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LIVERPOOL CITY REGION
COMBINED AUTHORITY

Liverpool City Region Combined Authority

LTP4 INTEGRATED IMPACT ASSESSMENT

Integrated Impact Assessment Report

Liverpool City Region Combined Authority

LTP4 INTEGRATED IMPACT ASSESSMENT

Integrated Impact Assessment Report

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CONTENTS

TABLES

FIGURES

APPENDICES

APPENDIX A

SEA ASSURANCE CHECKLIST

APPENDIX B

SCOPING CONSULTATION COMMENTS

APPENDIX C

REVIEW OF PLANS, POLICIES & PROGRAMMES

APPENDIX D

BASELINE INFORMATION

APPENDIX E

FIGURES

APPENDIX F

ASSESSMENT OF DRAFT LTP POLICIES

APPENDIX G

EQUALITIES IMPACT ASSESSMENT

APPENDIX H

HEALTH IMPACT ASSESSMENT

1 INTRODUCTION

1.1 OVERVIEW

1.1.1. Liverpool City Region Combined Authority (herein referred to as LCRCA) is currently preparing its Fourth Local Transport Plan (LTP4) which will cover the period 2024-2040.

1.1.2. The LTP4 is being developed to allow LCRCA to address new and emerging transport needs to help the city region *'plan and deliver a future-facing, clean, safe and accessible transport system built to last. It will focus on moving people, goods and freight around the region in a way that delivers our local ambitions. Particular focus will be on a net zero carbon emitting city region by 2035'.*

1.1.3. Through the new LTP4, the LCRCA hopes to provide a blueprint for making the public transport network more integrated, sustainable and accessible to all – which are the key pillars of Liverpool City Region Mayor Steve Rotherham's vision for a London style transport system.

1.1.4. The Liverpool City Region includes the City of Liverpool local authority area plus the Metropolitan Boroughs of Knowsley, St Helens, Sefton, Wirral and the Borough of Halton in North West England. The LCRCA area is shown in **Figure 1-1** overleaf.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 1 of 85

Figure 1-1 - Liverpool City Region

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 2 of 85
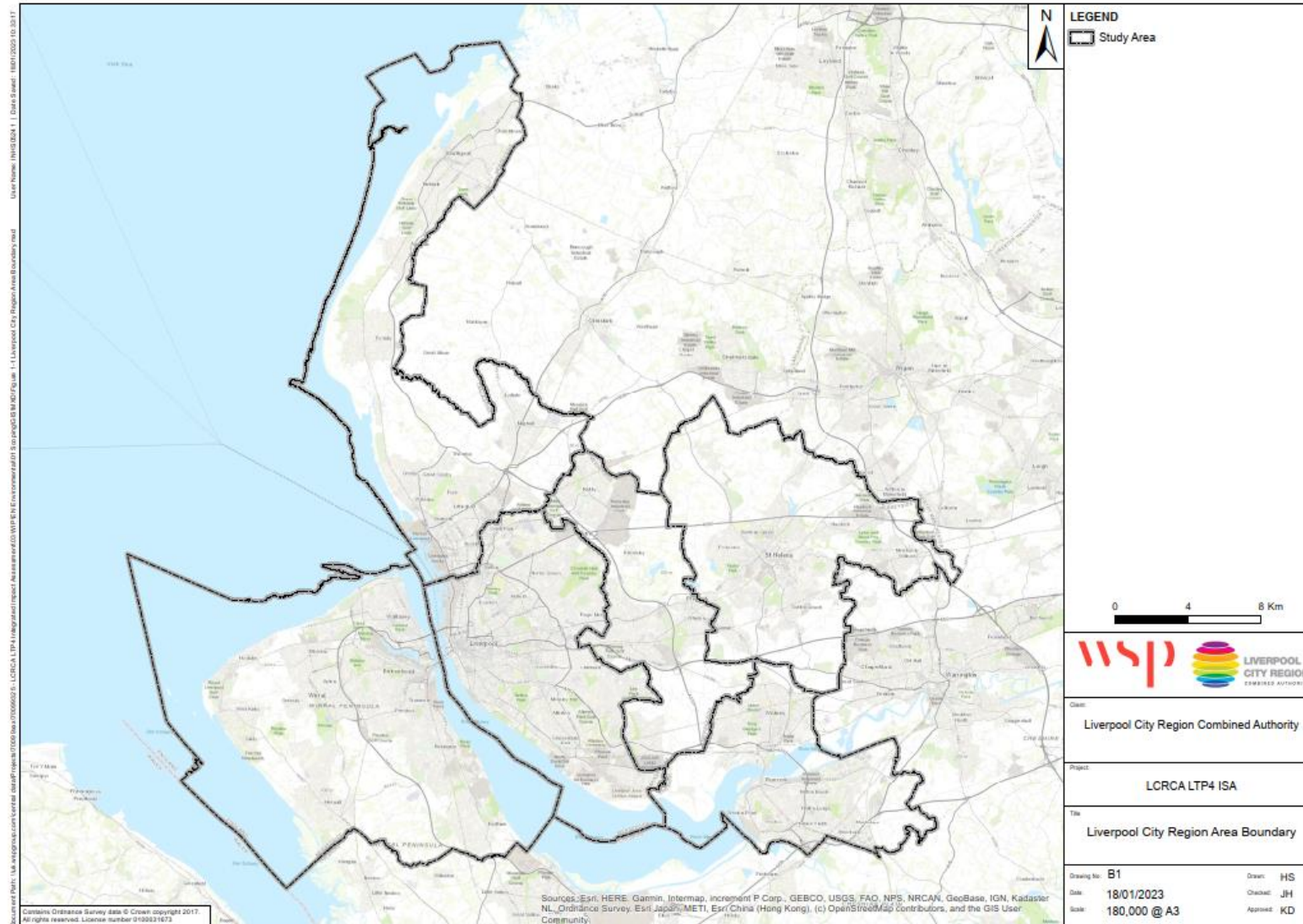
1.2 LOCAL TRANSPORT PLANS

1.2.1. The UK Government's 1998 White Paper on transport, 'A New Deal for Transport: Better for Everyone'[1] introduced the concept of Local Transport Plans to steer the development of national transport policies at the local level. The Transport Act 2000[2] (now amended by the Local Transport Act 2008[3]) then made it a statutory requirement for local transport authorities outside of London to produce LTPs having regard to UK Government policies and guidance on the environment.

1.2.2. The Local Transport Act 2008 give local authorities the freedom to decide for themselves how many years future LTPs should cover, including the option of setting different timespans for strategy and implementation. The Act requires local authorities to consider UK Government policies and guidance 'with respect to mitigation of, or adaptation to, climate change or otherwise with respect to the protection or improvement of the environment; and therefore, how their strategies and implementation plans relate to all relevant environmental issues, including air quality, noise, landscape and biodiversity.

1.3 PURPOSE OF THIS REPORT

1.3.1. LCRCA have commissioned WSP to undertake an Integrated Impact Assessment (IIA) which will ensure that sustainability aspects are incorporated into their LTP. The IIA combines the following assessment processes:

- Sustainability Appraisal (SA);
- Strategic Environmental Assessment (SEA);
- Equalities Impact Assessment (EqIA);
- Health Impact Assessment (HIA); and
- Habitats Regulations Assessment (HRA).

1.3.2. An integrated assessment approach enables synergies and cross-cutting impacts to be identified, avoiding the need to undertake and report on separate assessments and seeking to reduce any duplication of assessment work. A single process can improve efficiencies in the assessment itself, as many of the issues covered in the different forms of assessment overlap. This process also helps to simplify outcomes and recommendations for policymakers.

1.3.3. More detail on the IIA methodology is provided in **Section 3**.

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[1] Department for Transport, A new deal for transport: better for everyone - White Paper, 1998. Available online at: https://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/whitepapers/previous/anewdealfortransportbetterfo5695

[2] Transport Act 2000. Available online at: https://www.legislation.gov.uk/ukpga/2000/38/introduction

[3] HM Government (2008) Local Transport Act Available online at: https://www.legislation.gov.uk/ukpga/2008/26/introduction

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 3 of 85

1.3.4.   This Report sets out the second stage of the IIA process following on from the Scoping Report which determined the issues to be included in the SA. This report assesses the draft LTP and sets out:

- Information on the Transport Plan (**Section 2**);
- The methodology used for the SA (**Section 3**);
- A summary of the issues and opportunities identified during scoping (**Section 4**);
- Compatibility assessment of the Vision and Goals (**Section 5**);
- Assessment of draft Policies (**Section 6**)
- Assessment of Alternative (**Section 7**)
- Findings from other IIA Assessments (**Section 8**)
- Assessment of cumulative effects (**Section 9**);
- Mitigation, enhancements and monitoring measures (**Section 10**);
- Recommendations (**Section 11**); and
- Next Steps (**Section 12**).

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 4 of 85

2 THE LCRCA TRANSPORT PLAN

2.1 BACKGROUND

2.1.1. LTP4 is being developed to allow LCRCA to address new and emerging transport needs within the region and will be the first local transport plan since the creation of the Combined Authority in 2017.

2.1.2. LTP4 identifies transport plans, policies and ambitions for transport services and transport investment for the period 2024-2040, to manage and maintain the City Region's transport network.

2.1.3. The LTP's purpose is to set out plans for transport services and investment to 2040. This will help to inform and shape decisions for the future of travel across the City Region. It will play an important in drawing down and allocating the different funds needed to help deliver transport from Government, delivery bodies and third parties.

2.1.4. LTP4 will supersede the following transport plans and policies:

- The Halton Local Transport Plan, 2011
- The Merseyside Local Transport Plan, 2011
- LCR Long Term Rail Strategy, 2018
- LCR Local Journeys Strategy, 2018
- The Combined Authority Transport Plan, 2019

2.2 WORK TO DATE

2.2.1. The starting point for the development of the LTP was the 2022 Vision and Goals document[4]. This was based on the challenges and priorities identified nationally, sub-nationally and locally– not just the need to decarbonise, but also the need to achieve fair and inclusive growth, health, quality of life and the changing nature of the City Region through a vision and five goals.

2.2.2. The Vision and Goals document[4] was issued for consultation later in 2022 and showed that overall, people could relate to, and support the draft vision. People also recognised that is not always straightforward to deliver a cleaner, fairer transport system especially. Issues of cost, quality, and availability of transport were raised as concerns.

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[4] LCRCA, Our 4th Local Transport Plan: Issues, challenges and goals, Developing a Vision for Local Transport to 2040. [online] available at: https://www.liverpoolcityregion-ca.gov.uk/transport#section15

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 5 of 85

2.2.3.   Since developing the Vision and Goals LCRCA have looked at what the future might look like in 2040 when letting changes outside of LCRCA's control determine the future. LCRCA developed four scenarios to understand what the future might look like in 2040, as a result of wider social, environmental, economic and technological change.

2.2.4.   These scenarios are consistent with those developed by Transport for the North but have been nuanced to reflect the circumstances of the LCR. The scenarios are narratives about what the future might look like – they are not preferred scenarios or necessarily desirable.

2.2.5.   The four scenarios are as follows:

- **Just about managing:** A business-as-usual model where population and economic growth is weak. Travel use remains car-based, public transport demand is weak and climate change effects start to be felt.
- **Prioritised places:** Economic growth is moderate and homeworking rates grow. People increasingly move to more rural and coastal areas and work/life balance is important. Electric vehicle take up is relatively high and people adopt shared forms of travel
- **Digitally distributed:** Green growth has boomed and electric vehicles and new forms of mobility are growing, making the movement of people and goods much more efficient. More people work from home and live in cities and towns.
- **Urban zero carbon:** The LCR is part of a thriving green economy and people choose to live in cities where public transport use is high as are levels of walking and cycling. Technology makes it easy for people to mix and match how they travel, and transport is much more efficient.

2.2.6.   Using the City Region's strategic transport model, LCRCA analysed the four scenarios to understand what their impact might be in transport and movement terms. This work was used to further shape the vision, principles and goals of the LTP.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 6 of 85

2.3 VISION, PRINCIPLES & GOALS

2.3.1. The draft vision for the LTP is *"clean, safe and accessible transport for moving people and goods".*

2.3.2. This vision is underpinned by five key goals which have been outlined in Table 2-1 below.

Table 2-1 – LTP Goals

	LTP Goals
1	**Support good, clean job growth and opportunity for all** Make sure transport supports local growth. This means equal opportunities for all to access affordable transport systems that connect people to jobs and services – all while keeping the environment in mind.
2	**Achieve net-zero carbon and an improved environment** Reach net-zero carbon emissions by 2035or sooner, whilst protecting and improving our local environment
3	**Improve health and quality of life** Improve the health and quality of life for our people and communities. Make sure transport is safe, clean and good for the environment around us
4	**Transport that's well maintained and tough** Make sure our transport network and assets are well maintained, long lasting, and tough to the effects of climate change.
5	**Plan and respond to uncertainty and change and be innovative** Become a forward-thinking region. Use innovation and new technologies, plan for uncertainty and change, and improve future travel in the region

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 7 of 85

2.3.13. A series of principles have been developed that support the goals and the delivery of more detailed policies and interventions that follow. The relationship between the vision, goals, policies and principles has been outlined in **Figure 2-1**. These principles are as follows:

- **Principle 1:** A vision led approach
- **Principle 2:** We will apply the five goals equally
- **Principle 3:** Transport decisions based on clear need and evidence
- **Principle 4:** Transport must support placemaking
- **Principle 5:** Adopting a sustainable movement hierarchy in all we do
- **Principle 6:** Fairness, inclusivity and accessibility considerations guide everything that we do
- **Principle 7:** Work with others to promote and deliver the LTP
- **Principle 8:** A rolling programme of innovative transport investment

Figure 2-1 - Relationship between the vision, goals, priciples and policies

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 8 of 85
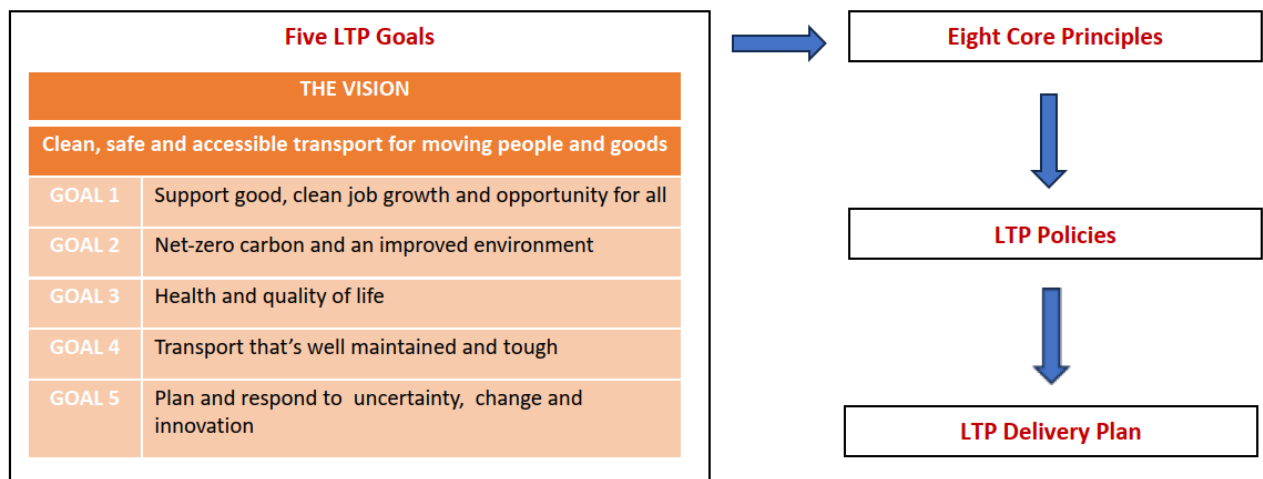
3 SUSTAINABILITY APPRAISAL METHODOLOGY

3.1 INTRODUCTION

3.1.1. Sustainability Appraisal is a systematic process that is undertaken during the preparation of local plans and spatial development strategies. Its role is to promote sustainable development by assessing environmental, social and economic impacts, as well as mitigating any potential adverse effects that the emerging plan might otherwise have.

