation to **Water Environment** will utilise the following information sources:

- WFD data from EPA;
- State of the Environment Report (2020);

5.10.4. **Scope of the Assessment**

NIFTI has the potential to impact on **Surface and Groundwater resources**. The assessment may also need to consider the potential transboundary effects on water catchments and river basins which are located in Ireland and Northern Ireland. Therefore, the water environment is **scoped in** to the assessment.

5.11. **Land Use and Materials Assets**

SEA legislation includes ‘Material Assets’ as a topic to be addressed in SEA, however does not clearly define what this topic includes. For the purpose of this SEA Scoping Report, Material Assets are considered to be the natural and built assets (non-cultural assets) required to enable a settlement to function as a place to live and work, in giving them material value. Land Use is also a topic to be addressed in the SEA, and is closely related to natural material assets, therefore natural assets which include agricultural land, peatlands and forestry will also be considered within the land use/material assets topic.

Built assets can include infrastructure relating to transport, energy generation/distribution, water supply and waste water management, waste management, buildings and residential and social infrastructure such as housing, healthcare facilities, schools, greenspace and cycle paths.

**Land Use (Natural Assets)**

Land use in Ireland is detailed on the CORINE Land Cover inventory, see Figure 5-15. The total land area of Ireland is almost 7 million hectares and agriculture accounts for two-thirds of this land cover. 81% of agricultural land is devoted to pasture, hay and grass silage (3.6 million hectares), 11% to rough grazing and 8% to crops, fruit and horticulture production. (EPA, 2014)

Peatlands and wetlands are the second most widespread land cover type covering almost one-fifth of the country. Bord na Móna own 7.5% of all Irish bogs, while forested areas cover almost 10%, much of which consists of commercial plantation of conifers, owned by Coillte. Most of this is permanent grassland pastures. Peatlands and wetlands are the second most widespread land cover type, covering almost 20% of the country; Bord na Móna own 7.5% of all Irish bogs.

Ireland is of international importance for peatlands with Irish raised bogs the most important remaining in Europe. Ireland is also the most important country in Europe for blanket bog with 8% of the world’s blanket bog present within the State. There are three main types of peatland in Ireland; these are fens, raised bogs and blanket bogs (IPCC, n.d.). To date, 75 raised bogs have been given legal protection under the Wildlife Acts, formally designated as NHAs covering some 23,000 hectares. These raised bogs are located mainly in the midlands. A further 73 sites containing blanket bog habitats, covering some 37,000 hectares, mostly in western areas, are also designated as NHAs (NPWS, n.d). Ireland’s peatlands are of immense value and are particularly vulnerable to external pressures, with their degradation having impacts on climate change, biodiversity and water quality. Peatland management is relevant to NIFTI to ensure that peatlands are managed and protected to enhance carbon sequestration and reduce greenhouse gas emissions. In addition, peatlands are important ecosystems which support a wide variety of habitats. Land transport construction in peatlands is difficult due to the low strength of peat which can lead to landslides.
Figure 5-15 CORINE Landcover Ireland
In 2018, forestry represented 9.5 per cent of the national area. There has been a general upward trend in the percentage of the national area covered with forestry since 1990, with a 0.02 per cent increase since 2012. Most of this growth relates to an increase in commercial coniferous plantations. The aim is to increase forest cover to 18 per cent by the year 2050. (EPA, 2020) Approximately 440,000 acres forest cover is under public ownership, mainly that of Coillte. The majority of private forest owners in Ireland are farmers. (EPA, 2020) Forests in Ireland are relatively young, with almost 40% (approximately 260,000 ha) of total forest areas planted since 1990 (EPA, 2016). This is particularly significant for climate change, as the annual carbon store in afforestation can be used to offset emissions from other sectors and help achieve Ireland’s targets to reduce greenhouse gas (GHG) emissions. Since 1990, Ireland has had the highest rate of forest expansion (as a percentage of total forest cover) of all EU Member states. We still, however, have one of the lowest afforestation levels in the EU. (EPA, 2020).

Road and Rail networks made up 0.09% of land cover in Ireland in 2012, an increase of 0.02% since 2006 following an additional 1,891 ha of networks constructed during that period.

Over the past thirty years, the main changes to land use in Ireland have been a decrease in the total amount of agricultural land and peatland areas and an increase to forested land and artificial areas. (EPA, 2014)

**Built Material Assets (Transport)**

Transport infrastructure including road, rail, canals, airports and ports are some of the most important national level material assets in Ireland.

The Irish road network is currently made up of almost 100,000kms, of which motorways account for just under 1,000km, national roads account for 5,360 km, regional roads, 13,120km and 80,472km of local roads. (DoT, 2017a) The usage of the motorway and national road network is proportionally higher than the network as a whole. There were over 48,500 billion vehicle kilometres driven on Ireland’s roads in 2016, and just under 20,000 billion (41%) of there were on Ireland’s national road network. (DoT, 2018k)

The Iarnród Éireann rail network currently extends to approximately 2,400 km of track. The network includes main line, Dublin suburban and commuter passenger routes, together with freight-only routes. There is a cross-border connection to the railway system in Northern Ireland between Dundalk and Newry. There is also the Dublin rail system serving Dublin City, Malahide, Howth and Greystones. 66 Luas trams operate on close to 40kms of track in Dublin City Centre, and there are 2,422 buses in operation. Key road and rail transport networks, along with key settlements in Ireland are illustrated in Figure 5-16 below.
Figure 5-16 Key Transport Networks in Ireland in relation to key settlements
The three main airports servicing the country are Dublin, Cork and Shannon. There are also a number of regional airports including Donegal, Galway, Kerry, Knock, Sligo and Waterford. (DTTAS, 2015b) International air travel is an essential driver of inward direct investment, and surface access to Ireland's airports is crucial for both arriving and departing passengers as well as those working in and around the airport and the movement of freight through the airports. The figures below were provided by TII and shows travel time in 2017 to state airports from the entire country in 2017 and in 2040 in the NIFTI do-minimum modelling scenario (DoT, 2018m).

The key NDP project which is expected to improve access to the country's largest and most connected airport; the MetroLink (due to be completed in 2027), will cater for 15,000 passengers per direction per hour and will link Dublin airport with Swords to the north and Dublin's city centre and onwards to Charlemont to the south. It is not yet clear to what extent passengers using the MetroLink will replace private car traffic. There are no confirmed road access schemes for Dublin airport included in the NDP. (DoT, 2018m)

The main Irish ports, in terms of tourism and trading, are Dublin Port, Rosslare Port and Cork Port. Dublin Port is the centre of unitised trade and has benefited greatly from the construction of the Dublin Port Tunnel. The tunnel links the port to the M50 which is highly important as the majority of Ireland’s freight is distributed by road. Irish Ports handled 53.3 million tonnes of goods in 2017, an increase of 5.2% compared to 2016 (CSO, 2017). The figures below were provided by TII and shows travel time in 2017 to ports from the entire country in 2017 and in 2040 in the NIFTI do-minimum modelling scenario. (DoT, 2018m)
It is thought that there are approximately 4,100kms of cycleway across the country as of 2009, although this was an estimate following an incomplete study. Since 2008 there have been approximately 792kms of cycleway delivered from funding by DoT. This has been through investment in sustainable transport projects such as cycling greenways and active travel towns. A number of bike schemes have been implemented, in Dublin, Cork, Galway and Limerick and a total of 2,240 bikes have been provided (DTTAS, 2015b).

5.11.1. Future Trends

**Natural Assets / Land Use**

The Government’s intention for the future development of Ireland is to maximise the use of valuable land for agriculture, business and society. The Government policy is to bring the national forest cover to 17% by 2030. The Department of Agriculture, Food and the Marine (DAFM) has prepared a series of schemes to meet the overall “Afforestation and Creation of Woodland” measure in the National Forestry Programme 2014-2020. Two strategies, Food Harvest 2020 and Food Wise 2025 have been developed to develop the Irish agri-food sector (DAFM, 2015). The Department for Housing, Planning and Local Government (DHPLG) have zoned land across Ireland for rural/agricultural use; to protect and improve rural amenity and to provide for the development of agriculture.

The National Planning Framework sets a new approach to land use planning and aims to increase the efficiency of land use and this will undoubtedly have an implication on transport and infrastructure plans and strategies such as NIFTI. It places an emphasis on prioritising the use of brownfield sites over greenfield, encouraging the use and reuse of buildings in urban and rural areas reducing sprawl. The National Planning Framework states:

“If Ireland is to make up for lost ground in relation to carbon reduction targets and move towards the objective of a low carbon and climate resilient Ireland by 2050, it is necessary to make choices about how we balance growth with more sustainable approaches to development and land use and to examine how planning policy can help shape national infrastructural decisions.”
Effective implementation will require substantially better linkage between zoning of land and the availability of infrastructure. There is a need to address issues such as the differentiation between zoned land that is available for development and zoned land that requires significant further investment in services for infrastructure for development to be realised (Government of Ireland, 2018). City and county development plans will need to adopt this approach to future land use zoning and development plans will need to be aligned with the approach set out in the National Planning Framework and this will have an impact on where transport infrastructure may need to be upgraded or introduced.

**Built Assets: Transport**

Transport Infrastructure Ireland (TII) has a number of projects that have recently concluded or are in the planning and construction phases. A major public transport scheme recently completed is the Luas Cross City scheme. Road schemes which are currently in construction include the M11 Gorey to Enniscorthy project and a number of national road projects in Kilkenny, Roscommon, Galway and Cork. Road network schemes currently in planning stages of development include national road projects in Donegal, Mayo, Sligo, Galway, Cork, Kerry, Kildare and Meath.

The Government’s National Development Plan (worth €116 billion between 2018-2027) presents the investment in infrastructure in Ireland throughout the nine-year period. The plan sets out a number of aims and details projects for development throughout the plan period including; the BusConnects Programme, LUAS Green Line Capacity Enhancement, DART Expansion Programme and Metro Link in addition to a number of road improvements and developments throughout the country.

There are a number of other national infrastructure plans and strategies in the development stages which will set the framework for infrastructure projects that could affect the development or implementation of NIFTI. The Government has implemented reforms to the water sector, which included the establishment of a state-led utility and a water metering programme run by Irish Water. This will continue to influence the prospects for and management of water-related infrastructure. Irish Water’s Business Plan 2015-2021 details a €5.5billion investment in current infrastructure in order to deal with challenges such as compliance with drinking water standards, meeting demand and improving efficiency of the system. Irish Water have published a Water Services Strategic Plan and are currently developing a draft National Water Resource Plan.

There are a number of national strategies and plans in place for Ireland’s energy needs with specific plans developed regarding renewable energy including the Government’s White Paper *Ireland’s Transition to a Low Carbon Energy Future (2015-2030)*. One of the most recent is the government publication of the Department of Energy, Communications and Natural Resources (DECRN) *Offshore Renewable Energy Development Plan*.

The SEAI Strategic Plan 2010-2015 promoted renewable energy both on a large commercial scale and as microgeneration. SEAI is currently preparing to develop a new strategic plan to cover up to 2020.

The DHPLG has zoned land for utilities and strategic infrastructure, residential development and community-educational-institutional. Within the Government’s Capital Investment Plan 2016-2021 there are plans for over €3 billion investment in healthcare including new intensive care units and facilities and just under €3 billion investment in housing including further investment in social housing and various other residential developments. Land zoning and local development plans will have to be taken into consideration for future transport network proposals.
Brexit may result in impacts in terms of trade at ports and airports in Ireland which have indirect impacts on land transport to and from ports and airports. There is potential for an increase in the importance and use of the Tier 2 ports (Waterford & Rosslare) after Brexit. Due to their proximity to continental Europe there could be an increased congestion levels in their environs and could therefore lead to increased travel time to the nearest port in the South-East region. (DoT, 2018m)
5.11.2. **Key Issues relating to NIFTI**

The key issues in relation to the land use/material assets topic are:

- Likely increase in the demand for transport within Ireland due to economic growth and development, particularly within urban populations;
- Over-reliance on private car and related pressures for supporting infrastructure;
- Building materials used, their manufacture and management and/or disposal or waste generated from new transport infrastructure;
- Temporary or permanent loss and fragmentation of valuable natural assets such as agricultural land, forests and peatlands; during construction and/or operation of transport options;
- Effects of construction on current infrastructure such as road/rail/waterway networks.

5.11.3. **Baseline Information Sources for the SEA**

The assessment in relation to Material Assets will use information from the following sources:

- Teagasc;
- EPA;
- DoT;
- TII;
- Iarnród Éireann;
- CORINE Land Cover;
- Irish Water;
- EirGrid; and
- ESB.

5.11.4. **Scope of the Assessment**

NIFTI will need to consider existing infrastructure in Ireland such as Water Treatment Plants, water main networks, electricity grid networks, existing transport infrastructure and networks etc. NIFTI sets the framework for developing new transport networks or investments to existing transport networks that may be on or close to valuable land or infrastructure. NIFTI will also look at existing land uses and planned land uses to ensure that there are sufficient transport links in all areas to provide access to employment, health service, education and other amenities. Therefore, land use and material assets are scoped in to the assessment.

5.12. **Climate Change**

*Legislative Background*

The National Policy Position on Climate Action and Low Carbon Development and the Climate Action and Low Carbon Development Act 2015 provide the policy framework for climate action at national level in Ireland. At EU and United Nations level, there are a number of strategies and policies that set out the requirements for national mitigation and adaptation. In summary, these policies and strategies are looking to minimise global temperature rise to 1.5°C. In order to do so, Ireland’s aim is to achieve greenhouse gas emission reductions for non-Emission Trading Scheme* (ETS) sectors by at least 20% of 2005 levels by 2020 and 40% of 1990 levels by 2030.

**Climate Change (EPA, 2020)**

As an island in the North Atlantic Ocean, Ireland is particularly vulnerable to rising sea levels and changing weather patterns and has a major stake in ensuring that the world acts now to decarbonise our energy systems and to protect humanity and the natural world on which we depend from the inevitable consequences of the changes already made to our climate.

Ireland adopted its first National Climate Change Adaptation Framework in 2012 which aims to ensure that adaptation actions are taken across all sectors from a national to local level to reduce vulnerability to climate change. In 2015, Ireland adopted the Climate Action and Low Carbon Development Act 2015 which provides an

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* These sectors cover agriculture, transport, built environment (residential, commercial/institutional), waste and non-energy intensive industry.
approach for the transition to a low carbon economy, by setting the requirement for two integrated statutory plans: the National Mitigation Plan (Department of Communications, Climate Action and Environment, 2017) and the National Adaptation Framework. The National Mitigation Plan has recently been quashed by the Irish Supreme Court on the basis that it does not provide enough detail about how the State will reduce greenhouse gas emissions. A new plan will be drawn up; however NIFTI will continue to aim to be in line with the existing plan until the new plan is published.

Therefore, under the Climate Action and Low Carbon Development Act Ireland’s first statutory National Adaptation Framework was published in 2018, and builds on the 2012 framework outlining a whole government and society approach to climate adaptation in Ireland. It places a requirement on Government Departments to prepare sectoral adaptation plans in relation to a priority area that they are responsible for and local authorities are also required to prepare local adaptation strategies. The Department of Transport is responsible for developing the adaptation plan transport infrastructure. The Department had prepared an adaptation plan Developing Resilience to Climate Change in the Irish Transport Sector in 2017 under the non-statutory 2012 framework, however, it must now develop a statutory adaptation plan in accordance with the National Adaptation Framework and the guidelines provided.

The Climate Action Plan 2019 sets out an emissions reduction pathway for Ireland to achieve its EU target of a 30% reduction of emissions in the non-emissions trading system (ETS) sector by 2030 relative to 2005 levels. The non-ETS sector includes Ireland’s two largest sources of emissions, agriculture and transport, and decarbonising the transport sector will therefore play a significant role in reaching the long-term goal of net zero emissions by 2050.

In 2019, Ireland published the National Mitigation Plan setting out a series of mitigation measures and actions to address the challenges of meeting the 2020 and 2030 targets. Ireland’s key focus to achieve its emissions target is to reduce emissions from its largest contributing sectors: agriculture, transport and energy. Ireland has adopted its first National Adaptation Framework in 2018 which aims to ensure that adaptation actions are taken across all sectors from a national to local level to reduce vulnerability to climate change. However, in July 2020, the plan was quashed by the Irish Supreme Court, following a legal challenge by Friends of the Irish Environment, on the basis that it does not provide enough detail about how the State will reduce greenhouse gas emissions and now a new, more detailed plan will be drawn up.

**Climate Change and Transport**

The Climate Action Plan builds on mitigation policies outlined in Project Ireland 2040, which includes transport measures such as a target of 500,000 electric vehicles on the road by 2030 and the delivery of BusConnects in all five cities. However even with the measures outlined in Project Ireland 2040, and when additional emission flexibilities from less carbon intensive land use are included, Ireland still requires an additional 58.4 million tonnes of abatement to reach its 2030 target. In order to close this gap, the Climate Action Plan adopts a number of ambitious targets.

The targeted emissions reduction for the transport sector is a reduction of 7 to 8 million tonnes of CO₂ over the period 2021 to 2030. In addition to raising the electric vehicle target to 936,000 on the road by 2030 to help deliver this reduction, the Climate Action Plan recognises the importance of other technologies such as biofuels and compressed natural gas for decarbonising road transport. The Climate Action Plan also acknowledges the crucial role that achieving modal shift to more sustainable forms of transport will play in achieving the emissions reduction target for the transport sector.
Given the significant contribution transport makes to Ireland’s emissions and the ambitious sectoral targets outlined above, it is imperative that NIFTI is fully reflective of the need to decarbonise the transport sector. Ireland’s emissions profile has changed considerably since 1990, with the contribution from transport increasing by 136.8% between 1990 and 2019 with road transport increasing by 142.4%. In 2019 emissions decreased by 0.3% compared to 2018 with decreases in all sectors except for Commercial and Public Services. This reflects an increase in efficiency which can be attributed to both new vehicles and an increase in biofuels as well as a continued decrease in petrol use in 2019. The transport share of overall national greenhouse gas emissions remains now at that 20%, as illustrated in Figure 5-19 below. Transport emissions have decreased by 16.2% below peak levels in 2007 primarily due to the economic downturn, improving vehicle standards due to the changes in vehicle registration tax, the increase in use of biofuels and significant decreases in fuel tourism in recent years. (EPA, 2019)

Central to the aims to decarbonise the transport sector is the National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland. It represents a first step in communicating a longer term vision for the Irish transport sector setting an ambitious target that by 2030 all new cars and vans sold in Ireland will be zero emissions (or zero emissions capable) with the use of fossil fuels vehicles rapidly receding. (DTTAS, 2017c)

5.12.1. Future Trends

Current projections indicate that Ireland will be 2% below 2005 levels by 2020 against the target of 20% target for non-ETS sector emissions under the ‘With Additional Measures’ scenario, and 4% below 2005 levels the ‘With Existing Measures’ scenario. The ‘With Existing Measures’ scenario assumes that no additional policies and measures, beyond those already in place by the end of 2017, are implemented. The ‘With Additional Measures’ scenario assumes implementation of the ‘With Existing Measures’ scenario in addition to, based on

![Figure 5-19: Emissions per Sector in Ireland (2019)](image-url)

Key Message (SOE4): Climate (EPA, 2020)
Keep communities informed, engaged and provide support in terms of the protection and improvement of the environment.
current progress, further implementation of Government renewable and energy efficiency policies and measures
including those set out in the National Renewable Energy Action Plan, the National Energy Efficiency Action Plan
and Ireland’s National Development Plan 2018-2027. (EPA, 2019)

Most recent greenhouse gas emissions projections show total emissions decreasing from the 2018 levels by 2%
by 2030 under the With Existing Measures scenario and by 23% under the With Additional Measures scenario.
Under the With Existing Measures scenario, transport emissions are projected to decrease by 7.6% over the period
2019-2030. The main policy instruments impacting transport emissions in this scenario are the Biofuels
Obligations Scheme\(^\text{10}\) and the uptake of electric vehicles.

Under the With Additional Measures scenario, transport emissions are projected to decrease by 37.8% over the
period 2019 to 2030. Under this scenario it is assumed that the Biofuel Obligations Scheme is developed further;
incremental increases are assumed to occur with 10% blend for petrol (E10) and a 12% blend for diesel (B12) in
place in 2030. This scenario also assumes 935,000 Electric Vehicles on the road by 2030, as a result of the
implementation of the 2019 Climate Action Plan. This includes approximately 550,000 battery electric vehicles
and 288,000 plug in hybrid electric vehicles.

In 2019, Ireland’s Climate Action Plan was published which aims to
tackle to the climate breakdown and achieve net zero greenhouse
gas emissions by 2050. It sets out a number of Actions for Transport
to ensure Ireland’s climate targets are met, including actions to
empower a model shift in Transport away from reliance on private
car. A number of necessary steps for delivery of each action have
been identified along with a timeline for delivery. The development
of the new National Mitigation Plan and the adoption of the draft Climate Action and Low Carbon Development
(Amendment) Bill 2020 will also have the potential to improve the existing projected future trends for climate
change in Ireland.

5.12.2. Key Issues in relation to NIFTI

The key issues in relation to climate change are:

- Increased pressure on and damage to transport infrastructure due more incidents of heavy rainfall;
- More frequent and damaging storms resulting in damage to assets and loss of power;
- More frequent incidents of heavy rainfall leading to spot flooding which can impede access to
  transport infrastructure;
- Sea level rise causing flooding and resulting in increased road run-off contaminating water sources;
- Carbon emissions from energy use and the requirement for energy efficiency; and
- The location of the future transport infrastructure (existing or planned) should take into account
  flood risk and the location of any proposed flood defence schemes.

5.12.3. Baseline information sources for the SEA

- The Department of Communications, Climate Action and Environment;
- EPA;
- CFRAM Studies (Office of Public Works, 2016);
- A 250-year drought catalogue for the island of Ireland (1765–2015) (Noone et al., 2017); and
- Met Eireann.

5.12.4. Scope of the Assessment

Climate change and extreme weather events could have a significant impact on transport infrastructure assets and
access to transport. Transport is one of the key contributors to GHG emissions and therefore plays a vital role in
Ireland’s ability to meet national and EU targets.

\(^{10}\) Which places an obligation on suppliers of mineral oil to ensure that 12.359% (by volume) of the motor fuel (generally gasoline and motor diesel)
they place on the market in Ireland is produced from renewable sources, e.g. bioethanol and biodiesel.
Energy efficiency and the carbon emissions associated with energy consumption for transport and will be a consideration for the selection of future schemes to ensure NIFTI contributes to overall objectives on carbon emissions. As a result, energy efficiency and carbon emissions (climate change mitigation) and environmental resilience to climate change (climate change adaptation) are scoped in to the assessment.

5.13. Transboundary Effects

There are transboundary roads which provide transport networks between Northern Ireland and Ireland, in addition to a transboundary railway service between Dundalk and Newry.

The National Planning Framework aims to ‘enhance transport connectivity between Ireland and Northern Ireland, to include cross-border road and rail, cycling and walking routes as well as blueways, greenways and peatways therefore it is possible that NIFTI will recommend strategies to enhance this cross-border link. The NPF and NDP (Section 4.3) specifically aims for investment to support the ambition for development of the border region, including but not limited to the N2/A5 road serving Meath, Monaghan and Donegal; the N14 Manorcunningham to Lifford; the N52 Ardee Bypass, and the Narrow Water Bridge project in Co. Louth.

NIFTI has the potential to result in infrastructure works or traffic changes along cross-border links in Northern Ireland. There is therefore, potential for transboundary effects under all environmental topics Some of the key areas for consideration in the development of this plan are discussed below.

Tourism and Recreation
Tourism Ireland in its 2018 Marketing Plan has committed to promoting tourism in Northern Ireland including major themes attractions such as the Causeway Coastal Route, Titanic Belfast, the Giant’s Causeway, National Trust properties and ‘Screen tourism’ such as the Game of Thrones tours and attractions (Tourism Ireland, 2017). Many overseas visitors take the opportunity to visit Northern Ireland when visiting Ireland and vice versa. Therefore, improving cross-border networks will be a key theme of NIFTI.

NIFTI will therefore need to consider the following in Northern Ireland when making recommendations:

- The landscape character that attracts tourists and visitors; and
- Access to and enjoyment of strategic tourist and recreation facilities and activities.

There are also potential for transboundary affects in relation to Climate Change, Air Quality, Noise, Landscape and Land Use. The current environment in these areas are similar in Ireland and Northern Ireland and therefore the same key issues should be considered.

Biodiversity
Many habitats in Northern Ireland could be affected by implementation of NIFTI. A number of internationally and nationally designated sites should be considered when proposing cross-border strategies.

- Special Protection Areas (SPA) – 16;
- Special Areas of Conservation (SAC) – 58;
- Ramsar Sites - 20;
- Nature Reserves – 48;
- Marine Nature Reserves – 1 (Strangford Lough);
- Areas of Special Scientific Interest (ASSI) – over 400;
- Sites of Local Nature Conservation Importance (SLNCIs) – over 100;
- Areas of Outstanding Natural Beauty – 9;
- World Heritage Site – 1 (Giant’s Causeway).

