

**Perth and Kinross Council Mobility Strategy
Strategic Environmental Assessment
Environmental Report
28 May 2024**



**STRATEGIC
ENVIRONMENTAL
ASSESSMENT**
MOBILITY
STRATEGY

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SUMMARY OF ENVIRONMENTAL REPORT

Perth and Kinross Council is in the process of developing a **MOBILITY STRATEGY** to guide planning for the transport network over the next 15 years. According to law [the Environmental Assessment (Scotland) Act 2005], all qualifying policies and strategies must undergo a **STRATEGIC ENVIRONMENTAL ASSESSMENT [SEA]**. This SEA will assess the impact that implementing these policies and strategies will have on nine key environmental themes:

1. Biodiversity, Flora, and Fauna
2. Population and Human Health
3. Soil
4. Water
5. Air
6. Climatic Factors
7. Material Assets [Transport and Active Travel]
8. Cultural Heritage
9. Landscape

The PKC Mobility Strategy proposed eleven key transport planning **OBJECTIVES** to guide the transport planning **ACTIONS** over the next 15 years, and each of these objectives have been assessed against the 9 environmental themes. If the Objectives are found to have significant negative effects on the environmental categories, **MITIGATING ACTIONS** are proposed to minimise these negative impacts.

The mitigating actions will be **MONITORED** to ensure continued protection of all eleven environmental categories in Perth and Kinross. This report details the process that was undertaken to determine what the likely environmental impacts will be, which steps are proposed to mitigate potential negative impacts, and how these mitigating actions will be monitored.

ACRONYMS

CA	Consultation Authority
CRWIA	Children's Rights and Wellbeing Impact Assessment
EqIA	Equalities and Fairer Scotland Duty Impact Assessment
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas
HRA	Habitats Regulations Appraisal
IIA	Integrated People Impact Assessment
NTS2	National Transport Strategy 2
PPS	Plans, programmes, and Strategies
RTS	TACTRAN Regional Transport Strategy
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
STAG	Scottish Transport Appraisal Guidance
TPO	Transport Planning Objectives

1. Introduction

The Environmental Assessment (Scotland) Act 2005 requires qualifying plans, programmes, and strategies (PPS), developed by public bodies, to be subject to Strategic Environmental Assessments (SEA). The emerging Perth and Kinross Mobility Strategy is a qualifying strategy that is concerned with the future development of the Perth and Kinross transport network, and is likely to result in environmental effects, both positive and negative in nature. The Mobility Strategy thus qualifies as requiring a Strategic Environmental Assessment under Section 5(3)(a)(i) of the 2005 Act and this SEA has been prepared in accordance with this Act.

The overall aim of a Strategic Environmental Assessment is to:

Provide for a high level of protection of 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.'

Article 1 of the SEA Directive

This report comprises the Environmental Report of the emerging Perth and Kinross Mobility Strategy in accordance with Section 5 Paragraph 3 of the Environmental Assessment (Scotland) Act. It will be augmented by a comprehensive Integrated People Impact Assessment (IIA) integrating the Equalities and Fairer Scotland Duty Impact Assessment (EqIA), Children's Rights and Wellbeing Impact Assessment (CRWIA), and Health Inequality Impact Assessment (HIIA).

This Environmental Report takes into account the responses received by the consultation authorities – Historic Scotland, Scottish Environment Protection Agency (SEPA), and Scottish Natural Heritage (SNH) during scoping and consultation on the draft

Environmental Report. The Environmental Report provides an objective account of the anticipated environmental impacts of the implementation of the Mobility Strategy. This SEA has been based on baseline information that was available at the time of writing. The assessment of potential effects also reflects the level of detail and information that was contained within the policies and actions set out within the Mobility Strategy at the time of the assessment.

This report details the process that was undertaken to determine what the likely environmental impacts will be, which steps are proposed to mitigate potential negative impacts, and how these mitigating actions will be monitored.

2. Mobility Strategy Context

2.1. What is the Mobility Strategy?

The Perth and Kinross Mobility Strategy, also known as a Local Transport Strategy, sets out Perth & Kinross Council's vision for managing and developing the area's transport and active travel network over a minimum period of 15 years. It considers all modes of transport for the movement of goods and people, across Perth and Kinross, to help achieve national priorities and targets, and local objectives.

The Strategy has followed Transport Scotland's appraisal guidance (Scottish Transport Appraisal Guidance – STAG) which ensures that the Strategy is strongly objective-led, and evidence based, and that it has undergone a robust appraisal process. The development of the Mobility Strategy commenced with the preparation of the [Let's Talk Transport](#) report which informed the emergence of **eleven Transport Planning Objectives and Action Plan** geared to address the main transport-related problems in Perth and Kinross.

The Mobility Strategy is backed by a robust consultation process and provides an opportunity to focus on key transport priorities for the Perth and Kinross area, and to address areas where further progress is still required.

2.2. Alignment of the Mobility Strategy with the National and Regional Transport Strategy

2.2.1. National Transport Strategy 2 [NTS 2]

The emerging Transport Planning Objectives [TPOs] of the Mobility Strategy have been developed to support the vision for the Perth and Kinross transport network in strong alignment with the strategic priorities and policies outlined in Scotland's [National Transport Strategy \(NTS2\)](#). These priorities are outlined in Figure 2.1 below.

Figure 2.1: Scotland National Transport Strategy Priorities



The Draft for Consultation National Transport Strategy 2 (NTS2) was also subject to a [Strategic Environmental Assessment](#). Overall, the SEA concluded that there is the potential for significant positive effects as a result of implementing NTS2, but also there is a risk of some negative impacts. In particular, the most likely significant positive environmental effects are expected for SEA Topic Climatic Factors, particularly where a focus is given to reducing the transport sector's contribution to greenhouse gas (GHG) emissions.

2.2.2. TACTRAN Regional Transport Strategy

The [TACTRAN Regional Transport Strategy \(RTS\)](#) sets out a vision for improving the Tayside and Central Scotland region's transport infrastructure, services and other facilities over the period to 2036. The RTS adopts the same four priorities as the National Transport Strategy and proposes key outcomes to achieve these priorities. The RTS was also subject to a [Strategic Environmental Report](#). Overall, the SEA concluded that there is the potential for significant positive effects as a result of implementing NTS2, but also there is a risk of some negative impacts, which can be mitigated with the proposed mitigation actions.

2.3. Alignment of the Mobility Strategy with other Key Policies and Strategies

The SEA scoping report (**Appendix A**) provides a detailed outline of pertinent policy documents that have relevance for the Mobility Strategy. The relevant Perth and Kinross Council policy documents are outlined in Table 2.1. Perth and Kinross Council's Mobility Strategy will align with the principles and policies and strategies, ensuring that they are fundamental to the development and delivery of the Strategy, and the Council's Corporate Plan Vision and Priorities.

Table 2.1. Alignment with Key Policies and Strategies

Plan, Policy, and Strategy	Description
Perth and Kinross Corporate Plan	The Perth and Kinross Corporate Plan sets out our vision for a Perth and Kinross, where everyone can live life well, free from poverty and inequality. It proposes several key priorities for the next five years. It also reflects the principles of the Perth and Kinross Offer which sets out our commitments to better engage with people and communities and ensure that you have your say and are involved at an earlier stage in our strategic planning discussions.
Perth and Kinross Adopted Local Development Plan	The Perth and Kinross Adopted Local Development Plan guides all future development and use of land in Perth and Kinross Council area.
Perth and Kinross Climate Change Strategy and Action Plan	The Perth and Kinross Climate Change Strategy and Action Plan sets out our next steps in supporting several climate change declarations and outlines the initial route map to take us to a net zero carbon and climate resilient Perth and Kinross.

2.4. Mobility Strategy Transport Planning Objectives

Perth and Kinross Council have developed the Transport Planning Objectives (TPOs) of the emerging Mobility Strategy to address local issues, as identified by the Main Issues Report, by adapting the emphasis of each of the above NTS2 outcomes and associated policies and placing them in the distinctive context of the Perth and Kinross area. PKC's TPOs are detailed in Table 2.2 below.

Table 2.2 Mobility Strategy Transport Planning Objectives

NTS Priority		Transport Planning Objective
To reduce inequalities	1	To improve the affordability of transport options across Perth and Kinross for all.
	2	To improve the ability of rural communities, and communities with protected characteristics, to access jobs, education, and services.
To take climate action	3	To reduce CO ₂ emissions produced by transport across Perth and Kinross, by reducing car kilometres, decarbonising motorised transport and increasing the share of everyday journeys of people and goods by sustainable and active travel modes.
	4	To improve climate resilience across Perth and Kinross's transport network by reducing the number of bridge and road closures each year caused by weather events.
To help deliver inclusive economic growth	5	To support economic growth by improving the reliability and efficiency of Perth and Kinross's transport network.
	6	To support local development that encourages and facilitates local living and sustainable access, across Perth and Kinross, by achieving an increased active travel and public transport mode split to and from new developments.
	7	To improve the capacity and reliability of alternative sustainable freight and logistic modes across Perth and Kinross.
	8	To improve labour market access through sustainable transport, active travel, and digital opportunities, to and from Perth and Kinross.
To improve health and wellbeing	9	To improve road safety and perceived safety for all transport users across Perth and Kinross.
	10	To improve physical and mental health within Perth and Kinross through walking, wheeling, and cycling.
	11	To improve air quality across Perth & Kinross's road network by achieving revocation of both Air Quality Management Areas and reducing preventable pollutants.

The proposed strategic actions, in support of these objectives, are the focus of this SEA appraisal, using the SEA process and methodology as detailed in Section 3 of this report.

2.5. Mobility Strategy Strategic Action Plan

Proposed interventions have been identified as part of the Mobility Strategy Action Plan. The pre-appraised long list of interventions that emerged in response to the Let's Talk Transport report have undergone a robust consultation and appraisal process that has resulted in the draft Strategic Action Plan of 44 strategic actions (which are to be supported by 120 supporting actions) to address key transport problems in Perth and Kinross. The list of proposed interventions is categorised by eight strategic themes:

- 1) Behaviour Change, Education, and Awareness
- 2) Accessibility and inclusivity
- 3) Innovation and Future Mobility
- 4) Public Realm
- 5) Organisation, Planning, and Regulations
- 6) Road Network
- 7) Sustainable Transport
- 8) Business-as-usual and Committed for Delivery

3. Strategic Environmental Assessment (SEA) Process

3.1. Approach to the SEA for the Mobility Strategy

The SEA Toolkit sets out the requirements of the 2005 Act and provides guidance for its practical application within Scotland. The SEA process is iterative in its approach and is designed to inform the development of the relevant strategy by ensuring the most environmentally sustainable management options are selected. The main requirements of the SEA Directive include:

- ❖ The preparation of an Environmental Report
- ❖ Consultation
- ❖ Taking the results of the environmental assessment and consultations into account in decision-making

- ❖ Providing information about the decision-making process; and
- ❖ Setting out a monitoring and evaluation plan.

The paragraphs to follow provide a more detailed explanation for each of the proposed stages A to D. Each of these stages informed and interacted with the assessment of the Mobility Strategy.

3.1.1. Stage A: Scoping

Perth & Kinross Council prepared a Strategic Environmental Assessment Scoping Report (**Appendix A**) for the emerging Mobility Strategy in accordance with Section 15 of the Environmental Assessment (Scotland) Act 2005. The purpose of scoping was to identify the environmental issues to be taken into consideration during decision-making (**Figure 3.1**). The Scoping Report set out the background information that was used in the preparation of this Environmental Report. This Environmental Report takes into account the responses received by the consultation authorities – Historic Scotland, Scottish Environment Protection Agency (SEPA) and Scottish Natural Heritage (SNH) – during scoping and consultation on the draft Environmental Report.