3.1.2. The IIA combines the following assessment processes:

Sustainability Appraisal (SA) (incorporating Strategic Environmental Assessment - SEA);
Health Impact Assessment (HIA);
Equalities Impact Assessment (EqIA); and
Habitats Regulations Assessment (HRA).

3.1.3. **Figure 3-1** below shows the relationship of each of these IIA elements.

Figure 3-1 - Relationship of IIA Elements

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 9 of 85
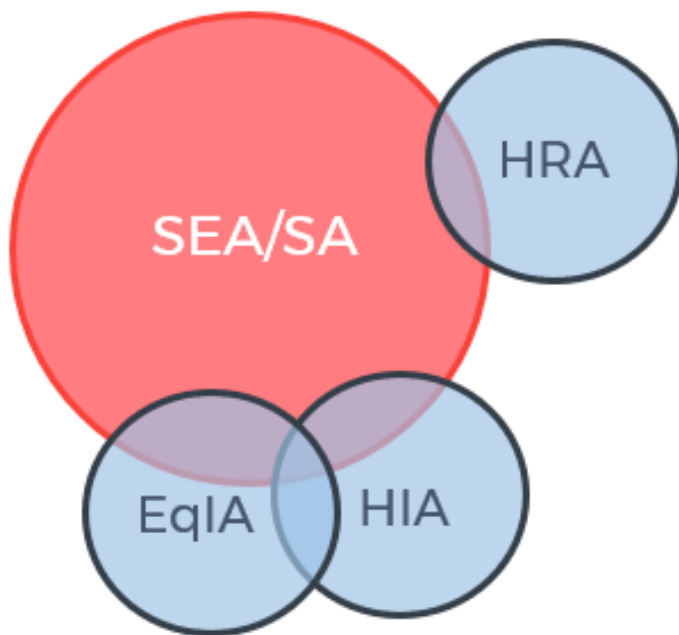
3.2 SUSTAINABILITY APPRAISAL

3.2.1. The SEA/SA process is carried out during the preparation of local plans and spatial development strategies, including transport plans. Its role is to promote sustainable development by assessing the extent to which emerging plans will help to achieve relevant environmental, economic and social objectives.

3.2.2. SEA is used to describe the application of environmental assessment to plans and programmes in accordance with the 'Environmental Assessment of Plans and Programmes Regulations' (SI 2004/1633, known as the SEA Regulations)[5].

3.2.3. SEA is mandatory for plans and programmes which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste or water management, telecommunications, tourism, town and country planning or land use, and which set the framework for future development consent of projects listed in the Town and Country Planning (Environmental Impact Assessment) Regulations[6]. As this is a transport plan which sets the framework for future development, a SEA is required.

3.2.4. SEA only considers the environmental effects of a plan whilst SA also considers a plan's wider economic and social effects. It is obligatory that SAs meet all of the requirements of the SEA Regulations.

3.2.5. The approach adopted for the SA element of the LTP follows that set out in the Practical Guide to SEA[7] and the Planning Practice Guidance to SEA[8]. SAs do however need to meet all of the requirements of the SEA Regulations, so a separate strategic environmental assessment should not be required.

3.2.6. **Appendix A** sets out more specifically how this report has met the requirements of the SEA Regulations.

3.3 EQUALITIES IMPACT ASSESSMENT

3.3.1. The Equality Act 2010[9] includes a public-sector equality duty that requires public organisations and those delivering public functions to: '*show due regard to the need to eliminate unlawful discrimination, harassment and victimisation; advance equality of opportunity; and foster good relations between communities*'.

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[5] SI 2004 No. 1633, The Environmental Assessment of Plans and Programmes Regulations 2004 [online] Available at: http://www.legislation.gov.uk/uksi/2004/1633/pdfs/uksi_20041633_en.pdf

[6] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 [online] Available at: http://www.legislation.gov.uk/uksi/2017/571/introduction/made

[7] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive. available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf

[8] Department for Communities and Local Government (2015) Strategic environmental assessment and sustainability appraisal. Available at: http://planningguidance.communities.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/

[9] Equality Act, 2010, [online] available at: https://www.legislation.gov.uk/ukpga/2010/15/contents

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 10 of 85

3.3.2.   The EqIA process focuses on assessing and recording the likely equalities effects as a result of a policy, project or plan. It seeks to ensure that the policy, project or plan does not discriminate or disadvantage people and enables consideration of how equality can be improved or promoted. The Equality Duty came into force in April 2011 and covers the following nine Personal Protected Characteristics:

- Age;
- Disability;
- Gender;
- Gender reassignment;
- Marriage and civil partnership;
- Pregnancy and maternity;
- Race;
- Religion or belief; and
- Sexual orientation.

3.3.3.   In addition to the protected characteristics, socioeconomic status has been included in this EqIA due to LCRCA's voluntary adoption of socioeconomic status as protected characteristic through its adoption of the Socioeconomic Duty.

3.4   HEALTH IMPACT ASSESSMENT

3.4.1.   HIA is a process to identify the likely health effects of plans, policies or developments and to implement measures to avoid negative impacts and promote opportunities to maximise the benefits. There is no formally adopted methodology for HIA although there is a body of practice and guidance at a policy level. Assessment of health can be undertaken as a discrete process within an HIA and can also be embedded within environmental assessments.

3.4.2.   HIA is not a statutory requirement of the LTP preparation process. However, Planning Practice Guidance[10] states that 'Local planning authorities should ensure that health and wellbeing and health infrastructure are considered in local and neighbourhood plans and in planning decision making'.

3.4.3.   HIAs can be done at any stage in the development process but are best done at the earliest stage possible.

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[10] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, Planning Practice Guidance, Healthy and Safe Communities, 2014 [online] Available at: https://www.gov.uk/guidance/health-and-wellbeing

3.5 HABITAT REGULATIONS ASSESSMENT

3.5.1. Under Article 6(3) of the European Union Habitats Directive[11] as transposed into the UK law by the Habitats Regulations[12], an assessment (referred to as an HRA) needs to be undertaken in respect of any plan or project which:

3.5.2. "Either alone or in combination with other plans or projects would be likely to have a significant effect on a site designated within the Natura 2000 network – these are Special Areas of Conservation (SACs), candidate SACs (cSACs), and Special Protection Areas (SPAs). In addition, Ramsar sites (wetlands of international importance), potential SPAs (pSPA) and in England possible SACs (pSACs), are considered in this process as a matter of law or UK Government policy. These sites are collectively termed 'European sites' in Habitats Regulations Assessment (HRA); and is not directly connected with, or necessary to, the management of the site".

3.5.3. Guidance on the Habitats Directive sets out four distinct stages for assessment under the Directive:

- **Stage 1:** Screening: the process which initially identifies the likely impacts upon a Natura 2000 site of a plan or project, either alone or in combination with other plans or projects, and considers whether these impacts are likely to be significant (undertaken at this stage);
- **Stage 2:** Appropriate Assessment: the detailed consideration of the impact on the integrity of the Natura 2000 sites of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function. This is to determine whether there will be adverse effects on the integrity of the site (a later stage/project level – if applicable);
- **Stage 3:** Assessment of alternative solutions: the process which examines alternative ways of achieving the objectives of the plans or projects that avoid adverse impacts on the integrity of the Natura 2000 site (a later stage/project level – if applicable); and
- **Stage 4:** Assessment where no alternative solutions exist and where adverse impacts remain: an assessment of whether the development is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the Natura 2000 network (undertaken at a later stage/project level – if applicable).

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[11] European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, 1992 [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01992L0043-20130701
[12] The Conservation of Habitats and Species Regulations 2017, [online] Available at: http://www.legislation.gov.uk/uksi/2017/1012/contents/made

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 12 of 85

3.5.4. The first stage of the HRA (screening) has been undertaken alongside this IIA Report. This report presents the findings of the Screening undertaken as part of Stage 1 of the HRA process to establish whether or not the likely impacts of the LTP could have LSE on Habitats sites.

3.5.5. The HRA provides this information by undertaking the following steps:

- Determining whether the LTP is directly connected with or necessary for the management of applicable Habitats sites;
- Describing the LTP impacts that may have the potential for significant effects upon applicable Habitats sites; and
- Describing the potential pathways of impacts, both alone and in-combination with other plans and projects.

3.5.6. A precautionary approach is applied at all stages of the HRA process. In relation to screening this means that projects and plans where effects are considered likely and those where uncertainty exists as to whether effects are likely to be significant must be subject to the second stage of the HRA process, AA.

3.5.7. The first step of the review is to establish whether the LTP should be subject to HRA.

3.5.8. The HRA is driven by separate legislation to the SEA and other forms of assessment. This means the HRA Report will be published separately to the IIA Report and not included as an appendix to the IIA Report.

3.6 SOCIAL VALUE

3.6.1. Social value is the additional social, economic, and environmental benefits that a project, policy or organisation can bring to an individual or a community. Social value isn't just about the wellbeing of the current population but also securing these values for future generations.

3.6.2. WSP have a long track record of using 'placemaking' and 'sustainable development' principles to support the social, economic and environmental wellbeing of the areas in which we work. Our corporate policies underpin our social value commitments and frame our approach.

3.6.3. There are tangible benefits to be gained from implementing a social value approach across both the IIA and the LTP4. Integrating Social Value within everything LCRCA does will also be crucial for delivering the strategic vision for the Liverpool City Region, which will be:

- **Fairer:** redressing inequalities, empowering communities, reducing deprivation, and supporting good health and wellbeing.
- **Greener:** environmental sustainability, net zero carbon, cleaner air, a circular economy, and protected natural capital.
- **Stronger:** economic prosperity, high quality employment, improved skills, and enhanced quality of place.

3.6.4. In order to provide Social Value through transport infrastructure, there is a need to support liveability, prosperity, and resilience within design and development practice. Ways in which

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 13 of 85

LCRCA will ensure social value is at the heart of the LTP and IIA development will be through:

- Proactive community engagement ensuring that the views of different communities across the LCR are understood;
- Ensuring that policies objectives, schemes and options outlined within the LTP4 support liveability, prosperity, and resilience to both now and in the future;
- Securing additional community benefits through the EqIA and HIA; and
- Developing realistic and achievable mitigation and monitoring measures that will ensure that social, economic, and environmental benefits are achieved throughout the delivery of the LTP.

3.6.5. In addition to this, a compatibility assessment has been undertaken, which outlines the alignment between the LTP and the Social Value Framework[13] and the LTP4's role as:

- An employer..
- An organisation with devolved powers as a:

  - a commissioner;
  - an investor; and,
  - a service provider.

- A regional civic leader.

3.7 KEY IIA STAGES

3.7.1. The key stages of the IIA process as follows:

- **Stage A:** Setting the context and objectives, establishing the baseline and deciding on scope (completed in spring 2023);
- **Stage B:** Developing and refining strategic alternatives and assessing their effects (including the EqIA, HIA and HRA assessments);
- **Stage C:** Preparing the Environmental Report and supporting assessments e.g. EqIA, HIA and HRA (this stage);
- **Stage D:** Consulting on the draft plan or programme and the Environmental Report and prepare a Post Adoption Statement; and
- **Stage E:** Monitoring the significant effects of implementing the plan or programme on the environment.

3.7.2. Details on how this aligns with the LTP process are set out in Figure 3-1 below.

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[13] LCRCA, Social Value Policy and Framework 2022 [online] available at: https://api.liverpoolcityregion-ca.gov.uk/wp-content/uploads/2023/08/LCRCA-Social-Value-Policy-and-Framework-2022.pdf

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 14 of 85

Figure 3-2 - LTP vs IIA Process

LTP Phases	IIA Phases
Baselining — 1. Review of previous LTP / 2. Determining the scope of the LTP / 3. Evidence, analysis and baseline creation / 4. Developing the LTP vision and objectives	**Stage A – Scoping** Set out environmental baseline, policy context and the assessment framework
Draft LTP for consultation — 5. LTP Development	**Stage B – Assessment** Assessment and refinement of policies, options and alternatives. This stage includes EqIA, HIA and HRA assessment alongside the SEA. / **Stage C – Reporting** Production of IIA reports including EqIA, HIA and HRA.
Revisions, Post consultation and finalise — 6. LTP Consultation / 7. LTP Update / 8. Development of Implementation Plan / 9. Final LTP adoption / 10. Implementation of monitoring and evaluation	**Stage D (i) – Consultation and Updates** Consultation of the IIA and final updates/ assessment. / **Stage D (ii) – Production of Post Adoption Statement** / **Stage E - Monitoring**

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 15 of 85

3.8   IIA REPORT METHODOLOGY

3.8.1.   Stage B comprises of the assessment of the draft LTP4, against the IIA objectives identified within the Scoping Report. This will aid the development of LTP4 and its policies, principles and goals.

3.8.2.   As per the SEA regulations, the IIA also needs to consider and compare all reasonable alternatives as the plan evolves and assess these against the baseline environmental, economic and social characteristics of the City Region. Reasonable alternatives are the different realistic options considered by the LCRCA in developing the policies in the plan.

3.8.3.   This IIA Interim Report will cover the assessment of:

- Compatibility assessment of the vision and goals;
- LTP draft policies;
- Alternative policy scenarios;
- Intra and inter project cumulative effects.

COMPATIBILITY ASSESSMENT

3.8.4.   Testing the compatibility of the draft LTP's vision and goals against the IIA Appraisal Framework help to identify both potential synergies and inconsistencies. This information can help in developing and refining the objectives of the LTP.

See **Section 5** for further details.