Cultural Heritage
Cultural Heritage designations of Northern Ireland should be considered when making plan recommendations.

- Sites and Monuments – approximately 16,000;
- Monuments in State Care – almost 200;
SEA Environmental Report

- Scheduled Historic Monuments – almost 2,000;
- Historic Buildings – over 9,000;
- Listed Buildings – approximately 8,500;
- Areas of Significant Archaeological Interest – 10;
- Conservation Areas – 60;
- Defence Heritage Features – over 600;
- Battlefields – over 30;
- Heritage Gardens Inventory – over 154;
- World Heritage Sites – 1 (The Giant’s Causeway).

Geology and Soils

Similar geological make up in terms of the presence of predominantly limestone, but also granite, sandstone and basalt. Numerous ASSI’s have been designated for geological value and should be considered when making plan recommendations.

Water Environment

There are numerous waterbodies which cross the Irish border which have the potential to cause transboundary impacts. Cross border catchments in Ireland include:

- Lough Neagh and Lower Bann: This catchment includes the area drained by the River Bann and by all streams entering tidal water between the Barmouth and Ballyaghran Point, Co. Derry. This is a cross border catchment with a surface area of 5,787 km², 374 km² of which is located within the Republic of Ireland (RoI). The largest urban centre in the catchment is Monaghan town. There are no other large towns in this catchment and the total population (in the RoI) is approximately 20,500 with a population density of 55 people per km².

- River Foyle: The Foyle catchment includes the area drained by the River Foyle and by all streams entering tidal water between Culmore Point, Co. Derry and Coolkeeragh, Co. Derry. This is a cross border catchment with a surface area of 2,919 km², 914 km² of which is located within the Republic of Ireland (RoI). The largest urban centres in the catchment are Ballybofey and Stranorlar. The population (in the RoI) is approximately 29,650, with a population density of 32 people per km². The eastern half of the catchment, located in Northern Ireland, drains most of County Tyrone and a small part of north western County Derry. The part of the catchment located in Donegal is largely mountainous.

- Newry, Fane, Glyde and Dee: This catchment includes the area drained by the Newry, Fane, Glyde and Dee rivers, and by all streams entering tidal water between Murlough Upper and The Haven, Co. Louth. This is a cross border catchment with a surface area of 2,125 km², 1390 km² of which is located within the Republic of Ireland (RoI). The largest urban centre is Dundalk. The other main urban centres are Carrickmacross, Ardee, Kingscourt, Dunleer and Castleblaney and the total population (in the RoI) is approximately 115,900, with a population density of 83 people per km².

The cross-border impacts to these waterbodies should be considered when making recommendations within NIFTI. Any proposals that might involve construction within Northern Ireland should consider the wider water environment of Northern Ireland.

Material Assets

As discussed above, Ireland has many important road connections with Northern Ireland in addition to a cross-border rail connection between Dundalk and Newry. Northern Ireland has three commercial airports, in Belfast International Airport and Belfast City Airport and City of Derry Airport, as well as five commercial ports in Belfast, Larne, Londonderry, Coleraine and Warrenpoint. Access to these ports must be considered when making any recommendations within NIFTI.
5.13.1. Key Issues Relating to NIFTI

The key issues are similar to those outlined under each theme in the previous sections but primarily related to the environment in Northern Ireland.

5.13.2. Baseline Information Sources for the SEA

The assessment in relation to transboundary effect will utilise information from the following sources:

- Northern Ireland Environment Agency (NIEA);
- Joint Nature Conservation Committee (JNCC);
- Departmental Data; and
- Geological Survey of Northern Ireland (GSNI).

5.13.3. Scope of Assessment

Transboundary effects are scoped in to the SEA, as there is potential for effects to Northern Ireland.
5.14. Summary of the Scope of the SEA

The scope of the SEA has been determined by the key issues and trends established in the baseline assessment. The scope of the assessment is outlined in Table 5-2.

Table 5-2 Summary of the key issues and scope for the SEA

<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Key Issues</th>
<th>Scope</th>
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</table>
| Population, Human Health and Economy | • Population increase, specific trends such as an aging population and economic growth will increase the demand for transport infrastructure within Ireland and has the potential to affect traffic;  
• The construction of transport infrastructure may cause temporary disruption to the local community in the form of noise, disruption to transport services/utilities and increased traffic etc.;  
• Potential for loss/gain of public amenity as a result of development;  
• Patterns for settlement and economic growth will influence the location of transport infrastructure. | Scoped in: Population, Human Health and Economy                        |
| Tourism and Recreation           | • Transport infrastructure development may have the potential to restrict or reduce access to recreation and/or tourism sites;  
• Increased tourists will put strain on existing networks particularly public transport. | Scoped in: Tourism and Recreation sites (including issues such as access) |
| Biodiversity, Flora and Fauna    | • Potential to affect protected areas including European Sites (SAC (54), SPA (16) and RAMSAR (20)), and National Sites (NHAs, pNHAs) and other sites of regional or local importance (Areas of Special Scientific Interest (ASSI) (394), Areas of Outstanding Natural Beauty (AONBs) (8), Nature Reserves (50), National Heritage Sites, Wildlife Reserves);  
• Potential to impact biodiversity in non-designated areas;  
• Potential to spread invasive species during construction. | Scoped in: International and national designations and local habitats and species. |
| Landscape                        | • Potential for permanent infrastructure to impact landscape and visual amenity temporarily during construction or permanently throughout operation;  
• Potential for transport development to be constrained by the need to protect the landscape character and local visual amenity. | Scoped in: Landscape and visual amenity                                |
| Cultural Heritage (Archaeological and Architectural) | • The potential for the construction of transport infrastructure to permanently or temporarily damage archaeological and architectural heritage monuments/sites;  
• The potential for permanent structures to impact the setting of heritage sites/monuments;  
• New developments could be constrained by the need to protect the character of areas;  
• The potential to uncover (and/or damage) unknown, undesignated remains, including underwater archaeology. | Scoped in: Cultural Heritage (including Archaeology and Architecture) |
| Geology and Soils                | • Potential for impacts on geological resources (primarily related to karst) or geological conditions to pose problems for construction or new transport links;  
• Potential for impacts on geological designations;  
• Potential for impacts on soil resources;  
• Potential impacts to soils (land) vulnerable to erosion; and  
• Potential for unearthing contaminated material. | Scoped in: Geology, Soils, contaminated land, mineral resources, IGH sites, and geological pNHAs. |
<p>| Air Quality                       | • Temporary generation of noise and air pollution during infrastructure construction;                                                                                                                        | Scoped in: Air quality                                                |</p>
<table>
<thead>
<tr>
<th>Theme</th>
<th>Scoped in:</th>
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<tbody>
<tr>
<td>Noise and Vibration</td>
<td>• Temporary generation of noise pollution during infrastructure construction;</td>
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<td></td>
<td>• New or expanded transport networks could increase number of people affected by transport noise pollution;</td>
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<td>• Changes to traffic levels, transport modal use and technological development will have implications for transport related noise pollution and exposure.</td>
</tr>
<tr>
<td></td>
<td>Scoped in: Noise and vibration</td>
</tr>
<tr>
<td>Water Environment</td>
<td>• Potential pressures and impacts on water body status from the construction of transport infrastructure i.e. increased sedimentation, accidental spillages, creeping pollution and unnecessary culverting;</td>
</tr>
<tr>
<td></td>
<td>• Potential pressures and impacts on water body status from the operation of new transport infrastructure i.e. accidental spillages (fuel), increased run-off/creeping pollution, unnecessary culverting;</td>
</tr>
<tr>
<td></td>
<td>• Potential for impacts on hydrological processes and/or biodiversity indirectly as a result of impacts on water quality;</td>
</tr>
<tr>
<td></td>
<td>• Potential for climate change and the effects of climate change, such as increased flooding, to impede access to transport infrastructure or damage transport infrastructure.</td>
</tr>
<tr>
<td></td>
<td>Scoped in: Surface Water Quality, Groundwater Quality, Flood Risk</td>
</tr>
<tr>
<td>Land Use and Material Assets</td>
<td>• Increase in the demand for transport within Ireland due to economic growth and development, particularly within urban populations;</td>
</tr>
<tr>
<td></td>
<td>• Economic growth and development could increase the demand for transport within Ireland, particularly within urban populations;</td>
</tr>
<tr>
<td></td>
<td>• Over-reliance on private car and related pressures for supporting infrastructure;</td>
</tr>
<tr>
<td></td>
<td>• Building materials used - manufacture, management and/or disposal or waste generated from new transport infrastructure;</td>
</tr>
<tr>
<td></td>
<td>• Temporary or permanent loss and fragmentation of valuable natural assets such as agricultural land, forests and peatlands, during construction and/or operation of transport options;</td>
</tr>
<tr>
<td></td>
<td>• Effects of construction on current infrastructure such as road/rail/waterway networks.</td>
</tr>
<tr>
<td></td>
<td>Scoped in: Land Use and Natural Assets: protected woodland areas, commercial forests, forest parks, valuable agricultural land and Material Assets: existing infrastructure important to the area.</td>
</tr>
<tr>
<td>Climate</td>
<td>• Increased pressure on and damage to transport infrastructure due more incidents of heavy rainfall and other extreme weather events;</td>
</tr>
<tr>
<td></td>
<td>• More frequent and damaging storms resulting in damage to assets and loss of power;</td>
</tr>
<tr>
<td></td>
<td>• More frequent incidents of heavy rainfall leading to spot flooding which can impede access to transport infrastructure;</td>
</tr>
<tr>
<td></td>
<td>• Sea level rise causing flooding and resulting in increased road run-off contaminating water sources;</td>
</tr>
<tr>
<td></td>
<td>• Carbon emissions from energy use and the requirement for energy efficiency; and</td>
</tr>
<tr>
<td></td>
<td>• The location of the future transport infrastructure (existing or planned) should take into account flood risk and the location of any proposed flood defence schemes.</td>
</tr>
<tr>
<td></td>
<td>Scoped in: Climate change adaptation and its effects on the transport network. Climate change mitigation - contribution to climate change issues as a result of transport operations.</td>
</tr>
<tr>
<td>Transboundary Effects</td>
<td>• The key issues are similar to those outlined under each theme in the previous sections but primarily related to the environment in Northern Ireland.</td>
</tr>
<tr>
<td></td>
<td>Scoped in: Transboundary Issues</td>
</tr>
</tbody>
</table>
6. Review of Plans, Programmes and Policies

6.1. Introduction

SEA requires a review of other plans, policies and programmes to ensure that the relationship with these other documents and requirements is explored and evaluated. This review will also identify potential conflicts between the NIFTI objectives and objectives/aims within other national plans. Our understanding of the potential future land use changes in the Study Area will be based, in the short to medium term, on the published statutory and non-statutory spatial planning documents produced by Government and the Planning Authorities.

**SDG 17: Partnerships to achieve the Goal**

Revitalise the global partnership for sustainable development.

How NIFTI fits into the current planning policy framework is illustrated in Figure 6-1. The list of relevant plans, policies and programmes and a summary of the key documents reviewed can be found in Appendix B. Table 6-1 summarises the SEA topics and the other plans, policies and programmes of relevance to these.

In reviewing other plans, policies and programmes, the following questions were asked:

- Does NIFTI contribute to the fulfilment of objectives set in other policy and legislative frameworks?
- To what degree are the objectives set in other policy and legislative frameworks impacted by the NIFTI?

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**Key Message (SOE1): Environmental Policy Position (EPA, 2020)**

There are many interlinkages and dependencies between environmental policies and legislation. These links could be better connected and reinforced through an integrated national policy position on protecting Ireland’s environment.

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*Publication forthcoming*

Figure 6-1: Governance Structure for NIFTI
6.2. Key Policy Influences

6.2.1. The National Planning Framework

In February 2018, the Government published Project Ireland 2040 with the publication of the National Planning Framework for Ireland out to 2040 and the National Development Plan to 2027. The National Planning Framework is the Government’s plan to cater for the extra one million people that are projected to be living in Ireland, the additional two thirds of a million people working in Ireland and the half a million extra homes needed in Ireland by 2040. It focuses on:

- Growing our regions, their cities, towns and villages and rural fabric;
- Building more accessible urban centres of scale;
- Better outcomes for communities and the environment, through more effective and coordinated planning, investment and delivery.

Some key aspects of the NPF include:

- The five cities of Dublin, Cork, Limerick Galway and Waterford will be targeted to accommodate 50% of overall national growth between them;
- A more effective balance of growth between Ireland’s regions will be sought;
- There will be a major new policy emphasis on renewing and developing existing built-up areas rather than continual expansion and sprawl of cities and towns into the countryside;
- A significant proportion of national population and economic growth will be targeted at building up the fabric of our network of smaller towns, villages and rural areas.

6.2.2. The National Development Plan: 2018-2027

The National Development Plan 2018 - 2027 (NDP) sets out the investment that will underpin the implementation of the National Planning Framework through a total investment of approximately €116 billion.

In the first five years of the plan, almost €10bn will be invested in transport which will see maintenance requirements for existing infrastructure largely met and, over the lifetime of the plan, a host of significant and transformative new infrastructure delivered, such as BusConnects, comprehensive cycling networks in all five cities, MetroLink, expansion of the DART network, the Galway city ring road and the M20 Cork to Limerick.

Within the NDP, Departmental funding envelopes are set out for a five-year period to 2022, and this is extended on a rolling basis as part of the annual Estimates process. A full mid-term review of the NDP is scheduled for 2022, following which an updated ten-year plan will be published in 2023 covering the period 2023 to 2032.

From 2023, an important development is that Government Departments will have to demonstrate how investment proposals meet the NSOs rather being allocated funding on a sectoral basis as has been the case in the past. This will encourage greater collaboration across Government and ensure that investment is focused on outcomes for society rather than outputs in terms of infrastructure.

6.2.3. The Climate Action Plan 2019

The Climate Action Plan 2019 sets out an emissions reduction pathway for Ireland to achieve its EU target of a 30% reduction of emissions in the non-emissions trading system (ETS) sector by 2030 relative to 2005 levels. The non-ETS sector includes Ireland’s two largest sources of emissions, agriculture and transport, and decarbonising the transport sector will therefore play a significant role in reaching the long-term goal of net zero emissions by 2050.
The Climate Action Plan builds on mitigation policies outlined in Project Ireland 2040, which includes transport measures such as a target of 500,000 electric vehicles on the road by 2030 and the delivery of BusConnects in all five cities. However, even with the measures outlined in Project Ireland 2040, and when additional emission flexibilities from less carbon intensive land use are included, Ireland still requires an additional 58.4 million tonnes of abatement to reach its 2030 target. In order to close this gap, the Climate Action Plan adopts a number of ambitious targets.

The targeted emissions reduction for the transport sector is a reduction of 7 to 8 million tonnes of CO\(_2\) over the period 2021 to 2030. In addition to raising the electric vehicle target to 936,000 on the road by 2030 to help deliver this reduction, the Climate Action Plan recognises the importance of other technologies such as biofuels and compressed natural gas for decarbonising road transport. The Climate Action Plan also acknowledges the crucial role that achieving modal shift to more sustainable forms of transport will play in achieving the emissions reduction target for the transport sector.

Given the significant contribution transport makes to Ireland’s emissions and the ambitious sectoral targets outlined above, it is imperative that NIFTI is fully reflective of the need to decarbonise the transport sector.

### 6.2.4. Strategic Investment Framework for Land Transport

The Strategic Investment Framework for Land Transport (SIFLT) was published by DTTAS (now DoT) in 2015. In the context of constrained funding following the financial crisis, SIFLT established high-level priorities for future transport investment and the key principles to which investment proposals had to adhere.

SIFLT has successfully guided investment in the land transport network over recent years and its foremost investment priority of achieving steady state maintenance is prominent within the NDP. However, the SIFLT framework must be periodically reviewed to ensure it remains appropriate and with the launch of Project Ireland 2040 in February 2018, it is timely to undertake such a review.

NIFTI will replace SIFLT as the framework for future land transport investment. NIFTI translates the NSOs to a transport-specific context, developing investment priorities and an intervention hierarchy which will ensure that the transport sector plays its part in delivering Project Ireland 2040.

Future transport investment projects and programmes—whether they are developed by the NTA in the case of public transport, TII in the case of the national road network, or local authorities in the case of regional and local roads and other projects of a local nature—will have to demonstrate they fit with NIFTI and, by extension, with Project Ireland 2040.

### 6.2.5. National Air Pollution Control Programme

Ireland is required to produce a National Air Pollution Control Programme (NAPCP) every four years, under the EU National Emissions Ceiling Directive (NECD). The NECD establishes emission ceilings for 2020 and 2030 for five specified pollutants.

The first NAPCP for Ireland was prepared and submitted to the EU Commission in 2019. The NAPCP demonstrates the pathway Ireland will follow to achieve compliance with the NECD 2020 and 2030 targets and presents an overview of current and projected 2030 emissions levels for each of the five pollutants.

The transport sector is a significant contributor to air pollution in Ireland. It is the primary source of nitrogen oxide emissions, with passenger cars and heavy goods vehicles the most significant emitters.

### 6.2.6. Clean Air Strategy

Air pollution is one of the leading causes of premature death in Europe. Besides health impacts, air pollution can cause significant adverse environmental impacts, including the degradation of biodiversity and water quality.
In order to address these health and environmental challenges the Department of Communications, Climate Action and Environment (DCCAE) is in the process of developing a National Clean Air Strategy with the final strategy due to be completed by the end of the year.

In the transport sector, emissions arise mostly from road transport, which is responsible for nitrogen oxide, fine particulate matter and black carbon pollution arising from increased numbers of diesel cars and buses in our cities and towns. The Urban Environmental Indicators report published by the Environmental Protection Agency (EPA) in 2019 reveals the extent of nitrogen dioxide pollution across Dublin City resulting from heavy traffic levels.

6.2.7. All Relevant Plans, Policies and Programmes

Table 6-1 below lists all the key plans, policies and programmes relevant to NIFTI. The relevance of each plan is summarised in Appendix A.

Table 6-1 Summary of the Plan, Policy and Programme review

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>Plans, Policy and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Aspects</td>
<td>EU Sustainability Policy</td>
</tr>
<tr>
<td></td>
<td>UN Sustainable Development Goals</td>
</tr>
<tr>
<td></td>
<td>Our Sustainable Future, a Framework for Sustainable Development for Ireland (2012)</td>
</tr>
<tr>
<td></td>
<td>Strategic Environmental Directive (2001/42/EC) and associated Irish legislation</td>
</tr>
<tr>
<td></td>
<td>Environmental Impact Assessment Directive (2014/52/EU) and associated Irish legislation</td>
</tr>
<tr>
<td></td>
<td>Ireland 2040: Our Plan - National Planning Framework</td>
</tr>
<tr>
<td></td>
<td>Regional Spatial and Economic Strategies (RSES)</td>
</tr>
<tr>
<td></td>
<td>County and City Development Plans</td>
</tr>
<tr>
<td></td>
<td>National Planning and Development Act 2000 (as amended)</td>
</tr>
<tr>
<td></td>
<td>Planning and Development Regulations 2001 (as amended)</td>
</tr>
<tr>
<td>Population, Human Health and Economy</td>
<td>Aarhus Convention</td>
</tr>
<tr>
<td></td>
<td>Healthy Ireland Framework</td>
</tr>
<tr>
<td></td>
<td>Strategic Investment Framework for Land Transport</td>
</tr>
<tr>
<td></td>
<td>Capital Investment Plan 2016 – 2021</td>
</tr>
<tr>
<td></td>
<td>National Development Plan 2018 – 2027</td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>EU Tourism Policy</td>
</tr>
<tr>
<td></td>
<td>National Countryside Recreation Strategy</td>
</tr>
<tr>
<td></td>
<td>Tourism Policy Statement</td>
</tr>
<tr>
<td></td>
<td>Tourism Action Plan 2016–2018</td>
</tr>
<tr>
<td></td>
<td>County-based recreation strategies</td>
</tr>
<tr>
<td>Biodiversity, Flora and Fauna</td>
<td>International and EU Conventions</td>
</tr>
<tr>
<td></td>
<td>EU Biodiversity Strategy, 2011</td>
</tr>
<tr>
<td></td>
<td>The Habitats Directive (92/43/EEC)</td>
</tr>
<tr>
<td></td>
<td>The Birds Directive (2009/147/EC)</td>
</tr>
<tr>
<td></td>
<td>Wildlife Act 1976 - 2010</td>
</tr>
<tr>
<td></td>
<td>European Communities (Birds and Natural Habitats) Regulations 2011 as amended</td>
</tr>
<tr>
<td></td>
<td>Other National Biodiversity related regulations</td>
</tr>
<tr>
<td></td>
<td>National Biodiversity Plan</td>
</tr>
<tr>
<td></td>
<td>County &amp; City Heritage Plans</td>
</tr>
</tbody>
</table>
| Landscape and Visual Amenity | European Landscape Convention  
|                            | A National Landscape Strategy (NLS) for Ireland  
|                            | County Landscape Character Assessments  
| Cultural Heritage (Archaeological and Architectural) | EU Conventions on Archaeological, Architectural and Cultural Heritage  
|                              | Planning and Development Acts  
|                              | Heritage Act  
|                              | National Monuments Act  
|                              | Architectural Heritage and Historic Monuments Act  
|                              | County Heritage Plans  
| Geology and Soils | Planning and Development Act  
|                              | Action Plan for Rural Development  
| Air Quality | Ambient Air Quality and Cleaner Air for Europe (CAFÉ) Directive (2008/50/EC)  
|                              | Environmental Protection Agency Act 1992 to 2007  
|                              | Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)  
|                              | Environmental Protection Agency Act 1992 to 2007  
|                              | River Basin Management Plans  
|                              | Floods Directive (2007/60/EC)  
|                              | Transposing Regulation for the above Directives  
|                              | Flood Risk Management Plans  
|                              | The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ (the FRM Guidelines)  
| Land Use and Material Assets | Ireland 2040: Our Plan - National Planning Framework  
|                              | Regional Spatial and Economic Strategies  
|                              | County and City Development Plans  
|                              | Local Area Plans  
|                              | Capital Investment Plan 2016-2021  
|                              | Waste Management Acts 1996 - 2005  
|                              | Regional/County-based waste management strategies and mineral plans  
|                              | Smarter Travel "A New Transport Policy for Ireland" 2009-2020  
|                              | 2030 Rail Network Strategy  
|                              | NRA National Secondary Road Needs Study (2011)  
|                              | Sectoral Plan for Accessible Transport; Transport Access for All 2006  
| Climate Change | The Kyoto Protocol  
|                              | Paris Agreement 2015  
|                              | EU Energy and Climate (2020) Package 2009  
|                              | The Climate Action and Low Carbon Development Act 2015  
|                              | Climate Change Adaptation Framework  
|                              | Ireland’s National Policy Position on Climate Action and Low Carbon Development (2014)  


### National and Transboundary Issues

<table>
<thead>
<tr>
<th>National Issues</th>
<th>Transboundary Issues</th>
</tr>
</thead>
</table>
| - National Mitigation Plan 2017 (Quashed 2020) and National Adaptation Framework 2018  
- National Renewable Energy Action Plan  
- Strategic Planning Policy Statement for Northern Ireland (SPPS); Planning for Sustainable Development (2015)  
- Regional Development Strategy: Building a Better Future, 2035  
- Northern Ireland Climate Change Adaptation Programme  
- Northern Ireland Mitigation Action Plan  
- The Air Quality Standards Regulations (Northern Ireland) 2010  
- The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009  
- The Environmental Liability (Prevention and Remediation) (Amendment) Regulations (Northern Ireland) 2009  
- Northern Ireland Countryside Survey (2007)  
- Northern Ireland State of the Seas Report (2011)  
- Northern Ireland Landscape Character Assessment  
- Northern Ireland Regional Seascape Character Assessment (2014)  
- Wildlife and Natural Environment Act 2011  
- Environment NI Order 2002  
- Conservation (Natural Habitats) Regs (NI) 1995  
- Nature Conservation and Amenity Lands (NI) Order 1985  
- Wildlife (NI) Order 1985  
- Historic Monuments and Archaeological Objects (NI) Order 1995  
- Marine Act (NI) 2013  
- UK Marine Policy Statement (2011)  
7. SEA Methodology

7.1. Introduction

This section of the SEA Environmental Report details the methodology and criteria used in the SEA Assessment of NIFTI.

The environmental baseline identifies key issues, trends and challenges for each of the SEA topic environmental areas. Those issues deemed to have potential to interact with NIFTI have been scoped in to the SEA, as detailed in Table 5-2. The key legal requirements of other plans, policies and programmes have been discussed in Table 6-1 and in more detail in Appendix B.

The existing baseline conditions, future baseline trends and legal requirements within relevant plans, policies and programmes have shaped the development of the scope and SEA Objectives for this assessment. These SEA objectives provide a framework for the assessment of the potential significant effects of the draft NIFTI.