Overall, the Consultation Authorities were satisfied with PKC's approach to the SEA. A record was kept of consultation responses and subsequent updates were made (**Appendix B**). Updates included adding to the list of PPS that have an impact on the Mobility Strategy or require alignment. Other considerations included:

- a. Noting the relationship that the historic environment has with a number of those associated key facts listed under Material Assets. The protection and investment into such sites may have benefits for the historic environment as well as the specific objectives of the strategy.
- b. Various additional data sources were offered. These sources are noted for the implementation of the Mobility Strategy's Strategic Action Plan in support of the Transport Planning Objectives. As the actions in the action plan progress to technical specification and are assigned to operational teams, the data sources will provide useful information for shaping the implementation process and monitoring the outcomes.
- c. The need to consider which elements of infrastructure are of historic environment value when carrying out the proposed infrastructure audit under Material Assets was identified. As the actions in the action plan progress to technical specification

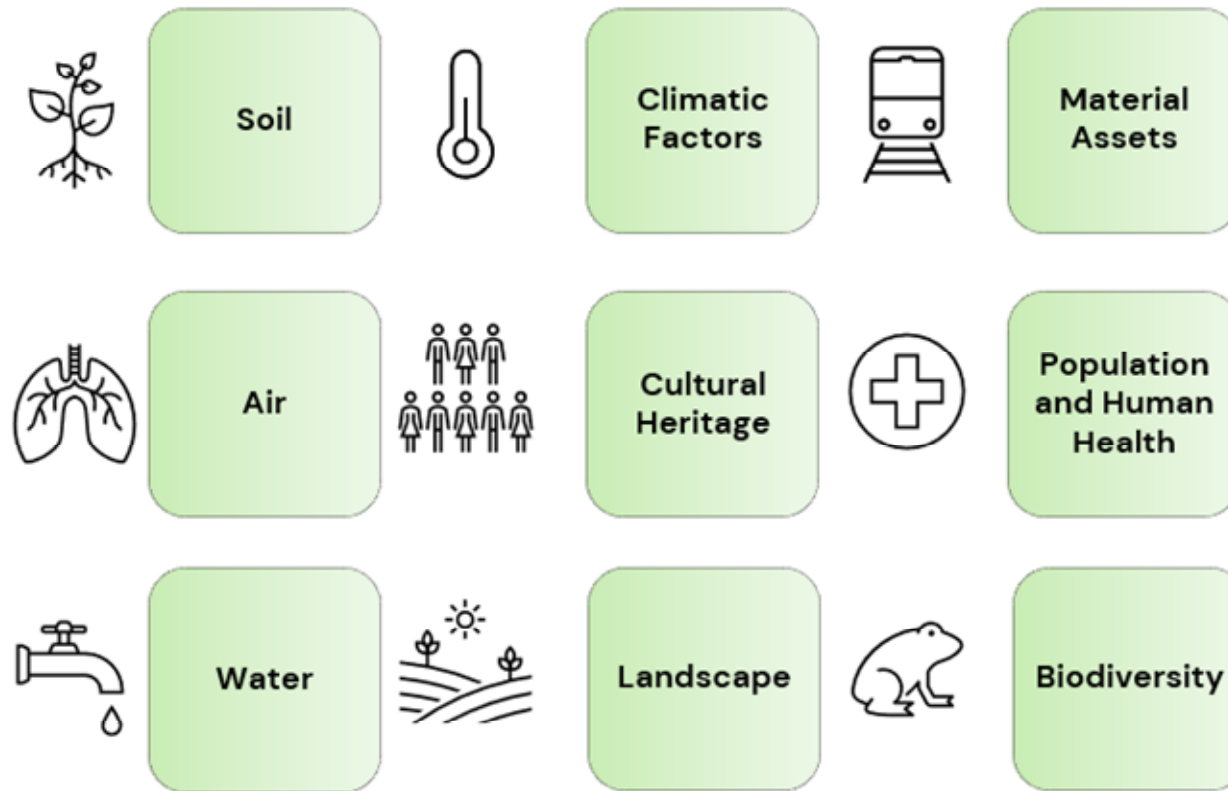
and are assigned to operational teams the infrastructure audits will then consider which elements of infrastructure are of historic environment.

- d. A Habitats Regulations Appraisal (HRA) was recommended as all competent authorities must consider whether any plan or project could affect a European site before it can be authorised or carried out. As the projects in the action plan progress to technical specification and site selection, the need for the HRA will be determined accordingly, using the HRA flowchart.
- e. NatureScot suggested that invasive non-native species (INNS), as well as measures taken to reduce their spread, should be given consideration within the Biodiversity, Flora and Fauna topic area and in the Mobility Strategy indicators. Further, NatureScot suggested that the Mobility Strategy consider the reduction in number of recorded sightings of INNS as an indicator under the Biodiversity, Flora and Fauna topic.
- f. NatureScot suggested that opportunities for biodiversity enhancement could be considered within active travel routes under the Population and Human Health topic.

At this early planning stage, the scoping of individual actions and projects emerging from the Mobility Strategy has not been initiated. The valuable of the inputs obtained from the Consultation Authorities will be recorded for integration at the project implementation stage of the Mobility Strategy. After reviewing the responses from the Consultation Authorities, the Scoping Report concluded that the Strategic Environmental Assessment would assess the Mobility Strategy's 8 Action Plan themes against all the following SEA Themes (Figure 3.1) and their associated SEA Objectives.

For each SEA regulation theme, SEA objectives were developed to set a broad intention towards environmental improvements and the identification of key areas requiring protection and consideration. Assessment criteria were also proposed to assess the performance of the strategic actions within the Mobility Strategy.

Figure 3.1: Scoped in SEA Regulation Themes



3.1.2. Stage B: Environmental Assessment Process

3.1.2.1. Part 1

The assessment of the Mobility Strategy followed a thematic/objective-based approach which used a matrix-based approach and scoring system. This SEA utilised:

- a. A traditional matrix to assess the potential for significant environmental effects, both positive and negative, of delivering the Mobility Strategy's action themes.
- b. A further matrix to then assess the compatibility of the Strategy's action themes with the SEA Objectives.

The completed assessment matrices (**Appendix C**) also provide a text summary of potential effects, an indication of the timeframe and duration anticipated for those effects i.e., whether they are likely to be short, medium, or long term, and if they will be temporary or permanent. Relevant mitigation and/or enhancement measures were suggested, as appropriate, to avoid or mitigate against identified negative effects of the Strategy and bring further positive effects through enhancement.

3.1.2.2. Part 2

Part 2 of the assessment was concerned with testing the compatibility (**Appendix D**) of the Strategy's Objectives with the SEA Objectives. The analysis considered the likelihood that the Mobility Strategy Action Themes can deliver on the stated criteria for each of the SEA Objectives. A text summary of anticipated overall effects (including likely cumulative and synergistic effects) is provided, along with proposed mitigation and enhancement measures, where appropriate.

Section 14(2) of the Environmental Assessment (Scotland) Act 2005 requires Perth & Kinross Council, as the responsible authority, to identify, describe and evaluate within the Environmental Report the likely significant effects on the environment of implementing the Mobility Strategy and any reasonable alternatives to the Strategy, considering its objectives and geographical scope. However, as the Mobility Strategy is being developed to provide a local transport and active travel context for the delivery of the priorities, outcomes and targets set in higher level national, regional, and Council wide strategies and plans, it is deemed that the most viable alternative for assessment would be a 'do nothing/do minimum' approach.

The final step of Stage B was to consider a framework of measures to allow the monitoring of any significant environmental effects that may occur as a result of the Strategy being implemented. The monitoring will draw from the list of relevant indicators which have previously been identified in the Scoping Report for each of the SEA Objectives, covering all of the key SEA topic areas.

3.1.3. Stages C and D: Environmental Report, Consultation, Review, and Monitoring

The remaining stages in the process involve preparation of this Environmental Report and consultation and engagement on the Mobility Strategy and the Strategic Environmental Assessment in tandem during May and July 2024 for an 8-week period.

4. Environmental Context and Baseline

4.1. Policies, Plans, Programmes, and Sustainability Objectives

There are a number of plans, programmes, strategies and environmental protection objectives at international, national, regional and local level that set the wider policy context of the emerging Mobility Strategy. A more detailed analysis of the implications of each of these on the emerging Mobility Strategy are included in **Appendix E**, along with an identification of any constraints and/or targets that these impose on the emerging strategy.

Following analysis of these various plans, policies, strategies, and environmental protection objectives, the emerging Mobility Strategy and Strategic Action Plan must seek to:

- a. Support sustainable and inclusive economic development in the Perth and Kinross area, encouraging tourism and investment.
- b. Offer high quality transportation options that are affordable, convenient, accessible, and well-connected.
- c. Reduce emissions and greenhouse gas emissions from transportation.
- d. Improve the performance and efficiency of the transport network, reducing journey times, improving connectivity for all modes of transport, and enabling the efficient movement of freight throughout the Perth and Kinross area.
- e. Enable the uptake of travel demand management measures that support a reduction in the need to make indiscriminate trips, particularly by private car.
- f. Support climate change adaptation and mitigation measures that improve resilience to the effects of climate change.
- g. Provide enabling conditions for sustainable behaviour change towards more sustainable modes of travel (including walking, cycling, public transport, car sharing, and cleaner fuel vehicles).

- h. Minimise the adverse impacts of transport infrastructure and operations on the historic environment, on air, soil, water, landscape, cultural heritage, biodiversity, and noise.
- i. Reduce the number of injuries and fatalities on the transport network.
- j. Improve equality metrics, making the transport network accessible for all residents regardless of ability and socio-economic characteristics and impairments.

4.2. Perth and Kinross Environmental Context and Baseline

The Environmental Assessment (Scotland) Act 2005 requires an outline of “the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the Plan or Programme”, and “the environmental characteristics of areas likely to be significantly affected” as this will provide the relevant environmental context within which the emerging Mobility Strategy will operate, as well as the aims and objectives this context imposes on the Mobility Strategy. The identification of the current environmental baseline conditions for the Mobility Strategy area, and their likely evolution, is thus an important part of the SEA process. A knowledge and understanding of existing conditions, and the consideration of their significance helps with the identification of those issues which the Strategy should be addressing and allows it to be successfully implemented and monitored.

The relevant environmental context and baseline was detailed in the SEA scoping report (**Appendix A**) to help build a picture of the social, economic, and environmental characteristics of the Perth and Kinross area, and the key environmental issues or challenges which it faces. A transport-related set of data was collected for the range of topics likely to be significantly influenced by the implementation of the Mobility Strategy.

4.2.1. Perth and Kinross Area

Perth & Kinross Council is 1 of 32 Local Authorities across Scotland, bordering Aberdeenshire, Angus, Argyll and Bute, Clackmannanshire, Dundee, Fife, Highland, and Stirling Council areas. It has a geographical area of 5,286 KM² (including the area of Perth and Kinross within the Cairngorms National Park). On 30 June 2021 the population of Perth and Kinross was 153,810 residents.

Between the period 2018 to 2028, the population of Perth and Kinross is projected to increase by 1.0%, which compares to a projected increase of 1.8% for Scotland as a whole. The Perth and Kinross Area is predominantly rural, with a population split of 67.8%/32.4% Rural/Urban.