ASSESSMENT OF EFFECTS

3.8.5.   The assessment of policies and alternatives has considered the following:

- Overall effect significance (negative, positive, uncertain, potential for both negative and positive effect or negligible)
- Nature of effect (direct, indirect)
- Spatial Extent (local – confined to the city region, regional – northwest region, national - England)
- Permanence of effects (permanent or temporary)
- Reversibility of effect:
  - Reversible: The receptor can return to baseline condition without significant intervention
  - Irreversible: The receptor would require significant intervention to return to baseline condition
- Duration (short, medium or long term) – Short term: from now until 2027, Medium term: between 2027 – 2032 Long term: from 2032 - 2040

3.8.6.   **Table 3-2** sets out the key to the assessment, whilst the detailed Assessment criteria is set out in **Appendix B**.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 16 of 85

Table 3-1 – Key to Assessment

Effect Significance	Key
Potential for significant positive effects	++
Potential for minor positive effects	+
Potential for minor negative effects	-
Potential for significant negative effects	--
Uncertain effects – Uncertain or insufficient information on which to determine the appraisal at this stage	?
Potential for both positive and negative effects	+/-
Negligible / No effect	0
Magnitude (High / Medium / Low)	H / M / L
Nature of effect (direct / indirect).	D / I
Spatial extent (local, regional, national)	L / R / N
Permanence (Permanent / Temporary)	P / T
Reversibility of effect (reversible / irreversible)	R / I
Duration (short / medium / long term).	ST / MT / LT

3.8.7. It should be noted that where uncertain and negligible effects have been identified, it has not been possible to determine the nature of effect, the spatial extent, the reversibility or the duration of effect. In this instance, these cells have been left blank.

ASSESSMENT OF POLICIES

3.8.8. The assessment of policies has been undertaken by themes which have been assessed together. The assessment of policies within themes and sub-themes have been standalone assessments, which purely assess the outcome of the application of those policies rather than the draft Local Plan as a whole.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 17 of 85

POLICY ALTERNATIVES

3.8.9.   Reasonable alternatives assessed as part of the LTP have been alternative scenarios which have included:

- Just about managing;
- Prioritised places;
- Digitally distributed; and
- Urban zero carbon.

3.8.10. In addition to this, the plan has compared meeting net zero carbon targets by 2035 and 2040. The 2035 target is five years ahead of the target framed by the initial work on the LTP as well as the UK Government's target of zero emission vehicles by 2040.

3.8.11. A high level summary of effects on each of the IIA objectives will be provided and each will be scored using the Key to Assessment set out in **Table 3-2** above. See **Section 7** for further details.

CUMULATIVE EFFECTS

3.8.12. The SEA Regulations require that cumulative effects are considered when identifying likely significant effects. Therefore, a number of plans and policies (local, regional and national) have been reviewed for potential cumulative effects in addition to potential cumulative effects that could occur alongside the implementation of the draft LTP.

3.8.13. In addition, the assessment of sites has considered the cumulative effects of neighbouring development sites, including those beyond the regional boundary.

3.8.14. The assessment of cumulative effects has been identified in **Section 9** of this report.

MITIGATION, ENHANCEMENT MEASURES AND MONITORING

3.8.15. The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment as a result of implementing the plan. The measures are known as 'mitigation' measures.

3.8.16. Mitigation measures have been identified in relation to the assessment of policies, principles and goals. These include both proactive avoidance of adverse effects and actions taken after potential effects have been identified. These are set out in **Section 10** of this report.

3.8.17. **Section 10** also includes enhancement measures, which aim to optimise positive impacts and enhance sustainability. The mechanism for delivery will ensure the promotion, prevention, reduction and offset of any significant adverse effects or enhancement opportunities on the environment.

3.8.18. The SEA Regulations also require that monitoring is undertaken on a plan so that the significant effects of implementation can be identified, and remedial action imposed. The purpose of the monitoring is to provide an important measure of the sustainability outcome of the final plan, and to measure the performance of the plan against sustainability

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 18 of 85

objectives and targets. Monitoring is also used to manage uncertainty, improve knowledge, enhance transparency and accountability, and to manage sustainability information.

3.9 ASSUMPTIONS AND LIMITATIONS

3.9.1. The preparation of the LTP alongside the IIA has allowed an iterative process of assessment and refinement in the narrative and policies within the LTP. Therefore, some of the recommendations set out in this report may already have been addressed in the LTP.

3.9.2. The assessment of goals, policies and policy alternatives, has been undertaken as a desk-based exercise using the baseline information from the Scoping Report. No site visits have been undertaken specifically for the purposes of the IIA.

3.9.3. WSP have ensured that effects are predicted accurately; however, this can be challenging given limited understanding of precisely how the plan will be implemented. Given uncertainties there is inevitably a need to make some assumptions, however, these are made carefully and explained in detail within the assessment text.

3.9.4. In some instances, given reasonable assumptions, it is not possible to predict 'significant effects', but it is possible to comment on the potential positive and negative effects of the draft plan and its alternatives in more general terms.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 19 of 85

4 IDENTIFYING THE SUSTAINABILITY ISSUES AND OPPORTUNITIES AND IIA FRAMEWORK OBJECTIVES

4.1 INTRODUCTION

4.1.1. This section sets out the sustainability issues and opportunities for the LTP and the IIA Appraisal Framework, against which the Local Plan has been assessed.

4.1.2. A Scoping Report, in support of the emerging LTP, was produced by WSP in spring 2023, which initiated the SEA process (see **Figure 3.2**). This report reviewed relevant legislation, plans, and programmes baseline, identified baseline information as well as key issues and opportunities for the LTP and identified an assessment framework.

4.1.3. This report was consulted on with the Statutory Consultees (Environment Agency, Historic England and Natural England) as well as the Marine Management Organisation (MMO) in May 2023 and details on their consultation comments can be found in **Appendix B**. It should be noted that the Environment Agency received the IIA Scoping Report but chose not to comment.

4.1.4. The baseline information used within the IIA Scoping Report is set out in **Appendix C**.

4.2 REVIEW OF PLANS POLICIES AND PROGRAMMES

4.2.1. A plan may be influenced in various ways by other plans, policies or programmes, or by external environmental protection objectives such as those laid down in policies or legislation. These relationships enable the Responsible Authority to take advantage of potential synergies and to deal with any inconsistencies and constraints.

4.2.2. The Scoping Report undertook an initial review of policies, plans, programmes, strategies and initiatives that may have an impact on the preparation of relevant policies being reviewed as part of the Local Plan update. This review has informed both the development of the Local Plan and the IIA framework.

4.2.3. Full details on the review of plans, policies and programmes is set out in **Appendix D**.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 20 of 85

4.3 SUSTAINABILITY ISSUES AND OPPORTUNITIES

4.3.1. The Scoping Report set out a number of issues and opportunities for the Local Plan, for each of the IIA topics outlined in the Scoping Report. These have been summarised in **Table 4-1** below.

Table 4-1 – Sustainability Issues and Opportunities

Topic	Key Sustainability Issues and Opportunities Identified
Population and Equalities	▪ Transport issues affect different groups to varying extents, and there is evidence to show that the barriers to accessing and using transport can be exacerbated by age, ethnicity and gender; ▪ There are opportunities to improve access to facilities and services, as well as housing, for the elderly, young adults, and rural communities; ▪ There were 3.5 million disabled people in work in 2017, with the UK Government aiming to increase this to 4.5 million by 2027. Increasing and improving access will enable more disabled people to access work. This will enable people to reach their potential and to achieve economic independence.
Human Health	▪ Health inequalities are high within the LCR, life expectancy is lower in the most deprived areas of the LCR; ▪ Covid-19 has also exacerbated existing inequalities across the LCR and ▪ Increases in loneliness are likely to be seen as a result of elderly social isolation and loneliness, as well as the impacts of Covid-19, leading to associated health impacts.

Economy and Employment	▪ The LCR is a prime location for new and existing business, benefiting from being well-located, well-connected and from having a well-educated and skilled workforce.
	 ▪ Continued investment in the transport infrastructure is an essential part of post-pandemic economic recovery
	 ▪ There is a need to:
	   o Promote a low carbon economy and low carbon transport
	   o Create the conditions for equitable growth
	   o Support the sustainable growth and expansion of businesses; and
	 ▪ Deliver increased economic growth and decreased emissions (i.e. "clean growth")
	 ▪ There is a lack of quality employment space for some industries

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 21 of 85

Topic	Key Sustainability Issues and Opportunities Identified

Community Safety	▪ There are opportunities to improve neighbourhoods and reduce the prevalence of antisocial behaviours;
	▪ There are opportunities to increase the safety of active transport modes such as cycling and walking;
	▪ Vulnerable road uses such as cyclists and pedestrians are more likely to be casualties.
	▪ There is a need to:
	   ○ Continue to improve safety by investing in the road network, both to prevent incidents from occurring and to reduce the severity of those that do
	   ○ Support better education and behaviour change
	   ○ Work towards the vision that no road user should be killed **or** seriously injured on the roads within the Combined Authority
	▪ Reduce transport related crime and the fear of crime, as well as encourage reporting
	▪

Biodiversity and Natural Capital	▪ Light, air, and noise pollution from increasing urban development in LCR may put strains on nearby rural or protected areas; ▪ Increasing population and associated developments may lead to fragmentation and urbanisation of natural habitats; ▪ New legislation regarding biodiversity net gain will require developments to implement demonstratable increases in biodiversity.
Landscape and Townscape	▪ Development has the potential to cause direct and indirect impacts on designated landscapes and townscapes; ▪ Future growth in some locations could risk compromising landscape and townscape character and features; ▪ The design of new infrastructure requires a landscape-led approach to design, to ensure the best placement and integration of the proposed development into the existing landscape, especially in sensitive locations; ▪ There is potential to improve access to the countryside, to promote sustainable tourism and to provide greater awareness for designated areas; ▪ Increasing access to the countryside, whilst increasing pressure on those resources, can greatly improve health and wellbeing, help combat air pollution, provide storm water management and reduce flooding

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 22 of 85

Topic	Key Sustainability Issues and Opportunities Identified
	(contributing to climate change adaption) and provide connectivity through urban built form to the countryside for wildlife; and ▪ The incorporation of 'Future Ready' Landscape principles into landscape-led designs would help ensure transport infrastructure is designed for longevity in the 21st century, for both its people and its natural environment.
Historic Environment	▪ There are opportunities for enhancing the setting of heritage assets through the development of schemes to reduce traffic noise and enhance accessibility through active modes and asset settings; ▪ There is potential for development to encroach on designated and local historic assets, particularly affecting the settings of them through increased noise and visual effects; ▪ There is the potential for disturbance on buried archaeology if present; ▪ Vehicle damage and pollution can adversely affect both listed buildings and scheduled monuments, so reducing vehicle movements within historic urban areas is also an important area to address.
Water Environment	▪ The physical and chemical quality of water resources is an important aspect of the natural environment and can be adversely affected by pollution associated with surface water runoff from new or existing transport infrastructure; ▪ Of the region's waterbodies, many are still struggling to achieve 'good' status, falling far short of the WFD target; ▪ Upgrading existing infrastructure provides the opportunity to improve pollution control; ▪ Increased development (including transport, housing and other infrastructure) can increase flood risk on a local and catchment scale; ▪ The LTP should support nature-based solutions to help communities become more resilient to the effects of flooding, and improve local water quality, whilst enhancing nature and biodiversity; and ▪ Climate change is likely to increase the occurrence of flooding from all sources and hence raise the flood risk across the LCR.
Air Quality	▪ The number of vehicles on the roads is likely to increase as the population rises, putting air quality at further risk of degradation; ▪ Airbourne pollutants from transport are known to contain nutrients that can adversely affect vulnerable habitats;

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 23 of 85

Topic	Key Sustainability Issues and Opportunities Identified
	▪ More severe and frequent heat episodes as a result of climate change can contribute to the worsening of air quality; ▪ The UK Government's plan to end the sale of all new conventional petrol and diesel cars and vans by 2030 and support for work and home-based electric charging facilities, will promote use of hybrid and electric vehicles, with positive effects for air quality; ▪ Air quality issues across the Combined Authority Region can be addressed via a modal shift towards less polluting methods of transport (low carbon transport initiatives) and inclusive of active transport (e.g. cycling, walking etc.) thereby leading to a higher standard of air quality.
Climate Change and Greenhouse Gases	▪ The extent of future climate change will be strongly affected by the amount of greenhouse gases that the population and industries choose to emit; ▪ Transport is the largest contributor to GHG emissions in the UK. Transport contributes 34% of all LCR emissions compared to just 23% in 2010[14]; and ▪ Since the Covid-19 pandemic, private car use has increased which contributes to GHG emissions.
Noise and Vibration	▪ Increased transport development and infrastructure may adversely impact sensitive receptors and increase current noise levels in areas adjacent to roads and rail lines; ▪ Excessive noise exposure from transport can cause stress and sleep disturbance and is often perceived as a nuisance. This can result in adverse effects on human health; ▪ Transport noise can adversely affect biodiversity including nesting and feeding habits of many species; ▪ Increased noise exposure can also have negative impacts on rural green areas or designated sites; and other designated sites with road or rail noise reducing amenity within these areas. There exists an opportunity to increase understanding of transport noise profiles and exposure, accounting for the benefits from low-noise

[14] Liverpool City Region Combined Authority (2022), 'Liverpool City Region Sustainable Transport Settlement – A Fairer, Stronger, Cleaner City Region Where no-one is left behind: A Transport Investment Prospectus for the Liverpool City Region 2022/2023 – 2026/27', [online], available at: LCR Sustainable Transport Settlement Prospectus.pdf (liverpoolcityregion-ca.gov.uk)

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 24 of 85

Topic	Key Sustainability Issues and Opportunities Identified
	electrified road vehicles and reactions to climate change, to develop a plan that accounts for the future and realises benefits for LCR and ■ Increased uptake of active travel for short journeys will therefore reduce car use and associated vehicle noise.
Material Assets	■ The growing need for development is likely to increase the use of mineral resources and waste generation; ■ The region's soil resources are likely to be negatively impacted by climate change, which could lead to reduced levels of productivity and biodiversity; and ■ There's a continued increase in renewable energy supplies across LCR primarily offshore wind; with huge potential to expand further into larger scale onshore wind, tidal power and biomass and district heating.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 25 of 85

4.4 IIA APPRAISAL FRAMEWORK

4.4.1. The review of relevant plans, policies and programmes, collation of baseline information and identification of issues and opportunities, has been used to inform the IIA Appraisal Framework, which is set out in **Table 4-2** below.