7.2. SEA Objectives

During the Stage 2: Scoping of the SEA process a set of SEA Objectives and assessment criteria were developed. Following consultation on the Stage 2 Scoping Report, the SEA Objectives have been finalised. These SEA Objectives provide the framework for the assessing the impacts of NIFTI and the alternative plan approaches. The final SEA Objectives are provided in Table 7-1. The assessment criteria are discussed further in Table 7-2.

Table 7-1 SEA Objectives

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>SEA Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, Human Health, and Economy</td>
<td>Protect and enhance human health and quality of life in relation increasing accessibility to economic, employment and community facilities through enhanced transport infrastructure and contributing to reduced transport emissions.</td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>Protect recreation areas and amenity facilities and support and enhance access for tourism and recreation.</td>
</tr>
<tr>
<td>Biodiversity, Flora and Fauna</td>
<td>Protect and, where appropriate, enhance terrestrial, aquatic and soil biodiversity, particularly EU and national designated sites and protected species, and associated ecological corridors.</td>
</tr>
<tr>
<td>Landscape and Visual Amenity</td>
<td>Safeguard the character and diversity of the Irish landscape and minimise the visual effects on sensitive, designated landscapes and public views.</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>Protect cultural heritage resources and their settings.</td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>Protect geological sites of value and contribute towards the appropriate management of soil resources and quality.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Contribute to the reduction of air pollution (and improvement of air quality) resulting from transport.</td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>Contribute to mitigation of noise pollution issues resulting from transport.</td>
</tr>
<tr>
<td>Water Environment</td>
<td>Support the achievement of WFD objectives and avoid increasing flood risk.</td>
</tr>
<tr>
<td>Land Use and Material Assets</td>
<td>Promote the sustainable use of natural resources (including land), encourage energy efficiency, materials reuse and recycling and the effective use of existing infrastructure.</td>
</tr>
</tbody>
</table>
7.3. Influencing NIFTI through SEA

The development of NIFTI is an iterative process which will be influenced throughout by the SEA. The SEA process includes considering potential alternative approaches for meeting NIFTI objectives and assessing the priorities and intervention hierarchy set out in draft NIFTI. This includes considering the future implementation of NIFTI and how SEA Objectives can be integrated into the downstream programme and project appraisal process undertaken in advance of the requirement for planning and project level environmental impact assessment (EIA). Figure 7-1 illustrates how the NIFTI, SEA and AA development process stages are integrated.

NIFTI identifies what the constraints are in the existing network and the priorities for investment during the lifetime of the plan. Each of these priorities and the intervention hierarchy to help enable Project Ireland 2040 through NIFTI will be assessed against the SEA Objectives.

7.4. SEA Assessment Approach

The SEA is be based on assessment against defined SEA Objectives. This includes considering the following against the SEA Objectives outlined in Section 7.2:

- The NIFTI Priorities and Intervention Hierarchy (Section 8.3.7 and 8.3.12);
- Alternative approaches and selection of preferred approach for meeting NIFTI objectives (Section 8.4);
- Cumulative impacts associated with the priorities and intervention hierarchy identified in NIFTI (Section 8.5).

The assessment is summarised through matrices identifying the potential for significant effects against each SEA Objective.

A clear description of the expected nature of these effects is given, for example whether they are direct/indirect, short-term/ long-term, negative, positive, mixed positive and negative or neutral., in accordance with Schedule 2, part (f) of the SEA Directive and Schedule 2B of the Planning and Development (SEA) Regulations, 2004 (as amended).

The assessment criteria to be used to guide the assessment are set out in Table 7-2 below. These provide the basis for identifying potential environmental effects and the potential significance of these effects. These criteria have been amended and updated following consultation. The objectives and recommended investment priorities set out in draft NIFTI are assessed against the criteria and the significance of any anticipated effects detailed as outlined in Table 7-3.
Figure 7-1 Integration of the SEA and AA with the NIFTI development process
### Table 7-2 SEA Assessment Criteria

<table>
<thead>
<tr>
<th>SEA Topic and Objectives</th>
<th>Criteria / Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population, Human Health and Economy</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Protect and enhance human health and quality of life in relation to increasing accessibility to economic, employment and community facilities through enhanced transport infrastructure and contributing to reduced transport emissions. | Is there potential to:  
- Affect public health and quality of life in terms of improved access to transport to jobs, schools, shops and other community facilities?  
- Avoid creation of barriers to access from linear infrastructure?  
- Reduce journey times for commuting?  
- Improve access for rural populations dependent on land transport?  
- Improve quality of travel and access to information?  
- Improve physical access for all mobility impaired people?  
- Raise public awareness of opportunities for more sustainable transport or more active travel?  
- Avoid impacts on public health and wellbeing from increased traffic related to congestion, noise and air quality?  
- Support local economic development for employment and community facilities?  
- Support resilience against effects of Brexit on the economy? |
| **Tourism and Recreation** |  |
| Protect recreation areas and amenity facilities and support and enhance access for tourism and recreation. | Is there potential to result in:  
- Loss of or enhanced access to recreational amenity, footpaths or access to recreational amenity (including water-based recreation);  
- Loss of or enhanced access to key tourism attractions in Ireland? |
| **Biodiversity, Flora and Fauna** |  |
| Protect and, where appropriate, enhance terrestrial, aquatic and soil biodiversity, particularly EU and national designated sites and protected species, and associated ecological corridors. | Is there potential to result in significant or adverse effects (direct or indirect) on:  
- European; (Natura 2000) or species protected in Annex II and IV of Habitats Directive and Annex I of Birds Directive?  
- Nationally designated sites NHA’s and pNHAs?  
- Local, county or national biodiversity including Irish Biodiversity Action Plan objectives? |
| **Landscape and Visual Amenity** |  |
| Safeguard the character and diversity of the Irish landscape and minimise the visual effects on sensitive, designated landscapes and public views. | Is there potential to:  
- Affect sensitive landscapes such as seascapes, townscapes and river views or visual amenity, for example are there impacts to landscape protection zones or scenic views or routes? |
| **Cultural Heritage** |  |
| Protect cultural heritage resources and their settings. | Is there potential to:  
- Cause direct damage to, or detract from the setting of, designated cultural heritage assets, or does this contribute to protecting them (including marine based archaeology, old bridges and railway corridors and undiscovered archaeology)? |
Geology and Soils

Protect geological sites of value and contribute towards the appropriate management of soil resources and quality.

Would there be any effects on:
- Any designated or non-designated geological features, valuable soils or contaminated land sites?

Air Quality

Contribute to the reduction of air pollution (and improvement of air quality) resulting from transport.

- Is there potential to contribute to improvements to air quality or to increase air pollution? Is there a potential to breach air quality standards?

Noise

Contribute to mitigation of noise pollution issues resulting from transport.

- Is there potential to reduce or increase the number of people exposed to high levels of transport related noise?

Water Environment

Support the achievement of WFD objectives and avoid increasing flood risk.

Is there potential for:
- Non-temporary deterioration of waterbody status or conflict with or contribute to potential to achieve WFD objectives for achieving “Good” status (ground and surface water)?
- Is there a potential for this option to increase flood risk or result in loss of flood plain?

Land Use and Material Assets

Promote the sustainable use of natural resources (including land), encourage energy efficiency, materials reuse and recycling and the effective use of existing infrastructure.

Is there potential for:
- Conflicts with critical infrastructure, or does the option conflict with existing business, planned land use or valuable agricultural land?
- Does the option encourage:
  - Reuse of existing transport infrastructure and/or brownfield sites?
  - Energy security by reducing use of fossil fuels?
  - Use of renewable energy fuel sources?

Climate Change (Mitigation)

Minimise contributions to climate change (through reducing greenhouse gas emissions and decarbonisation of the transport fleet) as a result of construction of new and/or upgraded transport infrastructure or operation of existing and new transport networks and fleets.

Will there be:
- High increase in the level of construction and operational carbon emissions or will proposals contribute to meeting future emission targets?

Climate Change (Adaptation)

Ensure that resilience to climate change is incorporated within the existing transport network and any proposed new transport infrastructure and that environmental resilience to climate change is supported.

Will there be:
- Increased vulnerability or resilience of the environment and transport and other strategic infrastructure to climate change?
### Table 7-3 Significance of Effect

<table>
<thead>
<tr>
<th>Description of Effect</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft NIFTI proposals or recommendations are likely to have a significant positive effect on the environmental receptors associated with this objective.</td>
<td>+</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations are likely to have a significant negative effect on the environmental receptors associated with this objective.</td>
<td>-</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations are uncertain/there is insufficient information on which to determine effect on the environmental receptors associated with this objective.</td>
<td>?</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations are likely to have a neutral effect on the environmental receptors associated with this objective.</td>
<td>0</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations are likely to have mixed significant positive &amp; negative effects on the environmental receptors associated with this objective.</td>
<td>+/-</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations may have neutral or significant negative effects on the environmental receptors associated with this objective depending on how the policy or objective is delivered.</td>
<td>0/-</td>
</tr>
<tr>
<td>Draft NIFTI proposals or recommendations may have neutral or significant positive effects on the environmental receptors associated with this objective depending on how the policy or objective is delivered.</td>
<td>0/+</td>
</tr>
</tbody>
</table>

#### 7.5. Appropriate Assessment

Both EU and national guidance exists in relation to Member States fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive.

The AA process will be undertaken in accordance with the following national guidance documents:

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government (DEHLG), 2010);
- Assessment of Plans and Projects Significantly Affecting European sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (The EC, 2002); and

Guidance documents on Appropriate Assessment (AA) promote a four-stage assessment approach with the outcome from each stage determining if a following stage is required. The four stages are shown in Figure 2-3 along with how the integrate into the SEA process.

Stage 1 and 2 of the AA process have been conducted.

**Stage 1: Screening for AA / Test of Significance:**

Screening determines whether Stage 2 AA is required by determining if the project or plan would be likely to have significant effect(s) on any European site(s) either alone or in-combination with other plans or projects. The test is of the "likelihood" of effects rather than the 'certainty" of effects. The AA Screening Report has been made available along with this SEA Scoping Report.

On completion of the Screening for AA, it was determined that potential for LSEs on European sites could not be excluded and NIFTI would undergo AA. Given the nature of this national plan covering all of Ireland, all European sites would be brought forward to Appropriate Assessment and an NIS prepared to fully inform the Appropriate Assessment of NIFTI by the Competent Authority, DoT.
**Stage 2: Appropriate Assessment:**

The AA has been conducted in parallel with this Environmental Report and considers the structure and function of European sites, their conservation objectives and effects from the project/plan both alone and in combination with other projects or plans. Where adverse effects on site integrity have been identified, mitigation measures have proposed as appropriate to avoid negative effects. The Appropriate Assessment findings have been published in a Natura Impact Statement (NIS) which will be published alongside this SEA Environmental Report and the draft National Investment Framework for Transport in Ireland for consultation.

### 7.6. Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment was undertaken in accordance with the FRM Guidelines which requires the planning system at national, regional and local levels to:

- Avoid development in areas at risk from flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify development. Where this is the case development must be appropriate and flood risks must be effectively managed to reduce the level of risk;
- Adopt a Sequential Approach to flood risk management when assessing the locations for new development based on avoidance, reduction, and mitigation of flood risk;
- Incorporate flood risk assessment into planning application decisions and appeals.

An SFRA can comprise three stages of assessment:

- **Stage 1** – Flood Risk Identification
- **Stage 2** – Initial Flood Risk Assessment
- **Stage 3** – Detailed Flood Risk Assessment

In line with the FRM Guideline, only **Stage 1 and 2 assessments** were applicable for NIFTI and undertaken at a strategic level.

**Stage 1:** A desk-based Flood Risk Assessment was carried to identify whether there may be any flood risk issues from all potential sources relating to NIFTI. The Stage 1 Strategic Flood Risk Assessment (SFRA) showed that there is a high likelihood of NIFTI affecting floodplains or flood prone areas. A Strategic Flood Risk Assessment (SFRA) was therefore completed to support the strategic development and future implementation of NIFTI.

**Stage 2:** The Stage 2 SFRA identified that NIFTI, and infrastructure projects that will sit beneath it, have the potential to result in significant adverse impacts on flood risk without appropriately considered development and mitigation. These issues relate primarily to infrastructure creep in flood zones, increased surface water runoff, and an increase in the vulnerability of the transport network.

The SFRA sets out a list of criteria which future investments under NIFTI will be assessed against to complement the existing Guidelines and ensure that the potential for significant adverse impacts on flood risk are avoided. This should ensure a robust and comprehensive assessment of flood risk is undertaken and is at the forefront of future decision-making to facilitate sustainable development. The SFRA must be revisited intermittently during the implementation of NIFTI to ensure it remains up to date and considers future changes to policy and legislation.

### 7.7. Interrelated SEA Topics

In accordance with the SEA Directive, it is important to recognise the interaction between environmental topics, as changes to one environmental aspect can directly and indirectly influence others. Table 7-4 below illustrates the potential interrelationships between the environmental topics discussed in Section 5.2 to 5.12 which are addressing in the SEA.

All SEA topics will be somewhat impacted either positively or negatively by the implementation of NIFTI. One key interrelationship is between air quality, climate and human health. For example, the increase in particulate matter and NOx from increased traffic can have direct impacts on human health and air quality, as discussed in Section 5.2 and 5.8.
7.8. Cumulative Effects

The SEA considers cumulative effects from NIFTI due to combined effects as a result of NIFTI proposals and also in combination with the implementation of other plans and programmes. Cumulative effects include additive and synergistic effects. These will be reported as part of the SEA Environmental Report as:

- Potential cumulative impacts within NIFTI;
- Potential cumulative impacts between NIFTI and other plans and programmes.

Understanding the interrelationships between environmental topics is important to support the overall assessment of cumulative effects. This includes secondary and synergistic effects. The EPA define these different types of cumulative effect as follows:

- **Indirect or secondary effects**: effects that are not a direct result of the plan but occur away from the original effect or as a result of a complex pathway. For example, the deterioration of water quality due to soil erosion following tree clearance for a road development on a woodland site. In this case the tree removal is a direct impact and the effects of the erosion are indirect impacts.

- **Cumulative effects**: the addition of many minor or significant effects, including the effects of other projects, to create larger, more significant effects. Therefore, effects that arise, for instance, where several developments (such as multiple options) each have insignificant effects but together have a
significant effect; or where several individual effects of the plan (for example noise, dust and visual) have a combined effect (in-combination effects).

- **Synergistic effects:** “Where the resultant effect is of greater significance than the sum of its constituents.” Synergistic effects often happen as habitats, resources or human communities get close to capacity. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species.

Cumulative effects assessment for NIFTI will take into account the following:

- Cumulative effects between environmental topics (Section 7.7);
- Cumulative effects between proposals and recommendations from NIFTI (Section 8.5); and
- Cumulative effects between NIFTI and other relevant plans and programmes (Section 8.5).

### 7.9. Plan Alternatives

The SEA Directive requires the SEA process to identify and describe ‘reasonable alternative' means of achieving the objectives of NIFTI. It states under Article 5(1) that:

> Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.

The reasons for selecting (a) the alternatives and (b) the preferred alternative must be documented, together with a description of how this assessment of alternatives was undertaken. Alternatives will be assessed against the SEA Objectives and clear justification for the selection of the preferred alternative/combination of alternatives will be provided.

Alternatives were considered during the development of NIFTI and alternative assessments include consideration of the following:

- **Alternative 1: No Plan Scenario: Continuation of the current situation**

Alternative assessments should include, at minimum, a no plan scenario. In the absence of NIFTI, transport planning would be guided primarily by the 2015 Strategic Investment Framework for Land Transport (SIFLT). SIFLT established three, ranked priorities:

1. Achieve Steady State Maintenance
2. Address Urban Congestion
3. Maximise the Value of Existing Land Transport Networks

The key issue with continuing with SIFLT is that its investment priorities are reflective of a different policy context. This is true both in terms of investment levels, with SIFLT developing during a period of fiscal constraint, and with regard to overarching Government policy, with the publication of the NPF and Climate Action Plan. As SIFLT predates the strategic priorities of the National Planning Framework (NPF), it would fail to incorporate the 10 NSOs, many of which are likely to require the provision of transport solutions. Additionally, SIFLT does not prioritise decarbonisation of the transport sector which has become a central policy theme in Ireland.

- **Alternative 2: Do Something (Update SIFLT)**

To ensure that future investment reflects the changed context since the publication of SIFLT is to update the investment priorities to the four Investment Priorities detailed in NIFTI:

1. Decarbonisation
2. Protection and Renewal
3. Mobility of People and Goods in Urban Areas
4. Enhanced Regional and Rural Connectivity

Updating SIFLT with these four priorities helps to ensure transport investment supports the NPF, and the inclusion of decarbonisation better reflects the Climate Action Plan and the increased urgency of that policy objective throughout Irish society. However, continuing with a ranked approach to investment priorities does not reflect the changed fiscal context, where protection and renewal costs will largely be met in the coming years and greater focus must be placed on how best to invest funding above this amount.

• **Alternative 3: With Plan (Draft NIFTI)**

Draft NIFTI represents a complete review of the national transport investment framework. In common with Alternative 2, four new investment priorities have been identified from the background analysis to support the NPF, however, these priorities are not ranked. Future investment in transport will have to demonstrate its alignment with at least one of these priorities, and projects that align with several of them will generally be preferred, but it is no longer the case that protection and renewal is the first priority in all cases. This gives NIFTI greater flexibility over pursuing broader transport investment objectives.

Compared to SIFLT, NIFTI also introduces intervention hierarchies which will ensure the most environmentally sustainable solution to a given problem is deployed. In addition, maintenance and optimisation of existing assets will be preferred to the construction of new infrastructure, with the latter likely to have greater environmental impact in most cases.

The assessment of the No Plan scenario and other plan alternatives is documented in Section 8.4.

**7.10. Mitigation and Monitoring**

Mitigation measures are defined following the identification of predicted impacts in the Environmental Report (Stage 3). Additionally, a monitoring plan has been developed allowing the predicted impacts of NIFTI to be reviewed and additional mitigation to be identified where necessary. The monitoring plan is structured around the SEA Objectives and will identify targets and indicators against which the environmental effects of NIFTI will be monitored.
8. Assessment of draft NIFTI

8.1. Introduction

The purpose of this section of the Environmental Report is to evaluate as far as possible the potential environmental effects of the draft NIFTI, and its four Investment Priorities which will set a framework for future investment in the land transport network that aligns with and facilitates Project Ireland 2040.

Details of the likely significant effects are outlined in order to inform the identification of mitigation and monitoring measures in Chapter 9, in order to prevent, reduce and as far as possible, offset any significant adverse effects on the environment.

The approach used for assessing the potential impacts as a result of the priorities and intervention hierarchy of draft NIFTI was an objective based approach. Initially a compatibility analysis of the SEA Objectives and the NIFTI potential Outcomes was be conducted. Following that, the Investment Priorities and Intervention Hierarchy outlined in NIFTI were assessed against the SEA Objectives using the methodology outlined in Section 7.4.

8.2. Inherent Mitigation

A number of mitigation measures are inherent to the implementation of NIFTI. The assessment of potential significant effects of NIFTI assumes standard or good practice mitigation measures will be considered during the implementation of the plan. These include, but are not limited to the following:

- Potential impacts on biodiversity, landscape, cultural heritage, geology and soils, air quality and noise, water quality and flood risk, to be considered and mitigated through Environmental Impact Assessment (EIA) and Habitat Regulations Assessment (HRA) process down the line;
- Equalities Impact Assessment should be undertaken for measures that aim to reduce reliance on private vehicles for social and commuting purposes and restrict freight movements in sensitive areas and implement mitigation measures as identified;
- Land take would be minimised within ecologically sensitive areas (particularly European and national designated sites) as far as practicable and/or provide compensatory habitat as determined necessary;
- Consideration of opportunities for tree planting and green verges to be incorporated within new or amended infrastructure projects, particularly walkways and cycleways;
- Sensitive design of new infrastructure, in collaboration with local councils, to ensure that existing environment is maintained and where practicable enhanced in relation to landscape, biodiversity, cultural heritage;
- Ensure appropriate site specific geotechnical and contaminated land risk assessments are undertaken and any remediation recommendations adhered to;
- Use of Sustainable Urban Drainage (SuDs) principles in new infrastructure design; and
- Ensure that design of new infrastructure reflects likely worst case climate projections in terms of resilience to wind speeds, precipitation, flood risk and increases in air temperature over the full design life of the infrastructure.

8.3. Assessment of NIFTI

8.3.1. Purpose of NIFTI

The purpose of NIFTI is to support the delivery of Project Ireland 2040 and the report outlines a number of outcomes and investment priorities in relation to land transport. The compatibility of these outcomes against the SEA Objectives has been determined using a compatibility matrix to identify any potential areas of conflict.

8.3.2. Delivering clean, low-carbon and environmentally sustainable mobility

A sustainable transport system is one which can meet the needs of the population today without compromising its ability to meet the needs of the population tomorrow. In terms of environmental sustainability, the reduction
in greenhouse gas emissions is a foremost priority. This is reflected in NPF National Strategic Outcome 8, which is the transition to a low-carbon and climate resilient society. It is also a national objective to achieve a low-carbon, economically competitive and environmentally sustainable economy by 2050. As the second largest source of greenhouse gas emissions in Ireland, the transport sector has a key role to play in achieving these objectives.

Reducing greenhouse gas emissions will mean different things on different parts of the network:

- Within our cities and large towns, NIFTI will support investment in public transport, walking and cycling to encourage modal shift away from the private car. At some future point, demand management tools are likely to also have a role in encouraging this shift.
- On the interurban network, the construction of new roads, with the potential to induce additional car use, will be appraised in the context of Ireland’s climate change goals, particularly with the coming introduction of carbon budgeting. Improvements to rail and interurban bus services can reduce the need to travel by car between our cities, while the development of charging infrastructure and uptake of electric vehicles can serve to mitigate emissions from those journeys which are taken by car.
- In rural areas, it will not be viable to provide the full suite of sustainable transport options available in our cities and towns. However, the catchment area of public transport can be expanded through the strategic provision of park and ride facilities. Services such as Local Link can reduce reliance on the private car to some extent, and emerging technologies such as mobility as a service have the potential to allow for the intelligent expansion of routes in future. Overall, however, the private car can be expected to remain the primary mode of choice for people living in rural areas so, as with interurban travel, it will be important to support the transition to low-emitting vehicles to reduce emissions.

8.3.3. Supporting successful places and vibrant communities

The National Planning Framework estimates that the population of Ireland will grow by one million over the next twenty years to almost six million people; accommodating one quarter of the growth in Dublin, one quarter in the other four cities, and the remaining half in towns and rural areas. The provision of appropriate transport infrastructure will play a crucial enabling role in the delivery of this objective.

- The densification of Ireland’s five cities will place additional strain on urban transport networks which are already approaching capacity in many locations, there it is essential that urban congestion is tackled. This will mean increasing public transport usage and investing in active travel to discourage private car use as much as possible.
- Beyond the cities, the provision of park and ride close to transport links can ensure access to employment for those living outside the major settlements and reduce the need for people to commute into the cities by car. In the medium-term, congestion charging may be required in some of the cities.
- On the interurban network, besides providing people with more opportunities to travel by sustainable modes, the transport system and new infrastructure should support rather than undercut Project Ireland 2040 spatial objectives. For example, sequencing will be an important consideration to ensure that investment in interurban transport does not generate urban sprawl, thereby undermining compact growth.
- To support the continued vibrancy of rural Ireland, rural areas must be attractive places to live and work. This will mean ensuring reliable access to services and amenities, particularly for communities which are highly dependent on a small number of regionally important transport links. Given the spare capacity that exists on the rural road transport network today, the transport needs of the population in rural areas are likely to be largely met through meeting maintenance requirements supplemented by the targeted provision of new infrastructure and services where necessary.

8.3.4. Facilitating safe, accessible, reliable and efficient travel on the network

Delivering a high level of service means the provision of a transport network that is safe, reliable, efficient and accessible. Investment in the land transport network must support population growth targets without compromising on service levels. Moreover, investment must be financially sustainable, and among other things
this means ensuring that the transport network is appropriate to the population's needs rather than delivering high levels of excess capacity.

- In urban areas, NIFTI will support investments which allow people to access employment and leisure opportunities safely and within a reasonable time period which will mean encouraging the modal shift though the provision of high-quality public transport and active travel facilities and reducing the need to travel by private car. It will also mean ensuring that new services and infrastructure are fully accessible and retrofitting existing infrastructure so that the entire transport system becomes accessible over time.
- On the interurban network, an objective of Project Ireland is to deliver average journey time speeds of 90km/h or better between all of Ireland’s cities and major settlements. In some instances, this will mean the development of new infrastructure or upgrading of existing infrastructure, though addressing congestion on the key strategic links surrounding our cities will also be necessary to improve reliability. Investment in interurban bus and rail services can ensure accessibility to centres of scale for those who are unable to travel by car, while meeting asset protection and renewal requirements can help to ensure the safety of the network. In common with interurban passenger travel, a key issue for freight is congestion on the land transport network adjacent to strategic links. Addressing this congestion through demand management measures and the diversion of some trips to other modes and links will help to ensure the reliable and efficient movement of imports and exports.
- Finally, the maintenance of rural roads will help to ensure that those living in rural communities can travel safely and reliably to centres of scale.