4.2.2. Perth and Kinross Environmental Baseline

A detailed analysis of the baseline environmental data, including the specific areas where data gaps and problems were identified, and the potential to address those gaps via highlighted actions is presented in **Appendix F**. Table 4.1, below, provides a summary of the key environmental issues identified as a result of an evaluation of the environmental baseline and relevance for the Mobility Strategy.

Table 4.1. Perth and Kinross Environmental Baseline

SEA TOPIC	ASSOCIATED ENVIRONMENTAL ISSUES AND RELEVANCE OF THE MOBILITY STRATEGY
Biodiversity, Flora, and Fauna	<p>A significant number and range of natural heritage assets across Perth and Kinross must be protected, and where possible enhanced. Potential for habitat loss, fragmentation, and displacement because of providing new and enhancing existing transport infrastructure.</p> <p>Although it is anticipated that the Mobility Strategy will not directly affect any designated sites or related species, it must promote the integration of biodiversity in order to enhance biodiversity and improve the local environment.</p>
Population and Human Health	<p><u>Key Issues</u></p> <ol style="list-style-type: none"> a. The population of Perth and Kinross is predicted to increase, putting increasing pressure on transport networks. b. Life expectancy is also increasing across Perth and Kinross. An ageing population is likely to result in implications for maintaining mobility and accessibility into old age. c. Car ownership, as well as car mileage, across the area continues to rise, increasing the pressure on the network further, and contributing to poor health as a result of pollution, air quality, noise, and physical inactivity. d. Perth and Kinross have a large rural population, which poses many challenges for efficient transport emission reductions due to limited public transport. e. The risk of child poverty is a concern.

	<ul style="list-style-type: none"> f. Various areas are at high risk of transport poverty. g. Cost of travel, specifically in deprived communities. h. Cost of living crisis. i. In 2020, 56.45% (105 out of 186 data zones) within Perth and Kinross are in the SIMD 40% most deprived areas in terms of the access indicator. 13.98% (26 out of 186) of the data zones within Perth and Kinross are in the 20% least deprived for access domain in Scotland. j. Access to good quality recreation and open space. k. Access to facilities and services via active travel modes. l. Car dominated streets. m. Road safety incidents/ casualties. <p><u>Relevance for the Mobility Strategy</u></p> <p>The Mobility Strategy must address the impacts on the inability to access convenient and affordable transport has on the residents of Perth and Kinross. The Mobility Strategy should also seek solutions to avoid potential implications on human health and wellbeing through transport activities, including walking and cycling. The Mobility Strategy must consider the environmental issues that contribute towards social deprivation and aim to create transport networks that link areas of need with employment, education and training opportunities.</p>
Soil	<p>A large part of Perth and Kinross is covered by Prime Quality Agricultural Land and other nationally important carbon rich soils and peatland. Potential for irreversible loss of soil through development, contamination, compaction, or erosion. The Area's most important soils should be protected from development and enhanced and restored (where appropriate).</p> <p>The Mobility Strategy must endeavour to have no adverse impact on the soil quality in Perth and Kinross.</p>
Water	<p>Over 60% of the surface waters within Perth and Kinross achieved moderate to high water quality status in 2020. However, there are rivers in the north, northwest, east and south of the Council Area which achieved poor or bad water quality status. Potential for development to result in secondary impacts on water quality (pollution) and quantity (extraction).</p>

	<p>The Mobility Strategy should support the enhancement and management of the quality and quantity of the water environment in both urban and rural areas, including approaches directed towards SUDs, floodplains and surface water runoff.</p> <p>Flooding and flood damage pose threats to infrastructure and the wellbeing of residents of Perth and Kinross. The Tay Local Plan District indicates that there are 17 Potentially Vulnerable Areas which are at risk from surface water flooding and/or river flooding.</p>
Air	<p>Air quality within the area has been improving in recent years, but there are still 2 AQMAs within Perth and Kinross (Perth and Crieff). The Mobility Strategy must consider the impacts of road traffic on air quality, and develop policies to mitigate against poor air quality.</p>
Climatic Factors	<ul style="list-style-type: none"> a. Although transport emissions are decreasing within Perth and Kinross, transport remains a significant contributor to GHG emission levels despite the Scottish Government’s reduction targets. b. High car dependency and high levels of car KM travelled. c. Creating of sustainable communities and delivering local living and 20-minute neighbourhoods – lack of rural and local services to assist in reducing the need to travel (including to and from school). d. Lack of active travel infrastructure. e. Emissions from transport only made up approximately 7% of the Council’s overall Scope 1, 2 and 3 emissions in 2020/21, and emissions from transport sources only account for a small percentage (24%) of the Council’s Scope 1 emissions. In other words, the Council only has direct influence over a small percentage of the overall emissions from transport within the area. f. Long distance commutes (mainly by private car) for the working population. g. The transport network and assets need to become more resilient to, and able to adapt to the effects of climate change. h. New development has the potential to introduce climate mitigation measures (for example green infrastructure provision), however, it can also lead to the exacerbation of existing problems in areas if the impacts of climate change are not considered carefully in the design process. i. Electric Vehicles (EV) will play an important part of the net zero transition, but they remain unaffordable to many residents.

	<ul style="list-style-type: none"> j. Lack of EV infrastructure. k. There are 21 Potentially Vulnerable Areas (PVAs) within, overlapping or immediately adjoining the Council Area, and 22 Flood Risk Management Target Areas within Perth and Kinross. l. Better transport integration needed – rural railway station accessibility and transport connections. <p><u>Relevance for the Mobility Strategy</u> The Mobility Strategy must encourage the uptake of low carbon vehicles in South Lanarkshire to reduce the emissions associated with transport and must promote the use of renewables in developing electric vehicle charging infrastructure.</p>
<p>Material Assets – Transport and Active Travel</p>	<p><u>Key Issues</u></p> <ul style="list-style-type: none"> a. Constraints on infrastructure delivery under current economic climate. b. Public road lengths have remained static in recent years, coupled with an increasing population, and rising car ownership, contributes to further congestion. c. There have been limited improvements to public transport infrastructure in recent years. d. Impact of COVID-19 and increased homeworking/hybrid working styles has impacted upon bus and rail transport provision. e. Reducing the vehicle KMs by 2030, if met by increased public transport usage, would be the equivalent of a 360% increase on 2019 levels. Projected population growth, especially in edge of settlement developments, will pose additional challenges to achieving this target. f. Lack of accurate real time data and information to help maximise the efficiency of the transport network and understand the effectiveness of different measures. g. There is a need to increase active travel across Perth and Kinross, which will require the delivery of a comprehensive safe and segregated active travel network to make it more attractive to users to make the modal shift. h. Lack of EV Charging – a strategic approach required to EV charging to ensure both urban and rural areas have comprehensive facilities to cater for a range of journey types/users. i. Better transport integration needed – rural railway station accessibility and transport connections. 6 out of 7 of the area’s railway stations are in rural communities.; 1 out 7 does not have car parking facilities; buses

	<p>do not connect to Dunkeld and Birnam Railway Station, and 4 out of the 7 stations have stepped access to the station, making them difficult to access for people with mobility impairments.</p> <p>j. OKM of physically separated cycle tracks in Perth City and 11 miles of traffic-free cycle paths away from the road according to the 2023 Walking and Cycling index. There are 63 cycle parking spaces at the 1 railway station and 0 cycle parking spaces at the 1 bus station in Perth. There is a public cycle parking space for every 28 people who cycle in Perth.</p>
Cultural Heritage	<p>A significant number of cultural heritage assets across Perth and Kinross which must be protected from development, and where possible enhanced.</p> <p>The Mobility Strategy can contribute to the preservation of the cultural richness of communities, by ensuring that transport proposals do not adversely affect any areas of cultural heritage.</p>
Landscape	<p>Potential for impact on important landscapes across Perth and Kinross, and the landscape settings of settlements as a result insensitively designed transport infrastructure and any associated structures/buildings.</p>

4.2.3. Summary

The section above outlines the context and baseline within which the Mobility Strategy is being developed to address the issues pertinent to the Perth and Kinross area. The analysis of the baseline information indicates that the emerging Mobility Strategy may have more significant environmental effects on certain areas than others. Although other areas may not be designated the effects on those sites from the strategy could be cumulative.

4.3. Environmental problems, likely evolution of the environment without the emerging Mobility Strategy and the possible role of the Mobility Strategy in addressing those.

The SEA Environmental Report is required to identify the environmental issues, trends or problems in the Perth and Kinross area, the likely evolution of the environment without the emerging Mobility Strategy, and the potential role of the Mobility Strategy in addressing these. Environmental problems were identified through the above analysis of baseline data. The strategic environmental themes

relevant to the emerging Mobility Strategy and, the likely evolution with and without the Mobility Strategy are summarised in **Appendix G**.

5. Strategic Environmental Assessment [SEA]

5.1. Alternative Mobility Strategy Proposals

The Environmental Assessment (Scotland) Act 2005 requires the identification of reasonable alternatives to the proposals presented in the Draft Mobility Strategies and, meaningful comparisons made of the environmental implications of each. It is envisaged that in the context of the Mobility Strategy delivering the policies and proposals already identified in the Scottish Government's NTS2, it can be assumed that the only viable alternative to the proposals within the emerging Mobility Strategy is the Do-Minimum strategy. On this basis, Perth and Kinross Council does not propose to manufacture alternatives simply for comparison in this Environmental Report but to consider the below two scenarios for the purposes of this assessment:

- i. With Mobility Strategy, (preferred option); and
- ii. Without Mobility Strategy

This will allow for identification of the impacts that the adoption and delivery of the emerging Mobility Strategy will have, relative to the current baseline. As the Mobility Strategy is a strategic level document, which will provide the vision for managing and developing the transport and active travel network for Perth and Kinross over a minimum of 15 years (in line with national priorities and targets, and local objectives), it is expected that the delivery of objectives will come through associated projects and proposals which will be more location specific, and also via conditions attached to the granting of planning permission. As the Council is responsible for decision-making on these applications, it will be possible to identify whether or not the Mobility Strategy is working in practice through their monitoring.

5.2. Scoping In/ Scoping Out of SEA Themes

In identifying the intended scope for the SEA assessment, PKC has concluded that all SEA themes should remain 'scoped in' as part of the SEA as transport has the potential to impact upon all of these. The Consultation Authorities supported the recommendation to scope in all SEA themes and, subsequently, all SEA themes have been assessed in this Environmental Report.

5.3. SEA Assessment Framework

To assist in the assessment objectives / outcomes were identified for each SEA theme, along with questions to be considered when seeking to reach a conclusion on the environmental impact of each strand of the emerging Mobility Strategy. These objectives and questions were identified through an analysis of the environmental problems, baseline data and other relevant plans, programmes, and environmental protection objectives, and finalised through consultation on the main issues with the relevant stakeholders. The objectives against which the proposals set out in the emerging Mobility Strategy will be assessed are presented in Table 5.1. below. Potential indicators that can be used to assess the criteria are proposed in the Scoping Report (**Appendix A**). There are various data gaps that exist, and part of the proposed mitigation actions is to collect the relevant data to ensure that meaningful appraisal can take place.