Table 4-2 – IIA Appraisal Framework

Topic	Sustainability Objective	Supporting Appraisal Questions
Population and Equalities	**IIA1:** To build inclusive communities by increasing connectivity, reducing social exclusion, promoting equity and equality and respecting diversity.	Will the policy or proposal: ▪ Help to reduce inequalities, particularly for those people and communities most ▪ vulnerable? ▪ Improve access to services, facilities and transport for all inclusively? ▪ Support diversity?
Human Health	**IIA2:** To protect and enhance both physical and mental health and wellbeing through better access to public transport, services, and green spaces to enable people to connect with nature, supporting active travel, and encouraging healthy lifestyles.	Will the policy or proposal: ▪ Promote healthier lifestyles? ▪ Increase walking and cycling? ▪ Avoid impacts on the quality and extent of existing recreational assets, such as formal or informal footpaths? ▪ Promote health enhancing environments with the inclusion of high-quality green infrastructure, behaviours and activities for local communities? ▪ Help prevent risks to human health, which arise from noise and air pollution?
Economy and Employment	**IIA3:** To support a diverse local economy to foster sustainable economic growth and	Will the policy or proposal: ▪ Support economic growth? ▪ Support access to jobs and training opportunities?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 26 of 85

Topic	Sustainability Objective	Supporting Appraisal Questions
	support Liverpool's city centre and region and local centres across the LCR	▪ Support regeneration of town and district centres? ▪ Support the tourism industry?
Community Safety	**IIA4:** To improve the overall safety of the transport network, reduce crime and the fear of crime and ensure all transport users feel safe	Will the policy or proposal: ▪ Improve safety? ▪ Support Designing out crime principles? ▪ Reduce levels of crime deprivation? ▪ Reduce the potential for collisions and accidents involving wildlife, which could affect the safety and efficiency of using the transport network?
Biodiversity and Natural Capital	**IIA5:** To protect and enhance protected habitats, species and valuable ecological networks that contribute to ecosystem functionality in the LCR contributing to biodiversity net gain.	Will the policy or proposal: ▪ Protect and restore internationally, nationally, and locally designated sites though infrastructure provision, traffic or maintenance? ▪ Maintain and enhance biodiversity in the region? ▪ Seek opportunities for biodiversity net gain through green infrastructure? ▪ Increase provision of ecosystem services from the region's natural capital? ▪ Prevent fragmentation of habitats and promote ecological networks? ▪ Mitigate secondary impacts of transport networks, such as noise disturbance, air pollution and lighting which can have detrimental impacts on biodiversity and species movements? ▪ Support the development of Local Nature Recovery Strategies and the Nature Recovery network?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 27 of 85

Topic	Sustainability Objective	Supporting Appraisal Questions
Landscape and Townscape	**IIA6:** To protect and enhance the Combined Authority's townscapes and landscapes, including both urban and rural environments.	Will the policy or proposal: - Respect, maintain and strengthen local character and distinctiveness? - Improve the quality and condition of the townscape and landscape?
Historic Environment	**IIA7:** To conserve and enhance the historic environment, including heritage assets (designated and non-designated) and their settings.	Will the policy or proposal: - Conserve and/or enhance heritage assets, their setting and the wider historic environment, included buried archaeology? - Improve the quality and condition of the historic environment? - Respect, maintain and strengthen local character and distinctiveness?
Water Environment	**IIA8:** To reduce the risk and vulnerability to flooding. **IIA9:** To maintain and enhance water quality by reducing levels of pollution form the transport network.	Will the policy or proposal: - Reduce the risk of flooding? - Increase surface runoff? - Result in the reduction of water quality? - Support the protection and enhancement of water bodies? - Support the use of nature-based solutions to aid in flood alleviation?
Air Quality	**IIA10:** To protect and enhance air quality by reducing emissions from the transport network.	Will the policy or proposal: - Support measures to reduce levels of air pollution?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 28 of 85

Topic	Sustainability Objective	Supporting Appraisal Questions
		▪ Support the reduction of harm to vulnerable habitats and ecosystems by reducing the deposition of airborne nutrients associated with low air quality? ▪ Support measures for the reduction of congestion and traffic levels particularly in AQMAs and congestion hot-spots? ▪ Reduce the impact of adverse air quality effects on human health?
Climate Change and Greenhouse Gases	**IIA11:** Ensure that the LCR region is resilient to the effects of climate change. **IIA12:** To reduce greenhouse gas emissions across the transport network, support national and local decarbonisation initiatives and encourage energy efficiency.	Will the policy or proposal: ▪ Support low carbon and energy efficient design? ▪ Reduce GHG emissions? ▪ Increase the resilience of infrastructure and material assets to the impacts of climate change (including flood risk, extreme weather, heat and cold)?
Noise and Vibration	**IIA13:** To reduce exposure to transport related noise and vibration, including noise pollution and nuisance.	Will the policy or proposal: ▪ Support measures to reduce levels of noise pollution? ▪ Support measures for the reduction of congestion and traffic levels particularly in areas with sensitive noise receptors?
Material Assets	**IIA14:** To reduce the amount of waste produced and minimise the amount sent to landfill and promote sustainable use of resources and seek opportunities to promote a circular economy.	Will the policy or proposal: ▪ Support the reallocation of existing road space? ▪ Support the prevention of disturbance, harm, contamination or permanent (irreversible) loss of soil resources?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 29 of 85

Topic	Sustainability Objective	Supporting Appraisal Questions
	IIA15: To ensure the efficient use of land and protection of soils and geological sites	▪ Support the use of sustainable and recycled materials? ▪ Minimise the amount of waste? ▪ Support opportunities to conserve the region's geology?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 30 of 85

5 COMPATIBILITY ASSESSMENT OF VISION & GOALS

5.1 INTRODUCTION

5.1.1. This section assesses the compatibility of the vision and goals against the IIA Appraisal Framework objectives.

5.1.2. The vision and goals have been individually tested against the IIA Appraisal Framework objectives to identify both potential synergies and inconsistencies. This information can help in developing and refining the objectives of the LTP.

5.1.3. **Table 5-1** below sets out the key to appraisal, whilst **Table 5-2** overleaf sets out the findings of the compatibility testing of the vision and goals.

Table 5-1 – Key to Compatibility Assessment

Effect	Key
Compatible	✔
Incompatible/ potential conflict	✖
No relationship/ Impact pathway	0
Uncertain/ more than one potential outcome	?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 31 of 85

Table 5-2 – Compatibility Assessment Overview

	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Sustainable use of resources
Vision	✓	✓	✓	✓	✓	✓	0	0	0	✓	✓	✓	✓	?	?
Goal 1	✓	✓	✓	✓	✓	?	?	?	?	✓	0	✓	0	0	0
Goal 2	✓	✓	✓	✓	✓	?	?	?	?	✓	✓	✓	✓	✓	✓
Goal 3	✓	✓	✓	✓	0	0	0	0	0	✓	✓	✓	0	0	0
Goal 4	✓	✓	✓	✓	✓	✓	0	✓	✓	0	✓	0	0	✓	0
Goal 5	?	✓	✓	✓	0	?	?	?	?	✓	✓	✓	0	0	0

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 32 of 85

5.2 COMPATIBILITY ASSESSMENT SUMMARY

5.2.1. In general, the Vision and Goals have performed well against the majority of the IIA objectives and clearly demonstrate their compatibility. Whilst the assessment has not identified any incompatible effects, a small number of uncertainties have been identified.

5.2.2. On the whole, the Vision and Goals have predominantly resulted in a positive effect as it covers the three key pillars of sustainability (economy, social and environment) and aims to tackle key issues such as employment, community safety, and GHG emissions, which aligns with the aims and aspirations of the IIA objectives.

5.2.3. Due to its strong environmental focus, Goal 2 is the most compatible across all objectives. LCRCA aim to reach net-zero carbon emissions (by 2035 or sooner), whilst protecting and improving the local environment. This will involve facilitating residents safe (IIA4) and convenient use of active travel modes, including walking and cycling which will increase access to services, employment, and education (IIA3), whilst also boosting physical activity levels and overall health and wellbeing (IIA2). Reduction in emissions (IIA12) through reduced private vehicle usage will also directly benefit air quality (IIA10) in the local area, as well as indirectly supporting biodiversity assets across the city region (IIA5).

5.2.4. IIA4, Community Safety, is also met by the Vision and all Goals. Improvements to the transport network in terms of usability, maintenance, technological advancement and climate resilience will be beneficial to the safety of all users.

5.2.5. Whilst waste (IIA14) and sustainable use of resources (IIA15) are highlighted as being important aspects of the Vision, no direction is given as to the likely effects on these objectives through the Vision and Goals. As a result, uncertain effects have been reported. However, as this is a high-level vision, there is no certainty to how such development might arise, and there may be potential for developments to bring about positive effects on these objectives.

5.2.6. The uncertainty of developments that may come forward has also resulted in mixed effects on the historic environment (IIA7) and landscape and townscape (IIA6). Sensitive design will likely ensure positive effects, however, there may be some short-term construction effects.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 33 of 85

6 ASSESSMENT OF DRAFT POLICIES

6.1 INTRODUCTION

6.1.1. The assessment of the LTP policies are summarised below and presented in full in **Appendix F**. A matrix approach has been used for the assessment which has used the significance criteria identified in **Table 6-1** below. It should be noted that the Policy goals have been assessed as a whole against each of the IIA objectives, rather than each individual policy.

6.1.2. **Table 6-2** overleaf provides an overview on the performance of the Local Plan policy themes against each IIA objective and **Table 6-3** outlines significant effects based on each IIA objective. For the purpose of the IIA, significant effects are deemed to be the following:

- Significant Positive effects;
- Significant Negative effects; and
- Uncertain effects.

6.1.3. Further details on the insignificant effects i.e., minor positive, minor negative, mixed and neutral effects are detailed in **Appendix F**. The Appendix also sets out the nature of effects such as magnitude, spatial extent and duration.

Table 6-1 – Significance of Effect

Effect Significance	Key
Potential for significant positive effects	++
Potential for minor positive effects	+
Potential for minor negative effects	-
Potential for significant negative effects	--
Uncertain effects – Uncertain or insufficient information on which to determine the appraisal at this stage	?
Potential for both positive and negative effects	+/-
Negligible / No effect	0

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 34 of 85

6.2   SUMMARY OF EFFECTS

Table 6-2 provides an overview on the performance of the goal policies against each IIA objective and **Table 6-3** outlines significant effects based on each IIA objective.

Table 6-2 – Overview of Draft Policies

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies
IIA1: Population & Equalities	++	+/-	++	+	?
IIA2: Human Health	++	++	++	+	0
IIA3: Economy & Employment	++	++	+	+	+/-
IIA4: Community Safety	+/-	+/-	++	+	++
IIA5: Biodiversity & Natural Capital	+/-	+/-	+	++	?
IIA6: Landscape & Townscape	?	+/-	++	+	?
IIA7: Historic Environment	?	+/-	+/-	+/-	?
IIA8: Flooding	0	0	+	++	0

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 35 of 85

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies
IIA9: Water Quality	0	0	+	++	0
IIA10: Air Quality	++	++	++	+	++
IIA11: Climate Change	0	++	+	++	++
IIA12: Greenhouse Gas Emissions	+	++	++	++	++
IIA13: Noise & Vibrations	?	+/-	+	0	+
IIA14: Waste & Sustainable Materials	?	+	0	++	0
IIA15: Efficient Use of Land	?	+	0	++	0

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 36 of 85

Table 6-3 – Summary of Significant Effects

IIA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
IIA1: Population & Equalities	2	0	1	Policies G3-2 and G3-4 will result in significant positive effects on IIA1. General safety and health improvements generated in the upgrading of active travel and public transport modes will benefit the quality of life of all residents. An uncertain effect has been identified in relation to IIA1. The rollout of technological advancements / trailing stated under Goal 5 do not currently specify the ways in which protected characteristics will be supported. There is potential for positive effects given consideration to a variety or network users.
IIA2: Human Health	3	0	0	Multiple policies under the LTP4 support IIA2, predominantly through the improvement of active travel infrastructure and encouraging the uptake of physical activity of the population. Policy G3-2 will work towards making highways and other spaces used by the public safe and attractive for pedestrians and cyclists as a first priority. By improving access to active travel, the physical and mental wellbeing of those engaging with it will be improved.
IIA3: Economy & Employment	2	0	0	Goals 1 and 2 positively contribute to IIA3. Improvements to the connectivity and capacity of the transport network will support future population growth through increasing the attractiveness and opportunities for residents. A growing population will generate investment into the local economy.
IIA4: Community Safety	2	0	0	Goals 3 and 5 will result in significant positive effects on IIA4. By designing out dangerous road layouts, implementing a safe systems approach, and using technological advancements to intervene in current road safety measures, the policy sets under these goals will improve community safety across the city regions road network. Particularly,

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 37 of 85

IIA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
				improved digital connectivity under policy G5-3 will better connect users to friends and family at their end destination, improving feelings of safety when using public transport.
IIA5: Biodiversity & Natural Capital	1	0	1	Policy G4-2's active support of carbon absorbing technologies will support wider biodiversity and nature recovery plans, making the City Region greener and more attractive for residents and visitors. This has resulted in significant positive effects on IIA5. Uncertain effects have been identified for the policies under Goal 5 as at this stage it is not clear what types of new technologies may emerge and the infrastructure and scale of development required to support them. If land take is required, there may be potential for small loss of habitats and species.
IIA6: Landscape & Townscape	1	0	2	Policy G3-2 aims to improve the streetscape through good design, improvements to the public realm and provision of high quality street furniture. This coupled with the reduced dominance of motorised vehicles, will help to improve the quality and condition of the townscape and landscape. This has resulted in significant positive effects on IIA6. Policies under Goals 1 and 5 have resulted in uncertain effects as at this stage as the location and scale of development and subsequent land take required is not known.
IIA7: Historic Environment	0	0	2	Policies under Goals 1 and 5 have resulted in uncertain effects as at this stage as the scale of development and subsequent sensitivity of the surrounding historic environment is not known. If designed insensitively, there is potential for new infrastructure to detract from the setting of historic assets.
IIA8: Flooding	1	0	0	Significant positive effects were identified for Goal 4. Policy G4-2 aims to ensure that all new infrastructure and retrofitted projects are designed to reduce surface water runoff and

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 38 of 85

IIA Objective	Number of Significant Effects			Summary of Significant Effects
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				flooding. Additionally, the incorporation of green infrastructure could help to alleviate flood risk within the urban environment, by absorbing and slowing down the flow of rainwater.
IIA9: Water Quality	1	0	0	Significant positive effects were identified for Goal 4. Policy G4-2 aims to ensure that all new infrastructure and retrofitted projects are developed in collaboration with utility companies to eliminate negative implications on the drainage network, helping to improve water quality across the region. In addition, the inclusion of green infrastructure could help to improve water quality. Green infrastructure in urban areas can help to improve the quality of water in urban areas. By storing and intercepting rainfall at the source which can reduce diffuse pollution by enhancing sediment retention.
IIA10: Air Quality	4	0	0	Of all of the IIA Objectives, IIA10 has resulted in the highest number of significant positive effects. These effects are generally attributed to the reduction of emissions through the transition away from private vehicle usage and towards active travel and public transport modes. Particularly, policies under Goal 2 and Goal 3 directly contribute to air quality improvements across the city region. Policy G3-3 'Improving air quality from transport' will ensure that quantifiable carbon reductions are made across the transport network, as well as other harmful emissions.
IIA11: Climate Change	2	0	0	Goal 4 and Goal 5 positively contribute to IIA11. Policy G4-1 calls for new transport infrastructure to be built and operated in anticipation of the effects of climate change they may face in their lifetime. Additionally, the planning for different climatic scenarios encouraged under Goal 5 will build climate resilience into new infrastructure and assets. These measures will allow the continual use of the city regions transport network through challenging weather events.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 39 of 85