8.3.5. Promoting a strong and balanced economy

As a small open economy, Ireland is dependent on high-quality international connectivity through its strategic links. Ports and airports have the ability to raise their own finance so Exchequer funding for key projects is not necessary but enhancing surface access, is of strategic importance. Moreover, many of Ireland’s strategic links are part of either the core or comprehensive Trans-European Transport Network and there will be certain infrastructure requirements arising from this.

Enhancing regional and rural accessibility, with improved services and reliable journey times to and between centres of scale, and pursuing compact growth are essential to ensuring that economic development and opportunity is distributed across the regions, with conditions that attract investment and foster opportunities for indigenous employment and enterprise growth.

Table 8-1 summarises the compatibility analysis and a qualitative analysis on each potential Outcome is detailed below.
### Table 8-1: Compatibility of NIFTI Outcomes with the SEA Objectives

<table>
<thead>
<tr>
<th>NIFTI potential Outcomes</th>
<th>Population, Human Health &amp; Economy</th>
<th>Tourism and Recreation</th>
<th>Biodiversity, Flora and Fauna</th>
<th>Landscape and Visual Amenity</th>
<th>Cultural Heritage</th>
<th>Geology and Soils</th>
<th>Air Quality</th>
<th>Noise and Vibration</th>
<th>Water Environment</th>
<th>Land Use and Material Assets</th>
<th>Climate Change Mitigation</th>
<th>Climate Change Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering clean, low carbon and environmentally sustainable mobility</td>
<td>Y</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y</td>
<td>Y</td>
<td>Y/N</td>
</tr>
<tr>
<td>Supporting successful places and vibrant communities</td>
<td>Y/N</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y</td>
<td>Y/N</td>
</tr>
<tr>
<td>Facilitating safe, accessible, reliable and efficient travel on the network</td>
<td>Y</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
<tr>
<td>Promoting a strong and balanced economy</td>
<td>Y</td>
<td>Y</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

Y = Compatible  
N = Not Compatible  
O = Neutral  
Y / N = Has the potential to be compatible or incompatible, or a mixture of both, depending on how the outcome is achieved.

#### 8.3.6. Summary of Analysis

As a whole, the types of outcomes NIFTI seeks to deliver are predominantly compatible with all SEA Objectives. However, it is important to note that this may only be the case depending on how they are achieved as there is potential to result in a mixture of both compatible and incompatible outcomes against the majority of SEA Objectives, depending on the measures or approach adopted.

For example, all the potential NIFTI outcomes may require some level of construction works; whether it is ‘expansion of the public network’, ‘targeted provision of new infrastructure and services where necessary’ ‘development of new infrastructure or upgrading of existing infrastructure’, and ‘enhancing regional and rural accessibility, with improved services and reliable journey times to and between centres of scale’. Therefore, depending on how sensitive the location is where such developments may occur and the level of works involved, there is potential to create conflicts with the SEA Objectives. For example, development could result in impacts on biodiversity, landscape or cultural heritage features, or result in localised increases in air/noise pollution or increased CO₂ emissions or localised climate vulnerability such as flooding.

The outcome to ‘support successful places and vibrant communities’ is mostly compatible with the SEA Objectives. Whilst having clear potential to be compatible with all SEA Objectives, there is potential for some incompatibility depending on the measures used, for example fiscal measures to encourage a modal shift from private car to public transport such as taxation or congestion charges could have a greater impact on rural communities with less access to public transport.
8.3.7. NIFTI Investment Priorities

NIFTI outlines a number of priorities in relation to land transport. These priorities have been assessed against the SEA Objectives using the SEA methodology identified in Section 7.4. Table 7-2 and Table 7-3 detail the criteria to determine significance of impacts.

8.3.8. Investment Priority 1: Decarbonisation

The transport sector is Ireland’s second largest source of greenhouse gas emissions, responsible for a fifth of emissions in 2017. To support the delivery of Project Ireland 2040 and the Government’s ambitious targets set out in the Climate Action Plan, it is crucial that future transport investment decarbonises the transport sector to the greatest extent possible.

This will mean investing in sustainable modes so that transport users have safe, accessible, reliable and efficient alternatives to the private car. It will also mean supporting the rollout of low-emitting vehicles and related infrastructure so that emissions from trips that are taken by private car fall also.

Many of the investments that will help drive decarbonisation have positive spill overs for other Project Ireland 2040 objectives, such as compact urban growth, and will have health and environmental benefits more widely than just greenhouse gas emissions, such as improved air quality and increased levels of physical activity.

Table 8-2: Assessment of Investment Priority 1: Decarbonisation

<table>
<thead>
<tr>
<th>NIFTI Investment Priorities</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>Decarbonisation</td>
<td>+/-</td>
</tr>
</tbody>
</table>

Positive impacts on air quality and climate as a result of reduced carbon emissions. Reduced emissions and improvements in air quality will result in direct and indirect positive effects on human health, and biodiversity, particularly nitrogen sensitive habitats as well as positive indirect impacts on the economy and people as a result of combating the impacts of climate change.

Public transport is a valuable national material asset, therefore further investment in public transport will create benefits for the economy, tourism and regional connectivity providing better social inclusion. The provision of walking and cycling infrastructure will have benefits associated with increased exercise as a result of increased uptake of active travel as a key mode of travel. However, facilitating new sustainable travel infrastructure may require some land-take and changes in land use.

Short and medium term negative impacts are possible for biodiversity, flora and fauna, water, landscape and cultural heritage where improved or new public transport infrastructure is needed to provide safe, accessible, reliable and efficient alternatives to private car. This could result in habitat loss or fragmentation; architectural and/or visual impacts on protection views or heritage sites. In addition, there is the potential for short and medium term negative impacts on population and human health from potential noise effects for example from light or heavy rail development. However, decarbonising the transport network could result in some positive impacts on the environment, for example providing infrastructure to promote electric vehicles could reduce pollution from fuels as a result of accidental spills and bring positive impacts to the water environment and biodiversity.
Decarbonising the transport sector would undoubtedly have positive impacts on air quality and reduce carbon emissions, and could also result in positive impacts in relation to noise and vibration as electric vehicles will be quieter and there may be less cars on roads should more people be encouraged towards sustainable and active travel.

8.3.9. Investment Priority 2: Protection and Renewal

Given its extent and value, protecting and renewing the existing land transport network is a foremost priority for transport investment. This is consistent with the recommendations of the Public Investment Management Assessment carried out for Ireland by the International Monetary Fund in 2017.

SIFLT focused the importance of asset protection and renewal, using the terminology ‘steady state maintenance’. The terminology has been updated in NIFTI to Protection and Renewal to emphasise the fact that improvements for safety reasons are also priority investments but are not strictly maintaining the network in its present state.

SIFLT recognised that there has already been considerable investment in our land transport infrastructure, and that a critical priority for investment is ensuring that the existing asset base is appropriately maintained to a high standard to ensure its continued ability to safely and efficiently support the movement of our goods and people. NIFTI set out that the cost of Ireland’s protection and renewal for land transport infrastructure is estimated to be around €1.7bn per annum.

Protecting and renewing existing infrastructure will help to meet many of the challenges identified in the supporting analysis. The renewal of public transport assets will assist with decarbonisation. Preservation of the interurban road and rail networks will ensure regional connectivity. Protecting and renewing the regional and local road network ensures rural accessibility and resilience, particularly in relation to climate change. Preserving key strategic links will help deliver the necessary capacity on surface access to ports and airports and promote balanced regional development.

Prompt asset protection and renewal in general is more cost effective than restoring degraded assets later. While asset protection and renewal funding requirements will be substantially met in the coming years under the National Development Plan, there is also a need to repair parts of the network that have deteriorated due to past underinvestment. This restoration should proceed in order of strategic importance.

Table 8-3: Assessment of Investment Priority 2: Protection and Renewal

<table>
<thead>
<tr>
<th>NIFTI Investment Priorities</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, Human Health &amp; Economy</td>
<td>+</td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>+</td>
</tr>
<tr>
<td>Biodiversity, Flora and Fauna</td>
<td>+/-</td>
</tr>
<tr>
<td>Landscape and Visual Amenity</td>
<td>+/-</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>0/-</td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>+/-</td>
</tr>
<tr>
<td>Air Quality</td>
<td>0/-</td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>+/-</td>
</tr>
<tr>
<td>Water Environment</td>
<td>0/+</td>
</tr>
<tr>
<td>Land Use and Material Assets</td>
<td>0/+</td>
</tr>
<tr>
<td>Climate Change Mitigation</td>
<td>+/-</td>
</tr>
<tr>
<td>Climate Change Adaptation</td>
<td>+</td>
</tr>
</tbody>
</table>

Protection and Renewal of public transport assets will have a positive impact on Material Assets generally. The transport network is an important and valuable national asset. Maintaining the transport network regularly will ensure that the transport network does not degrade to an overwhelming level which would create a greater financial burden to address. Maintaining the network and improving the network as a national asset creates benefits for the economy, tourism and social inclusion of people in rural area. Maintaining the existing network will have a neutral impact on land use as little land-take will be required.
Protection and Renewal of the existing network could also assist with decarbonisation in terms of renewing public transport services and continuing to facilitate sustainable modes of transport, thus having positive impacts on Climate Change SEOs as well as contribute the reduction in Air Pollution. However, protection and renewal alone cannot result in a significant reduction to carbon emissions from transport, therefore emissions could continue to rise, and as a result there is potential for negative impacts on climate change mitigation and air quality.

Maintenance of the interurban road and rail networks will ensure regional connectivity and protecting and renewing the regional and local road network ensures rural accessibility thus improving accessibility to economic and employment opportunities and community facilities. This investment priority will ensure that environmental resilience, particularly in relation to climate change can be incorporated into maintenance of the existing interurban, regional and local road and rail networks. Maintenance of the existing transport network will also result in positive impacts to population and human health as a result of increased safety with improvements to signage, adequate road surfacing, junction upgrades or realignment works.

Maintenance works, particularly depending on the level of renewal works have the potential to impact biodiversity, landscape, cultural heritage features. These impacts have the potential to be short term or long term depending on nature and level of works ongoing. There is also potential to result in short term / localised negative impacts on water quality and increase noise pollution. However, it is important to note, that renewal works have the potential to improve the existing baseline where there are currently negative impacts on the environment as a result of the transport network, particularly in relation to water quality by maintaining attenuation ponds and SUDS.

8.3.10. Investment Priority 3: Urban Mobility of People and Goods

To make our towns and cities more vibrant and sustainable places to live and work, Project Ireland 2040 seeks to deliver compact urban growth. Specifically, a target has been set that half of population growth in the next twenty years is accommodated in the five cities.

There are already acute congestion issues in certain parts of our cities today, and the modelling conducted as part of NIFTI supporting analysis indicates that these problems will considerably worsen in the 2040 Do-Minimum scenario. While the population can be assumed to live in certain locations for the purposes of modelling, in the presence of severe congestion and long journey times it is likely that our cities will continue to sprawl in reality. Given spatial constraints within our cities, it is essential that urban congestion is tackled through measures such as improved and expanded walking and cycling infrastructure and the provision of better public transport.

While sustainable mobility supply side interventions can encourage some level of modal shift, demand side measures that disincentivise private car use must also be considered, such as reducing the availability of parking and congestion charging. Emerging technologies are also likely to have a role to play, with innovations such as shared mobility and mobility as a service having the potential to provide a level of service similar to that of the private car while still reducing congestion.

While the success of a transport project is always to some extent dependent on policy made outside the sector, robust planning and land use is particularly crucial to urban mobility. Transport should be a central consideration for future development, reducing the need for new infrastructure and optimising existing transport capacity, mitigating the need to travel and ensuring that the most sustainable modes are encouraged. The sequencing of investment will also be important in certain instances, such as ensuring that the provision of public transport infrastructure such as train stations precedes residential development in a given location to encourage transport-orientated development.

The principles of compact growth and improving sustainable urban mobility are not confined to the five cities. There are over 200 towns in Ireland, and a consistent focus of transport development in all of these settlements should be to provide high-quality alternatives to the private car wherever possible. Improvements to urban mobility in these smaller locations in particular will also be of benefit to people living in rural Ireland who depend on local towns to access certain goods and services.
Table 8-4: Assessment of Investment Priority 3: Mobility of People and Goods in Urban Areas

<table>
<thead>
<tr>
<th>NIFTI Investment Priorities</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility of People and Goods in Urban Areas</td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td></td>
<td>+/-</td>
</tr>
</tbody>
</table>

Tackling urban congestion through measures such as improved and expanded walking and cycling infrastructure have the potential to improve public health as a result of increased active travel, and the provision of better public transport has the potential to bring economic and employment opportunities as well as improve access to community facilities, however there is potential for fiscal measures to encourage a modal shift from private car to public transport such as taxation or congestion charges could have a greater impact on specific societal groups, particularly the poor.

Reducing congestion and reliance on private cars will have wide ranging positive impacts, including benefits to the tourism industry by improving mobility for visitors to Irish cities and the countryside. A reduction in congestion and reliance on private cars is also likely to reduce emissions bringing benefits to air quality, as well as the objectives of climate change mitigation and adaptation. This investment priority should also result in reduced noise and vibration overall, although increases in use of public transport could result in some increased localised noise along railway lines or at train stations. Reducing reliance on private car and urban congestion could also result in reduced air pollution. Improvements in air quality could have indirect positive impacts on biodiversity, flora and fauna.

The provision of new public transport infrastructure to enhance the existing network has the potential to cause negative impacts on biodiversity, landscape, cultural heritage or geological features, although with careful planning, assessment and construction and operational mitigation measures there is the potential to have a neutral effect on such features.

8.3.11. Investment Priority 4: Enhanced Regional and Rural Connectivity

Enhancing connectivity means delivering reliable, shorter journey times to and between centres of scale for people and goods.

Connectivity ensures access to jobs, leisure and public services for everyone in Ireland, and is particularly important for those living in rural areas who are dependent on a small number of transport links. For freight, connectivity means ensuring that goods can get to market and access ports and airports in a timely manner from everywhere in the State, and that the use of strategic links for traffic of high economic and strategic value is secure.

Enhancing Connectivity supports regional connectivity, rural accessibility and a strong and balanced economy. By addressing bottlenecks where they exist on the land transport network, the value of the network is optimised. The types of measures that might be supported under this Investment Priority are diverse and will depend on specific transport needs and local contexts, but could include the introduction of a regional bus service in an area poorly served by public transport or the realignment of a road to improve journey speeds and reliability.
Enhancing Regional and Rural Connectivity will involve improvements to the existing road network (such as realignments or dualling for both public and private transport as well as improvements to the rail infrastructure. Additionally, improvements to infrastructure to further facilitate active travel may be required. Particularly in relation to public transport and infrastructure to facilitate active travel, some new developments may be required to enhance connectivity. Some measures which require little development works may be the introduction of regional bus services in poorly connected areas.

Improving the reliability of services and journey times between centres of scale will bring benefits to people and the economy by increasing access to employment and economic opportunities, and community facilities. However, without more detail on the measures which will be used to address this, it is difficult to determine with certainty how this will score against the SEA Objectives. There should also be positive impacts on the economy and tourism.

Improved connectivity should mean that there is less congestion on existing transport routes, therefore there should be positive impacts on Air Quality, Climate Mitigation and Adaptation. This will result in indirect positive impacts on biodiversity and population and human health.

Short and medium term negative impacts are possible for biodiversity, flora and fauna, water, landscape and cultural heritage where improved infrastructure is needed to enhance connectivity. This could result in habitat loss or fragmentation; architectural and/or visual impacts on protection views or heritage sites. Where new infrastructure is needed there is potential for these impacts to be long-term. In addition, there is the potential for short and medium term negative impacts on population and human health from potential noise effects during construction.

8.3.12. Modal Intervention Hierarchy

The NIFTI priorities are supplemented by intervention and modal hierarchies. These hierarchies will ensure that, for any investment, the most appropriate and sustainable approach is taken.

Addressing the challenges facing the Irish transport network, today and in the coming decades, will require a certain level of public investment in transport. However, interventions can take many different forms, and what is appropriate will depend on the specific problem being addressed.

In order to meet the NIFTI Investment Priorities, it is necessary to get the most out of our existing network, ensure that our investments are financially sustainable over the lifetime of the infrastructure, and avoid investments which will have unnecessary negative environmental impacts.

A hierarchy of intervention types has been developed which is intended to ensure that investment is proportionate to the problem identified. The NIFTI intervention hierarchy (Figure 2-2) sets out four high-level categories of investment.
These four categories of intervention will be used to inform investment decisions, both at the budgetary level and the project level. In order to achieve the NIFTI potential Outcomes, and to make best use of the existing assets, a hierarchy of these intervention types will be applied. Maintaining the existing transport network will be given first priority, followed by maximising the value of the network through optimising its use. Infrastructural investments will only be considered after these two categories have been assessed as inappropriate for the identified problem, with upgrades to existing infrastructure to be considered before new infrastructure. An assessment of the each of these Intervention Hierarchy methods against the SEA Objectives is conducted in Table 8-6.

### 8.3.13. Intervention Hierarchy 1: Maintain

‘Maintain’ refers to ensuring that the transport network does not reduce in quality over time and is safe for users. This includes maintenance of existing road, rail and active travel assets as well as investing to ensure the resilience of the network against things like severe weather events, which are expected to increase in frequency and severity in the coming years. This could involve increased drainage works, or other climate resilience measures.

<table>
<thead>
<tr>
<th>NIFTI Intervention Hierarchy</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain</td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td></td>
<td>Tourism and Recreation</td>
</tr>
<tr>
<td></td>
<td>Biodiversity, Flora and Fauna</td>
</tr>
<tr>
<td></td>
<td>Landscape and Visual Amenity</td>
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<tr>
<td></td>
<td>Cultural Heritage</td>
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<tr>
<td></td>
<td>Geology and Soils</td>
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<tr>
<td></td>
<td>Air Quality</td>
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<tr>
<td></td>
<td>Noise and Vibration</td>
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<tr>
<td></td>
<td>Water Environment</td>
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<tr>
<td></td>
<td>Land Use and Material Assets</td>
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<tr>
<td></td>
<td>Climate Change Mitigation</td>
</tr>
<tr>
<td></td>
<td>Climate Change Adaptation</td>
</tr>
</tbody>
</table>

The ‘Maintain’ intervention has mixed positive and negative impacts on the environment. Maintaining the existing network will be a positive for those who use the infrastructure regularly and will keep the countries transport assets in good condition. However, where current infrastructure is at capacity there will be negative impacts on the people using them and the local economies who rely on the infrastructure to bring people the employment centres, and businesses in the area.

Maintenance allows for improvements to the mitigation measures in place for existing infrastructure, for example SUDS on existing roads. Improvement works do have the potential to create some localised negative impacts on biodiversity and water during construction however there is also potential to improve mitigation measures and benefit the local water environment which would have indirect benefits on people, tourism and recreation, and biodiversity.

A focus on Maintenance is unlikely to be enough to meet climate mitigation targets although it may result in some improvements. Maintenance will allow the opportunity to integrate climate adaptation into existing infrastructure.

Maintaining existing assets also allows for greater capacity on infrastructure therefore there is potential for increases in air and noise pollution if this not managed or mitigated appropriately.

### 8.3.14. Intervention Hierarchy 2: Optimise

‘Optimise’ refers to measures which achieve one or more of the NIFTI potential Outcomes by improving the use or function of the existing transport network. This can include measures to encourage modal shift to more sustainable modes, encouraging the decarbonisation of road transport through alternative fuels and technology, and demand management measures. These measures may include intelligent transport systems, integrated ticketing, improved real-time information and electric vehicle charging infrastructure or new park and ride facilities. It is anticipated that any construction works will be minimal in optimising the existing network.
The Optimise intervention has the potential to have mixed positive and negative impacts on people. Measures to encourage modal shift to more sustainable modes and demand management measures can have a more negative impact on the poor or other vulnerable groups. Although, there will be some positive impacts on population in relation to human health as result of increased demand for active travel.

Encouraging the decarbonisation of road transport through alternative fuels and technology will have positive impacts on air quality, climate change mitigation and adaptation and as a result there will be some indirect benefits on biodiversity, water quality, human health and the economy.

It is assumed that optimising existing transport infrastructure, either with the increase in electric vehicles and alternative technologies that there is potential to reduce air quality and noise pollution.

It is not anticipated that there would be further impacts on landscape or visual features which would already be influenced by the present infrastructure. It is not assumed that optimising the existing network will require additional lands as this would come under improvement works, therefore there should be no impacts on land-use. There is potential to improve the value of transport assets through optimisation so there are some positive impacts possible.

8.3.15. Intervention Hierarchy 3: Improve

‘Improve’ refers to improving the quality or capability of the existing transport network. This can include the provision of segregated cycling and walking paths, targeted safety investments in the road network, or improvements to rail network through increasing line speed or electrification. Specific measures may include improvements to active travel infrastructure such as widening footpaths, creating segregated cycleways, improved signalling, targeted road safety improvements such as removing dangerous bends, improvements to railway line-speed or frequency of trips, electrification of railways or improvements to accommodate large trains, and measures to shifting modal shares such as creating dedicated bus corridors.

Table 8-8: Assessment of ‘Improve’ Intervention Hierarchy against the SEA Objectives
Improving existing transport assets will have benefits to the public in terms of enhanced safety, reduced journey time and connectivity, be it locally or regionally.

Transport infrastructure is a valuable national asset, therefore improving existing transport assets will increase the value to the country, the economy and therefore have indirect benefits to the population as a result of increased opportunities and access to community facilities.

It is anticipated that there will be slightly more intrusive construction works in improving the existing network than optimising, therefore depending on the type of works required there is potential for localised minor negative impacts on biodiversity, geology and soils and water quality. It is not anticipated that there would be further impacts on landscape or visual features which would already be influenced by the existing infrastructure.

8.3.16. Intervention Hierarchy 4: New

‘New’ encompasses measures which develop new transport network, or substantial capacity enhancements to the existing transport network. New roads, new rail lines and new light rail lie within this category in addition to new active travel infrastructure. This intervention measure would also include major infrastructure upgrades such as upgrading a road from single to dual carriageway or to motorway, or upgrading a major rail line from single to double track, or constructing infrastructure to accommodate greater frequency or speeds.

Table 8-9: Assessment of ‘New’ Intervention Hierarchy against the SEA Objectives

<table>
<thead>
<tr>
<th>NIFTI Intervention Hierarchy</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>New</td>
<td>+</td>
</tr>
</tbody>
</table>

New transport infrastructure will result in the greatest level of negative impacts, as it can create the greatest change to the baseline environment during construction in relation to biodiversity, landscape, cultural heritage geology and soils, air and noise, water quality and land use.

New infrastructure will result in overall positive impacts on population, human health and the economy in terms of increased access to community facilities, and economic and employment opportunities. Depending on the transport mode provided for in any new infrastructure there could be potential for positive or negative impacts. For example. new public transport infrastructure has the potential to contribute to increased climate mitigation and improvements in air quality, and new cycle and walking paths even more so with the addition of benefits in relation to reduced noise pollution and improved human health.

There is potential for localised negative impacts on biodiversity, water quality, increased air and noise pollution and carbon emissions during construction.

Any infrastructure development which involves major upgrade works constitutes as ‘new’ infrastructure, therefore there is potential to improve existing mitigation measures, such as SUDS or noise barriers which could result in localised improvements to water quality and noise.
8.4. **Assessment of Alternatives**

The alternatives to NIFTI considered were outlined in Section 7.9. This section provides more detail on each of the alternatives and details the assessment conducted in line with the SEA Objectives and the reason for selecting the preferred scenario.

8.4.1. **Alternative 1: Do Nothing Scenario (No Plan)**

In the absence of NIFTI, the 2015 Strategic Investment Framework for Land Transport would remain the Department of Transport’s current strategic framework that guides and informs investment decision making in land transport. It had set out three ranked priorities:

1. Achieve Steady State Maintenance,
2. Address Urban Congestion; And

SIFLT was developed and published in the context of a constrained fiscal environment, where investment in maintaining the existing network fell short of required levels for a number of years. Therefore, achieving steady state maintenance emerged as the first priority for new investment. However, this list of priorities does not reflect the step change in transport investment in recent years, which includes a number of major new projects such as BusConnects, MetroLink and DART+. Arguably, the framework struggles to accommodate this changed context.

There have also been important policy developments since the publication of SIFLT, particularly Project Ireland 2040 which was launched in 2018 and sets the overarching, whole-of-government vision for the development of Irish society in the coming decades. In addition to this, in 2019, the Climate Action Plan was published, which sets out Government’s ambition for the decarbonisation of our society. SIFLT does not reflect either of these key national policies, as underlined by the absence of decarbonisation from its investment priorities, for example.