Table 5.1. SEA Assessment Objectives and Guiding Assessment Questions

SEA THEME: BIODIVERSITY, FLORA, AND FAUNA		
	SEA OBJECTIVE	SEA CRITERIA
1	To protect and enhance the diversity of species, their habitats, and ecosystem services, avoiding damage to or loss of designated and non-designated sites, nature networks, and protected species.	Will the Strategy and associated proposals... <ol style="list-style-type: none"> a. Protect and enhance the quality and extent of designated and non-designated sites? b. Cause damage or disturbance to any protected species or habitats, or non-designated sites? c. Help contribute to the enhancement of nature networks. d. Lead to a greener public realm, resulting in a net gain for biodiversity? e. Addition from CA – Are there opportunities to reduce the potential for the introduction or spread of existing INNS populations?

2	Increase access to, awareness, understanding and enjoyment of biodiversity, flora, and fauna.	Will the Strategy and associated proposals bring the public into closer contact with natural spaces to help encourage a greater understanding and appreciation of their wider benefits to health and wellbeing?
SEA THEME: POPULATION AND HUMAN HEALTH		
	SEA OBJECTIVE	SEA CRITERIA
3	Improve the affordability of transport options across Perth and Kinross, particularly in deprived areas.	Will the Strategy and associated proposals help improve affordable access to sustainable transport services?
4	Improve the ability of rural communities, disadvantaged, and young people to access key services across Perth and Kinross.	Will the Strategy and associated proposals help increase access to key services, including healthcare, for people living in rural communities across Perth and Kinross?
5	Improve road safety across Perth and Kinross by reducing fatalities and serious injuries, in line with national targets.	Will the Strategy and associated proposals help to reduce the likelihood of transport-related road accidents and fatalities through improving road safety across Perth and Kinross?
6	Improve the overall physical health and wellbeing of the population of Perth and Kinross through promoting a shift to active travel modes and increasing access to sustainable transport modes.	<p>Will the Strategy and associated proposals...</p> <ul style="list-style-type: none"> a. Help reduce inequalities in exposure to ambient noise from transport related sources. b. Reduce the number of people exposed to high levels of noise which has the potential to cause health related issues, particularly for those in deprived or vulnerable communities, and those groups at risk? c. Help improve the overall health and wellbeing of Perth and Kinross residents through

		<p>increasing access to the active travel network and improving the quality and extent of that network?</p> <p>d. Help improve the overall health and wellbeing of Perth and Kinross residents by increasing access to sustainable transport modes?</p> <p>e. Improve the quality of the public realm by created new and improving existing access links?</p>
7	Increase opportunities for access to and enjoyment of greenspaces by all sectors of society to help improve physical health and wellbeing	<p>Will the Strategy and associated proposals...</p> <p>a. Help improve access to greenspaces for both health and recreational benefits.</p> <p>b. Promote social inclusion?</p> <p><i>Addition from CA – Will the Strategy and associated proposals include opportunities for biodiversity enhancement within active travel routes?</i></p>
SEA THEME: SOIL		
	SEA OBJECTIVE	SEA CRITERIA
8	Maintain, protect and where possible enhance the fundamental qualities and productive capacities of the area's soils.	<p>Will the Strategy and associated proposals...</p> <p>a. Result in loss of the area's most important soils including prime quality agricultural land, carbon rich soils and peatland?</p> <p>b. Lead to irreversible changes to or damage of soils for example through: sealing, compaction, contamination, pollution, erosion, loss of carbon?</p>

		c. Protect, and where appropriate, enhance sites designated for their geological interest?
SEA THEME: WATER		
	SEA OBJECTIVE	SEA CRITERIA
9	Protect, maintain, and improve the quality of water bodies and wetlands across Perth and Kinross, that could be affected directly or indirectly by transport infrastructure.	<p>Will the Strategy and associated proposals.</p> <ul style="list-style-type: none"> a. Lead to adverse impacts on the quality and quantity of the area's water resources because of, for example: increased surface water run-off, sedimentation and diffuse pollution, changes to catchment yields, infiltration rates, and extraction? b. Physically impact upon a watercourse.
SEA THEME: AIR		
	SEA OBJECTIVE	SEA CRITERIA
10	Improve air quality across the road network in Perth and Kinross through a modal shift to more sustainable modes of transport and travel.	<p>Will the Strategy and associated proposals...</p> <ul style="list-style-type: none"> a. Help to reduce emissions of priority pollutants across the area, in line with Scottish and European Standards (e.g., PM₁₀, NO_x and NO₂)? b. Help reduce and maintain lower levels of NO₂ and PM₁₀ in the Perth and Crieff AQMAs to allow for those designations to be revoked?

		c. Reduce the number of people across Perth and Kinross exposed to poor air quality, particularly those in deprived or vulnerable communities, and those groups at risk?
SEA THEME: CLIMATIC FACTORS		
	SEA OBJECTIVE	SEA CRITERIA
11.	Reduce the Transport sectors GHG emissions across Perth and Kinross, in line with national net zero transition targets.	Will the Strategy and associated proposals help to reduce transport sector greenhouse gas emissions across Perth and Kinross to help Scotland meet its emission targets?
12	Reduce car KMs by 20% across Perth and Kinross, compared to 2019 baseline levels, in line with national net zero transition targets.	Will the Strategy and associated proposals help to reduce car KMs across Perth and Kinross?
13	Increase the percentage share of every day journeys made by sustainable transport and active travel modes.	Will the Strategy and associated proposals help increase the percentage share of daily journeys made across and beyond Perth and Kinross by sustainable transport and active travel modes?
14	Increase the percentage share of goods being transported via sustainable transport and active travel modes.	Will the Strategy and associated proposals help increase the percentage share of goods being transported across Perth and Kinross and beyond, by sustainable transport and active travel modes?
15	Improve the climate resilience of the transport network across Perth and Kinross.	Will the Strategy and associated proposals... <ul style="list-style-type: none"> a. Help to improve the resilience of the area's transport network to the predicted effects of a changing climate? b. Improve access to services during severe weather events?

SEA THEME: MATERIAL ASSETS

	SEA OBJECTIVE	SEA CRITERIA
16	Support development in the most sustainable locations via our transport and active travel network.	Will the Strategy and associated proposals in conjunction with LDP3 and the LHS, help support sustainable locations for development via a sustainable transport and active transport network?
17	Improve the reliability and efficiency of Perth and Kinross's transport network.	Will the Strategy and associated proposals help improve the reliability and efficiency of the area's transport network?
18	Improve public perception of the safety and reliability of the public transport network.	Will the Strategy and associated proposals help improve how people view the safety and reliability of the public transport network across Perth and Kinross?
19	Increase Electric Vehicle (EV) Infrastructure provision.	Will the Strategy and associated proposals help support an increase in EV infrastructure provision across Perth and Kinross?
20	Maintain and enhance the existing active travel network and create new network connections.	Will the Strategy and associated proposals result in the maintenance and enhancement of the existing active travel network and increase the extent of that network via new connections?
21	Promote and improve the sustainable use and management of the existing transport and active travel networks. Minimise waste and maximise the sustainable use/ re-use of material assets (land, buildings, and infrastructure).	Will the Strategy and associated proposals... <ul style="list-style-type: none"> a. Promote and seek the sustainable use and management of existing networks? b. Promote minimising of waste, maximising the sustainable use or reuse of material assets, and the sustainable use of natural resources?

SEA THEME: CULTURAL HERITAGE		
	SEA OBJECTIVE	SEA CRITERIA
22	Protect and enhance, where appropriate, the built and cultural heritage assets of Perth and Kinross and their settings.	<p>Will the Strategy and associated proposals...</p> <ul style="list-style-type: none"> ▪ Protect and enhance (where appropriate) the built and cultural heritage assets of the area and their settings (both designated and non-designated)? ▪ Improve access to cultural heritage assets to help encourage a greater knowledge, understanding and appreciation of their cultural significance and create an improved sense of place?
SEA THEME: LANDSCAPE		
	SEA OBJECTIVE	SEA CRITERIA
23	Conserve and enhance the distinct character, diversity, and special qualities of the area's landscapes from detrimental effects of development.	Will the Strategy and associated proposals protect and enhance the character, diversity, special qualities of the area's distinctive and valuable landscapes?
24	Protect and enhance townscape character, and respect the existing pattern, form and setting of settlements.	Will the Strategy and associated proposals protect and enhance the character of the area's townscapes through careful siting and design?

To assess the impacts of the strategic action themes identified within the emerging Mobility Strategy, Perth and Kinross Council used the scale as set out in Table 5.2 below:

Table 5.2. Assessment of Impact Scale

Significant Positive	Positive	Minor Positive	Neutral/ No Effects	Uncertain/ Unknown	Minor Negative	Negative	Significant Negative
++	+	O/+	0	~	O/-	-	--
MS contributes greatly towards achieving the objective	MS contributes towards achieving the objective	MS contributes to achieving the objective	MS does not impact upon achievement of the objective	MS can have a positive or negative impact.	MS conflicts with the objective	MS conflicts with the achievement of the objective	MS greatly hinders / prevents the achievement of the objective

5.4. Compatibility and Cumulative Assessment

The Compatibility and Cumulative Assessment Matrix (**Appendix D**) tests the compatibility of the Mobility Strategy action themes with the SEA Objectives. This is used as an indicator of consistency and to highlight any areas where there is a potential for conflict to arise. A text summary of anticipated overall effects (including likely cumulative and synergistic effects) is provided, along with proposed mitigation and enhancement measures, where appropriate.

A **cumulative effect** can occur when two or more environmental effects combine to have a greater effect. Cumulative effects can occur from different actions within the Mobility Strategy Action Plan or from the combined actions of a wider range of plans. It is only really possible to take a comprehensive overview of cumulative effects once all aspects of a plan have been assessed. The assessment identifies whether the same environmental effects are occurring within different aspects of the plan. The assessment should evaluate the combined significance of these overlapping effects and judge whether, together, they result in a greater effect than would occur individually.

Synergistic effects occur when two or more effects identified within an assessment, are capable of working together to create a new effect, or a magnitude of effect which does not arise from the individual effects. This requires knowledge of sometimes complex interactions. The Scoping Report proposed the following matrix and evaluation key to guide the assessment.

Table 5.3 Proposed Framework to Assess the Mobility Strategy’s Objectives

	Strategic Action 1	Strategic Action 2	Strategic Action 3	Summary of Overall Effects (including Cumulative or Synergistic)	Proposed Mitigation and/or Enhancement Measures
SEA 1					
SEA 2					
SEA 3					

Table 5.4 Proposed Evaluation Matrix Key

Compatible	Mostly Compatible	Unclear Relationship	Mostly Incompatible	Incompatible	Uncertain Relationship

The outcome of the Compatibility and Cumulative Assessment is discussed in Section 6, below.

5.5. Alternative Scenarios

Part 2, Section 14(2) of the Environmental Assessment (Scotland) Act 2005 requires Perth & Kinross Council, as the responsible authority, to identify, describe and evaluate within the Environmental Report the likely significant effects on the environment of implementing the Mobility Strategy and any reasonable alternatives to the Strategy, considering its objectives and geographical scope.

However, as the Mobility Strategy is being developed to provide a local transport and active travel context for the delivery of the priorities, outcomes and targets set in higher level national, regional, and Council wide strategies and plans, it is considered that the

only real reasonable alternative that could be assessed would be a 'do nothing/do minimum' approach. As this is not an option if Perth and Kinross is to play its part in – helping Scotland meet its net zero emissions targets, improving the resilience of the Country's transport infrastructure to the effects of a changing climate, reducing transport related inequalities across the area, encouraging inclusive economic growth, and improving the health and wellbeing of the area's citizens through an increased uptake in active travel, it is thought to be more appropriate to instead consider alternative scenarios for implementing the Mobility Strategy's Vision against the SEA Objectives.