IIA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
IIA12: Greenhouse Gas Emissions	4	0	0	Goals 2, 3, 4 and 5 result in significant effects on IIA12. The wider rollout of sustainable public transport and electric vehicles will lead to a significantly lower number of private vehicles on the road, lowering total greenhouse gas emissions. In addition, the support of green infrastructure can help to lessen the impacts of greenhouse gases. Vegetation and trees can both influence atmospheric composition of trace gases and enable dispersion and deposition of air pollutants.
IIA13: Noise & Vibrations	0	0	1	Uncertain effects have been identified for Goal 1 as at this stage the level of demand, uptake, schemes and services are unknown. The modal shift towards active travel and public transport will likely reduce levels of noise from the transport network, particularly from motorised vehicles. However, there is potential that increasing the public transport offering, could increase levels of noise at rail stations, bus stops and stations and interchanges, as more services will be required to meet demand. This could have adverse effects on neighbouring receptors.
IIA14: Waste & Sustainable Materials	1	0	1	Significant positive effects have been identified in relation to Goal 4. Policy G4-3 aims to maximise resources and integrate circular economy principles will help to reduce waste quantities associated with transport network construction activities. Uncertain effects have been identified in relation Goal 1 policies, as the level of construction required to support these policies is not currently known, but there is potential for these to generate high levels of construction waste. As schemes emerge there may be potential for these to support to minimise levels of waste and re-use existing infrastructure.
IIA15: Efficient Use of Land	1	0	1	Significant positive effects have been identified in relation to Goal 4. Policy G4-3 sets out a preference towards maintaining existing infrastructure will help to minimise land take and protect the regions geology, soils and greenbelt.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 40 of 85

IIA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
				Uncertain effects have been identified in relation Goal 1 policies as the potential use of land is not currently known, for the infrastructure needed to support these policies. As schemes emerge there may be potential for these schemes to support the sustainable use of resource and efficient use of land.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 41 of 85

7 ASSESSMENT OF ALTERNATIVES

7.1.1. The SEA Regulations require an assessment of the plan and its "reasonable alternatives", in addition to those proposed within the draft plan. Without this, there cannot be a proper environmental evaluation of the preferred plan. The assessment of reasonable alternatives does not need include all possible alternatives, but only those that are realistic.

7.1.2. The assessment has considered the four alternative whole plan scenarios set out in the LTP. These are as follows:

- **Just about managing:** A business-as-usual model where population and economic growth is weak. Travel use remains car-based, public transport demand is weak and climate change effects start to be felt.
- **Prioritised Places:** Economic growth is moderate and homeworking rates grow. People increasingly move to more rural and coastal areas and work/life balance is important. Electric vehicle take up is relatively high and people adopt shared forms of travel
- **Digitally Distributed:** Green growth has boomed, and electric vehicles and new forms of mobility are growing, making the movement of people and goods much more efficient. More people work from home and live in cities and towns.
- **Urban Zero Carbon:** The LCR is part of a thriving green economy and people choose to live in cities where public transport use is high as are levels of walking and cycling. Technology makes it easy for people to mix and match how they travel, and transport is much more efficient.

7.1.3. The scenarios are narratives about what the future might look like – they are not preferred scenarios or necessarily desirable. They act as a "do minimum", as they do not assume any significant transport interventions or policy change, beyond social and economic changes included in their description.

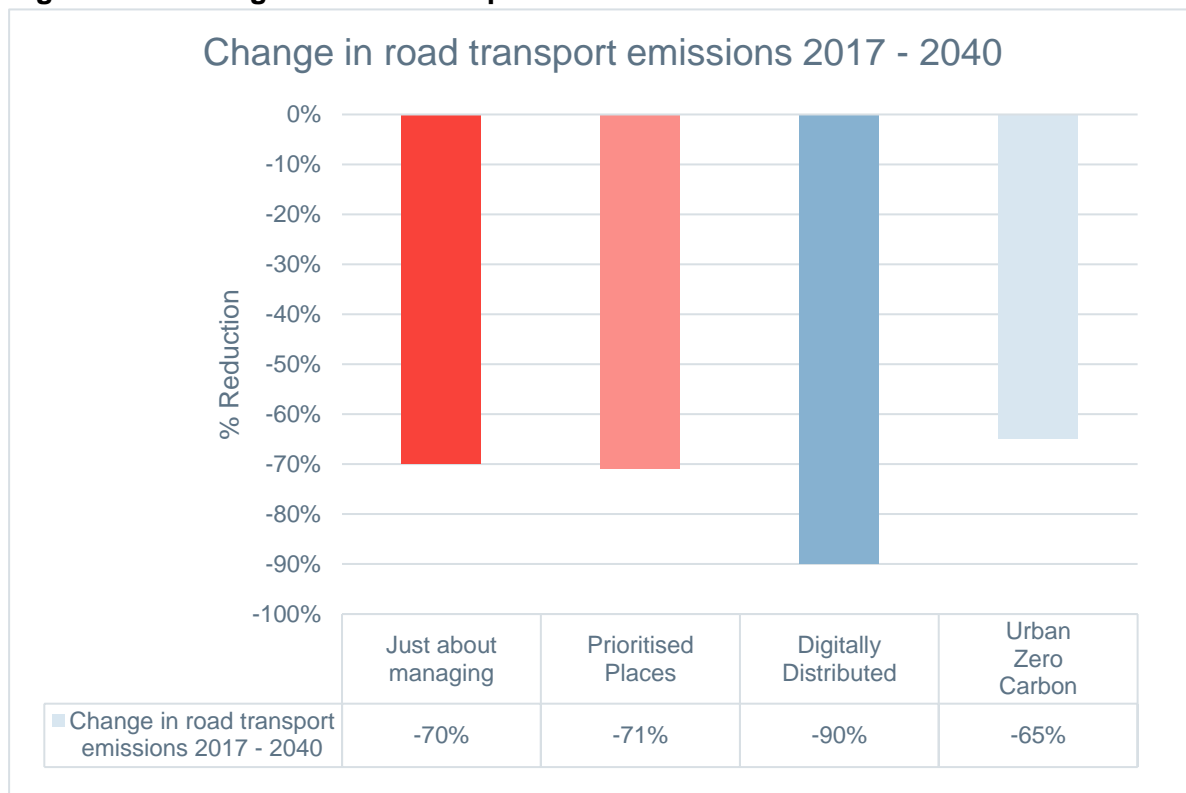7.1.4. **Table 7-1** overleaf sets out the findings of the assessment of these alternative scenarios.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 42 of 85

Table 7-1 – Assessment Summary – Alternative Scenarios

Scenario	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Sustainable use of resources
Just about managing	-	-	-	?	-	-	-	?	?	+/-	--	--	+	?	?
Prioritised Places	+/-	+	+	?	?	?	?	?	?	+/-	-	--	+	?	?
Digitally Distributed	+	+	++	?	?	?	?	?	?	+	-	--	+	?	?
Urban Zero Carbon	+	+	++	?	?	?	?	?	?	+	-	--	+	?	?

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 43 of 85

7.2 ALTERNATIVE SCENARIO SUMMARY

7.2.1. Of the options assessed, the just about managing scenario has performed the worst with a number of negative effects being identified for a number of IIA objectives. It has been assumed that those key issues identified as part of the scoping exercise will remain under this scenario. Although transition to EVs may help to reduce some impacts on the environment, travel use will remain car based, and public transport demand will be low. It is predicted that the scenario will increase the number of trips including light vans and cars, with shares of sustainable modes typically falling.

7.2.2. Although traffic will transition from being powered by petrol and diesel to clean sources, such as electricity and clean hydrogen, there is a risk of creating a city region that is still dominated by the car and characterised by "clean congestion". This may in turn have adverse effects on the landscape and townscape and the historic environment as well as air pollution from particulate matter. Socially, this could also exclude some groups from accessing affordable transport.

7.2.3. **Figure 7-1** below shows how transport related emissions may respond to each of these scenarios. This shows that none of these scenarios will support the complete decarbonisation of transport by 2040. That digitally distributed scenario gets the closest to decarbonization at -90%, the urban zero carbon scenario is the furthest away -65%. For this reason, IIA12 (greenhouse gases) resulted in significant negative effects against all scenarios.

Figure 7-1 - Change in Road Transport Emissions across the Alternative Scenarios

	Just about managing	Prioritised Places	Digitally Distributed	Urban Zero Carbon
Change in road transport emissions 2017 - 2040	-70%	-71%	-90%	-65%

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 44 of 85

7.2.4. Whilst all scenarios introduce measures to decarbonise the transport network e.g. EVs, promotion of walking and cycling and introduction of technology which makes it easier for people to mix and match how they travel, without achieving net zero, all scenarios leave the LCR vulnerable to the effects of climate change. Minor adverse effects have been identified for the Prioritised Places, Digitally Distributed and Urban Zero Carbon scenarios, whilst the Just about Managing scenario has resulted in significant adverse effects on climate change resilience (IIA11).

7.2.5. Both the Urban Zero Carbon and Digitally Distributed scenarios have the potential to generate a high number of jobs through green growth and supporting the better movement of people and goods. For this reason, significant positive effects have been identified for IIA3. Whilst the Prioritised Places scenario support economic growth this is only likely to moderate with high rates of homeworking. This scenario will support people moving to more rural and coastal areas which will support work life balance however, this could potentially increase levels of social isolation.

7.2.6. Given the limited amount of detail, a large number of uncertain effects have been identified across the four scenarios. These uncertainties are generally attributed to lack of information surrounding land use and intervention types, which make it difficult to accurately predict how the environment may respond.

7.2.7. None of these scenarios well help the LCR achieve their vision or goals and neither of these scenarios provide a suitable approach for the LTP. The preferred approach offers a combination of the Prioritised Places, Digitally Distributed and Urban Zero Carbon, which will ensure that decarbonisation targets are met.

7.3 NET ZERO BY 2035

7.3.1. A manifesto commitment by the elected LCR mayor was to bring forward the net zero target from 2040 to 2035, across the region. This hasn't been assessed as an alternative scenario in the same way as the above options as the four alternative whole plan scenarios, would still be considered just with a 2035 end date.

7.3.2. In general terms, there is little difference between having 2040 and 2035 target as the ultimate aim of net zero is still the same. Those positive effects associated with achieving net zero, which have been outlined above, will be achieved sooner.

7.3.3. However, progressing to a 2035 target will require an accelerated step change which may leave some groups behind. For example, some disadvantaged groups who rely upon access to motorised vehicles may not have the ability access electric vehicles, and forging ahead of the UK's target may mean that some incentive or compensation schemes may not be readily available. This is likely to result in greater uncertainty for the population and equality objective (IIA1).

7.3.4. The early transition to net zero will also require accelerated construction of supporting infrastructure such as EV charge points, transport interchanges, active travel infrastructure and EV buses and fleet vehicles. The shorter construction timeframes could result in more

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
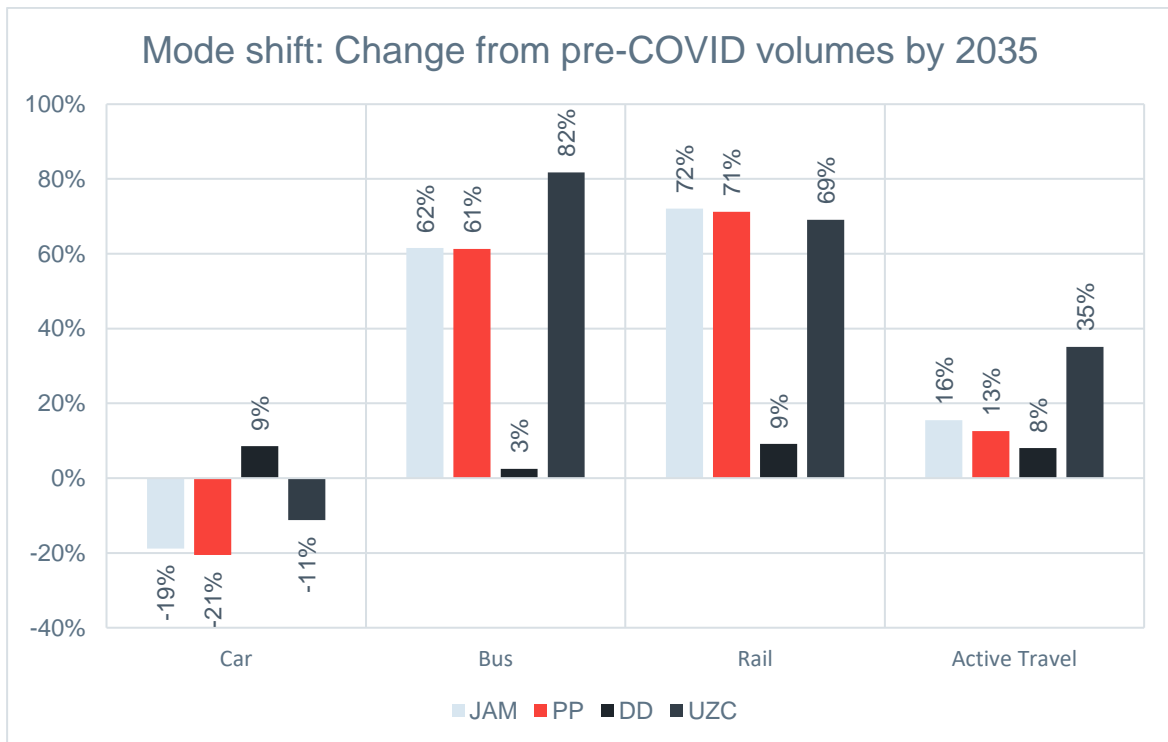SEPTEMBER 2024
Page 45 of 85

concurrent construction which may increase the number of adverse temporary construction cumulative effects, particularly on air quality (IIA10), noise and vibration (IIA13) and human health (IIA2).

7.3.5.   Sourcing of materials and resources may also present challenges, in particular uncertainty on meeting the increased energy demand from the transition and ensuring that this is from renewable sources. Whilst this is also true for the 2040 target the shorter timescales may mean that the national grid may not have the capacity to support this infrastructure.