A no-plan scenario would result in a transport planning framework which is not in line with the National Planning Framework Objectives.

The NPF emphasises that the 2002 National Spatial Strategy was weakened by a lack of integration with wider Government policy, and that “national investment didn’t follow the plan, and so it was difficult for Government policy to follow it also”. To ensure the success of the NPF and Ireland 2040, investment in land transport would need to be planned and delivered in support of it.

**Table 8-10 Assessment of Alternative 1: No Plan Scenario**

<table>
<thead>
<tr>
<th>NIFTI Alternative</th>
<th>Population, Human Health &amp; Economy</th>
<th>Tourism and Recreation</th>
<th>Biodiversity, Flora and Fauna</th>
<th>Landscape and Visual Amenities</th>
<th>Cultural Heritage</th>
<th>Geology and Soils</th>
<th>Air Quality</th>
<th>Noise and Vibration</th>
<th>Water Environment</th>
<th>Land Use and Material Assets</th>
<th>Climate Change Mitigation</th>
<th>Climate Change Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1 No Plan Scenario</td>
<td>0/-</td>
<td>0</td>
<td>0/+</td>
<td>0/+</td>
<td>0/+</td>
<td>-</td>
<td>0</td>
<td>+/-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Without the implementation of the NIFTI biodiversity, flora and fauna, including protected areas and species, and landscape and cultural heritage features would continue to exist in the same pattern, therefore the impacts on these SEO’s are expected to be Neutral or Positive.

Although the SIFLT priority of ‘Addressing Urban Congestion’ would help progress towards reduced carbon emissions, it does not provide enough focus on decarbonising the transport network in order to meet the NPF
NSO’s for Sustainable Mobility and to Transition to a Low Carbon and Climate Resilient Society. This could make it difficult for Ireland to meet its emissions targets by 2030 and 2050, therefore the impacts on Air Quality, Climate Change Mitigation and Adaptation in the No Plan Scenario are likely to be negative.

Without NIFTI the SIFLT key priorities are not centred around and adequately supporting the NPF NSO’s to enhance regional accessibility and strengthen rural economies and communities. This could result in Negative impacts to people living outside urban centres.

8.4.2. Alternative 2: Do Something (Update SIFLT)

The key issue with continuing with SIFLT as the investment framework for land transport is that its investment priorities are reflective of a different context, both in investment and policy terms. One solution to this problem was to carry out an incremental update of SIFLT where the investment priorities are revisited to ensure their alignment with Project Ireland 2040.

Drawing on the NIFTI background analysis, four investment priorities have been identified which will help ensure that future investment in transport enables the delivery of the Project Ireland 2040 National Strategic Outcomes. These are:

- Decarbonisation;
- Protection and renewal;
- Mobility of people and goods in urban areas; and,
- Enhanced regional and rural connectivity.

Compared to the SIFLT priorities, these priorities are closely aligned and integrated with Project Ireland 2040 as part of a whole-of-government approach. For example, enhanced regional and rural connectivity speaks to NSO 2 while decarbonisation speaks to NSO 8. Protection and renewal is also a more expansive definition than the older ‘steady state’ as it also includes infrastructure upgrades that are necessary from the point of view of safety. Mobility of people and goods in urban areas is also more expansive than the older priority to address urban congestion, because it better takes into account the mobility needs of travellers whose journeys may start or end outside the urban centre.

Updating SIFLT with these four priorities helps to ensure transport investment supports Project Ireland 2040 and the inclusion of decarbonisation is a necessary change to reflect the increased urgency of that policy objective throughout Irish society. However, continuing with a ranked approach to investment priorities does not reflect the changed fiscal context, where protection and renewal costs will largely be met in the coming years and greater focus must be placed on how best to invest the additional funding. Moreover, strictly applying a ranked set of priorities could lead to too much money being spent on protection and renewal to the detriment of the other priorities.

While protection and renewal will remain a key priority, there is also a need to invest in public transport and sustainable mobility, and a substantial programme of investment to this effect has been set out in the NDP. Therefore, there may be occasions when new investment in public transport is preferred to some maintenance expenditure to meet the decarbonisation priority. However, under a ranked set of priorities, protection and renewal investment will almost always take precedence.
Table 8-11 Assessment of Alternative 2: Update SIFLT

<table>
<thead>
<tr>
<th>NIFTI Alternative</th>
<th>SEA Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population, Human Health &amp; Economy</td>
</tr>
<tr>
<td>Alternative 2: Update SIFLT</td>
<td>+/-</td>
</tr>
</tbody>
</table>

The ranked priority approach will undoubtedly still result in some positive impacts on population, human health and the economy, tourism and recreation, air quality, noise, material assets, and climate change as continued investment in any capacity will bring benefits to the local population and economy, improve accessibility for tourism, investment in the transport network will continue to add value to it as a national asset, and it will allow some improvements to air quality, noise and climate change. However, prioritising protection and renewal over new infrastructure investments could result in failure to reach the full potential of the transport network in terms of decarbonisation for example.

This alternative may result in less intrusive construction by continuing to focus on maintaining existing infrastructure as a priority, which will result in more neutral impacts in terms of landscape, cultural heritage and geology and soils. In addition to some positive impacts in relation to biodiversity, water environment and air and noise as existing mitigation measures can be improved. However, the plan alternative will still result in some negative impacts associated with works to maintain the existing network, and a certain amount of new projects will still be commenced, therefore there is still potential to result in negative environmental impacts across all topics.

8.4.3. Alternative 3: With Plan

Rather than an incremental update of SIFLT, NIFTI represents a complete replacement of the transport investment framework. In common with Alternative 2, four new investment priorities have been identified from the background analysis to support Project Ireland 2040. However, unlike SIFLT, these priorities are not ranked. Future investment in transport will have to demonstrate its alignment with at least one of these priorities, and projects that align with several of them will generally be preferred, but it is no longer the case that protection and renewal is the first priority in all cases. This gives NIFTI greater flexibility over pursuing broader transport investment objectives.

Compared to SIFLT, NIFTI also introduces intervention hierarchies which will ensure that the most environmentally sustainable solution to a given problem is deployed. Wherever more sustainable transport modes are a feasible solution, the hierarchies will ensure that they are deployed. On the other hand, maintenance and optimisation of existing assets will be preferred to the construction of new infrastructure, which is likely to have greater environmental impact in most cases.

NIFTI also sets out the revised transport sector structures and processes which will ensure that individual transport projects are aligned with the overarching Project Ireland 2040 vision. Finally, NIFTI sets out a series of follow-up actions for research and policy development which will ensure that we continue to build the evidence base for transport investment in the coming years.
The implementation of the framework may result in some positive and negative impacts on biodiversity and the water environment in terms of the potential to improve existing mitigation measures as part of renewal and improvement works, but to result in impacts as a result of new construction works. There is potential to have neutral or negative impacts on landscape, cultural heritage features and geology and soils. All negative impacts could be short or long-term depending on the nature of improvements or new infrastructure needed and the sensitivity of the location which they will be introduced. The environmental action plan and monitoring framework should ensure that such impacts are avoided where possible, or minimised.

There will be positive impacts to the transport network as a national material asset, but there could be potential for land-take and therefore negative impacts on land use. There will be a positive impact on Climate Change in relation to both mitigation and adaptation. The new focus on decarbonising the transport sector and the investment priorities and intervention hierarchy focus on modal shift from private car to public transport and active travel will result in contribution to meeting Ireland’s emissions targets by 2030 and 2050. This should in turn have positive impacts on Air Quality. The shift to sustainable transport modes could result in positive and negative impacts on Noise and Vibration; new or increased rail infrastructure or services could result in increased noise levels in localised areas, whilst resulting in decreased noise levels on motorways or in urban centres.

The aim to increase active travel should result in positive health benefits to the public and the priority to facilitate safe, accessible, reliable and efficient travel on the network should improve economic growth, connectivity across the country and reduce social exclusion. The focus on promoting a strong and balanced economy through investment in transport should also result in positive impacts on people, the economy, and the tourist industry.

### 8.4.4. Preferred Scenario

The Do Minimum was not considered to be a reasonable alternative as it does not support the National Strategic Objectives identified within the National Planning Framework, Project Ireland 2040.

Alternative 2 Update SIFLT was considered a reasonable alternative and it could be argued it has the lowest environmental impact. However, Alternative 3 NIFTI is the preferred scenario as it has the potential to result in the most positive impacts for the environment when measured against the SEOs, with notably positive impacts to population and human health, air quality and climate due to priorities focused on decarbonisation, and enhanced connectivity which will have benefits on reducing GHG emissions from the transport sector and improving social inclusion.

### 8.5. Cumulative Effects

There is potential for cumulative effects as a result of any development which occurs under the NIFTI framework in order to meet the Investment Priorities and Intervention Hierarchy. The cumulative effects could occur as a result of two future development occurring within the same time frame, for example existing network upgrades.
and provision of new infrastructure. Without specific proposed projects, there is insufficient information to conduct a cumulative impact assessment on Investment Priorities and Intervention Hierarchy. However, it can be expected that cumulative impacts are possible where there are inter-relationships between environmental topics indicated in Table 7-4. The types of effects which could occur include:

- Disturbance on people in the same area or community;
- Effects on the same receptor (e.g. a river or catchment) such as impacts to water quality, or quantities or flow of a water body;
- Effects on the same type of receptor (e.g. protected landscapes or cultural heritage features) such as loss or impacts to the setting of the receptor; or
- Effects on the same habitat or habitat type such as loss or the habitat or impacts to the qualifying interests of the designated site.

Table 8-13 details the assessment of cumulative effects with other plans and programmes. Full and detailed environmental assessments should be conducted as part of the consenting process to ensure that cumulative impacts are avoided where possible and otherwise minimised and mitigated.
### Table 8-13: Cumulative Effects with other plans and programmes

<table>
<thead>
<tr>
<th>Other Plans / Programmes</th>
<th>Summary of Other Plan / Programme</th>
<th>Potential impacts associated with other Plan/ Programme</th>
<th>In-combination Effects with NIFTI</th>
<th>Description of Potential in-combination effects with NIFTI and mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport, Planning &amp; Investment Plans</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>National Planning Framework (NPF)</td>
<td>The NPF is a national document that guides, at a high-level, strategic planning and development for the country over the next 20+ years, so that as the population grows, that growth is sustainable in economic, social and environmental terms.</td>
<td>Impacts on Biodiversity resulting in loss of habitat; Changes to hydrology/water quality; Positive or negative changes to air quality and carbon emissions; Impacts on landscape, cultural heritage or geological features or their setting.</td>
<td>+/-</td>
<td>There is potential for both positive and negative in-combination effects in terms of impacts to key biodiversity, landscape, cultural heritage, geological features or waterbodies. Infrastructure developments could result in increases in air quality and noise on temporary, localised basis or a more long-term basis. Resulting infrastructure projects will be subject to EIA/AA with the aim of mitigating any likely significant effects. However, the NPF does prioritise key goals or investment priorities in relation to regional accessibility, urban decongestion, decarbonising the transport sector and promoting a strong balanced economy.</td>
</tr>
<tr>
<td>National Development Plan (NDP), 2018-2027</td>
<td>The NDP sets out the investment priorities that will underpin the implementation of the National Planning Framework. The NDP identifies the strategic priorities for public capital investment for all sectors. In the first five years of the plan, almost €10bn will be invested in transport.</td>
<td>Impacts on Biodiversity resulting in loss of habitat; Changes to hydrology/water quality; Positive or negative changes to air quality and carbon emissions; Impacts on landscape, cultural heritage or geological features or their setting.</td>
<td>+/-</td>
<td>The plan is fully integrated with the NPF and therefore presents the same in-combination effects (infrastructure requirements resulting in impacts to key biodiversity, landscape, cultural heritage, geological features or waterbodies. Infrastructure developments could result in increases in air quality and noise on temporary, localised basis or on a more long-term basis). All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any significant effects.</td>
</tr>
<tr>
<td>Regional Spatial and Economic Strategies 2019-2031</td>
<td>Three different plans provide a long-term, strategic development framework for the future physical, economic and social development covering the following three -regions: Eastern and Midland Region, The Southern Region, The Northern and Western Regional Assembly.</td>
<td>Impacts on Biodiversity resulting in loss of habitat; Changes to water quality; Positive or negative changes to air quality and carbon emissions; Impacts on landscape, cultural heritage or geological features or their setting.</td>
<td>+/-</td>
<td>There is potential for in-combination effects with NIFTI in terms of infrastructure requirements resulting impacts to key biodiversity, landscape, cultural heritage, geological features or waterbodies. Infrastructure developments could result in increases in air quality and noise on temporary, localised basis or on a more long-term basis. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any significant effects.</td>
</tr>
<tr>
<td><strong>SEA Environmental Report</strong></td>
<td><strong>They support the implementation of the NPF and the relevant economic policies and objectives of Government.</strong></td>
<td><strong>process with the aim of mitigating any likely significant effects.</strong></td>
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<tr>
<td><strong>Action Plan for Rural Development, 2017</strong></td>
<td>The Plan contains 5 pillars which aim to improve economic and social fabric of rural Ireland: Supporting sustainable communities; Supporting enterprise and employment; Maximising the rural tourism and recreation potential; Fostering culture and creativity in rural communities; Improving rural infrastructure and connectivity.</td>
<td>Changes to land-use; Impacts on Biodiversity resulting in loss of habitat; Changes to hydrology/water quality; Positive or negative changes to air quality and carbon emissions; Impacts on landscape, cultural heritage or geological features or their setting.</td>
<td>+/-</td>
<td>There is potential for in-combination effects with NIFTI in relation to development works impacting the same receptors or occurring at the same time, especially the pillar ‘Improvement of rural Infrastructure and Connectivity’. However, EIA/AA screening of projects which commence as a result of the Action Plan is required and should offset the potential for in-combination effects.</td>
</tr>
<tr>
<td><strong>National Policy Framework on Alternative Fuels Infrastructure in Transport 2017-2030</strong></td>
<td>This framework supports the provision of refuelling infrastructure for alternative fuels, common technical standards and appropriate consumer information. It sets a target that by 2030 all new cars and vans sold in Ireland will be zero emissions or zero emissions capable with the use of fossil fuels vehicles rapidly receding.</td>
<td>Positive changes to air quality and carbon emissions; Reduced noise impacts from vehicles. Potential for changes to impact some societal groups more than others.</td>
<td>+/-</td>
<td>The potential for in-combination effects exists with respect to the production and generation of alternative fuels having impacts such as emissions to air and land use change, and requirement for infrastructure. The framework would positively contribute towards NIFTI. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects.</td>
</tr>
<tr>
<td><strong>Smarter Travel ‘A New Transport Policy for Ireland’ 2009-2020</strong></td>
<td>This Policy is the transport policy for Ireland for the period 2009-2020. The policy recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport.</td>
<td>Impacts on Biodiversity - loss of habitat; Changes to water quality; Impacts on landscape, cultural heritage or geological features or their setting; Positive or negative changes to air quality and carbon emissions; Reduced noise impacts from vehicles. Potential for changes to impact some societal groups more than others.</td>
<td>+/-</td>
<td>There is potential for in-combination effects in terms of infrastructure requirements resulting impacts to key biodiversity, landscape, cultural heritage, geological features or waterbodies. Infrastructure developments could result in increases in air quality and noise on temporary, localised basis or on a more long-term basis. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects. Positive contributions exist, as the Policy is focused on reducing congestion, transport emissions and improving quality of life.</td>
</tr>
</tbody>
</table>
### Smarter Travel: Ireland’s First National Cycle Policy Framework 2009-2020

This framework provides a common, integrated basis for the long-term development and implementation of cycling policies among various sectors and levels of government.

| Impacts on Biodiversity - loss of habitat; Changes to water quality; Impacts on landscape, cultural heritage or geological features or their setting; Improved air quality and carbon emissions and indirect impacts on biodiversity, water quality and human health; Reduced noise impacts from vehicles. Positive impacts on human health as a result of uptake in active travel; Potential for changes to impact some societal groups more than others. | +/- | The framework aims to ensure a cycling culture is developed in Ireland to the extent that, by 2020, 10% of all journeys are by bike. This is in line with NIFTI’s aim to encourage active travel. Both positive and negative in combination effects are possible in terms of impacts on key biodiversity, landscape, cultural heritage, geological features or waterbodies. However, positive cumulative impacts could be improvements in air quality and reduced carbon emissions. However, a robust infrastructure design and the EIA/AA process will aim to mitigate any negative cumulative impacts. |

### Air Quality

| National Air Pollution Control Programme (NAPCP), 2019 | The NAPCP was developed by the DCCAE, as required under Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, hydrology/water quality; and human health. | + | The targets set in NAPCP are complementary with NIFTI outcomes and investment priorities. Therefore, a positive effect on reduction of emissions is considered likely. However, any associated infrastructure needed to meet the Plans objectives may have in combination effects. These will require EIA/AA which will aim to mitigate any effects. |

### Energy and Climate Change

| The Climate Action Plan 2019 | The Climate Action Plan 2019 sets out an emissions reduction pathway for Ireland to achieve its EU emissions reduction target of a 30% reduction of emissions in the non-emissions trading system (ETS) sector by 2030 relative to 2005 levels. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, hydrology/water quality; and human health. | + | The targets set in NAPCP are complementary with NIFTI outcomes. Therefore, it will positively influence/inform NIFTI. However, any associated infrastructure needed to meet the Plans objectives may have in combination effects. These will require EIA/AA which will aim to mitigate any such effects. |

<p>| The EU Policy Framework for Climate and Energy in the period from 2020 to 2030 | Sets targets for 2020 to 2030 including: 40% reduction below 1990 levels in EU greenhouse gas emissions by 2030, to be achieved through domestic measures. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, hydrology/water quality; and human health. | + | This framework’s main aim is to increase the use of renewable energy, energy efficiency and therefore several aims are linked to NIFTI objectives. Therefore, it will positively influence/inform NIFTI. However, any associated infrastructure needed to meet the Plans objectives may have in combination effects. These will require EIA/AA which will aim to mitigate any such effects. |
| <strong>Transport Climate Change Sectoral Adaptation Plan, 2019</strong> | The Climate Action Plan sets out actions across every sector of society to ensure Ireland’s 2030 climate commitments are met, putting Ireland on a trajectory to be net zero emissions by 2050. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health. | + | There is potential for in-combination effects with NIFTI in terms of infrastructure. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects. |
| <strong>National Mitigation Plan 2017 (Quashed in July 2020)</strong> | This plan was designed to be a whole-of-Government approach to tackling greenhouse gas emissions, particularly, in key sectors - Electricity Generation, the Built Environment, Transport and Agriculture. This plan has recently been quashed by the Irish Supreme Court on the basis that it does not provide enough detail about how the State will reduce greenhouse gas emissions. A new plan will be drawn up, however NIFTI will continue to aim to be in line with the existing plan until the new plan is published. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health. | + | The framework supports climate change mitigation. There is potential for positive in-combination effects in terms of improved air quality and reduced carbon emissions. The plan is positive and would be expected to positively influence NIFTI. |
| <strong>National Renewable Energy Action Plan, 2009-2020</strong> | Ireland's National Renewable Energy Action Plan ('NREAP') sets out the strategic approach and measures to deliver Ireland's 16% target under Directive 2009/28/EC. | Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health. | + | The plan aims at accelerating the uptake on renewable energy, thereby reducing the dependence on fossil fuels. NIFTI will contribute positively towards reaching the targets set in the NREAP. There are potential in combination impacts from any infrastructure resulting from the Plan. All infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects. |
| <strong>Strategy for Renewable Energy 2012-2020</strong> | This document sets out five strategic goals: Increasing on and offshore wind; Building a sustainable bioenergy sector. | Improved air quality / reduced carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health; | +/- | NIFTI's outcomes are in line with the goals of the Strategy for Renewable Energy. There is potential for in-combination effects with NIFTI in terms of infrastructure requirements. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects. |</p>
<table>
<thead>
<tr>
<th><strong>SEA Environmental Report</strong></th>
</tr>
</thead>
</table>

**Fostering R&D in renewables such as wave & tidal; Growing sustainable transport; Building out robust and efficient networks.**

**Impacts on Biodiversity - loss of habitat; Changes to water quality; Impacts on landscape, cultural heritage or geological features or their setting.**

**The Draft Bioenergy Plan, 2014**

The draft Plan recognises that meeting the demand for biomass from indigenous sources could deliver significant economic and employment benefits.

Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health; Socio-Economic opportunities in relation to job creation; Impacts on Biodiversity, landscape, geological features.

**Built environment**

**National Energy Efficiency Action Plan 2017-2020**

This plan is configured as a central tool of energy policy, the implementation of which is achieving the energy efficiency and savings targets resulting from Directive 2012/27/EU.

Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, water quality; and human health.

This plan is not expected to conflict with any aspects of NIFTI but to positively contribute to it going forward. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects.

**Towards Nearly Zero Energy Buildings in Ireland – Planning for 2020 and Beyond**

The plan focusses on improving the energy efficiency within the buildings sector by increasing the use of renewable energy technologies to facilitate a reduction in Ireland's energy dependency on fossil fuels and associated greenhouse gas emissions.

Positive changes to air quality and carbon emissions; Indirect positive impacts as a result of improved air quality on: Biodiversity, hydrology/water quality; and human health.

This framework shares some objectives with NIFTI, related to climate change and the transition to a low-carbon economy. There is potential for in-combination effects with NIFTI in terms of infrastructure requirements. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects.

**Agriculture and Forestry**

**Forests, products and people Ireland’s forest policy – a renewed vision, 2014**

The strategic goal of the policy is to develop an internationally competitive and sustainable forest sector that provides a full range of economic, environmental and social benefits to society and which accords with the

Impacts on Biodiversity - in loss of habitat; Changes to hydrology/water quality; Impacts on landscape, cultural heritage or geological features or their setting.

Forestry and afforestation are key elements in satisfying the requirement for biomass for electricity generation. There is potential for in-combination effects with NIFTI in terms of potential habitat loss, fragmentation and degradation and water quality, however there is also potential for positive in-combination effects in terms of decreasing deforestation and protecting forestry such as
<table>
<thead>
<tr>
<th>Programme</th>
<th>Description</th>
<th>Impacts</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forestry Programme 2014–2020: Ireland</strong></td>
<td>This document represents Ireland’s proposals for 100% State aid funding for new forestry. It is consistent with the recently published &quot;Forests, products and people Ireland’s forest policy&quot;. The document has been completed in accordance with EU Guidelines on State aid for agriculture and forestry and in rural areas; and Regulation (EU) no 1305/2013 of the European Parliament and of the Council on support for rural development.</td>
<td>Impacts on Biodiversity resulting in loss of habitat; Changes to hydrology/water quality; Impacts on landscape, cultural heritage or geological features or their setting; Protection of forestry as a material asset; Increased afforestation/decreased deforestation - carbon sequestration and indirect benefits to society and environment.</td>
<td>+/-</td>
</tr>
<tr>
<td><strong>Water, Wastewater &amp; Waste</strong></td>
<td>The determination of the where flooding is occurring is a vital consideration for NIFTI. The SEA and AA of CFRAMs considered the impacts from engineering solutions. There is potential for in-combination effects with NIFTI in terms of flood defence infrastructure requirements. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any significant effects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catchment Flood Risk Assessment &amp; Management, 2016 (CFRAM)</strong></td>
<td>The CFRAM Programme is central to the medium to long-term strategy for the reduction and management of flood risk in Ireland.</td>
<td>Impacts on Biodiversity resulting in loss of habitat; Impacts on landscape, cultural heritage or geological features or their setting; Alterations to water quality and/or water movement; and Increased climate resilience.</td>
<td>+/-</td>
</tr>
<tr>
<td><strong>River Basin Management Plan, 2018 - 2021</strong></td>
<td>This plan sets out an integrated approach to the protection, improvement and sustainable management of the water environment in Ireland.</td>
<td>Improvements to water quality and as a result, biodiversity.</td>
<td>+</td>
</tr>
<tr>
<td><strong>Water Services Strategic Plan (WSSP), 2015</strong></td>
<td>The WSSP sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which Habitat loss and disturbance; Changes to water quality or quantity; Impacts on landscape, cultural heritage or geological features or their setting;</td>
<td></td>
<td>+/-</td>
</tr>
<tr>
<td>Plan Description</td>
<td>Potential Impacts</td>
<td>Screening Process and Objectives</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Regional Waste Management Plans 2015 - 2021</td>
<td>Improved waste management resulting in indirect socio-economic and environmental benefits; Impacts on Biodiversity - loss of habitat; Impacts on landscape, cultural heritage or geological features or their setting.</td>
<td>+/- The relevant competent authority will ensure that any project and associated works, individually or in combination with other plans or projects, are subject to EIA and AA Screening. Potential in-combination impacts may arise where there is a requirement to provide for the development of existing or new pre-treatment infrastructures.</td>
<td></td>
</tr>
<tr>
<td>European Union Biodiversity Strategy to 2020</td>
<td>Reduced habitat disturbance loss, destruction, fragmentation or degradation; Improvement in water quality; and Increased constraints for developments.</td>
<td>+/- The primary purpose of the Strategy is to halt the loss of habitat and species. Any works associated with biodiversity restoration have the potential for in combination effects. All resulting restoration work will likely be subject to EIA/AA with the aim of mitigating any significant effects.</td>
<td></td>
</tr>
<tr>
<td>National Wastewater Sludge Management Plan</td>
<td>Habitat loss and disturbance; Changes in water quality (increased phosphorous in receiving waters); and Impacts on landscape, cultural heritage or geological features or their setting; Improved wastewater assets and indirect socio-economic and environmental benefits.</td>
<td>+/- The NWSMP is a 25-year strategy which will be reviewed every five years. It has undergone a Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) process. Potential in-combination impacts may arise where there is a requirement to provide for new wastewater services infrastructures. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects.</td>
<td></td>
</tr>
<tr>
<td>Other plans</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>National Raised Bog SAC Management Plan, 2017-2022</td>
<td>Positive or negative impacts on peatlands habitats disturbance loss, destruction, fragmentation or degradation; Positive or negative impacts on water quality; Land use changes.</td>
<td>+/- The Raised Bog SAC Management Plan outlines a series of considerations in relation to peatlands. This plan is considered to positively interact with NIFTI. However, any resulting restoration or infrastructure work may result in in-combination effects. All resulting infrastructure will be subject to the EIA/AA process with the aim of mitigating any likely significant effects.</td>
<td></td>
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</tbody>
</table>
8.6. **Appropriate Assessment**

Appropriate Assessment has been completed in parallel to this SEA Environmental Report and the development of the draft NIFTI. The findings of the Appropriate Assessment documented in the Natura Impact Statement (NIS) published alongside this report. The findings are summarised below:

- The future projects which may arrive as a result of the implementation of NIFTI do not have defined locations or detailed design. As such project level AAs will be undertaken (informed by detailed surveys) to identify project specific impact pathways and build on and refine the mitigation measures outlined above to protect European sites.
- Any project(s) arising from the implementation of NIFTI shall be required to conform to the mitigation measures and key principles for protecting European sites identified within this NIS. In addition, all projects arising from the implementation of NIFTI will themselves be subject to Screening for AA/AA when details of locations and design become known.
- It is considered that the implementation of NIFTI will contribute to improvements in air quality over the next two decades and is therefore consistent with the aims of the Habitat Directive to conserve natural habitats and wild fauna and flora species.
- The conclusion of the NIS for NIFTI is that, following detailed assessment and appropriate mitigation for protecting European sites and their associated species and habitats, there will be no adverse effects on the integrity of any European site(s), either alone or in-combination with other plans or projects.