The likely evolution without the Mobility Strategy is outlined in **Appendix G**.

6. Strategic Environmental Assessment (SEA) Results

6.1. Results Discussion

The 44 strategic action themes developed for the Mobility Strategy have been assessed against the SEA themes and the above questions that have been identified to conclude whether the impacts of these will be positive, negative, or uncertain. Also considered were the reversibility or irreversibility of impacts, risks, and whether identified impacts are considered permanent or temporary, long-term, short-term, or medium-term.

When undertaking the assessments, it was decided that it would be disproportionate to assess each supporting action within the Action Plan. Assessments of the strategic action themes were deemed robust and detailed enough at this stage. Due to the strategic and broad level of the Mobility Strategy, although some spatially specific actions were included, there was limited project specific information available in relation to the location of these measures, type of works that would be involved, construction requirements, scale of the options and associated timescales for delivery. This is a limitation that should be taken into account when considering the main results and conclusions presented in the subsequent sections. Consequently, the results of the assessment reflect the knowledge, experience and understanding of likely effects that the strategic actions could potentially have on the environment, rather than detailed assessment of the individual actions presented in the Mobility Strategy. As the strategic and supporting actions within the Strategic Action Plan progress to design and implementation, they will undergo more detailed individual environmental assessments.

According to SEA advice, the level of significance of environmental effects can be difficult to define and can be a matter of professional judgement. Significance depends on the character, quality and sensitivity of the environment which will be affected by the plan as well as the scale, magnitude, frequency, and certainty of the effects occurring. Importantly, what may be a significant effect in one location may be insignificant in another. It is thus useful to establish criteria that will be used to determine *significance* in a consistent and transparent way across the assessment. The Council considered the following issues in determining the significance of impacts (both positive and negative) on the SEA Objectives:

- Scale of impact (geographically)
- Duration of impact (permanent, temporary) and reversibility of impact
- Potential for significant cumulative impact
- Sensitivity of environment

The types of impacts considered within the assessment matrices were:

- Direct impacts that might occur as a direct result of the strategic action.
- Indirect and secondary impacts that might be attributed to the strategic action.
- Cumulative impacts that might occur when the impacts of implementing a number of strategic actions are considered together.
- Synergistic impacts that might occur as a result of implementing a number of strategic actions in synergy.

Full assessment tables are included in **Appendix C**.

The Mobility Strategy seeks to provide the services and infrastructure that will enable uptake of more sustainable travel modes and thus, accounting for mitigating actions and a favourable travel behaviour response, it is anticipated that impacts will be largely positive. Adopting a cautious approach that steers clear of assumptions, it is suggested that the relationships between indicators and variables are highly complex, are dependent on implementation, and will require further information in order for inferences to be made. The full assessment tables highlight that most strategic actions will likely have a positive impacts on the respective SEA Objectives, while other impacts were assessed as insignificant or an uncertain/unknown impact. Many of the impacts will be determined by design and construction work required for transport infrastructure and the travel behaviour of residents of the region in response to interventions within the Action Plan. Perth and Kinross Council will seek to review all projects in more detail prior to commencement of work.

Some of the key mitigating actions thus require Perth and Kinross Council to focus efforts on minimising environmental impacts of construction and transport infrastructure, as well as taking deliberate steps to ensure that sustainable travel modes are more affordable, viable, and comfortable in relation to the private car. The temporary adverse impacts that could occur from construction, could, with good practice and appropriate construction mitigation, be avoided or reduced to an acceptable level so that no significant adverse impacts on the environment are likely. The Mobility Strategy should include a specific commitment requiring that schemes which are taken forward for development undertake construction impact assessments to identify project level mitigation accordingly.

Across all SEA Objectives, it is noted that more information is required for a full assessment to be undertaken. A summary of the main impacts on the SEA themes is presented below.

6.1.1. *Biodiversity, Flora, and Fauna*

Transportation construction and infrastructure projects inevitably have the potential to fragment habitat and migration and commuting routes of protected species, and this has been well-documented in global studies. Studies suggest that globally, plant and animal species are disappearing at an unprecedented rate and that deliberate steps should be taken to protect vulnerable habitats and species. A growing population in Perth and Kinross is placing pressure on existing transport infrastructure and must be accommodated in new development plans. Encouraging development is thus an important component of local government planning, and the challenge is to find ways to encourage development while simultaneously protecting biodiversity. If not managed properly, transportation and infrastructure projects can result in biodiversity loss through a variety of impacts including pollution, diminished water resources, reduced soil quality, habitat loss, and by enabling access to and exploitation of natural resources.

Innovative design of the required transport infrastructure can promote conservation, restoration, and sustainable use of ecosystems, minimising biodiversity loss resulting from development. New development, through innovative design, has the potential to introduce new green and blue corridors to improve habitats and biodiversity. Transport infrastructure, and the land that surrounds it, can also provide beneficial habitats for wildlife, for example, the use of roads and railway lines has the potential to create natural corridors. Road verge vegetation can be managed to retain or enhance natural flora, roundabouts can be planted with native species, and ladders in drainage gullies can be used to enable the movement of various species.

At this stage it is not possible to establish the full impact of the delivery of the Mobility Strategy's Actions on biodiversity, flora, and fauna because the actions have not been through a detailed design process. The Mobility Strategy's aim to improve the mode share of public transport and active travel has the potential to reduce the amount of land needed for large-scale transport infrastructure construction over the long term and this may reduce the potential negative impacts on biodiversity, flora, and fauna. The impacts will, however, be largely dependent on factors such as site selection and project design. Deliberate efforts should be taken to secure construction management schemes and designs that protect biodiversity, flora, and fauna during the construction and operational stages. Sympathetic design, coupled with potential cumulative effects, should be encouraged to maximise the potential for a net positive gain.

To prevent or minimise adverse impacts on this SEA Theme, proposed mitigating factors include the recommendation of Environmental Impact Assessments (EIAs), as well as biodiversity and environmental consultations for planning applications and project plans. Should proposed schemes and projects involve the use of green space or ecological receptors, PKC should ensure that there is suitable biodiversity assessment, mitigation, and enhancement.

6.1.2. Population and Human Health

Some of the key insights from the baseline analysis show that the population of Perth and Kinross is aging and is increasingly feeling the pressure of the cost-of-living crisis, while facing an increasing number of constraints in being able to access the goods and services that they need to access for their wellbeing. The rural nature of Perth and Kinross translates into longer travel distances for residents, often requiring residents to own private vehicles if their neighbourhoods are not well served by public transport and active travel infrastructure.

From a public health perspective, the physical environment can influence health directly and more widely through how people interact with the natural and built environment. Car-dominated travel can lead to reduced levels of physical activity and enjoyment of public and green spaces. Further, the construction of large-scale transport infrastructure projects can have adverse impacts on neighbourhoods, communities, and businesses, exposing them to risks to human health arising from poor air quality, noise, flooding, and water and soil contamination.

The Mobility Strategy's aim to improve the mode share of public transport and active travel has the potential to positively impact population and human health outcomes by making travel more affordable, accessible, connected, and active. Creating enabling environments for walking, cycling, and public transport as a result of delivering the Mobility Strategy can have positive impacts on the population, particularly in relation to accessibility and social inclusion. Proposed actions will raise awareness of, and enable travel by active travel and public transport, complemented by community and demand responsive transport services, car sharing, and car clubs to ensure that all people can access the destinations and services and opportunities they need, and ensure that transport is convenient, safe, and affordable.

The supportive road and rail infrastructure required to implement the Mobility Strategy actions, however has the potential to both positively and negatively impact communities depending on the variables involved, particularly at the construction stages. Construction management plans are recommended to minimise the adverse effects of construction on communities of Perth and Kinross.

For the benefits of improved transport infrastructure in Perth and Kinross to accrue to all residents, it is recommended that PKC review the potential equality impact of all proposed projects prior to work starting to understand how direct and indirect consequences of these projects will impact on residents and businesses. Protecting vulnerable communities is an important aspect of the equalities TPOs of the Mobility Strategy, and thus the supportive infrastructure will be subject to ensuring that no vulnerable communities are disproportionately adversely affected.

The Mobility Strategy's aim to improve the mode share of public transport and active travel also has the potential to positively impact public health outcomes by reducing greenhouse gas emissions and pollutants from travel over the long term. This is expected to have cumulative impacts on the air quality and climatic factors SEA themes.

Innovative design of transport infrastructure based on the principle of place can improve the public realm and user experience in the transport network, potentially positively impacting on population and human health outcomes.

6.1.3. Soil

Climate change and changes in land use and land management practices, including built development, are the most significant pressures on Scottish soils. Soil degradation can have major implications for air and water quality as well as our climate, biodiversity, and economy. Sustainable management and protection of soils is key to ensuring that soils can deliver essential functions vital for the sustainability of Scotland's environment and economy.

In general, a PPS which proposes physical development, as the Mobility Strategy does, is likely to have a negative effect on soils. Construction and infrastructure projects (e.g., for roads and carparks) inevitably have the potential to strip and damage soil, increasing the potential for soil contamination, soil infertility, topsoil being sent to landfill, and some developed areas being prone to flooding. Effective soil management during construction can help to retain carbon, reduce flooding risks, and support biodiversity. Positive effects, however, could be expected if development is located on contaminated areas and remediation is proposed.

At this stage, it is not possible to establish the gross impact of the Mobility Strategy on Soil with certainty as the impacts will be project specific and the overall impact of the Mobility Strategy on soil is judged to be uncertain or too unpredictable to assign a conclusive score. At the project design stage, delivery of the Mobility Strategy Actions must thus encourage environmental impact of construction assessments to be undertaken, requiring developers to consider alternatives and to monitor and manage associated soil impacts during construction and operation. Overall, however, the Mobility Strategy seeks to gradually reduce the extent of large-scale transport infrastructure requirements by encouraging a shift to active travel and public transport modes, ideally reducing the potential for adverse impacts on soil over the long term. This will continuously be monitored over the life cycle of the Mobility Strategy.

6.1.4. Water

Overall Scotland's water environment is in a good condition, but a various problems exist at local levels. The environmental baseline for Perth and Kinross highlighted that there are rivers in the north, northwest, east and south of the Council Area which achieved poor or bad water quality status.

Construction of transport infrastructure projects inevitably have the potential to adversely impact water quality. Furthermore, flooding is a natural process in Perth and Kinross, and patterns and impacts of flooding can be exacerbated by development and engineering

works. Development on floodplains, inadequate culverting, and flood defence measures, and increases in impermeable surfaces can contribute to flood problems, placing increased demand on surface water drainage systems. The Mobility Strategy should thus support the enhancement and management of the quality and quantity of the water environment in both urban and rural areas, including approaches directed towards SUDs, floodplains, and surface water runoff.

The Mobility Strategy strategic actions include actions to improve transport infrastructure and thus have the potential to affect the water environment by influencing the location, layout, and design of new development, promoting engineering works in or within the vicinity of water features, and changing potential discharges to or movements of water e.g., through the installation of new flood defences. During construction, activities such as demolition generate pollutants that might enter waterways via construction site runoff and drainage.