7.3.6.   **Figures 7-2** and **7-3** show the mode shift changes between 2040 and 2035 across the four different alternative scenarios. This shows that there is very little difference between the two targets. The 2035 target shows a slightly higher decrease in use of cars (with the exception of the digitally distributed scenario); however, the use of public transport and active travel is slightly lower. This could be attributed to the 2040 target providing a longer time period to support the behavioural change transition.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 46 of 85

Figure 7-2 - Mode shift: Change from pre-COVID volumes by 2040

Mode shift: Change from pre-COVID volumes by 2040

Car: JAM -17%, PP -19%, DD 12%, UZC -7%
Bus: JAM 61%, PP 60%, DD 1%, UZC 85%
Rail: JAM 74%, PP 73%, DD 10%, UZC 71%
Active Travel: JAM 16%, PP 13%, DD 8%, UZC 36%

Legend: JAM, PP, DD, UZC
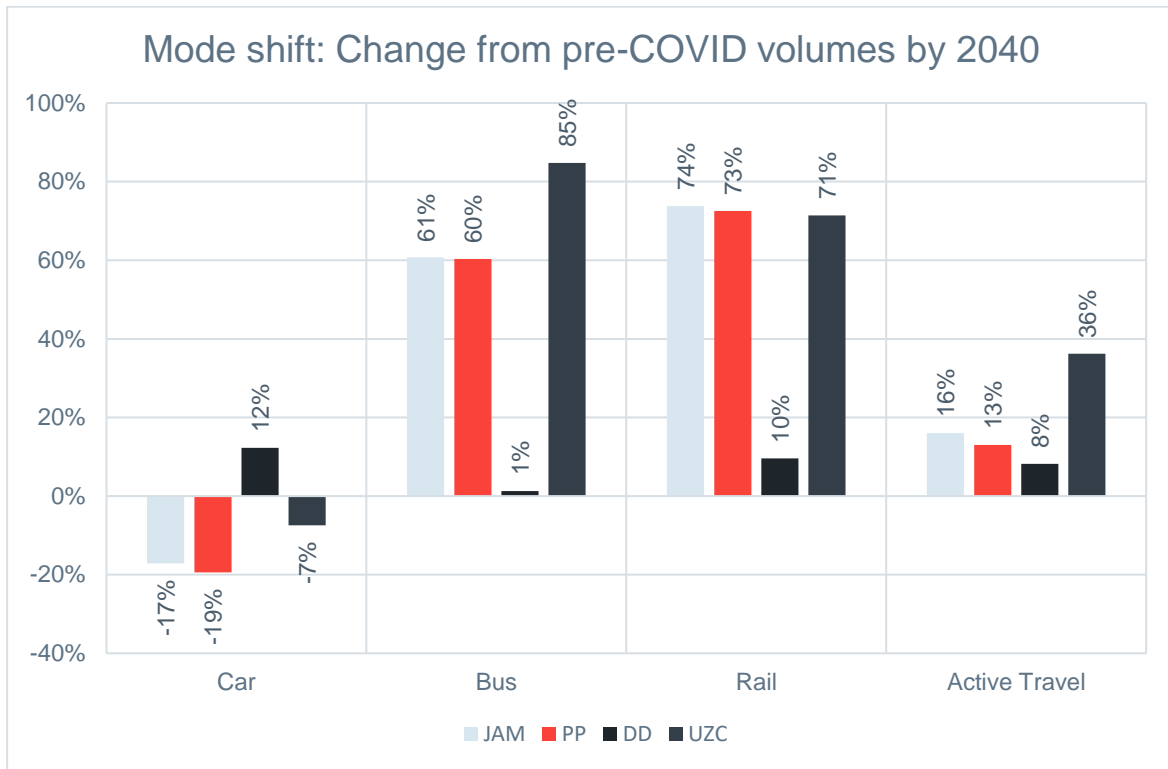
Figure 7-3 - Mode shift: Change from pre-COVID volumes by 2035

Mode shift: Change from pre-COVID volumes by 2035

Car: JAM -19%, PP -21%, DD 9%, UZC -11%
Bus: JAM 62%, PP 61%, DD 3%, UZC 82%
Rail: JAM 72%, PP 71%, DD 9%, UZC 69%
Active Travel: JAM 16%, PP 13%, DD 8%, UZC 35%

Legend: JAM, PP, DD, UZC

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 47 of 85

8 FINDINGS FROM OTHER IIA ASSESSMENTS

8.1 INTRODUCTION

8.1.1. This section presents the findings from the EqIA, HIA and HRA assessments. Further details on these assessments can be found in Appendix H (EqIA) Appendix I (HIA) and the HRA Screening Report, which has been published separately.

8.2 EQIA FINDINGS

8.2.1. Overall, the policies will likely result in positive impacts on protected characteristic group members in the LCRCA. The policies aim to address a wide range of issues, identified by the key themes above. An overall neutral impact has been given where positive impacts will affect the general public equally and not specifically those from protected characteristic groups.

8.2.2. The main protected characteristic groups that will particularly benefit include:

- **Age:** Older people who have reduced mobility and require access to health and other services. Also children who require access to education and other services;
- **Disability:** People with a variety of disabilities will benefit from a more accessible, less congested / crowded transport system; and
- **Deprivation:** Low income groups who require support in accessing employment and education opportunities.

8.2.3. The assessment concludes that there will likely be a neutral impact for the following protected characteristic groups, assuming no unforeseen barriers emerge:

Marriage and civil partnerships.

8.3 HIA FINDINGS

8.3.1. The HIA assessed the LTP4 policies and considered their impact on the key determinants of health. These have been detailed below:

- **Air Quality:** Positive air quality effects are associated predominantly with the "Achieve Net-Zero Carbon and an Improved Environment' policies and the 'Improve Health and Quality of Life' policies. Through both of these, the modal shift away from petrol and diesel vehicles towards electric and other sustainably fuelled cars will facilitate emissions reductions of both carbon and other harmful pollutants including nitrogen dioxide. Improved air quality will have positive health outcomes for all residents, especially infants and young children who are particularly vulnerable to pollutants.

- **Noise:** The policies outlined within this goal are unlikely to directly impact upon noise within LCRCA. Indirectly, the reduction in congestion on key highways across the city region as a result of the modal shift away from private vehicle usage may reduce noise pollution on key routes.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 48 of 85

- **Housing and Homelessness:** Few policies are likely to enact change to housing and homelessness across the city region. The consideration of strategic housing sites in the specification of enhanced active travel, bus and rail links will, however, support convenient and advantageous housing for residents. This is particularly beneficial for low income groups who are unable to afford the costs of a private vehicle necessary to live in an area poorly connected to employment and other services.

- **Economy and employment:** Positive effects have been identified through the policies set out in LTP4 in relation to economy and employment. Greater connectivity through inter-regional transport options will enable residents to access employment in a wider area than their immediate residency, increasing the opportunity for income generation and subsequent positive health outcomes. The LTP4's plan to test and trial new developments to avoid overspending on unproven technology will also protect funds which may be channelled into other key areas of support, notably for those low income groups experiencing difficulty accessing the transport network. Finally, economic competitiveness is bolstered through reduced congestion on key network routes and the development of fast, frequent and reliable connections between economic centres. A safer, more attractive public space will support good economic growth in the city region, generating investment and boosting the quality of living and health for all residents.

- **Skills and education:** Positive effects have been identified through the policies set out in LTP4 in relation to skills and education. Measures including travel support packages and car club schemes proposed under LTP4 will alleviate barriers relating to cost young people currently face to accessing education. Lower cost options will make travel more affordable and education more attainable, leading to happier and healthier lives for young people. Finally, the strong focus on technological innovation will likely generate a new sector for upskilling and future employment across the city region. Increased educational engagement and future employment across the city will support income generation and the healthy living of individuals being trained and taking up roles in this sector.

- **Social cohesion and community safety:** A mix of positive and negative outcomes have been identified under social cohesion and community safety. To begin, public realm improvements, alleviation of congestion, and technological innovation under the LTP4 will all contribute to lessening the risk of road traffic accidents, fostering feelings of elevated safety and comfort for users. In particular, "Vision Zero" will empower users to safely navigate areas whilst reducing danger and therefore casualty rates. Improvements to community safety this way will lead to happier and healthier residents. Notably, improved digital connectivity across the travel network will positively contribute to the health and wellbeing of women and girls using public

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 49 of 85

transport, by better connecting them to family and friends whilst travelling. However, the increased ease and affordability of e-scooter usage may generate an increase in road traffic accidents as uptake by inexperienced users could lead to greater incidence and injuries on the roads, posing a threat to community safety. Community cohesion may be brought about through the car club scheme or implementation of green infrastructure, facilitating spaces for social interaction and reducing feelings of loneliness and isolation often experienced by the elderly.

- **Access to services:** Access to services will be improved under LTP4. The transport and spatial planning integrated approach will ensure homes, shops, workplaces, schools and facilities are strategically located and accessible via public and active travel. Ensuring key areas of growth are well serviced by bus and rail will result in positive health outcomes for those residents with a need to access services regularly, including the elderly and expectant mothers. Equally, by targeting issues of poor connectivity and joining up key areas, access to services will be improved.

- **Physical activity:** The LTP4 supports the transport hierarchy, positioning active travel modes such as walking and cycling a first choice travel options. This will involve improving the safety, comfort, and convenience of public spaces like footways, cycle lanes and public rights of way. Improved attractiveness of these options will encourage higher engagement with active travel and therefore higher levels of physical activity in the day-to-day lives of residents. This will boost the overall physical and mental wellbeing of the population.

- **Green Infrastructure:** A small number of positive effects have been identified through the policies set out in LTP4 in relation to green infrastructure. Existing infrastructure will be retrofitted and incorporate green infrastructure to help mitigate impacts of climate change on the transport network. A greener city region will improve air quality, increase the attractiveness of the public realm, and generate greater opportunities for socialisation in outdoors spaces all positively contributing to the overall health and wellbeing of residents.

- **Climate change resilience:** A small number of positive effects have been identified through the policies set out in LTP4 in relation to climate change resilience. In designing transport systems that are resilient to the effects of climate change as well as retrofitting existing infrastructure to include features equipped to manage weather events such as heat, wind and storm surges, this goal ensures the efficient operation of the city regions transport system into the future. In improving public transport in this way, the shift away from private vehicle usage is facilitated, bringing improvements to air quality, congestion, safety, and physical activity, which all positively contributing to the health and wellness of the population.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 50 of 85

8.4 HRA FINDINGS

8.4.1. There are 21 Habitats sites within Liverpool City Region and 10km of its boundary, and there will be implications for some of these sites from the proposals and objectives in the draft LTP4.

8.4.2. The draft LTP4 proposes an approach for addressing current and future transport issues in the LCRCA and in this document it has been subject to HRA screening for potential LSE on Habitats sites at a strategic level.

8.4.3. The majority of policies have been screened-out due to their nugatory or beneficial effects on Habitats sites. However, it has not been possible to screen out LSE entirely as a number of the identified Habitats sites are located in close proximity (200m) of local and/or strategic road routes and areas of land that may be affected by the non-location/detail specific high-level measures. Therefore, six policies (G2-2, G2-4, G2-5, G2-6, G2-7 and G3-2) have been screened-in for their further consideration at Stage 2 – Appropriate Assessment.

8.4.4. These policies are related primarily to driving a modal shift towards sustainable transport options but contain aspects that suggest either land take to facilitate active travel and/or the potential for traffic re-distribution arising as a direct result of the policies. Due to the uncertainty of where new measures may be constructed or where traffic re-distribution may occur, which could contribute to an increase in air pollution impacts at Habitat sites where this is a known pressure or threat, it cannot be concluded that there is no pathway to likely significant effects associated with these policies.

8.5 SOCIAL VALUE FRAMEWORK

8.5.1. Table 8-1 below summarises the assessment of the LTP against the key actions aimed to be delivered through LCRCA's roles as an employer, a commissioner, an investor, a service provider and a civic leader.

8.5.2. This table uses the same criteria used in the Compatibility Assessment in **Section 5** and highlights where there is alignment between the framework and the LTP. In some instances, there is no relationship.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 51 of 85

Table 8-1 - Social Value Framework Assessment

Element of Social Value Framework	Vision	Principles	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
Role as an employer	0	✓	✓	0	0	0	✓	Goal 1 policies aim to prioritise measures that address gaps or weaknesses in the transport network and that act as a barrier to businesses and employment. This will benefit both LCRCA staff as well as other employers and employees across the region. As part of the delivery of Goal 5 and its policies, LCRCA aims to work closely with employers and training organisations to ensure that its workforce, and workforce of the future, benefit from the right skills .
Role as a Commissioner	0	✓	0	0	0	0	0	Principle 6 aims to ensure equality, diversity, inclusion and social value is embedded throughout procurement, commissioning and delivery of schemes and measures that are commissioned or supported through the LTP process. This aligns with the role as a commissioner which identifies that decisions on the goods and services LCR procure and the suppliers LCR use, are important levers to maximise social value.
Role as an Investor	✓	✓	0	✓	0	✓	0	Goal 2 policy G2-1 states that schemes or proposals, that are commissioned or funded by LCRCA must set out their likely whole life carbon impacts and will only be supported if they reduce overall carbon emissions against LCRA'S 2035 decarbonisation trajectory. This aligns with the commitments made under the role as an investor to evaluate the construction and operational carbon of any proposals to align to carbon reduction targets.
Role as a Service Provider	✓	✓	✓	✓	✓	✓	✓	All aspects of the LTP are compatible with the Social Value Framework aims as a Service Provider due to its responsibility to provide transport services across the region.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 52 of 85

Element of Social Value Framework	Vision	Principles	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
Role as a Civic Leader	0	✓	0	0	0	0	0	The aspirations of a Civic Leader includes community and stakeholder engagement which is encouraged through the LTP's key principles, in particular principle 7, which sets out the need to 'sell' the benefits of new measures that encourage modal switch as part of ongoing engagement with the public and stakeholders.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 53 of 85

9 CUMULATIVE EFFECTS

9.1 INTRODUCTION

9.1.1. The SEA Regulations require that cumulative effects are considered when identifying likely significant effects. Cumulative effects arise, for instance:

- Where several individual policies and sites have a combined effect on an objective; or

- Where several policies and sites each have insignificant effects but together have a significant effect.

9.1.2. The significance of cumulative effects resulting from a range of activities, or multiple incidences of one activity, may vary based on factors such as the nature of the proposed sites and policies and the sensitivity of the receiving communities and environment.

9.1.3. This section therefore presents the findings of the following:

- Consideration of how different proposed policies and sites within the City Region may interact and cause cumulative effects on a receptor (Intra-project effects); and

- How the proposed policies within the City Region could cause cumulative effects in association with other plans, policies and projects in the surrounding area (Inter-project effects).

9.2 INTRA-PROJECT EFFECTS

9.2.1. The IIA assessment of the policies drew out potential intra-project cumulative effects. These have been identified in **Table 9-2** below.

9.2.2. **Table 9-1** below outlines the key to effects for both intra-project and intra-project cumulative effects.