Full details of the Appropriate Assessment can be found in the Natura Impact Statement published alongside this report.

9.1. Introduction

The Strategic Environmental Assessment carried out on NIFTI has ensured that any potential significant environmental impacts (positive and negative) have been identified and taken into account in the development of the Framework. A Monitoring Framework will enable a review of the predicted impacts to be conducted, in order to identify additional mitigation where required and proposals for this are set out in section 9.2. In addition, a set of SEA recommendations for NIFTI and downstream mitigation measures are provided in section 9.3.

9.2. Monitoring Framework

To allow for the ongoing monitoring of the implementation of NIFTI and the development of adequate mitigation measures should impacts arise, a Monitoring Framework has been developed for the implementation of the plan. The Monitoring Framework, like the assessment of effects, is based around the SEA Objectives. A number of Targets and Indicators are identified which will allow quantitative measures of trends over of the duration of NIFTI. Each target has a relevant indicator which will help identify any significant effects. The indicators selected for measurement are generally based on existing monitoring sources and the information sources for each target are identified.

The proposed Monitoring Framework is outlined in Table 9-1.
<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>SEA Objective</th>
<th>Target</th>
<th>Indicator</th>
<th>Source</th>
</tr>
</thead>
</table>
| Population, Human Health  | Protect and enhance human health and quality of life in relation to increasing accessibility to economic, employment and community facilities through enhanced transport infrastructure and reduced transport emissions. | • No adverse increase in the number of serious accidents as a result of future land transport maintenance and development, to comply with a reduction of serious accidents on Irish roads.  
• To maximise the extent of urban/suburban areas within the catchment of transport infrastructure and services  
• No spatial concentrations of health problems arising from environmental factors as a result of implementing NIFTI. | • Decrease or increase in road accidents as outlined in the Road Safety Strategy 2021-2030.  
• Extent of urban/suburban areas within the catchment of transport infrastructure and services.  
• Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Strategy, as identified by the Health Service Executive and Environmental Protection Agency. | • National Roads Authority (NRA)  
• Road Safety Authority (RSA)  
• Central Statistics Office data  
• Transport Modelling  
• Project Level assessments and decision making;  
• Consultations with EPA and Health Service Executive (at monitoring review) |
| and Economy               |                                                                               |                                                                        |                                                                                                                                                                        |                                                                      |
| Tourism and Recreation    | Protect recreation areas and amenity facilities through construction of new transport infrastructure and support and enhance access for tourism and recreation. | • No temporary or permanent severance of existing footways, footpaths or cycleways.  
• No permanent unmitigated significant adverse effects on recreational facilities through land take or changes in amenity (noise, dust, views) as a result of development under NIFTI.  
• Achieve objectives and targets outlined in 2016-2019 Healthy Ireland Implementation Plan | • Significant adverse effects on public access and recreation facilities identified through lower tier environmental assessment.  
• Proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures. | • Fáilte Ireland visitor number and experience monitoring and publications (annually).  
• Project Level assessments and decision making.  
• CSO data. |
| Biodiversity, Flora and   | Prevent damage to and, where appropriate, enhance terrestrial, aquatic and soil biodiversity, particularly | • Maintenance of favourable conservation status for all habitats and species protected under national and European legislation to be unaffected by implementation of NIFTI. | • Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive  
• Percentage loss of functional connectivity without remediation resulting from development under NIFTI. | • Project Level assessments and decision making.  
• Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the |
| Fauna |                                                                               |                                                                        |                                                                                                                                                                        |                                                                      |
### EU and national designated sites and protected species, and associated ecological corridors.

- Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites provided for by NIFTI.
- Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites resulting from development under NIFTI.
- Number of derogation licences granted for developments under the NIFTI.

### Landscape and Visual Amenity

Safeguard the character and diversity of the Irish landscape and minimise the visual effects on sensitive, designated landscapes and public views.

- No unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of planning authorities.
- Number of unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of local authorities.

### Cultural Heritage

Protect cultural heritage resources and their settings.

- No unmitigated conflicts with entries to the Record of Monuments and Places or Records of Protected Structures or Archaeological Conservation Areas.
- Significant adverse effects on entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from significant adverse effects arising from the NIFTI.
- Significant adverse effects on entries to the Records of Protected Structures and Architectural Conservation Areas and their context from significant adverse effects arising from NIFTI.

### Habitats Directive

- as required by Article 17 of the Directive (every 6 years).
- Consultations with the NPWS.

### Project Level assessments and decision making.

- Consultation with Department of Arts, Heritage and the Gaeltacht (annually).
| Geology and Soils | Avoid conflicts with geological sites of value and contribute towards the appropriate management of soil resources and quality. | • No significant adverse effects on Geological Heritage Sites arising from development under NIFTI.  
• Soil Management Plans utilised to protect valuable soils from development under NIFTI as far as practicable. | • Significant adverse effects on Geological Heritage Sites.  
• Development within greenfield land (ha).  
• Development within agricultural land (ha). | • Lower tier environmental assessment and decision making.  
• Corine land cover mapping (5 yearly). |
| --- | --- | --- | --- | --- |
| Air Quality | Contribute to the reduction of air pollution (and improvement of air quality) resulting from transport. | • To contribute towards compliance with legislative air quality limits and target values.  
• To facilitate a reduction in greenhouse gas emissions from transport. | • Compliance with Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive and associated legislation.  
• Greenhouse gas emissions from transport. | • EPA Monitoring and publications on Air Quality and Greenhouse gas emissions. |
| Noise and Vibration | Contribute to mitigation of noise pollution issues resulting from transport. | • A reduction in the number of people/households affected by noise exposures greater than 55dB Lden and 50 dB Lnight from road & rail transport [adapted from the Environmental Noise Directive]. | • Decrease or increase of people/households affected by noise exposures greater than 55dB Lden and 50 dB Lnight from road & rail in the appropriate noise exposure bands from noise mapping. | • Transport Infrastructure Ireland.  
• Local Authorities for roads and rail. |
| Water Environment | Support the achievement of WFD objectives and avoid increasing flood risk | • Not to cause deterioration in the status of any surface water or ground water body or affect the ability of any surface water or ground water body to achieve 'good status'.  
• For lower tier assessments and decision making to comply with the Flood Risk Management Guidelines. | • Interactions with classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) resulting from development provided for by the Strategy.  
• Compliance of relevant lower tier assessments and decision making with the Flood Risk Management Guidelines. | • EPA Water Quality Reports;  
• Water Framework Directive Monitoring data.  
• Project Level assessments and decision making.  
• Project Level assessments and decision making. |
| Land Use and Material Assets | Promote the sustainable use of natural resources (including land), encourage energy efficiency, materials | • Maximise the use of brownfield sites.  
• 10% of consumption in the transport sector from renewable sources by 2020 by a mixture of biofuels & electric vehicles [adapted from the | • Development within greenfield land (ha).  
• Development within agricultural land (ha).  
• The % increase in the contribution of road & rail transport from renewables. | • Lower tier environmental assessment and decision making.  
• Corine land cover mapping (5 yearly). |
reuse and recycling and the effective use of existing infrastructure.

- Achieve target of 70% by weight of the re-use, recycling and other material recovery using waste to substitute other materials, of non-hazardous construction and demolition waste.

Sustainable Energy Authority of Ireland (SEAI)
- The % increase of waste (non-hazardous construction & demolition waste) used as a substitute material for road construction.

Climate Change (Mitigation)
Minimise contributions to climate change (through greenhouse gas emissions and decarbonisation of the transport fleet) as a result of construction of new and/or upgraded transport infrastructure or operation of existing and new transport networks and fleets.

- An increase in the percentage of the population travelling to work, school or college by public transport or active travel.
- Facilitate a reduction in energy use by the transport sector as a percentage of Total Final Energy Consumption.
- Facilitate an increase in the proportion of energy from renewable sources by the transport sector.
- Reduction in greenhouse gas emissions from transport sector within the LSMATS.
- Positive contribution to Ireland’s GHG emission targets.

- Percentage of population travelling to work, school or college by public transport or active travel.
- Energy use by the transport sector as a percentage of Total Final Energy Consumption.
- Proportion of energy for the transport sector from renewable sources.
- EPA carbon emissions monitoring.
- Carbon emission data as provided through carbon emission calculators (embodied and operational) for developments under NIFTI.

Climate Change (Adaptation)
Ensure that resilience to climate change is incorporated within the existing transport network and any proposed new transport infrastructure and that environmental resilience to climate change is supported.

- All new infrastructure resilient to future changes in air temperature, precipitation, wind speeds and flood risk throughout full design life.
- New built infrastructure is compliant with the European Union (EU) waste hierarchy Irish Green Building Council (IGBC) guidance where relevant.
- All new infrastructure resilient to future changes in air temperature, precipitation, wind speeds and flood risk throughout full design life.

- EPA Waste Statistics;
- Sustainable Energy Authority of Ireland Statistics.
9.3. **SEA Recommendations**

The recommendations in relation to draft NIFTI are outlined Table 9-2. This table outlines the recommendations to the draft NIFTI proposed by the SEA/AA team and agreed by DoT.
### Table 9-2: SEA Recommendations

<table>
<thead>
<tr>
<th>NIFTI Implementation Aspects</th>
<th>NIFTI Text</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 5.2</strong> Identifying Transport Investments</td>
<td><strong>Section 5.2:</strong> &quot;the projects that emerge from these sectoral investment strategies will have to demonstrate their alignment with NIFTI to receive funding.&quot;</td>
<td>Suggest that text requiring a demonstration of alignment with SEA objectives and consideration of the key environmental issues outlined in Table 5.2.</td>
</tr>
<tr>
<td><strong>Section 5.3</strong> Project Development</td>
<td><strong>Section 5.3:</strong> &quot;scheme sponsors are required to set out .... the need for the scheme, the scheme objectives, and its alignment with policy. This information is brought together in a Strategic Assessment Report, alongside the preliminary identification of options and costs and an appraisal plan.&quot;</td>
<td>High level environmental appraisal / assessment of key environmental constraints should be embedded into the appraisal plan. The SEO's and key issues identified in Table 5-2, should be incorporated into the appraisal plan for projects at early stages.</td>
</tr>
<tr>
<td><em>Implementation Action 1:</em></td>
<td>&quot;Sponsoring agencies will be required to demonstrate project alignment with NIFTI, within Strategic Assessment Reports, to proceed to the Preliminary Business Case stage. This analysis will be revised and updated throughout the project and programme lifecycles.&quot;</td>
<td>Further onus could be placed on sponsoring agencies to demonstrate alignment with the SEA Objectives or demonstrate assessment of key environmental constraints in line with the targets detailed in the SEA.</td>
</tr>
<tr>
<td><strong>Section 5.4</strong> Supporting the National Strategic Outcomes</td>
<td><strong>Section 5.4:</strong> &quot;for future transport projects we will require an explicit assessment of potential spatial and land use issues within Strategic Assessment Reports and Business Cases including, where necessary, how adverse impacts on the NSOs will be mitigated.&quot;</td>
<td>Consideration of high level key environmental constraints should be incorporated into the early planning stages of project in addition to special and land use issues.</td>
</tr>
<tr>
<td><em>Implementation Action 2:</em></td>
<td>Sponsoring agencies will be required to include a spatial and land use assessment within Strategic Assessment Reports and Business Cases for projects and programmes.</td>
<td>Further onus could be placed on sponsoring agencies to consider high level environmental constraints at the early planning stages of project in addition to special and land use issues.</td>
</tr>
<tr>
<td><strong>Section 5.5</strong></td>
<td><strong>Section 5.5:</strong></td>
<td>The appraisal process should be a multi-criteria analysis which will not only consider the overall value for money but also the best environmental...</td>
</tr>
</tbody>
</table>
### NIFTI Implementation Aspects

<table>
<thead>
<tr>
<th>NIFTI Implementation Aspects</th>
<th>NIFTI Text</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Investment Plans</td>
<td>“The existing appraisal process helps to ensure that the best option, in terms of overall value for money, is selected to meet a specific project’s objectives, but is limited as a tool to compare projects against one another. The Strategic Assessment Reports will, however, be used to inform decisions on overall capital planning, and for future projects will be produced in advance of the commitment of major resources to a project.”</td>
<td>options. The best environmental option is not always the best option overall, but will ensure that options with the worst environmental impact are caught early.</td>
</tr>
</tbody>
</table>
| Section 5.6 Enhancing Transport Appraisal Guidance | **Section 5.6:**  
“Transport infrastructure will be a key enabler of the NSOs. It will also be more important than ever that value for money is achieved in public expenditure, given the many competing priorities, both within transport and across other sectors. For these reasons, the approaches used to assess the strategic fit, costs, benefits and risks associated with schemes must be robust and fit for purpose.”  
**Section 5.6:**  
“a project’s strategic fit with NIFTI’s Investment Priorities will need to be assessed. Sponsoring agencies will also be required to demonstrate that the development and appraisal of options adhere to the principles of the NIFTI Hierarchies. Specific guidance on how to meet these requirements will be set out in the CAF.” | When assessing benefits and risks, these should be considered from an environmental perspective in addition to cost, technical feasibility and deliverability.  
Develop guidance on meeting the requirements of NIFTI and the SEA which is directed at each tier of decision-making from regional and local plans to project level standard management and mitigation measures to be applied.  
Integrate SEA objectives into the NIFTI implementation process including specific requirements to take account of SEA key issues, objectives and recommendations in:  
- regional and local land use and transport strategies; and  
- the application of the CAF for strategic options comparison;  
- the development of the updated CAF in 2020.  
<p>|</p>
<table>
<thead>
<tr>
<th>NIFTI Implementation Aspects</th>
<th>NIFTI Text</th>
<th>Recommendation</th>
</tr>
</thead>
</table>
| **Section 5.7:** Continuing to Develop the Evidence Base | **Section 5.7:** Areas for additional research set out:  
- Policy on the widespread adoption of low emission vehicles.  
- Identification of priority assets and infrastructure for protection and renewal, considering climate adaptation and evolving infrastructure uses  
- Costs of congestion analysis for four Irish cities to better understand the potential for demand management in all five cities;  
- Benefits of dedicated higher/high-speed rail and improving speeds along existing lines;  
- Development of a long-term strategy for the freight and haulage sector. | It is recommended that further research in another area is undertaken:  
More detailed and regular monitoring of transport modal share and traffic movements over the coming years to ensure changes in behaviours in relation to transport as a result of the coronavirus pandemic are captured early. This will allow Ireland to be more adaptable to the potentially unprecedented changes which may occur faster than previous trends. This will enable measures which will continue to support and encourage sustainable travel to be implemented.  
Consult with stakeholders to identify constraints, requirements and opportunities for the future transport plans. |

| **Section 5.8:** Monitoring and Oversight | **Section 5.8:** Appropriate monitoring and oversight of the implementation of NIFTI will be required within the Department of Transport and its agencies.  
In the Department of Transport, a NIFTI implementation group will be established to assess the progress of the Implementation Actions and Policy Actions. In addition, the Department has existing arrangements in terms of oversight of capital investment. These will be adapted as necessary to include monitoring ongoing and future investments against the delivery of the four NIFTI priorities. | The NIFTI Implementation Group should be responsible for undertaking annual monitoring and reporting of the performance of NIFTI against SEA targets in Table 9.1. The Group should meet annually (with its agencies) to discuss the findings and any necessary actions to mitigate impacts which occur.  
It is suggested that a stronger commitment within the NIFTI document text is made with specific reference to annual reporting, meetings (including collaboration with agencies and stakeholders) and actions which will be taken in the event of failure to meet targets within the Monitoring Plan.  
Findings of the monitoring plan should be reported within future NIFTI plan/SEA.  
Review the SEA objectives and targets as part of lessons learned for next national transport plan to reduce assessment uncertainty and delivery risk. Feed information gathered into the next national transport plan. |
10. **Next Steps**

10.1. **Publication of NIFTI and SEA Statement**

The SEA Environmental Report, Appropriate Assessment, Strategic Flood Risk Assessment and draft NIFTI have been published for public consultation for a period of eight-weeks between 31st March 2021 and 28th May 2021. Following the completion of the consultation period, all comments will be reviewed and any changes required to the draft NIFTI will be made to finalise NIFTI.

This SEA Environmental Report will not be revised but the feedback from the consultation process will feed in the next stage of the SEA (SEA Statement) and publication of NIFTI. The SEA requirements and consultation comments will be taken into account in finalising the NIFTI and an SEA Statement will be produced to document this process.

The final NIFTI will be approved following this consultation process. DoT will publish a post adoption statement (SEA Statement) alongside the final NIFTI setting out how the SEA and any consultation responses have influenced its development.

Following the publication of the final NIFTI and SEA statement, the final SEA phase is the implementation of a monitoring plan to monitor the impacts of the plan and allow for additional mitigation measures to be implemented if necessary. This includes monitoring progress on the SEA Recommendations.

10.2. **Further Information**

Further information requests and written submissions or observations can be sent to DoT by email to:

Transport2040@transport.gov.ie

All written submissions or observations relating to this document should be submitted by Friday 28th May 2021. DoT would value your response to the questions posed throughout this document.
References


Department of Transport (DoT), 2018a, NIFTI Background Paper 1: National Planning Framework

Department of Transport (DoT), 2018b, NIFTI Background Paper 2: Long-Term Transport Investment Pattern and Future Economic Scenarios

Department of Transport (DoT), 2018c, NIFTI Background Paper 3: Climate Change

Department of Transport (DoT), 2018d, NIFTI Background Paper 4: Brexit

Department of Transport (DoT), 2018e, NIFTI Background Paper 5: Technology

Department of Transport (DoT), 2018f, NIFTI Background Paper 6: Steady State Update

Department of Transport (DoT), 2018g, Planning Land Use and Transport – Outlook 2040; Background Paper 7: Investment Priorities

Department of Transport (DoT), 2018h, NIFTI Background Paper 8: International Comparisons

Department of Transport (DoT), 2018i, NIFTI Background Paper 9: Notes from SG Meeting

Department of Transport (DoT), 2018j, NIFTI Background Paper 10: Compact Growth

Department of Transport (DoT), 2018k, NIFTI Background Paper 11: Interurban Connectivity

Department of Transport (DoT), 2018l, NIFTI Background Paper 12: Rural and Regional Accessibility

Department of Transport (DoT), 2018m, NIFTI Background Paper 13: Supporting International Connectivity

Department of Transport (DoT), 2020, NIFTI Background Paper 14: Alternative Demand Scenarios


European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011) (as amended)


Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (S.I. No. 201 of 2011) (as amended)


Tourism Ireland, 2019. Tourism Ireland comments on CSO figures indicating modest growth of +1.5% in overseas tourists for January–November 2019. Accessed: 27/05/20. Available at:


Appendix A. Review of Relevant Plans, Policies and Programmes
# Plan, Programme, Policy, Legislation

<table>
<thead>
<tr>
<th>All Aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU Policies and Frameworks</strong></td>
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<tr>
<td><strong>EU Sustainability Policy:</strong></td>
</tr>
<tr>
<td>▪ European Union’s 7th Environmental Action Plan 2013</td>
</tr>
<tr>
<td>▪ EU Sustainable Development Strategy 2006</td>
</tr>
<tr>
<td>▪ Europe 2020 strategy; for smart, sustainable and inclusive growth</td>
</tr>
<tr>
<td>These are current policy documents guiding environment policy and sustainable development for European Member States. NIFTI should follow the key principles of these plans and strategies.</td>
</tr>
<tr>
<td>These strategies and plans have objectives centred around resource efficiency, decarbonisation, environmental risks to human health and wellbeing which are key issues identified for NIFTI within this SEA and the draft NIFTI.</td>
</tr>
<tr>
<td><strong>EU Directives and Transposed National Legislation</strong></td>
</tr>
<tr>
<td><strong>SEA Directive (2001/42/EC):</strong></td>
</tr>
<tr>
<td>▪ European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended</td>
</tr>
<tr>
<td>▪ European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011) as amended</td>
</tr>
<tr>
<td>Directive 2001/42/EC (and transposing Irish regulations) on the assessment of the effects of certain Plans and Programmes on the Environment (the SEA Directive). This directive established the requirement for SEA as part of high level decision-making process and the development of certain plans and programmes (including plans for the transport sector which set a framework for future development consent of projects listed in the EIA Directive). This Directive sets out the requirement for the SEA process for NIFTI.</td>
</tr>
<tr>
<td><strong>Environmental Impact Assessment Directive (2014/52/EU):</strong></td>
</tr>
<tr>
<td>▪ European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018)</td>
</tr>
<tr>
<td>Directive (2014/52/EU) amends the previous EIA Directive (2011/92/EU) on the assessment of the effects of certain public and private projects on the environment. It introduces changes in EIA requirements across the EU such as the introduction of mandatory ‘Competent Experts’, changes to screening procedures, and mandatory post-EIA monitoring. These will be relevant for any future projects which come through the NIFTI framework which will require development consent.</td>
</tr>
<tr>
<td><strong>EC Environmental Liability Directive (2004/35/EC):</strong></td>
</tr>
<tr>
<td>▪ The European Communities (Environmental Liability) Regulations, 2008 (S.I. No. 547 of 2008)</td>
</tr>
<tr>
<td>Directive 2004/35/EC (and transposing Irish regulations) seeks to prevent and remedy environmental damage – specifically, damage to EC protected habitats and species, water damage and land contamination which presents a threat to human health. It is based on the “polluter pays” principle – making operators financially liable for threats of or actual damage.</td>
</tr>
<tr>
<td><strong>National Legislation</strong></td>
</tr>
<tr>
<td>The Planning and Development Act forms the foundations for planning in Ireland and is underpinned by the Planning and Development Regulations 2001-2019. They set out the detail of Regional Spatial and Economic Strategies, development plans and local area plans as well as the basic framework of the development management and consent system. It provides the statutory basis for protecting our natural and architectural heritage, the carrying out of Environmental Impact Assessment and the provision of social and affordable housing and other infrastructure.</td>
</tr>
</tbody>
</table>

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11 Transposing or supporting Irish legislation included as relevant however this is not intended to be an exhaustive list
### National Plans and Frameworks

| **Our Sustainable Future, a Framework for Sustainable Development for Ireland (2012)** | This is a long-term plan to guide sustainable development and the green economy in Ireland. The framework sets out the importance of sustainable transport to national efforts to combat climate change, air pollution and other negative environmental and social impacts setting out some key goals for 2050. Two of these are associated with land transport and NIFTI shall endeavour to support these goals:  
- No more conventionally-fuelled cars in cities;  
- A 50% shift of medium-distance intercity passenger and freight journeys from road to rail and waterborne transport. |
| Ireland 2040, Our Plan - National Planning Framework (NPF)  
• National Development Plan (NDF) 2018-2027 | A 20-year strategy identifying strategic development requirements, infrastructure requirements and promoting sustainable strategies for the future. NIFTI is a high level strategic plan, which sets out the framework for investment in land transport that, in the short to medium term, will support the land transport element of the Government’s National Development Plan (NDP) 2018-2027, and, over the longer term, will provide a strategic framework for decision-making on the appropriate public expenditure on land transport in light of the National Policy Objectives established in the National Planning Framework (NPF). |

### Regional Plans and Strategies

| **City and County Development Plans** | Provides detailed and specific plans to allow for the proper planning and sustainable development of an area. Contains policies and objectives related to many environmental aspects including transport. |
| **Regional Spatial and Economic Strategies (RSES)** | The regional spatial and economic strategies support the implementation of the National Spatial Strategy. They cover the three regions: the Southern, the Northern and Western, and the Eastern and Midland Region. |

### Population, Human Health and Economy

| **EU Policies and Frameworks** | This convention grants the public the right to participate in and access all aspects of the decision-making on environmental planning at local, national and transboundary government level. The public are being given the opportunity to participate in the plan making process through consultation on this SEA Environmental Report and the draft NIFTI. |

### National Plans and Frameworks

| Ireland 2040, Our Plan National Planning Framework (NPF) 2018 | See All Aspects above. The National Planning Framework is the Government’s plan to cater for the extra one million people that are projected to be living in Ireland, the additional two thirds of a million people working in Ireland and the half a million extra homes needed in Ireland by 2040. It focuses on:  
- Growing our regions, their cities, towns and villages and rural fabric. |
- Building more accessible urban centres of scale.
- Better outcomes for communities and the environment, through more effective and coordinated planning, investment and delivery.