At this stage, it is expected that the impact of implementing the Mobility Strategy on water quality will be positive because overall, the Mobility Strategy seeks to gradually reduce the extent of large-scale transport infrastructure requirements by encouraging a shift to active travel and public transport modes, likely reducing the potential for adverse impacts on water over the long term. However, because impacts are more accurately assessed on a scheme-by-scheme basis, it is not possible to establish the overall impact of the Mobility Strategy on water quality with certainty. At the project design stage, delivery of the Mobility Strategy actions must thus encourage environmental impact of construction assessments to be undertaken, requiring developers to monitor and manage associated water impacts during construction and operation. Developers might minimise risk by following expert environmental guidance on the effective handling and disposing of waste, proper storage of oils and fuels, and effective construction drainage plans. This will continuously be monitored over the life cycle of the Mobility Strategy.

6.1.5. Air

Air quality is affected by pollutants released into the atmosphere through human activities, including transport. Plans, programmes, and strategies (PPS) which influence these types of human activities, as the Mobility Strategy does, may have the potential to significantly affect air quality and cause nuisance such as odour and dust. When released to atmosphere in sufficient quantities, pollutants can affect human health, climate change, habitats and species, soils, and water.

Air Quality is generally good in Scotland, but further improvements are needed to reduce the adverse effects caused by air pollution. Air quality within the Perth and Kinross area has been improving in recent years, but there are still 2 AQMAs within Perth and Kinross (Perth and Crieff). The Mobility Strategy must thus consider the impacts of road traffic on air quality and develop policies to mitigate against poor air quality.

It is expected that delivery of the Mobility Strategy will have largely positive impacts on air quality, resulting from proposals to reduce the need to travel, to reduce reliance on the private car, and to reduce the indiscriminate use of the car within the region. Building new road infrastructure however also has the potential to induce additional traffic and this should be considered as part of the sustainable transport hierarchy. Supportive measures should thus be taken to improve the ability of public transport and active travel to compete with the private car, where reasonably possible.

TPO 11 seeks to achieve revocation of Air Quality Management Areas (AQMAs) in Perth and Kinross. Considered holistically, potential adverse impacts on air quality may be mitigated by a focus on supporting responsible car-use and providing viable alternatives to the private car.

6.1.6. Climatic Factors

SEA guidance from SEPA suggests that a practical means of considering the effects of a PPS on climatic factors may be as high-level as questioning whether a particular course of action is likely to result in an increase, a decrease or have no effect on the GHG emissions generated in the PPS area. The assessment therefore looked at whether the strategic actions were likely to lead to an overall reduction or increase in local GHG emissions. Overall, it has been assessed that the Mobility Strategy's actions will lead to a significant positive reduction in local GHG emissions through the following objectives and actions:

- supporting development of renewable energy technologies.
- seeking to locate development to limit transport requirements.
- promoting low carbon transport.
- supporting home working, broadband roll-out, and digital access to services.
- contributing to waste minimisation and the efficient use of resources.

Perth and Kinross Council is already seeking to reduce overall emissions through the Climate Action Plan and this work is supported by the Mobility Strategy. Construction and operation of road, rail and active travel infrastructure as part of the Mobility Strategy's strategic actions will have associated carbon emissions, however, the Mobility Strategy also seeks to offer alternatives to private car travel that reduces associated emissions. It is recommended that a feasibility assessment is undertaken to establish if proposed projects are likely to have a material impact on Perth and Kinross Council's climate targets both individually and cumulatively. Further, large-scale transport infrastructure construction projects will be subject to environmental impact assessments to identify mitigating actions required.

Extreme weather conditions, climate change, and traffic impediments adversely impact the reliability of the transport network. Risk analysis, adaptation measures and supporting strategies will need to be developed to minimise these potential impacts. Investment into innovative technologies that enable mitigation and adaptation benefits should be enabled. Infrastructure design (including the use of innovative materials) can aid in increasing the resilience of transport infrastructure to reduce the impact of adverse weather events on travel and infrastructure. This should be considered in detail as part of the design process of the projects and engagement with the statutory consultees in order to build safer, more resilient transport infrastructure.

6.1.7. Material Assets (Transport and Active Travel – Built Assets)

In many areas in the Perth and Kinross region, transport infrastructure is already under pressure, while demand is increasing. As the population grows, Perth and Kinross Council must manage, maintain, and sustainably expand transport infrastructure to support this growing population while enhancing its adaptability to extreme weather events. Given that the Mobility Strategy's action plan proposes built development, it is likely to influence transport and active travel material assets, and the extent of the impact on material assets will be determined at the project details stages. The impact is however likely to be positive, improving the transport network and improving network efficiency for residents and businesses. This is largely due to proposed improvements and additions to the transport network which will encourage a more efficient use of the assets and will support the development of a fit-for-purpose, safe and sustainable transport network.

Built development proposed in the vicinity of existing infrastructure (e.g. waste or energy infrastructure) may, however, limit the ability of this infrastructure to be expanded to meet future demand, and must this be considered in alignment with the Local Development

Plan for the region. Through integrated land-use and transport modelling, the Mobility Strategy must ensure that material assets have the capacity to support local development and encourage sustainable transport options and efficient traffic flows. Demand for new infrastructure to support local development may result in negative effects on other SEA topics, such as biodiversity and landscapes. It is thus important that sustainable transport, including public transport and active travel, is prioritised to minimise potential adverse impacts.

6.1.8. Cultural Heritage

Traffic congestion, air quality, and noise pollution from transportation can adversely impact the quality of the historic environment in Perth and Kinross. Conversely, there may be some opportunities for the historic environment from implementing the Mobility Strategy, such as developing a stronger sense of place and local distinctiveness through innovative design and enhancing climate change resilience.

It is anticipated that the delivery of the Mobility Strategy will have largely positive impacts on cultural heritage by encouraging less car dominated public realms around historically and culturally important sites. The Mobility Strategy proposals will also enable reduced emissions and pollution, which have the potential to cause deterioration and damage to historic buildings and monuments around such sites. The overall impact of the Mobility Strategy on the area's cultural heritage will rely on project-specific mitigation on a scheme-by-scheme basis. Where the construction of new transport infrastructure projects has potential adverse effects on cultural assets, these should be assessed at the planning application stage, or through relevant impact assessments.

6.1.9. Landscape

Construction and operation of transport infrastructure associated with the Mobility Strategy has the potential to have both positive and negative impacts on the Perth and Kinross landscape. As new areas become accessible because of the construction of new roads, railways and stations, the potential for new development increases, impacting on the future landscape. Transport infrastructure also has the potential to create barriers to free movement across the landscape.

Over the long term, however, it is expected that the implementation of the Mobility Strategy can have positive impacts on the landscape through a reduced need for the construction of large-scale transport infrastructure and encouraging a reduction in car-

use. The overall impact of the Mobility Strategy on the area's landscape will rely on project-specific mitigation on a scheme-by-scheme basis. At the project stage, delivery of the Mobility Strategy Actions must thus encourage strategic landscape assessments to be undertaken as part of the planning process.

6.1.10. Habitat Regulations Assessments (HRA)

Under the Conservation (Natural Habitats, &c.) Regulations 1994, all competent authorities must consider whether any plan or project could affect a European site before it can be authorised or carried out. This includes considering whether it will have a 'likely significant effect' on a European site, and if so, they must carry out an 'appropriate assessment.' Any plan or project that could affect a European site, no matter how far away it is, should be subject to HRA.

It is likely that some of the Mobility Strategy Actions would require a HRA Screening as they may be in proximity to designated wildlife sites. As the location, scale and characteristics of the projects are not known in detail at this stage, it is recommended that this is addressed at a case-by-case basis.

6.2. Compatibility and Cumulative Assessment

The Environmental Assessment (Scotland) Act 2005 requires that a compatibility and cumulative effect assessment is undertaken. (**Appendix E**). Without knowing the location, scale and specific characteristics of the actions outlined in the Action Plan at this stage, it is not possible to undertake a robust cumulative assessment of impacts on a single receptor with certainty. It is recommended that as part of the monitoring process, Perth and Kinross Council review the proposals on a periodic basis and update the conclusions of the environmental assessment.

6.2.1. Compatibility

The compatibility assessment concluded that the Mobility Strategy objectives are largely compatible with the Strategic Environmental Assessment (SEA) objectives and that no significant areas of potential conflict are immediately evident (**Appendix E**).

6.2.2. Cumulative Impacts

Appendix E highlights potential cumulative effects from implementing the Mobility Strategy. The assessment found that the many of the environmental impacts may have positive impacts for other environmental themes. The main objective of all strategic actions within the Mobility Strategy action plan is to enable a shift from private car use to sustainable transport, including public transport and active travel, and to improve efficiencies on the transport network. The implementation of the strategic and supporting actions will rely on integration and cumulative impacts to enable significant environmental benefits to be realised. When increased provision of active travel is coupled with bus service enhancements, for example, the potential for cumulatively beneficial effects on the environment is likely to be greater.

Negative cumulative effects could occur where construction activities as part of the Mobility Strategy Action Plan occur simultaneously within the same general area. The potential for temporary cumulative effects will not be known until scheme implementation at which point other construction projects in the area and their implementation will be timed accordingly.

It is possible that cumulative effects can also derive from cross-boundaries locally, regionally, and nationally. It is thus important for Perth and Kinross Council to review the proposed actions of the Mobility Strategy in collaboration with partners and stakeholders.

Potential cumulative effects have informed the recommendations as part of the SEA Environmental Report.

6.3. Likely Evolution without the Mobility Strategy

The Strategic Environmental Assessment, subsequently, anticipates that the environmental impact of delivering the Mobility Strategy will be largely positive, in contrast to the 'without MS' scenario which predicted the continued degradation of almost all environmental conditions represented in SEA, although some elements of the preferred option are anticipated to have negative impacts and will require mitigation and monitoring. The cumulative impacts have been assessed against the further development of the environment without the Mobility Strategy and the net effects have been identified and reported in this Environmental Report.

Positive impacts are predominantly permanent and long-term. Some of the negative impacts identified are temporary, others are more long-term and will require more thorough mitigation. Proposed mitigation measures are detailed in Chapter 7 below.

None of the identified impacts have been judged as irreversible. Therefore, if the Mobility Strategy does not perform as anticipated due to any unforeseen circumstances, it will be possible in most instances to apply corrective measures to reverse undesirable transport trends within the region.

Table 6.1 provides a summary of the likely evolution of the environmental baseline without the Mobility Strategy against each of the SEA Themes.