Table 9-1 – Key to Cumulative Effects

Effect	Key
Positive cumulative effect	+
Negative cumulative effects	-
Mixed cumulative effects	+/-
No overall cumulative effects	0

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 54 of 85

Table 9-2 - Intra-Project Effects Summary

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
IIA1: Population & Equalities	+	+	+	+	+	There is potential for positive cumulative effects if multiple network upgrades were to arise from the LTP4. These developments are likely to provide improved transport infrastructure for current and future populations within the city region, supporting new and more accessible opportunities for education, employment, recreation and more. The LTP4 aims to improve overall quality of life for all residents, making specific inclusions for accessibility by people of all ages, ethnic backgrounds, and abilities.
IIA2: Human Health	+	+	+	+	+	Positive cumulative effects are anticipated on human health. The uptake of active travel encouraged by all goals will directly boost physical activity levels and the health and wellbeing of those engaging with it. Additionally, cumulative indirect health benefits are anticipated. Air quality improvements through reduced private vehicle usage as well as general public realm improvements will support the health and wellbeing of the population.
IIA3: Economy & Employment	+	+	0	+	+	There is potential for positive cumulative effects on employment and therefore economic development. An improved transport network will help individuals to be better connected to jobs, supporting employment and income generation. More broadly, positive cumulative effects are anticipated as a result of plans for inter-regional connectivity. Connecting

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 55 of 85

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
						economic centres as well as people to greater employment opportunities will boost the local economy.
IIA4: Community Safety	+	+	+	+	+	Positive cumulative effects are anticipated on community safety. By building safety measures into new infrastructure as well as designing out dangerous road layouts, goals ensure a safe user experience for all residents. Additionally, an improved public realm and digital connectivity will likely discourage criminal activity and anti-social behaviour.
IIA5: Biodiversity & Natural Capital	+/-	+/-	+	+	0	There is potential for negative cumulative effects on biodiversity should multiple network upgrades come forward from the goals. Any loss of land associated with new infrastructure will generate habitat degradation and loss. Equally, few policies disclose information relating to green infrastructure plans. Indirectly, positive cumulative effects could occur from reduced emissions and improved air quality, supporting the healthy maintenance and growth of natural capital assets.
IIA6: Landscape & Townscape	+/-	+/-	+/-	+	+/-	There is potential for negative cumulative effects on landscapes and townscapes if transport network upgrades result in a loss of open space. The addition of new transport infrastructure and supporting components (e.g. signage, street furniture) could cumulatively contribute to the deterioration of the landscape and town scape if designed/ placed insensitively. However, the plans to make best use of highway capacity including increasing space for active travel modes will generate positive cumulative effects

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 56 of 85

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
						for the landscape. Fewer cars on the roads will mean less congestion, increased levels of tranquillity and improved views.
IIA7: Historic Environment	+/-	+/-	+/-	+/-	+/-	There is the potential for negative cumulative effects on the historic environment if multiple transport developments were to come forward in close proximity to heritage assets and Conservation Areas. During construction of these new developments there is the potential for disturbance to the historic environment due to noise, vibration and temporary reductions in air pollution (dust soiling). A cumulative reduction in air pollution as a result of some actions could reduce the long term deterioration of heritage assets from air pollution. Cumulative improvements to placemaking may also help to improve the setting of multiple heritage assets.
IIA8: Flooding	+/-	0	+	+	0	The is potential for transport infrastructure developments to result in a cumulative increase in hardstanding, which could increase the risk of surface water runoff. However, the cumulative increase in green infrastructure flood protection measures will help to increase resilience to flooding.
IIA9: Water Quality	0	0	+	+	0	As all new infrastructure and retrofitted projects are to be developed in collaboration with utility companies to eliminate negative implications on the drainage network, there potential for positive cumulative effects if multiple developments come forward. The cumulative increase in green infrastructure could also help to improve water quality, by storing and intercepting rainfall at the

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 57 of 85

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
						source which can reduce diffuse pollution by enhancing sediment retention.
IIA10: Air Quality	+	+	+	+	+	Reductions in greenhouse gas emissions and associated air quality improvements will be brought about by multiple goals within the LTP4, leading to a positive cumulative effect on air quality in the region.
IIA11: Climate Change Resilience	0	0	+	+	+	A number of policies within the LTP4 set out plans to build climate change resilience into new and existing transport infrastructure and assets. Goals outline schemes including planning for different climatic scenarios and building in anticipation of climate change effects. These policies will help to provide a cumulative increase in climate resilience across the city region.
IIA12: Greenhouse Gas Emissions	+	+	+	+	+	Positive cumulative effects are anticipated for greenhouse gas emissions. All goals contain measures for the reduction of emissions via reduced private vehicle usage, encouragement of active travel, and transitioning to electric vehicles.
IIA13: Noise & Vibrations	+/-	+/-	+/-	+/-	+/-	A well maintained, less congested highway as proposed under these goals will contribute to reduced noise levels. However, the increased capacity of the network including a greater number of public transport services will inherently increase footfall and therefore noise generation associated with transport usage.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 58 of 85

IIA Objective	Goal 1 Policies	Goal 2 Policies	Goal 3 Policies	Goal 4 Policies	Goal 5 Policies	Summary
IIA14: Waste	+/-	+	+	+	+/-	Positive cumulative effects should arise through the goals shared prioritisation of making best use of existing infrastructure and re-using materials before building from new. As the scale of development is not fully known, there is potential for multiple projects to come forward concurrently, resulting in a cumulative increase in construction waste.
IIA15: Sustainable use of Resources	+/-	+/-	+/-	+/-	+/-	Uncertainty has been identified in relation to potential cumulative effects on resources. Given the goals do not specify a preference for construction to occur on brownfield sites as opposed to open land, it is not possible at this stage to assess the cumulative effects on resource usage of unspecified land use development.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 59 of 85

9.3 INTER-PROJECT EFFECTS

9.3.1. **Table 9-3** below outlines the sources of potential inter-cumulative effects, whilst **Table 9-4** details the cumulative effects identified for each of the IIA Topics in relation to these policies and plans. This uses the same key to effects as set out in **Table 9-1** above.

Table 9-3 – Sources of Inter-Cumulative Effects

Policy or Plan	Plan Details
Liverpool City Region Spatial Development Strategy (Draft)	The Spatial Development Strategy is statutory land-use planning document. It will set out a framework for building and development for the Liverpool City Region looking ahead for at least the next 15 years. It will also identify strategic areas for growth and infrastructure provision, and when finalised, it will form part of the 'Development Plan' for the city region along with Local Plans and Neighbourhood Plans.
Liverpool City Region Corporate Plan 2024 - 2028	The Corporate Plan sets out plans for economic growth over the next four years. The Plan recognises the intrinsic link between Economy, People, Place, Transport and Digital Infrastructure, and brings forward coordinated action across these priorities to help create the opportunity for all people to have a good quality of life, and to be able to build on their potential to lead prosperous lives.
Transport for the North, Strategic Transport Plan, 2024	Transport for the North (TfN) is the first statutory sub-national transport body in the United Kingdom. It was formed in 2018 to make the case for strategic transport improvements across the North of England. This Plan sets out how better connecting the key economic centres across the North can transform economic performance, open opportunities for people, businesses, and communities, and facilitate the rapid decarbonisation of our transport network while recognising the impact of transport choices on the environment.
Neighbouring Local Plans	Local Plans enable local authorities to plan for development in their area. They identify policies for a holistic approach to proposed development in relation to the built environment including commercial and domestic facilities, energy, economy, and connectivity. Local Plans also identify a number of site allocations for development over the planed period. The plans include: ■ Warrington local plan - 2021/22 - 2038/39 ■ Greater Manchester Strategy 2021–2031 good lives for all ■ Greater Manchester Combined Authority, Joint Development Plan Document (2022-2039) ■ Preston's City Investment Plan (2020-2035)
Neighbouring Transport Plans	Transport Plans in neighbouring areas influence cross-boundary connectivity. The Plans include:

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 60 of 85

Policy or Plan	Plan Details
	▪ Chester Local Transport Plan 2011-2026 ▪ Warrington Transport Improvements 2015-16 to 2024-2025 (January 2024) ▪ The Greater Manchester Transport Strategy 2040

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 61 of 85

Table 9-4 - Inter-Project Effects Summary

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
IIA1: Population & Equalities	+	+	+	+/-	+	Positive effects would result from the combined focus on the provision of new community infrastructure as part of these major plans. In particular, neighbouring transport plans will boost cross-regional connectivity, enabling residents to access greater area in terms of employment, education, and services. Whilst the above applies for neighbouring local plans, there is potential for negative cumulative effects to arise if multiple developments across the city region and in the wider area result in overcrowding. This would place a strain on the capacity of the developing transport network, inhibiting its convenience for users and preventing residents from accessing the highest level of benefit from it.
IIA2: Human Health	+	+	+	+/-	+	Positive effects would result from the combined focus on health and wellbeing improvements through active travel uptake as part of these major plans. In particular, neighbouring transport plans will support air quality improvements through the modal shift towards active travel and public transport, having beneficial effects on residents health. Neighbouring local plans will also bring about positive cumulative effects resulting from the emphasis on creating healthy environments for residents. Despite this, there is potential for negative cumulative effects

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 62 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
						to arise as multiple developments across the city region and in the wider area will result in adverse construction effects through dust, noise and air pollution. The increased prevalence of pollution will be harmful to the health and wellbeing of the population.
IIA3: Economy & Employment	+	+	+	+	+	There is the potential for positive effects on the economy if multiple large scale developments were to emerge as a result of these plans. Construction will support job supply across the wider region in the short-term, but the operation of new developments will also generate employment in the long-term. Developments such as housing provisions and transport network upgrades will also help to improve connectivity between employment centres and the housing markets.
IIA4: Community Safety	+	+	+	+	+	It is assumed that all schemes under wider local plans and transport plans will be built to a high standard of safety. There is potential for positive cumulative effects on community safety through the wide implementation of high quality design and relevant safety measures. An improved public realm may also help to generate a greater sense of pride and ownership in the community, resulting in potential reduction in crime and anti-social behaviour.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 63 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
IIA5: Biodiversity & Natural Capital	+/-	+/-	+/-	+/-	+/-	There is potential for cumulative negative effects on biodiversity. Should multiple developments, across similar timeframes come forward, loss damage or fragmentation of habitats would be anticipated. Equally the temporary cumulative air quality emissions from the construction of multiple developments would indirectly harm natural capital assets across the city region. Positive cumulative effects may result through mandatory Biodiversity Net Gain over multiple development plans. Any biodiversity lost onsite should be mitigated by improving the quality or management of the rest of the site or deliver offsite compensation of better biodiversity value. This will bring improvements to biodiversity across the wider region. Further positive cumulative effects will result from the development of sustainable transport schemes under neighbouring local transport plans. This will increase access to public transport modes, reducing the use of a private car, and therefore reducing greenhouse gas emissions, journey times and congestion, resulting in increased tranquillity and air quality.
IIA6: Landscape & Townscape	+/-	+/-	+/-	+/-	+/-	Positive cumulative effects would occur on the landscape under these plans. In particular, plans that implement public realm improvements including to the transport network will increase the amenity of the space for its users. However, multiple developments under these plans may result in overcrowding and a loss of open space which will have an

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 64 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
						adverse cumulative effect on the overall landscape and townscape setting. Large infrastructure projects will have a negative cumulative effect on the landscape, through disrupting views and local amenity during construction and also introducing permanent large scale assets, taking away from the general character of the area.
IIA7: Historic Environment	+/-	+/-	+/-	+/-	+/-	There is the potential for temporary negative cumulative effects on the historic environment if multiple housing, transport and infrastructure developments were to come forward. During construction of these developments there is the potential for disturbance to the historic environment due to noise and air pollution. Longer term effects may be caused by a cumulative loss of buried archaeology as well as loss in the setting on heritage assets. Positive cumulative effects will arise due to the historically sensitive design of the proposed developments to fit in with the setting of any surrounding designated heritage assets and Conservation Areas.
IIA8: Flooding	+/-	+/-	+/-	+/-	+/-	The addition of increased use of hard standing surfaces as part of these proposed developments could increase surface water runoff, therefore, resulting in potential negative effects on flooding.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 65 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
						However, the proposed developments are likely to incorporate permeable surfaces and SUDs which will help to reduce flood risk and provide climate resilience.
IIA9: Water Quality	+/-	+/-	+/-	+/-	+/-	There is potential for cumulative increase in surface water runoff and flood risk, and impacts on surface water and groundwater, particularly from physical alteration as a result of development. Drainage and water quality measures are likely to be specific to each development, but there may be cumulative benefits if implemented across the region.
IIA10: Air Quality	+/-	+/-	+/-	+/-	+/-	Temporary negative cumulative effects have the potential to result during the construction phase if multiple developments arise simultaneously as a result of these plans. Air quality will be adversely affected through the emission of dust and particulate matter via construction activities. In the long-term, positive cumulative effects will result through the introduction of more sustainable developments, including the shift away from private vehicle usage and towards active travel and public transport under neighbouring local transport plans.
IIA11: Climate	+	+	+	+	+	Positive cumulative effects are anticipated through a shared vision for carbon reduction and adapting climate resilience measures across the wider region. If implemented across multiple plans (Liverpool City

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 66 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
Change Resilience						Region Plan for Prosperity 2022, Liverpool City Region Corporate Plan (2021-2024) then climate change adaptation measures are likely to be beneficial for all residents.
IIA12: Greenhouse Gas Emissions	+/-	+/-	+/-	+/-	+/-	Temporary negative cumulative effects have the potential to result during the construction phase if multiple developments arise simultaneously as a result of these plans. Construction activities will emit high levels of GHGs and will have associated embodied carbon. In the long-term, positive cumulative effects will result through the introduction of more sustainable developments, including the shift away from private vehicle usage and towards active travel and public transport under neighbouring local transport plans, reducing GHG emissions.
IIA13: Noise & Vibration	-	0	+/-	-	+/-	Both the construction and operation of multiple developments under large scale projects including HyNet North West Hydrogen Pipeline as well as TfN Strategic Transport Plan, neighbouring local plans and transport plans will generate significant noise levels across the wider region. As the TfN Strategic Transport Plan and transport plans support a modal shift, there is potential for a cumulative reductio in noise pollution.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 67 of 85

IIA Objective	LCR Spatial Development Strategy (Draft)	Liverpool City Region Corporate Plan 2021-2024	TfN Strategic Transport Plan	Neighbouring Local Plans	Neighbouring Transport Plans	Summary
IIA14: Waste	0	0	+/-	+/-	+/-	There is potential for negative cumulative effects on waste as large-scale projects and developments, in combination with development across the wider region, could lead to a large cumulative production and disposal of waste during construction. There is potential for developments under local plans and transport plans to encourage the sustainable use of resources and encourage re-use and recycling initiatives to minimise waste going to landfill.
IIA15: Sustainable use of Resources	+/-	+/-	+/-	+/-	+/-	There is potential for negative cumulative effects on the efficient use of land as a number of large-scale projects coupled with other development in the wider region could lead to a large cumulative loss of land, some of which may not be brownfield land. Policies to have an opportunity, however, to influence proposals in a positive way relating to the efficient use of resources, for instance through mandating the re-use of existing facilities and materials before building from new.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 68 of 85

10 MITIGATION, ENHANCEMENTS AND MONITORING

10.1 MITIGATION AND ENHANCEMENTS

10.1.1. Mitigation of significant negative effects of the plan and enhancement of positive effects are a key purpose of IIA. The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment of implementing the plan. The measures are known as 'mitigation' measures. Mitigation measures include both proactive avoidance of adverse effects and actions taken after potential effects are identified.