<table>
<thead>
<tr>
<th>National Development Plan (NDP) 2018 – 2027</th>
</tr>
</thead>
<tbody>
<tr>
<td>See All Aspects above.</td>
</tr>
<tr>
<td>Sets out the investment priorities that will underpin the successful implementation of the National Planning Framework.</td>
</tr>
<tr>
<td>NIFTI will outline investment in transport sector throughout a similar period in order to achieve the strategic investment priority “Environmentally Sustainable Public Transport”. The National Development Plan details where some key transport networks require upgrading or where new transport networks may be required. These may shape the recommendations of NIFTI. For example:</td>
</tr>
<tr>
<td>“In addition, there are sensitive areas where their environmental and tourism value mean that major new alignments are neither feasible nor appropriate. On those routes, there will be targeted improvements to address bottlenecks and enhance safety, for example, the N59 in Mayo on the Wild Atlantic Way and the N26 linking Ballina to the N5.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthy Ireland: A Framework for Improved Health and Wellbeing 2013 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Ireland is a new national framework for action to improve the health and wellbeing of our country over the coming generation.</td>
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<tr>
<td>Based on international evidence, it outlines a new commitment to public health with a considerable emphasis on prevention, while at the same time advocating for stronger health systems.</td>
</tr>
<tr>
<td>It provides for new arrangements to ensure effective co-operation between the health sector and other areas of Government and public services concerned with social protection, children, business, food safety, education, housing, transport and the environment.</td>
</tr>
<tr>
<td>It sets out four central goals and outlines actions under six thematic areas, in which all people and all parts of society can participate to achieve these goals. The Framework identifies a number of links between transport and health and wellbeing which are to be considered in the development of NIFTI.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategic Investment Framework for Land Transport (SIFLT) 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main output of SIFLT was to identify high-level priorities for future investment in land transport, against a backdrop of growing, though still constrained, funding after the recession. SIFLT identified the following three high-level priorities:</td>
</tr>
<tr>
<td>• Achieve ‘steady state’ maintenance;</td>
</tr>
<tr>
<td>• Address urban congestion;</td>
</tr>
<tr>
<td>• Maximise the contribution of land transport networks to our national development.</td>
</tr>
<tr>
<td>The purpose of NIFTI is to update the existing framework for transport investment for Ireland (SIFLT 2015) to ensure a whole of government approach to land use transport planning. NIFTI will ultimately set out DTTAS priorities and approach for future transport investment decisions.</td>
</tr>
</tbody>
</table>
### EU Policies and Frameworks

| EU Tourism Policy, 2010 | EU policy aims to maintain Europe’s standing as a leading destination while maximising the industry’s contribution to growth and employment and promoting cooperation between EU countries, particularly through the exchange of good practice. The EU’s competence in the tourism is one of support and coordination to supplement the actions of member countries. NIFTI aims to support tourism strategies; both EU and national. |

### National Plans and Frameworks

| National Countryside Recreation Strategy | The aims of the National Countryside Recreation Strategy are:  
- To achieve sustainable and responsible recreation in the countryside.  
- To promote caring recreational use of the countryside.  
- To develop a national framework that promotes the rights and responsibilities of both owners and users.  
- To develop a suitable structure to deliver a national countryside recreation service in a strategic and coordinated way.  
- To secure a package of funding mechanisms to deliver on the objectives of the strategy.  
NIFTI endeavours to enhance regional accessibility which should contribute to the achievement of these aims. |

| Tourism Policy Statement; "People, Place and Policy – Growing Tourism to 2025" | This is the Tourism Policy Statement for Ireland which aims to grow the industry up to 2025 in terms of revenue and employment. NIFTI endeavours to enhance and support the growth of tourism in Ireland. Tourism is embedded into the 4 main policy areas of NIFTI:  
1. Compact growth;  
2. Interurban Connectivity;  
3. Rural and Regional Accessibility; and  

| Tourism Action Plan 2019-2021 | The Tourism Action Plan contains 27 Actions which will be carried out in order to help achieve the overall policy objectives in the Government’s Tourism Policy Statement "People, Place and Policy – Growing Tourism to 2025". Many of these aims focus on supporting direct access to tourist attraction sites. Support from NIFTI on the aims of the Tourism Action Plan will be key to its success. |

| Strategy for the Future Development of National and Regional Greenways | The objective of this Strategy is to assist in the strategic development of nationally and regionally significant Greenways. It also aims to increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity. NIFTI shall support this strategy aiming to enhance regional access across the country. |

### Regional Plans and Strategies
## County-based recreation strategies (various)

Develops a framework to coordinate the objectives and targets of key stakeholders in a cohesive and integrated plan for the county, ensuring the provision, management and use of quality facilities and services for everyone, including future generations.

## Biodiversity, Flora and Fauna

### EU Policies and Frameworks

**International and EU Conventions:**
- UNESCO Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971
- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)

These international and EU conventions set the framework for the protection of Biodiversity for Members States.

**EU Biodiversity Strategy, 2011**

This strategy aims to halt the loss of biodiversity and ecosystem services in the EU.

### EU Directives and Transposed National Legislation

- **Birds Directive (09/147/EC) and Habitats Directive (92/43/EEC):**
  - European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)
  - European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015 (S.I. No. 355 of 2015)

Directive 09/147/EC requires all EU Member States to take measures to protect all wild birds and their habitats. The Birds Directive aims to protect all of the 500 wild bird species naturally occurring in the European Union. Directive 92/43/EEC requires all EU Member States to ensure the conservation of a wide range of rare, threatened or endemic animal and plant species.

### National Legislation

- **Wildlife Act 1976 and the Wildlife (Amendment) Act 2000**

Irish legislation in relation to the protection of biodiversity. These will be relevant for any future projects which come through the NIFTI framework which will require development consent.

- **Flora (Protection) Order 2015**

Sets out the list of plant species protected by Section 21 of the Wildlife Act. These will be relevant for any future projects which come through the NIFTI framework which will require development consent.

### National Plans and Frameworks

- **Actions for Biodiversity 2011-2016, Ireland’s National Biodiversity Plan**

This plan follows on from the 2002 National Biodiversity Action Plan. The overarching target of the second plan is "That biodiversity loss and degradation of ecosystems are reduced by 2016 and progress is made towards substantial recovery by 2020".

- **National Biodiversity Action Plan 2017-2021**

The Biodiversity Action Plan contains seven strategic objectives to achieve the overall goal of the plan of protecting Ireland’s biodiversity for future generations.

### Regional Plans and Strategies
<table>
<thead>
<tr>
<th>County Council Heritage and Biodiversity Plans</th>
<th>These Plans help to ensure that targets for species and habitat conservation in the National Biodiversity and Heritage Plans are translated into effective action at the local level.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape and Visual Amenity</td>
<td></td>
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<tr>
<td>EU Policies and Frameworks</td>
<td></td>
</tr>
<tr>
<td>Council of Europe (2006) European Landscape Convention</td>
<td>The European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Created by the Council of Europe, the convention promotes landscape protection, management and planning, and European co-operation on landscape issues. It applies to all landscapes, towns and villages, as well as open countryside; the coast and inland areas; and ordinary or even degraded landscapes, as well as those that are afforded protection.</td>
</tr>
<tr>
<td>National Plans and Frameworks</td>
<td></td>
</tr>
<tr>
<td>A National Landscape Strategy for Ireland 2015-2025</td>
<td>The National Landscape Strategy will be used to ensure that Ireland complies with the European Landscape Convention. The strategy provides a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine ... to protect, manage and properly plan through high quality design for the sustainable stewardship of our landscape. NIFTI will be in line with these measures.</td>
</tr>
<tr>
<td>Regional Plans and Strategies</td>
<td></td>
</tr>
<tr>
<td>County Landscape Character Assessments (LCA)</td>
<td>The LCA classifies and describes the landscape in a county.</td>
</tr>
<tr>
<td>Cultural Heritage (Architectural &amp; Archaeology)</td>
<td></td>
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<tr>
<td>EU Policies and Frameworks</td>
<td></td>
</tr>
<tr>
<td>EU Conventions on Archaeological, Architectural and cultural heritage:</td>
<td>EU and UNESCO conventions related to the protection of Archaeological, Architectural and Cultural Heritage.</td>
</tr>
<tr>
<td>• Convention for the Protection of the Architectural Heritage of Europe (Granada 1985)</td>
<td></td>
</tr>
<tr>
<td>• The European Convention on the Protection of the Archaeological Heritage (Valletta 1992)</td>
<td></td>
</tr>
<tr>
<td>• Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro 2005)</td>
<td></td>
</tr>
<tr>
<td>UNESCO Conventions on Archaeological, Architectural and Cultural Heritage:</td>
<td></td>
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<tr>
<td>• Convention concerning the Protection of World Cultural and Natural Heritage (Paris 1972)</td>
<td></td>
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<tr>
<td>• Convention on the Protection of Underwater Cultural Heritage (Paris 2001)</td>
<td></td>
</tr>
<tr>
<td>National Legislation</td>
<td></td>
</tr>
<tr>
<td>The Heritage Act 1995</td>
<td>This Act proposes policies and priorities for the identification, protection, preservation and enhancement of the national heritage. National Heritage is defined as including monuments,</td>
</tr>
</tbody>
</table>
| **National Monuments Act (Amendment) 2004** | Under these regulations, it is illegal to do any of the following things to a national monument;  
   a) to demolish or remove it wholly or in part or to disfigure, deface, alter, or in any manner injure or interfere with it; or  
   b) to excavate, dig, plough or otherwise disturb the ground within, around, or in proximity to it, without consent.  
   NIFTI shall provide the framework to ensure these regulations are adhered to in the development of any future projects. |
| **Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999** | This Act provides for the establishment of a national inventory of architectural heritage and for related matters and to provide for the obligations of sanitary authorities in respect of registered historic monuments. NIFTI shall provide the framework to ensure these sites are protected in the development of any future projects. |
| **Heritage Ireland 2030** | Irelands new national heritage plan will establish a heritage framework under three themes, to ensure that that the heritage of Ireland is valued and protected. The three themes are:  
   • National Leadership and Heritage  
   • Heritage Partnerships; and  
   • Communities and Heritage. |
| **Regional Plans and Strategies** |  |
| **County Heritage Plans** | Local Authorities are responsible for developing Heritage Plans to raise awareness for local heritage and promote the conservation of the built, natural and cultural heritage of the county. |
| **Geology and Soils** |  |
| **National Plans and Frameworks** |  |
| **Action Plan for Rural Development; Realising our Rural Potential** | This document presents an action plan for sustainable rural development including the need to protect and improve vital services in rural Ireland by improving rural transport provision. Enhancing rural accessibility is embedded into the 4 main policy areas of NIFTI:  
   1. Compact growth;  
   2. Interurban Connectivity;  
   3. Rural and Regional Accessibility; and  
| **Land Use National Plans and Frameworks** |  |
| **National Plans and Frameworks** |  |
| **Ireland 2040: Our Plan - National Planning Framework** | See All Aspects & Population, Human Health and Economy |
| **National Development Plan 2018 – 2027** | See All Aspects & Population, Human Health and Economy |
### Regional Plans and Strategies

| Regional Spatial and Economic Strategies | See All Aspects & Population, Human Health and Economy |
| County and City Development Plans | Provides detailed county/city level strategies to allow for the proper planning and sustainable development of an area including land zoning which helps to guide the planning of other infrastructure. Future projects will adhere to land zoning. |

### Air Quality

**EU Directives and Transposed National Legislation**

| Ambient Air Quality Directive (2008/50/EC) | Directive 2008/50/EC sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM$_{10}$ and PM$_{2.5}$) and nitrogen dioxide (NO$_2$). Transport is a major contributor to air pollution and NIFTI has recognised the responsibility of the transport industry in progress towards reducing these impacts to human health. |
| Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) and other regulations not listed here |

### Noise and Vibration

**EU Directives and Transposed National Legislation**

| Environmental Noise Directive (2002/49/EC): | Directive 2002/49/EC applies to noise to which humans are exposed, particularly in built-up areas, in public parks or other quiet areas in an agglomeration, in quiet areas in open country, near schools, hospitals and other noise-sensitive buildings and areas. NIFTI considers Ireland's strategic noise mapping and noise considerations will be built into the NIFTI framework for identifying future projects. |

| WHO Environmental Noise Guidelines 2018 | The main objective of the guidelines is to provide recommendations for protecting human health from exposure to environmental noise. |

### Water Environment

**EU Directives and Transposed National Legislation**

| Water Framework Directive (2000/60/EC): | The WFD establishes a standard EC strategic approach to managing groundwater, wetlands and surface water bodies to meet common environmental objectives. Protection of the water environment will be embedded into the NIFTI framework. |
| Environmental Quality Standards Directive 2008/105/EC (supporting directive) |
| European Union (Water Policy) Regulations 2014 (S.I. No. 350 of 2014) |
| The Surface Waters Regulations (S.I. No. 272 of 2009) |
| The Groundwater Regulations (S.I. No. 9 of 2010) |
| WFD River Basin Management Plans 2018-2021 |

| Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008) |
### The Floods Directive (2007/60/EC):
- European Communities (Assessment and Management of Flood Risks) Regulations 2010. (S.I. No. 122 of 2010)
- Flood Risk Management Plans
- The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ (the FRM Guidelines)

Directive 2007/60/EC (and transposing Irish regulations) requires Ireland to assess flood risk and to take adequate and coordinated measures to reduce this flood risk including the development of Flood Risk Management Plans (FRMP).

The FRM Guidelines were developed to integrate flood risk assessment and management into spatial planning development decisions and therefore are applicable to strategic objectives identified for NIFTI.

Flood Risk Management will be embedded into the NIFTI framework.

- European Communities (Marine Strategy Framework) Regulations (S.I. No. 249 of 2011)

Directive (2008/56/EC) (and transposing Irish regulations) establishes a framework within which Member States will take measures to maintain or achieve ‘good environmental status’ (GES) in the marine environment by 2020.

Protection of the water environment will be embedded into the NIFTI framework.

- European Communities Environmental Objectives (Groundwater) Regulations 2010 S.I. No. 9 of 2010

Directive (2006/118/EC) (and transposing Irish regulations) establishes a regime which sets groundwater quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.

Protection of the water environment will be embedded into the NIFTI framework.

### National Policy

#### National Marine Planning Framework

Ireland’s first Marine Planning Framework will be a key tool in decision making for authorities and policy makers, having regard to the marine plan in the same way that a terrestrial plan is part of the planning process.

### Material Assets

#### EU Directives


Directive 2008/98/EC outlines the definitions related to waste management. It requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest. Waste Management will be considered on any future projects which come through the NIFTI framework.

### National Legislation

**Waste Management Acts 1996 - 2005**

The Waste Management Acts provide for a general duty on everyone not to hold, transport, recover or dispose of waste in a manner that causes or is likely to cause environmental pollution. Waste Management will be considered on any future projects which come through the NIFTI framework.

### National Plans and Frameworks

**Government Infrastructure and Capital Investment Plan 2016 – 2021**

Framework for investment in infrastructure in Ireland 2016-2021. NIFTI has taken account of this plan to ensure that potential cumulative effects between investment priorities set out in NIFTI
are managed, and that the government investment priorities are supported.

| **Department of the Environment, Community and Local Government, 2012, Waste Management in Ireland; A Resource Opportunity** | Sets out the roadmap for the management of waste in Ireland in order to move away from dependence on landfill, by putting in place the most appropriate technologies and approaches to reduce waste, while at the same time maximising the resources that we can recover from waste. It places renewed emphasis on the Waste Hierarchy, moving the emphasis from resource management, with landfill diversion as the key driver to resource efficiency and reducing reliance on finite resources. It takes account of the targets and requirements within the EU Waste Framework Directive. Waste Management will be considered on any future projects which come through the NIFTI framework. |
| **Regional Waste Management Plans (various), 2015** | For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands and Connacht-Ulster. Regional Waste Management Plans will be considered on any future projects which come through the NIFTI framework. |
| **Smarter Travel “A New Transport Policy for Ireland” 2009–2020** | This document reflects the government’s vision and required measures to have a sustainable transport system by 2020. It sets out below five goals:  
- To reduce overall travel demand;  
- To maximize the efficiency of the transport network;  
- To reduce reliance on fossil fuels;  
- To reduce transport emissions;  
- To improve accessibility to transport.  
These aims align with the objectives of NIFTI therefore the framework should help achieve the aims of the Transport Policy for Ireland. |
| **2030 Rail Network Strategy** | Irish Rail produced their Network Rail Strategy following the publication of the National Development Plan for 2012 – 2019 and aims to:  
‘To provide safe, accessible and integrated rail services that contribute to sustainable economic and regional development in an efficient manner’. |
<p>| <strong>Sectoral Plan for Accessible Transport; Transport Access for All 2006</strong> | Under the Disability Act 2005, an extensive Review of the Department of Transports Sectoral Plan was undertaken in 2011/2012. Arising from that Review, the Department has now published a Revised Sectoral Plan for Accessible Transport setting out what the department has changed and what still needs to be done. |
| <strong>Regional Plans and Strategies</strong> | Establishes a framework for the sustainable management of wastes generated in the county. County Waste Management Plans will be considered on any future projects which come through the NIFTI framework. |
| <strong>Climatic Change</strong> | |
| <strong>EU Policies and Frameworks</strong> | |</p>
<table>
<thead>
<tr>
<th><strong>The Kyoto Protocol 2007</strong></th>
<th>The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European community for reducing greenhouse gas (GHG) emissions. Climate change and emission reductions are major themes identified in NIFTI.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paris Agreement 2015</strong></td>
<td>Signed by nearly 200 countries the agreement with the United Nations Framework Convention on Climate Change (UNFCC) came into effect on 4 November 2016 and sets target to keep global temperature rise to under 2˚C by 2050. Climate change and emission reductions are major themes identified in NIFTI.</td>
</tr>
<tr>
<td><strong>EU Energy and Climate (2020) Package 2009</strong></td>
<td>The 2020 package is a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020. Climate change and emission reductions are major themes identified in NIFTI.</td>
</tr>
</tbody>
</table>

**EU Directives**

| **EC Renewable Energy Directive on the Promotion of the use of energy from renewable sources Directive (2009/28/EC)** | Directive 2009/28/EC sets a target for Ireland to achieve 20% of its energy consumption from renewable sources by 2020 as a contributory factor in tackling climate change. NIFTI recognises Ireland’s obligations in terms of renewable energy and endeavors to support the 20% target for Ireland set by the EU. NIFTI recognises that Ireland has set a national target of 33% (See National Plans and Frameworks below) |

**National Legislation**

| **Climate Action and Low Carbon Development Act 2015** | Provides the statutory basis by which the Minister for Communications, Climate Action and Environment must make and submit to Government a series of successive National Mitigation Plans (NMPs) and National Adaptation Frameworks (NAFs). When considering these plans and frameworks, Government must ensure that the national transition objective is achieved by the implementation of measures that are cost-effective. Climate change are major themes identified in NIFTI and the importance of both mitigation and adaptation are key considerations to ensure a sustainable and resilient transport network. |

**National Plans and Frameworks**

| **Energy White Paper: Delivering a Sustainable Energy Future for Ireland – the Energy Policy Framework 2007 – 2020.** | This white paper aims to achieve electricity supply which consistently meets demand and sets a target to meet 33% of consumption from renewable energy by 2020. NIFTI recognises Ireland’s obligations in terms of renewable energy and endeavors to support Ireland’s renewable energy targets. |
| **National Renewable Energy Action Plan, 2010** | Outlines Ireland’s national trajectories for the share of energies from renewable sources consumed in transport, electricity, heating and cooling between now and 2020. |
| **Ireland’s National Policy Position on Climate Action and Low Carbon Development (2014)** | The National Policy Position establishes the fundamental national objective of achieving transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. |
National Mitigation Plan (2017)

This plan laid the foundations for transitioning Ireland to a low carbon, climate resilient and environmentally sustainable economy by 2050.

The Plan included over 100 individual actions for various Ministers and public bodies to take forward as we move to implementation of what will be a living document. Importantly, the Government recognised that this first Plan begins the process of development of medium to long term mitigation choices for the next and future decades.

This plan has recently been quashed by the Irish Supreme Court on the basis that it does not provide enough detail about how the State will reduce greenhouse gas emissions. A new plan will be drawn up, however NIFTI will continue to aim to be in line with the existing plan until the new plan is published.

The main elements for transport in the quashed plan which NIFTI will continue to support in the absence of a new mitigation plan include:

- Increasing the efficiency of the transport;
- Speeding up the deployment of low-emission alternative energy for transport; and
- Moving towards zero-emission vehicles.

National Adaptation Framework 2018

Ireland’s first statutory adaptation framework for climate change. The NAF outlines a whole of government and society approach to climate adaptation in Ireland. Introduces requirement for Government Departments to prepare sectoral adaptation plans in relation to a priority area that they are responsible for. Local authorities are required to prepare local adaptation strategies. The NAF also aims to improve the enabling environment for adaptation through ongoing engagement with civil society, the private sector and the research community.

Climate adaptation is a key policy area for NIFTI and will include responsive measures to climate change effects.

National Policy Framework for Alternative Fuels Infrastructure for Transport in Ireland 2017-2030

This National Policy Framework on Alternative Fuels Infrastructure for Transport represents the first step in communicating our longer term national vision for decarbonising transport by 2050, the cornerstone of which is our ambition that by 2030 all new cars and vans sold in Ireland will be zero-emissions capable.

Ireland’s Second National Energy Efficiency Action Plan to 2020

Sets out the actions in order to meet Ireland’s 2020 energy targets. Actions in the transport sector involve:

- Continue to incentivise of more energy efficient cars;
- Continue to promote mobility management plans in schools and workplaces and at home;
- Spatial planning policies to reduce unnecessary commuting; and
- Carbon tax on petrol and diesel.

NIFTI endeavours to support these actions.

Climate Action Plan 2019

The climate action plan sets out the governance of how Ireland will tackle climate disruption and achieve net zero greenhouse gas emissions.
emissions by 2050. The report contains almost 200 actions to ensure Ireland meets its targets.

<table>
<thead>
<tr>
<th>Transboundary</th>
<th>National Legislation</th>
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</table>
| **Planning Act (NI) 2011** | The Planning Act (NI) sets out planning policy for Northern Ireland establishing a new two-tiered planning system with devolved powers to local government.  
  
  The 2011 Act requires all councils to prepare an LDP that will provide a 15-year framework to support economic and social needs facilitating sustainable growth. LDPs should ensure that supporting actions are in place to ensure that developers provide necessary infrastructure including road access.  
  
  Key objectives, priorities and actions should be in line with the Planning Act (NI) as well as the Planning and Development Act and associated regs. |
| **The Air Quality Standards Regulations (Northern Ireland) 2010** | These regulations implement the requirements of the Ambient Air Quality Directive (2008/50/EC) and 4th air quality daughter directive (2004/107/EC).  
  