Table 6.1: Summary of the likely evolution of the environmental baseline without the Mobility Strategy against each of the SEA Themes

SEA Topic	Likely Evolution of the Baseline without the Mobility Strategy
Biodiversity, Flora, and Fauna	<p>Without implementation of the Mobility Strategy, the trends of car-dominance, traffic congestion, and barriers to access are likely to escalate. This may then be addressed without a guiding vision and objectives and there is a risk of continued expansion of large-scale transport infrastructure extensions to support car-dominant travel. Such extensions are land-intensive and are associated with higher levels of carbon emissions. In combination, these impacts may have greater adverse impacts on biodiversity, flora, and fauna indicators.</p> <p>Loss would still occur through development promoted through Local Development Plan and the Regional Transport Strategy.</p>
Population and Human Health	<p>Without the implementation of the Mobility Strategy's promotion of more sustainable modes of transport, car-dominance and traffic congestion would likely continue to grow, adversely impacting the efficiency of the transport network. Continued car-dominance would continue to adversely impact local air quality, which would negatively impact human health. A lack of improvement to public transport and cycleway/footways could result in fewer opportunities for people to exercise.</p>
Soil	<p>Soil will still be impacted through other development schemes, but to a lesser extent without implementation of the infrastructure projects proposed within the Mobility Strategy.</p>
Water	<p>The impact on water from construction of transport infrastructure may be reduced, however, there would be a continued impact from transport network maintenance.</p> <p>Construction in line with other plans would still occur and potentially cause pollution of water bodies,</p>

Air	Without the implementation of the Mobility Strategy's promotion of more sustainable modes of transport, car-dominance and traffic congestion would likely continue to grow, adversely impacting air quality on the transport network.
Climatic Factors	Without the promotion of walking, cycling and the use of public transport, as intended with the Mobility Strategy, car-dominance will continue and an increase in greenhouse gas emissions can be expected. The risk of not meeting climate change objectives is increased.
Material Assets	The impacts of actions proposed in the Mobility Strategy would not occur. Only projects that are already committed for delivery will be undertaken and the transport network would not experience the efficiency benefits proposed by the remaining Mobility Strategy strategic actions.
Cultural Heritage	Impacts on cultural heritage assets from actions proposed in the Mobility Strategy would not occur. Impacts from other strategic plans will not be altered. Without the implementation of the Mobility Strategy, however, opportunities to improve access to cultural heritage assets, and opportunities to reduce traffic, congestion, and noise around cultural heritage sites, are not likely to be realised.
Landscape	Any impact on landscape and visual impacts from projects promoted in the Mobility Strategy would not occur. However, without implementation of the Mobility Strategy, car-dominance is likely to expand, requiring even greater large-scale transport infrastructure projects to accommodate demand. This could have an even greater adverse impact on the visual landscape of Perth and Kinross.

7. Recommendations and Mitigation Measures

This chapter identifies the mitigation measures required where effects cannot be avoided and measures that can be taken to enhance potential positive impacts of implementing the Mobility Strategy. Schedule 3 paragraph 7 of the Act states that a SEA Environmental Report is to include the *measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment* that may be generated. These measures are often referred to as mitigation measures aimed at avoiding/ preventing, reducing/minimising, or offsetting/compensating.

SEA guidance advises that there are various approaches to mitigation, including:

- i. making a significant change to the broad aim of a plan,

- ii. changing a specific proposal within the plan,
- iii. adding further policies to the plan,
- iv. adding technical measures e.g. buffer zones or construction methods,
- v. changing specific wording or adding specific references within existing policies,
- vi. identifying specific effects to be addressed at the project level, or steering other plans, lower in the hierarchy, for example guiding the EIA process to manage potential effects.

Given that the Mobility Strategy Actions have not been detailed at this stage, this SEA has taken the approach of identifying impacts that need to be addressed (adverse impacts mitigated or positive impacts enhanced) at the project level on a scheme-by-scheme basis. SEA guidance advises that when thinking about ways in which adverse effects can be mitigated or positive effects enhanced, the following questions may be helpful:

- i. what specific measure(s) are required?
- ii. how are measure(s) going to be implemented?
- iii. when are the measure(s) required?
- iv. who would be responsible for implementing the measure(s)? and,
- v. how will implementation of the mitigation proposals be monitored?

Whilst in general the Mobility Strategy seek to develop a more sustainable and efficient transport network, a number of negative effects have been identified. The majority of these relate to the development of new roads and larger scale infrastructure that will be implemented through the Mobility Strategy Actions. It is likely that the most significant negative effects would occur during construction and are likely to be short term and localised. New infrastructure schemes are also likely to result in operational effects associated with land take and the potential impacts on the visual landscape. Significant effects can be avoided through sensitive siting and design and where required additional mitigation such as landscape screening.

The policies and actions proposed under the strategic objectives are generally high level and specific locations are not known. This limits the extent to which their effect on the environment can be predicted and evaluated. Without knowledge of the exact area that will be affected by the intervention it is also difficult to accurately identify receptors that will be affected, their relative importance

and the magnitude at which the baseline will change. As a consequence, some of the findings of the SEA are not based upon specific baseline data but in a detailed understanding of the characteristics of the study area, and an understanding of how the policies and options are likely to interact with the surrounding environment.

In addition to the proposed mitigation measures, the compatibility assessment within this SEA Environmental report considered the potential impacts to the environmental topics for the Mobility Strategy TPOs. Based on the impacts identified, recommendations for **mitigation and enhancement** have been included in this report. The 11 TPOs have been assessed against 24 SEA Objectives. This output provides a comparison of likely outcomes and effects with and without the recommendations.

Overall, it is likely that the proposed actions will have beneficial effects on the environment through the implementation of sustainable travel infrastructure, travel plans, parking control, and strategic new road developments. The following recommendations have been identified by the SEA to maximise the benefits of these policies and actions.

7.1. Reflection on Uncertainty within the Assessment

Many of the impacts of implementing the Mobility Strategy have been judged as uncertain at this stage and uncertainty is expected within an environmental assessment. The uncertainty is heightened because the strategic actions proposed cover a range of issues, and the manner in which the actions are implemented is a material factor in the nature of the effects it may have. The environment has many intricate and sophisticated links, which can sometimes mean it is difficult to predict how certain actions are likely to effect the environment. It is recommended that the following actions are taken to help manage these uncertainties:

- i. continued data collection, particularly where data gaps exist.
- ii. modelling relationships between key variables.
- iii. monitoring environmental impacts.
- iv. identifying unforeseen environmental effects early to help minimise the potential scope for environmental damage.
- v. holding early and meaningful consultations where appropriate.
- vi. demonstrating the implications of uncertainties.

7.2. Recommendations and Mitigation Measures

The discussion below summarises the proposed measures to mitigate the significant adverse effects. Importantly, the recommendations may have wider scope than the Mobility Strategy. Recommendations have been packaged according to the nine SEA Themes.

7.2.1. Biodiversity, Flora, and Fauna

While transport infrastructure projects inevitably impact on biodiversity, flora, and fauna, the Mobility Strategy Actions offer an opportunity to address habitats and ecosystems impacted by transport infrastructure through risk management and enhancement of benefits. Projects emanating from the Mobility Strategy Action Plan should take deliberate, meaningful steps to integrate biodiversity into the construction, operation, and maintenance of transport projects with the aim of retaining and improving the management and condition of biodiversity, flora, and fauna.

PKC should ensure adequate and expert consultation is undertaken prior to the implementation of actions which have potential biodiversity impacts. Where actions to improve access include the construction of supportive transport infrastructure to create transport linkages, works should be subject to environmental impact assessments (EIAs) and construction traffic management plans, where required, to consider and mitigate environmental risks and to protect and enhance the diversity of species, their habitats, and ecosystem services. Where land is required to be used to implement Mobility Strategy Actions, surveys should be undertaken where required, including, for example, habitat surveys, species-specific surveys, and watercourse surveys. Appropriate regulations should be imposed on contractors and developers conducting works in order to minimise identified risks, and timely completion of works should be encouraged.

Proposed mitigating actions can include, for example:

- Protecting plants in situ or permanent or temporary translocation.
- Mitigating lighting to reduce light spill.
- Vegetation and soil removal and disposal from contaminated areas should follow current controlled waste regulations.

- Appropriate vegetation clearance should be undertaken outside of breeding seasons to avoid disturbing breeding species. Wintering and migration surveys may also be required. Any construction activity should aim to avoid periods of passage, and breeding.
- Run-off from scheme construction should be managed in accordance with current SEPA regulations and should reduce the potential for transmission of particulates and pollutants into the water course.
- Bus stop or bus station roofs and other similar spaces, for example, within the transport network could be considered for green roofs or green walls.
- Any development should aim to retain features of ecological value within the scheme design. The sustainable use of existing infrastructure and brownfield sites is also recommended.

Continued monitoring of the conservation status of protected habitats and species and corrective action will be required should these be seen to be at risk. PKC should also continue to undertake work to increase education and understanding of the natural environment, improving access to the natural environment for the PKC population.

7.2.2. Population and Human Health

The implementation of the Mobility Strategy is likely to have mainly positive, but some uncertain impacts on population and human health indicators. As travel becomes more affordable and accessible to different degrees on different modes, modal split will change in different ways, impacting on mode choice, road safety, wellbeing, and other factors in different ways. The relationships between variables such as travel costs, mode choice, air quality, and road safety will need to be studied to make a clearer judgement on the likely impacts. Continued modelling and monitoring of variables will need to be on-going, with a particular focus on actions that improve the relative affordability of active travel and public transport modes relative to car travel modes.

The best form of mitigation is avoidance. Mitigation should therefore start with the avoidance of negative effects on human health as a first choice in the decision-making process. For example, potential negative effects on health as a result of air quality issues could be avoided by ensuring that new sensitive receptors such as schools are not located adjacent to existing sources of poor air quality such as motorways.

In order to address accessibility and transport issues, accessibility and active travel audits are recommended to assess the location, quality, and condition of the transport network and transport service offering. Interventions are recommended to be informed by accessibility assessments to ensure that the transport network is inclusive and accessible to all. Such interventions can aid in including vulnerable and marginalised communities, supporting, and enabling them to engage in society.

Continued maintenance of the Perth and Kinross transport network will be required to prioritise safety. The transport network should also support a wide-ranging, efficient, and high-quality active and public transport travel network to promote behavioural change. Schemes to encourage active travel from a public health perspective should also be supported.

Mitigation proposed to deal with negative effects on other SEA topics may also provide mitigation for effects on human health. For example, schemes proposed to prevent flooding and poor air quality can have significant public health benefits. Other examples of mitigation include setting a requirement for additional surveys and assessments to be undertaken at the next level of planning or project management e.g. requesting the consideration of specific health-related issues at the detailed project level. Opportunities for enhancement should aim to result in improvements to health by addressing environmental determinants e.g. a decrease in levels of nuisance (noise, odour or dust) through establishment of green corridors and buffer zones.

7.2.3. Soil

Mitigation involves the identification of measures which are envisaged to prevent, reduce and as far as possible offset any adverse environmental effects identified by the assessment. The best form of mitigation, especially in relation to minimising disturbance to carbon rich soils, is avoidance. For any plan which includes physical disturbance mitigation should therefore start with avoidance of carbon rich soils as a first choice in the decision-making process. Other examples of mitigation include setting a requirement for additional surveys and assessments at the next level of planning or project management. For example:

- setting a requirement for a peat survey and management plan.
- requiring that any disturbance or excavation should be minimised through avoidance of sensitive sites through sensitive site design.
- requiring that processes to ensure that suitable mitigation measures to reduce soil carbon loss either through gaseous emissions or through particulate and dissolved carbon in watercourses are established and implemented.

Opportunities for enhancement should aim to result in restoration of soil quality and thus soil function. This is particularly important for developments such as quarries and windfarms. PPS which relate to areas which include contaminated land or brownfield sites will also provide opportunities for enhancement.

Regulations should be imposed on contractors and developers conducting works in order to minimise identified risks, including timely completion of works. Environmental impact assessments (EIAs) may be required to determine regulations required. EIAs should assess the impact of construction and infrastructure on soil quality and should inform the design of measures to protect the quality of soil. It is also recommended that Perth and Kinross Council encourage and support the reuse of previously developed land and minimise the use of greenfield land. Where new transport schemes and transport improvement works are likely to cause disturbance to contaminated land, expert advice, consultation, and permits should be sought.

7.2.4. Water

Regulations should be imposed on contractors and developers conducting works in order to minimise identified risks, including timely completion of works. Environmental impact assessments (EIAs) may be required to determine regulations required. EIAs should assess the impact of construction and infrastructure on water quality and should inform the design of measures to protect the quality of water. It is recommended that Perth and Kinross Council ensure that all new transport schemes and transport improvement works involving construction activities adhere to relevant environmental protection standards, good practice, and design standards to ensure that the appropriate measures are implemented to prevent the pollution of surface water, groundwater, and run-off.

Where appropriate, surveys will be required, prior to construction, to ensure that there are no breaches of the groundwater and there are no risks of groundwater pollution from road drainage schemes. Flood risk assessments shall also be undertaken where schemes are located within flood plains. Sustainable Urban Drainage Schemes (SUDS) shall also be required for all new transportation developments.

7.2.5. Air

Mitigation involves the identification of measures which are envisaged to prevent, reduce and as far as possible offset any adverse environmental effects identified by the assessment. The best form of mitigation is avoidance. Mitigation should therefore start with the avoidance of degradation of air quality as a first choice in the decision-making process. For example, in relation to nuisance this

would include avoiding the introduction of new sensitive receptors adjacent to a potential source of nuisance (e.g. not locating new active travel routes adjacent to a landfill). In relation to air quality this would include avoiding the introduction of new sources of pollution into existing AQMAs or where AQMA objectives would likely be exceeded.

Other examples of mitigation include setting a requirement for additional surveys and assessments at the next level of planning or project management e.g.,

- setting a requirement for an air quality survey or air quality impact assessment (e.g. where a development is within or adjacent to an AQMA).
- requiring that processes to ensure that suitable mitigation measures to abate air quality degradation are identified and implemented.
- Opportunities for enhancement should aim to result in improvement of air quality or a decrease in levels of nuisance. PPS which includes areas of existing poor air quality or an AQMA will also provide opportunities for enhancement.

Environmental impact assessments (EIAs) should assess the impact of construction and infrastructure on air quality and should inform the design of measures to protect the quality of air and minimise pollutants. A review of the cumulative construction and operational emissions of the proposed transport network actions will be required to understand the potential impact on PKC's Climate Action Plan and on the Air Quality Management Areas. Transportation infrastructure schemes should be carefully sited to minimise localised air quality impacts. As far as is reasonably practicable, the distance between the resulting road traffic and sensitive receptors with poor air quality should be increased to improve local air quality at these receptors.

7.2.6. Climatic Factors

The potential for new energy demands within the transport network to be powered with renewable energy should be explored, and a review of future procurement process to prioritise carbon reduction measures is recommended. Strategic land use planning and a review of infrastructure located within flood plains should be used as tools to adapt to climate change impacts.

Perth and Kinross Council should work to embed climate change adaptation measures in transportation schemes by using innovative designs and materials that improve resilience to climate change and extreme weather events.

Schemes to improve public transport service offerings should include measures to adopt public transport vehicles that utilise alternative energy and reduce carbon emissions from transport.

7.2.7. Material Assets

The transport network has an important role in waste management for the construction, operation and decommissioning of transport projects and activities. The sustainable use and re-use of material assets (land, buildings, and infrastructure) is thus recommended. Efficient design and design that improves adaption to extreme weather events should be explored and encouraged to improve network efficiencies on the transport network.

7.2.8. Cultural Heritage

The historic environment is linked with the transport network insofar as it encompasses bridges and stations, historic routes, canals, and former railway lines as well as the way in which the transport network facilitates access to the enjoyment of a variety of cultural heritage assets. An increase in traffic infrastructure, traffic congestion, and maintenance works can adversely impact on the setting of cultural heritage sites. The current condition of Perth and Kinross heritage assets has been outlined in the baseline and identifies heritage assets at risk from neglect, decay, or development pressures Perth and Kinross Council should thus work to keep such infrastructure to a minimum and to ensure they are sympathetically sited, while ensuring that the current transport networks are fully optimised first. The Mobility Strategy Actions should thus consider a more detailed audit of existing historical assets within the transport network to develop an action plan to safeguard their future use, settings, and characteristics. Improved access to and from historical sites and scenic areas should also be considered. There may be some opportunities for the historic environment from implementing the Mobility Strategy actions, including developing a stronger sense of place and local distinctiveness by informing design, and achieving appropriate climate change resilience. There is thus also potential for mutual benefits through transport infrastructure investment and enhancement that should be considered.

PKC should use the development management process to protect and enhance, where appropriate, the built and cultural heritage assets of Perth and Kinross and their settings. PKC should also condition and enforce Construction Traffic Management Schemes that protect heritage assets during construction of transport infrastructure. Proposed infrastructure development should seek to conserve and/or enhance heritage assets, their setting and the wider historic environment, improve the quality and condition of the historic

environment, promote high quality design, and integrate climate change mitigation and adaptation measures into the historic environment sensitively. It is recommended that Perth and Kinross Council undertake surveys prior to the commencement of transport infrastructure schemes to determine whether there is a risk of:

- the scheme impacting on sites or areas of cultural or archaeological significance.
- the scheme causing damage to listed buildings.
- the scheme impacting on the character and quality of conservation areas. This can be facilitated through the planning application process.

The survey results should be used to determine the mitigating actions and adjustments to the schemes that will be required.

7.2.9. Landscape

Scotland is renowned for its distinct and diverse range of landscapes which can have social and community value, contributing to a sense of identity. The Scottish landscape also has considerable economic value, attracting tourism activity each year. New transport infrastructure and development has the potential to influence streetscapes and wider landscapes in positive and negative ways, directly and indirectly impacting on the appeal of streetscapes, townscapes, and landscapes.

There are a number of mitigation measures that could be proposed to avoid and reduce potential landscape and townscape and visual effects identified. The likelihood, nature, scale, and location of landscape change arising from proposed actions will vary, and thus each project should be assessed on a scheme-by-scheme basis. Sympathetic siting of necessary infrastructure and timely completion of works should be encouraged to strengthen, restore, and create landscape character and distinctiveness. Proposed transport infrastructure schemes should be carefully routed and located to avoid direct impacts on areas of designated landscape such as Listed Buildings, Conservations Areas, and Parks. Perth and Kinross Council should encourage the use of innovative design where possible so that such infrastructure complements and integrates with the landscape rather than detracting from it. Where effects cannot be fully mitigated through routing and siting design, specific landscape mitigation proposals could be developed alongside overall scheme design, to reduce effects upon landscape character and key visual receptors. Appropriate Construction Traffic Management Schemes should be enforced, including diversionary signage. PKC should also use the development management process to conserve and enhance the distinct character, diversity, and special qualities of the area's landscapes from detrimental

effects of development by requesting expert consultation responses as part of the planning application approval process. Input from landscape specialists may be required to make the assessment defensible and robust.

Most transport infrastructure schemes within the Mobility Strategy action plan have been identified as long-term. At this stage, the design of the strategic actions has not commenced and the impact of the Mobility Strategy strategic actions on the landscape is thus uncertain. It is recommended that as each action progresses to the design stage, that the projects are screened for their potential to enhance or detract from landscape character and distinctiveness using the following indicators:

Potential Indicators
Increase in land take for infrastructure projects
Percentage increase / decrease in landscape character areas affected by infrastructure
Area (in absolute or percentage terms) of wild land search areas affected by the construction of new infrastructure proposed, managed or stimulated by the plan.
Increased incidence of land segregation or separation – as an indication of fragmentation of landscape habitat.
Number of occurrences of the severance of a continuous linear landscape feature, such as boundaries or tree belts), contrary to plan policies

7.3. Summary

It is anticipated that any potential negative impacts resulting from the delivery of the Mobility Strategy can be successfully mitigated or offset by the means outlined above.

8. Monitoring and Post-Adoption Plan

8.1. Monitoring

The information gathered as a result of monitoring the environmental effects of the PPS enables the Responsible Authority to track the environmental effects of the PPS, gauge the effectiveness of any mitigation measures employed, identify unforeseen effects and manage any uncertainty encountered in the assessment process. Following adoption of the Mobility Strategy and the Strategic Action Plan, and as delivery and implementation commence, Perth and Kinross Council will monitor the significant environmental impacts of the Mobility Strategy. Monitoring will be undertaken biennially, and the results reported to the Perth and Kinross Mobility Board.

Monitoring of relevant indicators will include assessment of:

- a. Whether the Mobility Strategy is achieving the set targets in terms of minimising the impact of the delivery actions on the environment,
- b. Whether any unintended impacts of delivering the Mobility Strategy need to be addressed, and
- c. Whether any other social, political, legislative, or environmental changes have taken place that require a response.

The proposed indicators, as outlined in the Scoping Report (Appendix A) will provide a guide for If the Mobility Strategy is not meeting the environmental impact targets as anticipated, Perth and Kinross Council will undertake a review of the proposed actions with a view to identify appropriate amendments and adjustments. Monitoring mechanisms in respect of likely environmental effects will relate to the SEA Framework provided in this Environmental Report and will be detailed within the Mobility Strategy SEA Post Adoption Statement.

As part of the delivery of the Mobility Strategy, PKC will undertake ongoing monitoring. Key measures set out as Transport Planning Objectives and Strategic Environmental Assessment objectives will be reviewed and reported. Progress will be used to inform subsequent action plans.

8.2. Post-Adoption Statement

Section 18(3) of the 2005 Act sets out the information that should be included in the Post Adoption Statement. This can be summarised as:

- a. how the environmental considerations have been integrated into the plan, programme, or strategy.
- b. how the Environmental Report has been considered.
- c. how the opinions of consultees have been considered.
- d. the reasons for choosing the plan, programme or strategy as adopted, considering the other reasonable alternatives considered; and
- e. the measures to be taken to monitor the significant environmental effects of the implementation of the plan, programme, or strategy.

Following consultation on this SEA Report, a timeline will be developed for the implementation of the Post-Adoption Statement.

9. Summary and Next Steps

This Report has set out the results of a Strategic Environmental Assessment of the Perth and Kinross Council Mobility Strategy. Overall, the SEA concluded that there is the potential for significant positive effects as a result of implementing the Mobility Strategy, but also there is a risk of some negative impacts, which can be mitigated with the proposed mitigation actions.

A number of the Mobility Strategy objectives and actions were predicted to have potential temporary negative effects on the environment as a result of construction activities; however, the majority of these effects are temporary in nature and can be avoided or reduced through mitigation.

A number of operational negative effects (landscape, biodiversity, noise and water quality/flood risk) have been identified as a result of the assessment of the Mobility Strategy. The majority of these relate to proposed large scale infrastructure developments. The assessment concluded that provided that the recommended mitigation measures are implemented and additional assessments are undertaken where required, there should be no significant adverse residual effects on the environment.

Overall, the beneficial effects of the Mobility Strategy far outweigh the negative effects. Many of the objectives and actions will contribute to encouraging a modal shift to more sustainable modes of transport. The majority of beneficial effects are associated with a modal shift to public and sustainable forms of transport and highway capacity improvements.

A modal shift has the potential to have a beneficial effect on noise, quality, climatic factors and human health due to a reduction in congestion and emissions due to fewer cars on the road. A reduction in deposition of pollutants associated with fewer cars on the road will have positive effects on biodiversity and water. Benefits to population include improved public transport, upgraded transport infrastructure, better accessibility, increased flexibility, more predictable journey times to services and employment and people being more active.

Further beneficial effects are possible if some interventions are combined with other measures to aid a modal shift from reliance on the private car to more sustainable forms of transport without further severing accessibility for rural communities.

This Environmental Report will undergo an eight-week consultation period after which the comments, feedback, and input will be used to finalise the report where required.