  NIFTI must ensure that the framework considers and any future projects with the potential to impact Northern Ireland should consider air quality regulation. |
| **The Water Environment (Floods Directive) Regulations (Northern Ireland) 2009** | This legislation transposes into Northern Ireland law, the European Directive on the Assessment and Management of Flood Risks (2007/60/EC), known as the Floods Directive. The Floods Directive is designed to help Member States establish a framework for managing flood risk that is aimed at reducing the adverse consequences of flooding on human health, the environment, cultural heritage, and economic activity.  
  
  NIFTI must ensure that the framework considers and any future projects with cross boundary influences should consider Flood Risk in Northern Ireland. |
| **The Environmental Liability (Prevention and Remediation) (Amendment) Regulations (Northern Ireland) 2009** | These regulations provide additional protection to habitats and species identified in Annexes 1 and 2 of the EC Habitats Directive (92/43/EEC). NIFTI must ensure that these habitats and species are protected in Northern Ireland should there be cross boundary influences associated with a priority, action or future project. |

<table>
<thead>
<tr>
<th>National Plans and Strategies</th>
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</table>
| **Strategic Planning Policy Statement** | This publication sets out the Department's regional planning policies for securing the orderly and consistent development of land in Northern Ireland under the reformed two-tier planning system. The provisions of the SPPS must be taken into account in the preparation of Local Development Plans, and are also material to all decisions on individual planning applications and appeals.  
  
  NIFTI must ensure that the framework and any future projects with the potential to impact Northern Ireland should be in line with guidance within the SPPS. |
### Regional Development Strategy: Building a Better Future, 2035

The Regional Development Strategy offers a strategic and long-term perspective on the future development of Northern Ireland up to the year 2025.

- It aims to deliver the spatial aspects of the Programme for Government. It aims for balanced sub-regional growth and recognises the importance of key settlements as centres for growth and investment, dealing with climate change as a key environmental and economic driver, and the importance of rural communities. It aims to maximise the use of existing infrastructure and services.
- Key objectives, priorities and actions should be in line with the RDS, so that any future projects with the potential to impact Northern Ireland support the strategy.

### Northern Ireland Climate Change Adaptation Programme

Department of Agriculture, Environment and Rural Affairs have been responsible for developing a Climate Change Adaptation Programme to address the risks set out in the first UK Climate Change Risk Assessment for Northern Ireland. The first National Adaptation Programme was published in 2013 and focused on helping UK businesses, local authorities and civil society to become more resilient or ‘Climate Ready’ to climate change impacts. Sustainable transport is a big theme within this. Due to the potential for cross boundary influences, NIFTI must consider the NI Climate Change Adaptation Programme.

  - This second report on the State of the Environment in Northern Ireland brings together recent information on how our environment is performing across land, water, sea and air. The indicators and emerging trends show complex interactions between different parts of our environment and how our activities in one area can impact on another. The decision making framework developed in NIFTI must recognise the full value of the services our natural environment and built heritage provide in underpinning a healthy economy, prosperity and well-being in Northern Ireland.

- **Northern Ireland Environmental Statistics Report (2018)**
  - An annual compendium which reports on a range of environmental indicators and provides links to government strategies. This report contains environmental indicators covering eight key themes: demography and public opinion, air and climate, water, marine, land, biodiversity, built heritage and waste. These reports are key to determining the baseline for Northern Ireland prior to any developments associated with NIFTI.

  - The Northern Ireland National Ecosystem Assessment (NI NEA) is an analysis of Northern Ireland’s natural environment in terms of the benefits it provides to society and to economic prosperity. The NI NEA provides an assessment of the extent and condition of Northern Ireland’s natural and human modified habitats and their ability to able to support communities and economy they need to be healthy and resilient to change. NIFTI must aim to work towards the key findings:
  - The role of ecosystem services in mitigating the effects of human impacts, including climate change and biodiversity loss, should be considered in all decisions about the use of land and sea.
• Carbon management needs to be seen as an important part of management for multiple services.
• The full value of sequestration in existing habitats must be factored into carbon and greenhouse gas budgets and targets and given weight when making decisions on land management regimes.
• Planning and management policies need to be aligned with natural processes to maintain the capacity for multiple service delivery.

### Northern Ireland Countryside Survey (2007)

Since 1986, the University of Ulster has assessed changes in the type and extent of habitats with a field-based ecological research programme: the Northern Ireland Countryside Survey (NICS). The aim is to understand how land use and the environment influence habitats and their biodiversity and how habitats change with time. This knowledge will be key to determining effects on land use and biodiversity in Northern Ireland should any specific projects with transboundary effects be proposed.

### Northern Ireland State of the Seas Report (2011)

The report follows on from a UK-wide report published in 2010 entitled ‘Charting Progress 2 – The State of UK Seas’. Both NIEA and AFBI were fully engaged in the production of Charting Progress 2. The Northern Ireland State of the Seas report complements Charting Progress 2 and highlights the issues specific to Northern Ireland. This report has been influenced by the introduction of 3 new pieces of legislation:

- UK Marine and Coastal Access Act, 2009; and

The report is largely structured around the new requirements of the Marine Strategy Framework Directive, although other aspects of the marine environment are also considered. The marine environment is a key asset to Northern Ireland in terms of biodiversity, recreation, tourism and the transporting of goods and services from our ports. It also supports industries such as aquaculture and fishing.

Any land transport strategies or works proposed through the NIFTI framework will need to have strong consideration to protection of the marine environment of Northern Ireland.

### Norther Ireland Landscape Character Assessment

The Northern Ireland Regional Landscape Character Assessment provides a strategic overview of the landscape in Northern Ireland and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique.

The Northern Ireland Landscape Character Assessment subdivided the countryside into 130 Landscape Character Areas (LCAs), each based upon local patterns of geology, landform, land use, cultural and ecological features. For each LCA, the key characteristics were described and an analysis of landscape condition and its sensitivity to change was made.
<table>
<thead>
<tr>
<th><strong>Any land transport strategies or works proposed through the NIFTI framework should protect the integrity of landscape character in Northern Ireland.</strong></th>
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<tbody>
<tr>
<td><strong>Northern Ireland Regional Seascape Character Assessment (2014)</strong></td>
</tr>
<tr>
<td><strong>Biodiversity Strategy for Northern Ireland to 2020 (2015)</strong></td>
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<tr>
<td><strong>Wildlife and Natural Environment Act 2011</strong></td>
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<td><strong>Wildlife (NI) Order 1985</strong></td>
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<td><strong>Environment NI Order 2002</strong></td>
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<tr>
<td><strong>Conservation (Natural Habitats) Regs (NI) 1995</strong></td>
</tr>
<tr>
<td><strong>Historic Monuments and Archaeological Objects (NI) Order 1995</strong></td>
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</tbody>
</table>
It is an offence to carry out changes to such structures without consent from the Department.

| Exercise – Explore – Enjoy: A Strategic Plan for Greenways (2016) | A 25 year Strategic Plan for Greenways to develop a greenway network right across the north. Any projects planned within Northern Ireland should consider the proposed greenway network. |
| Outdoor Recreation Action Plan for Northern Ireland (2015) | A seven year Action Plan to 2020 to continue to develop outdoor recreation. Any projects planned within or close to Northern Ireland should also aim to enhance access to outdoor recreation. |
Appendix B. Summary of SEA Scoping Report Consultation Submissions
<table>
<thead>
<tr>
<th>Consultee</th>
<th>Area of Concern</th>
<th>Comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>A discussion of the broader air quality policy context would be valuable.</td>
<td>Air quality policy as a key environmental consideration within the report.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA / Draft PLUTO 2040/NIFTI</td>
<td>Explicit acknowledgement of national decarbonisation commitments.</td>
<td>Reference to commitments made in draft NIFTI and the SEA.</td>
</tr>
<tr>
<td>EPA</td>
<td>Draft PLUTO 2040/NIFTI</td>
<td>There would be merits in clearly setting out the governance structure and clarifying what PLUTO 2040 (now NIFTI) can and cannot do. The inclusion of a diagram/figure showing the relation of the Strategy to higher and lower level plans in the transport planning hierarchy would be useful.</td>
<td>Figure 1 in NIFTI illustrates a graphic of where NIFTI fits into the current planning policy frameworks. This graphic is replicated in Section 6 of SEA.</td>
</tr>
<tr>
<td>EPA</td>
<td>Draft PLUTO 2040/NIFTI</td>
<td>Strong and ambitious measures to promote sustainable transport are needed, backed up with the required investment and rigorous implementation. Commitments should be accompanied by measurable targets and timeframes for delivery. The Strategy should include set timeframes for interim progress reporting and review, and progress reports should be made publicly available.</td>
<td>NIFTI details that an Implementation Group will be established to assess the progress of the Implementation Actions and Policy Actions. The SEA details an annual monitoring plan (in Table 9.1) against which the Implementation Group will be responsible for reporting of the performance of NIFTI against SEA targets. The SEA recommends the group should meet annually (with its agencies) to discuss the findings and any necessary actions to mitigate impacts which occur.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA / Draft PLUTO 2040/NIFTI</td>
<td>The Strategy-implementation reporting should be linked with the SEA monitoring, to enable an evaluation of the environmental performance of the Strategy.</td>
<td>A Monitoring Framework and SEA Recommendations have been drafted to be adopted in parallel with NIFTI.</td>
</tr>
<tr>
<td>EPA</td>
<td>Draft PLUTO 2040/NIFTI</td>
<td>To deliver its priority of ‘Realising a low-carbon, sustainable transport system’, PLUTO 2040 (now NIFTI) should seek to integrate land use and transport planning, extend public transport and park-and-rides, significantly expand electric vehicle recharging infrastructure, advance the electrification of rail, promote uptake of alternatives fuels for buses, freight and commercial vehicles, prioritize investment in walking and cycling infrastructure and seek to integrate green infrastructure networks. These priorities should be accompanied by measurable targets and timeframes for delivery.</td>
<td>These measures have been highlighted as key interventions mechanisms and have been discussed throughout draft NIFTI.</td>
</tr>
<tr>
<td>EPA</td>
<td>Draft PLUTO 2040/NIFTI</td>
<td>The inclusion of a graphic illustrating the ‘sustainable transport hierarchy’, showing walking/cycling at the top and private car use at the bottom, would serve to</td>
<td>Draft NIFTI explores various measures to support the desired transport hierarchy and intervention</td>
</tr>
</tbody>
</table>
**EPA SEA/ Draft PLUTO 2040/NIFTI**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
<th>Importance</th>
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<tr>
<td><strong>Emphasise</strong></td>
<td>The re-prioritisation needed in transport planning and investment decision-making in Ireland. Various mechanisms to support and promote active (non-motorised) forms of transport e.g. walking, cycling, should be explored.</td>
<td>hierarchy illustrated in graphics and discussed in detail in draft NIFTI.</td>
</tr>
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</table>

| **It will be important to make the links between transport and health, in particular the effects of air pollution and noise. The links between traffic congestion/noise and quality of life/wellbeing should also be recognised. There are also social / equality issues around accessibility e.g. access to employment opportunities, access to amenities etc., which link with the SDGs and which should be addressed in the Strategy.** | The population and human health baseline chapter draws on health inequalities and importance of access to health care and opportunities. NIFTI also emphasises the public health benefits to active travel within the transport hierarchy. |

| **In setting the framework for transport investment out to 2040, it is vital that the Strategy reflects the national transition agenda and aligns with national and international commitments on climate change mitigation, as well as relevant transport sector climate plans. Given its importance to the framing and context of PLUTO 2040 (now NIFTI), the need to decarbonise transport could be acknowledged in earlier sections in the scoping report, for example section 1.1 Background to PLUTO 2040 (now NIFTI) and section 2.1 Need for PLUTO 2040 (now NIFTI), as well as the NTS.** | The role NIFTI plays in meeting national commitments in Climate Change is emphasised throughout the SEA and draft NIFTI. |

| **[In terms of resilience,] consideration should be given to other impacts in addition to flooding. This includes more extreme temperatures, soil erosion/landslides, coastal erosion, etc. which have potential to impact on our transport system.** | The need to ensure resilience to the impacts of Climate Change is emphasised throughout the SEA and draft NIFTI. |

| **PLUTO 2040 (now NIFTI) should align with the objectives, actions and measures in the Clean Air Strategy and the National Air Pollution Control Programme which DCCAE are currently finalising. The National Clean Air Strategy is intended to provide the framework to identify and promote integrated measures to reduce air pollution and promote cleaner air while delivering on wider national objectives such as climate change. The National Air Pollution Control Programme will set out policy options, actions and measures to achieve compliance with emission targets for five specified air pollutants (NOx, VOCs, Sox, PM2.5 and NH3) across sectors including transport.** | The need to improve air quality nationally is emphasised throughout the SEA and draft NIFTI and the direct and indirect positive impacts as a result of this is explored. |

| **The WHO identifies noise as the second most significant environmental cause of ill health (after air pollution). Transport is the leading source of noise nuisance. In providing the framework for transport investment over the next two decades, PLUTO 2040 (now NIFTI) should consider future trends in transport and mobility systems and predict the implications for the population’s exposure to environmental noise.** | The need to reduce the impacts of noise as a result of transport is emphasised throughout the SEA and draft NIFTI and the direct and indirect positive impacts as a result of this is explored. |

<p>| <strong>In Ireland, local authorities are required to develop noise action plans for transport related noise sources (major road, rail and airports) and the two city agglomerations of Dublin and Cork. Round 3 noise mapping information is available on the EPA website at <a href="https://www.epa.ie/monitoringassessment/noisemapping/">https://www.epa.ie/monitoringassessment/noisemapping/</a> and should be</strong> | Round 3 Noise mapping has been considered as part of the baseline assessment and targets are built into the Monitoring Framework to monitor the impacts of projects which progress as a result of NIFTI. |</p>
<table>
<thead>
<tr>
<th>Object</th>
<th>Agency</th>
<th>Description</th>
<th>Notes</th>
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<tbody>
<tr>
<td>EPA</td>
<td>SEA/ Draft PLUTO 2040/NIFTI</td>
<td>PLUTO 2040 (now NIFTI) should refer to and support the NPF’s National Policy Objective 65: ‘Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans.’</td>
<td>NIFTI will not have a direct impact on noise, all NPF objectives will be considering in the planning consent and assessment of projects at EIA stage.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>The new Environmental Noise Guidelines published by the World Health Organisation should also be referred to and considered.</td>
<td>WHO Guidelines have been considered.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA/ Draft PLUTO 2040/NIFTI</td>
<td>In addressing transport-related noise, the focus should not just be on finding an engineering solution, but on creating a preventative and management strategy through the provision of alternative, more environmentally friendly, and more attractive means of transport in our major urban locations, and for better routing and design of roads in our more rural locations.</td>
<td>Draft NIFTI details the intervention hierarchy which focusses on protecting, renewing, improving and optimising existing transport network before providing new infrastructure.</td>
</tr>
<tr>
<td>EPA IFI DCHG</td>
<td>SEA</td>
<td>Various consultees detailed a range of likely impacts from transport infrastructure in relation to habitat fragmentation, loss of connectivity, fish spawning, passage of migratory fish.</td>
<td>Relevant updates made to the SEA to consider as many possible impacts as possible. However, NIFTI is a framework and therefore does not have the potential to result in direct impacts on the environment. Monitoring measures and Recommendations have been developed to ensure that specific impacts will be addressed at project level through the EIA and AA process.</td>
</tr>
<tr>
<td>DCHG</td>
<td>Draft PLUTO 2040/NIFTI</td>
<td>PLUTO 2040 (now NIFTI) should include strong environmental protection objectives and policies that are also reflected in the content and mapping of the plan. These objectives and policies should encapsulate the requirements of the nature directives, national legislation and the National Biodiversity Action Plan 2017-2021, and reflect the levels of protection necessary to: i) conserve nature conservation sites, ii) maintain or restore the favourable conservation status of natural habitats and protected species of conservation concern, and iii) achieve the conservation and restoration of biodiversity.</td>
<td>NIFTI will not include environmental protection objectives, however the SEA Objectives have been built into the framework of the SEA Assessment and these principles have applied to the assessment. The SEA Objectives have informed the development of mitigation measures, monitoring and recommendations. These conservation objectives have also been embedded in the Appropriate Assessment methodology which is documented in the NIS.</td>
</tr>
<tr>
<td>DCHG</td>
<td>SEA/ Draft PLUTO 2040/NIFTI</td>
<td>The effective implementation of PLUTO including the provision of new and/or upgraded infrastructure will require early and strategic consideration of the ecological and environmental implications of individual projects. In addition to future projects, or other lower level plans requiring individual assessments, the current plan should set out a framework to ensure that environmental assessment of associated plans and</td>
<td>NIFTI is a framework and therefore does not have the potential to result in direct impacts on the environment. Monitoring measures and SEA Recommendations have been developed to ensure that specific impacts will be addressed at project level.</td>
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</table>
projects happens at the earliest opportunity and at an appropriate level in the hierarchy.

**Stage 2 Consultation Question 2: SEA / AA Approach**

<table>
<thead>
<tr>
<th>EPA</th>
<th>Draft PLUTO 2040/NIFTI</th>
<th>Recommend a summary of the SEA assessment key findings and recommendations as a specific section in the Strategy, to show how they have been considered in the Strategy. Where specific mitigation measures or recommendations are provided in the SEA (and AA), these should be reflected in the Strategy. Where any of the mitigation measures or recommendations put forward in the SEA Environmental Report or Natura Impact Report are not incorporated into PLUTO 2040 (now NIFTI), appropriate justification should be provided.</th>
<th>Section 6 of draft NIFTI summarises the SEA process, assessment, findings and recommendations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAERA</td>
<td>SEA / Draft PLUTO 2040/NIFTI</td>
<td>Adequate mitigation measures should be highlighted in ER to ensure no adverse impacts on NI. We would like the ER to contain a clear statement indicating the opinion (and reasons for this) about whether the implementation of the Plan, in combination with any identified measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment, is likely to have a significant effect on NI.</td>
<td>NIFTI is a framework and therefore does not have the potential to result in direct impacts on the environment. Monitoring measures and Recommendations have been developed to ensure that specific impacts will be addressed at project level including transboundary impacts.</td>
</tr>
<tr>
<td>DCHG</td>
<td>SEA</td>
<td>The Department emphasises the potential for both direct and indirect impacts to biodiversity many of which have been flagged in the Scoping Report under the following headings: tourism and recreation, geology and soils, air quality, noise and vibration, water environment, land-use and material assets, climate change and transboundary effects.</td>
<td>Direct and indirect effects have been scoped in to all topics and inter-relationships between topics have also been noted.</td>
</tr>
<tr>
<td>DCHG</td>
<td>SEA / AA</td>
<td>While it is clear that particular policies and objectives will have different aims, it must be remembered in the preparation of the Natura Impact Statement (NIS) that the entire plan needs to be assessed, not just particular policies and objectives. In relation to the provision of walking and cycling routes the Department is of the view that these may give rise to impacts to biodiversity depending on the nature of the facilities to be provided and their location. The Department recommends that all such provision should undergo a route selection process to avoid and minimise impacts to biodiversity and other environmental assets.</td>
<td>NIFTI is a framework and therefore does not have the potential to result in direct impacts such as these on the environment. Monitoring measures and SEA Recommendations have been developed as part of this SEA to ensure that specific impacts will be addressed at project level.</td>
</tr>
<tr>
<td>DCHG</td>
<td>SEA</td>
<td>The Department notes and agrees with the assessment that PLUTO (now NIFTI) may give rise to direct and indirect impacts to biodiversity and would suggest that the spread of invasive species also be added to the key threats identified. Various potential impacts have been flagged.</td>
<td>NIFTI is a framework and does not have the potential to result in direct impacts on the environment. Monitoring measures and Recommendations have been developed to ensure that specific impacts will be addressed at project level.</td>
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**Stage 2 Consultation Question 3: Baseline Conditions and Trends**
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<tr>
<th>Agency</th>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>Various useful baseline data sources/guidance have been flagged for carrying out the SEA. Sources have been referred to where appropriate.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>The State of the Environment Report (EPA, 2016) identified seven Key Environmental Actions for Ireland. We welcome that these have been reflected in the Report. Addressing and implementing these key actions, which are also linked to a number of the UN’s Sustainable Development Goals, will be important in delivering environmental protection and promoting sustainable development in Ireland in the years ahead. SDGs added to context in section. The seven Key Environmental Actions have been replaced with 13 Key Messages. Those relevant to NIFTI have been updated and integrated throughout this report.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>A number of key themes have been suggested for inclusion in the baseline including demographics and settlement patterns, ecological corridors and connectivity, emission reduction targets, decarbonisation of the transport sector, urban and rural cultural heritage sites, the existence of historical transport infrastructure. A number of key issues have been flagged also. A number of information sources have been identified for the development of the baseline environment. The baseline has been updated in line with these comments. However, it is important to note that NIFTI is a framework and therefore does not have the potential to result in direct impacts. Monitoring measures and recommendations have been developed to ensure specific impacts will be addressed at project level.</td>
</tr>
<tr>
<td>EPA, DAERA, IFI, DCHG</td>
<td>SEA</td>
<td>A number of Plans, Policies, Frameworks, Programmes and Strategies at International, National and Regional / Local Level. Plans, programmes, policies, frameworks or strategies relevant to NIFTI have been added to the PPP review or the assessment of cumulative effects with other plans and programmes. Appendix B has been re-organised not so that all national level plans are in the same section but so that they are identified, International, national, regional etc within each environmental topic.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>The summary of the scope of the various plans, policies and programmes, provided in Appendix B, is useful. In some cases, the links/relevance to PLUTO 2040 (now NIFTI) could be clarified further. There is also merit in separating the various plans according to their position in the hierarchy, so that all national level relevant plans are contained with the same section. As a national-level Strategy, the links between PLUTO 2040 (now NIFTI) and other key national level plans would be important to highlight, to ensure alignment at a national level. Appendix B has been re-organised so that they are identified, International, national, regional etc within each environmental topic.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>It would be useful to includes a schematic showing the linkages between PLUTO 2040 (now NIFTI) and other key plans, policies and legislation. This would serve to highlight the key significant plans/policies/legislation of relevance to the Strategy. Appendix B has been re-organised so that they are identified, International, national, regional etc within each environmental topic.</td>
</tr>
<tr>
<td>DCHG</td>
<td>SEA</td>
<td>There is a need for infrastructural projects to be planned, taking the archaeological heritage into account at an early stage. DCHG have set out some the broad policy principles to be considered for the protection of archaeological heritage were set out in a document Framework and Principles for the Protection of the Archaeological Heritage published by the then Department of Arts, Heritage, Gaeltacht and the Islands in 1999. These aspects will be considered at detailed design / planning stage not SEA stage. Necessary measures will be included in the Monitoring Plan and Recommendations to ensure they are considered at that stage.</td>
</tr>
<tr>
<td>EPA</td>
<td>SEA</td>
<td>SEA resources and guidance to be consulted detailed: SEA process guidance and checklists, list of relevant spatial datasets, topic specific SEA guidance, such as These have been referred to throughout the SEA process.</td>
</tr>
</tbody>
</table>
consideration of alternatives in SEA, good practice guidance on Integrated Biodiversity Impact Assessment and Developing and Assessing Alternatives in Strategic Environmental Assessment is also available.

Stage 2 Consultation Question 5: Alternatives Approach

| EPA          | SEA / Draft PLUTO 2040/NIFTI | Section 5.9 of the Scoping Report outlines that ‘Other alternative approaches and scenarios for meeting PLUTO 2040 (now NIFTI) objectives will be developed for consideration and will be assessed against the SEA objectives. We recommend considering a tiered approach when preparing and assessing alternatives for the Strategy. This would also align with the approach taken in the NPF. We refer you to the EPA guidance document ‘Developing and Assessing Alternatives in Strategic Environmental Assessment’. It is important to clearly state what the alternatives are being assessed against, and for consistency in the appraisal approach. It will also be important to explain the reasons for choosing the preferred alternative. | The NIFTI alternative assessment approach was not aligned with the NPF approach as the purpose of NIFTI is to align with the NPF. NIFTI has explored alternative means of aligning the National Investment Framework for Transport with the NPF and is documented in Section 8.4 |

Stage 2: Consultation Question 6: SEA Objectives

<table>
<thead>
<tr>
<th>EPA DAERA DCHG IFI</th>
<th>SEA</th>
<th>Various suggestions to reword objectives to focus on protection of designated sites, and to provide greater focus on the reducing the impacts of air pollution in objectives including Population and Human Health, Air Quality and Climate Change.</th>
<th>Suggestions taken on board and SEO’s revised.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFI</td>
<td>SEA</td>
<td>In ‘Table 5.2 on draft SEA Objectives please add use any opportunities presented to increase the water quality status of waters by such actions as the removal of barriers that pose a threat to migratory fish species, fence off access to waters from cattle and encourage the regeneration of the riparian zone.</td>
<td>It is not a responsibility of DTTaS to improve the water quality status, however mitigated to prevent impacts on adjacent aquatic ecosystems at project stage has been built into the monitoring framework and recommendations.</td>
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