10.1.2. The mitigation measures proposed in **Table 10-1** are designed to avoid or reduce the effects identified as potentially negative through the policy assessment and cumulative effects assessment on the IIA Objectives. The table also includes enhancement measures, that aim to optimise positive impacts and enhance sustainability.

10.1.3. As this is the IIA Interim reporting stage, these measures are subject to change as the preferred policies and sites are refined and updated. Policy specific mitigation measures have been included within **Appendix F.**

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 69 of 85

Table 10-1 – Mitigation and Enhancement Measures

IIA Objective	Mitigation / Enhancement	Mechanism
IIA1: Population and Equalities	Ensure the needs and aspirations of groups with protected characteristics are considered in delivering transport solutions, in addition, including those from low income households. This could include measures such as: • Fair pricing for public transport; • Consideration of grants and exemptions for electric vehicles, clean air zones and other vehicle restriction and charging schemes; and • Engagement with protected characteristic groups specifically to ensure the needs of these groups are identified.	Inclusion as part of LTP and Implementation Plan Scheme level design
IIA1: Population and Equalities	Educational measures will need to be in place to support the transition to both digital ticketing and payment for travel. Select groups may experience difficulty with the uptake of a digitalised transport network, necessitating the provision of training resources to facilitate their learning and usage.	Inclusion as part of LTP and Implementation Plan Scheme level design
IIA1: Population and Equalities	The upgrading of transport system infrastructure and assets including retrofitting should be done so with accessibility features central to design and operation. Inclusive mobility guidance should be adhered to ensure the new network is accessible to all. For example, accessible surfacing at interchanging points should be considered for wheelchair users and those with mobility restrictions.	Project level design and assessment
IIA1: Population and Equalities	The accessibility of sustainable transport modes including the use of e-scooters and e-bikes can be improved through frequent, convenient, and affordable parking provisions throughout the city region. Parking and facilities for these schemes should not present physical barriers to users.	Inclusion as part of preferred LTP and Implementation Plan
IIA1: Population and Equalities	Inclusive mobility guidance should be adhered to ensure designs are accessible for everyone. Active travel infrastructure should be accessible	Inclusion within preferred LTP

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 70 of 85

IIA Objective	Mitigation / Enhancement	Mechanism
IIA2: Human Health	and inclusive. Cycleways should provide enough space for adapted cycles such as tricycles, tandems and wheelchair cycles.	Project level design and assessment and EqIA
IIA1: Population and Equalities IIA2: Human Health	Consideration should be made for removing other barriers towards active travel for disabled people and low income groups, such as affordability. The council should work with charities and other representative groups to help lower the cost of adapted cycles.	Inclusion as part of LTP and Implementation Plan Community engagement
IIA1: Population and Equalities IIA2: Human Health IIA6: Landscape and Townscape	Improvements to public realm and particularly street furniture should also seek to improve wayfinding and provide permeability across the transport network, especially for those with mobility constraints e.g. Wheelchair users, pushchair users.	Scheme level design Scheme level EqIA
IIA3: Economy and Employment	Where technological innovation generates employment opportunities, jobs should be filled by city region residents in the first instance. This aims to increase employment rates across protected groups, especially where barriers to employment and education exist.	Inclusion as part of preferred LTP
IIA4: Community Safety	Educational measures will need to be in place to support the introduction of e-scooters to the city regions highways. Some users will be inexperienced and therefore pose a higher risk to road safety, necessitation the provision of mandatory training resources.	Inclusion as part of preferred LTP and Implementation Plan
IIA4: Community Safety	Energy saving plans including the provision of LED lights for streetlighting should not compromise feelings of safety travelling through the city region at night. Lighting and signage could be bolstered through public realm improvements in order to boost overall community safety, perceived and real.	Scheme level design Scheme specific crime and safety assessment

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 71 of 85

IIA Objective	Mitigation / Enhancement	Mechanism
IIA4: Community Safety	Mechanisms to design out crime on the transport network should be put in place to improve feelings of safety when utilising public transport. For instance, improved surveillance will likely deter crime and anti-social behaviour at interchanging points.	Scheme level design Scheme specific crime and safety assessment
IIA5: Biodiversity and Natural Capital	Green infrastructure and urban greening should be incorporated into public realm adjustments for an integrated transport network. This will encourage the uptake of active travel among residents and enhance feelings of community safety and social cohesion.	Scheme level design
IIA5: Biodiversity and Natural Capital	Consideration needs to be given to the potential effects of construction of developments (noise, vibration and air pollution) on biodiversity, including designated sites. A Lighting Strategy should be prepared to minimise light spill onto retained or newly created habitat features.	Inclusion within LTP policies Project level design and assessment (including noise assessments/ surveys) Lighting Strategy
IIA5: Biodiversity and Natural Capital	Increasing habitat for pollinators along the transport corridors will lead to long term enhancements for insects and the species that depend upon them.	Inclusion within LTP policies Scheme level design
IIA5: Biodiversity and Natural Capital	Plants and trees should be carefully considered, in particular, hardy species that are resistant to pollution. Inclusion of pollinators will also help to support pollinating insects and other invertebrates. Further inclusion of bird boxes and bug hotels will help to boost biodiversity.	Inclusion within LTP policies Scheme level design
IIA6: Landscape	Where transport infrastructure is being built and/or improved within, or within the zone of influence of a designated landscape, a landscape and visual impacts assessment should be undertaken to determine magnitude of impact and possible mitigation.	Scheme level design

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 72 of 85

IIA Objective	Mitigation / Enhancement	Mechanism
IIA6: Landscape IIA7: Historic Environment	Sensitive design should be considered for any new developments to ensure positive effects on local heritage assets and landscapes.	Historic Landscape Characterisation Project level landscape and visual impacts assessments as part of subsequent EIA/ planning application
IIA7: Historic Environment	Promoters and designers should liaise closely with the LCRCA, local authorities and Historic England to avoid or minimise negative effects, such as land take and light pollution, whilst seeking to maximise benefits, such as tranquillity.	Inclusion within Local Plan policies Scheme level design
IIA7: Historic Environment	Where transport infrastructure is being built and/or improved within, or close proximity to designated historic assets, visual effects assessment should be undertaken to determine magnitude of impact and possible mitigation.	Scheme level design
IIA7: Historic Environment	Characterisation work should be undertaken to understand the potential impact of transport interventions on historic places and inform assessments of an area's capacity to accommodate development. Site specific studies, such as archaeological desk-based assessment and fieldwork, may also be necessary to provide adequate information.	Historic Landscape Characterisation Project level landscape and visual impacts assessments as part of subsequent EIA/ planning application Heritage Impact Assessments Archaeological desk based assessment
IIA8: Flooding	As flood risk is a key risk in relation to climate change, any intervention that introduces physical infrastructure (either new infrastructure or	Scheme level design and assessments

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 73 of 85

IIA Objective	Mitigation / Enhancement	Mechanism
	upgraded) should provide flood defence opportunities or flood risk benefit where practicable. Sustainable urban drainage solutions should also be incorporated into design to further increase resilience to flooding and climate change.	
IIA11: Climate Change	Development should ensure design that is resilient to the current and future risks of climate change i.e. extreme heat, cold and precipitation.	Scheme level design
IIA11: Climate Change	Any form of construction and operation should be undertaken as sustainably as possible, making use of tools and processes, such as circular economy, waste hierarchy, and BREEAM Infrastructure.	Scheme level design and assessments Construction Environmental Management Plan (CEMP)
IIA12: GHGs	Sustainable design and construction techniques should be promoted such as low energy lighting and opportunities for renewable energy regeneration	Scheme level design
IIA13: Noise	Acoustic assessments should be undertaken to establish baseline noise. Where possible, new developments which could increase noise levels, should avoid existing noisy locations. Incorporation of low-noise surfaces and noise barriers should be considered as part of design.	Scheme level design and assessments
IIA14: Waste	Interventions should consider waste generation and resource use in planning and design to increase resource efficiency and improve operational efficiency. Consideration at the procurement stage should be given to resource hierarchy, for example, use of reused materials to form road surfaces and/or additional measures to ensure the preservation of road surfaces.	Scheme level design CEMP
IIA14: Waste	The reuse of existing materials should be done so under conditional circumstances, including contamination assessments.	Scheme level design CEMP

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 74 of 85

IIA Objective	Mitigation / Enhancement	Mechanism
IIA15: Efficient use of Land	Where land take is required, preference should be given to brownfield land/ previously developed land and avoidance of the best and valuable land. Proposed sustainable transport infrastructure such as cycle lanes, bus lanes and footpaths, should where appropriate, prioritise the reallocation of the highway network.	Scheme level design

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 75 of 85

10.2 MONITORING

10.2.1. The SEA Regulations require that monitoring is undertaken on a plan so that the significant effects of implementation can be identified, and remedial action imposed. The purpose of the monitoring is to provide an important measure of the sustainability outcome of the final plan, and to measure the performance of the plan against sustainability objectives and targets. Monitoring is also used to manage uncertainty, improve knowledge, enhance transparency and accountability, and to manage sustainability information.

10.2.2. The aim of monitoring is to check whether the plan is having the significant effects that were predicted in the IIA (including cumulative effects), and to deal with any unforeseen problems. Those remaining significant effects (albeit uncertain effects) that remain following the implementation of the mitigation and enhancement measures above include the following:

- IIA5: The loss of biodiversity/ the number of new developments achieving biodiversity net gain
- IIA7: Potential negative effects from new developments on heritage assets
- IIA13: Potential increases in noise at certain locations

10.2.3. **Table 10-2** below sets out those monitoring measures which could be suitable in monitoring those uncertain residual effects outlined above. Targets have been taken from the draft LTP4.

Table 10-2 – Proposed Monitoring Measures

Potential Uncertain effect	What could be monitored?
Potential negative effects on biodiversity	The number of biodiversity enhancement schemes implemented through LTP4 schemes. The loss biodiversity through the implementation of the LTP4. Seek the achievement of the biodiversity net gain through application of Natural England's Biodiversity Metric 4.0
Potential negative effects on the historic environment	The number of historic assets (statutory and non-statutory) negatively affected by LTP4 schemes. The number of historic assets (statutory and non-statutory) benefiting from conservation and enhancement measure as a result of LTP4.
Increase in noise in NIAs	The number of developments located within NIAs Noise assessments submitted with planning applications within NIAs

10.2.4. The LTP has also set out its own monitoring measures which can also be used to help monitor the effects of the IIA. The measures outlined and their relevance to IIA objectives have been set out in Table 10-3 overleaf.

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 76 of 85

Table 10-3 – Relevance of LTP4 Monitoring Measures

No.	Outcome Measure	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Efficient use of land
1	Increased satisfaction with public transport offer (experience, affordability, convenience, reliability, punctuality, journey time, accessibility, resilience safety/security)	✓	✓		✓											
2	Increased satisfaction with active travel offer (experience, convenience, accessibility, safety, condition)	✓	✓		✓											
3	Improved access to services and opportunities	✓	✓	✓												

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 77 of 85

No.	Outcome Measure	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Efficient use of land
4	Reduction in transport related social exclusion	✓	✓													
5	Reduction in transport carbon emissions										✓		✓			
6	Improved air quality										✓		✓			
7	Modal shift – increase in cycling, walking and public transport use (bus and rail patronage)	✓	✓	✓							✓		✓	✓		
8	Modal shift – reduction private car use	✓	✓	✓							✓		✓	✓		
9	Increase in low/zero emission freight journeys			✓									✓			

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 78 of 85

No.	Outcome Measure	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Efficient use of land
10	Improved public transport performance measures (rail, bus and ferries) - punctuality/reliability	✓	✓	✓	✓											
11	Reduction in LCR road casualties		✓		✓											
12	Improved road condition								✓	✓				✓	✓	✓
13	Improved perception of local neighbourhoods - car dominance, clean air, community spirit	✓	✓				✓	✓								
14	Improved perception of local town centres (car dominance, clean air, feel comfortable	✓	✓				✓	✓								

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 79 of 85

No.	Outcome Measure	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Efficient use of land
	walking/wheeling and cycling)															
15	Increased satisfaction with condition of highway, including assets (footways, cycleways and structures)				✓				✓	✓				✓	✓	✓
16	Increased satisfaction with Mersey Tunnels (overall satisfaction, safety, condition of road surface)				✓				✓	✓				✓	✓	✓
17	Increase in access and uptake of alternative sustainable transport options (e.g. City Bike and car share	✓	✓	✓	✓								✓			

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 80 of 85

No.	Outcome Measure	IIA1: Population & Equalities	IIA2: Human Health	IIA3: Economy & Employment	IIA4: Community Safety	IIA5: Biodiversity & Natural Capital	IIA6: Landscape & Townscape	IIA7: Historic Environment	IIA8: Flooding	IIA9: Water Quality	IIA10: Air Quality	IIA11: Climate Change Resilience	IIA12: Greenhouse Gas Emissions	IIA13: Noise & Vibration	IIA14: Waste	IIA15: Efficient use of land
	schemes, E-Scooter schemes)															
18	Improved use of data/evidence to inform transport management and planning				✓							✓	✓			✓
19	Improved infrastructure in key locations to support roll out and uptake of zero emission transport					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 81 of 85

11 RECOMMENDATIONS

11.1.1. This section sets out the recommendations identified throughout the IIA assessment. These have been taken from the IIA assessment, HIA, EqIA and HRA. It should be noted that these are different from the mitigation measure outlined above, as they focus on potential changes to the LTP, rather than measures identified in response significant effects.

11.1.2. It should be noted that some of these changes have already been considered by LCRCA and have been incorporated into the LTP draft. Other recommendations will be considered further by the CA and may be incorporated into the final iteration of the LTP.

Table 11-1 - Recommendations

Item	Recommendation	Source Document
Policy G1-2	The policy could specify that gaps and weaknesses in the transport system in more deprived areas will be targeted in the first instance.	EqIA
Policy G1-3	May need to also consider neurodiversity. Some may have the tools to access digital solutions but may not have the same level of understanding.	EqIA
Policy G1-3	Road safety training should be specified for those inexperienced users taking out e-scooters to prevent additional road traffic accidents.	HIA
Goal 2	These policies may benefit from an additional policy around protecting and enhancing the natural environment, or weave this more into the supporting text/existing policies. Given the requirement for BNG and the implementation plan/schemes that will follow, this should be included within the LTP.	IIA
Policy G2-1	This policy, and all others encouraging a modal shift away from private vehicle usage lack detail on disability considerations. There needs to be information as to how transport infrastructure and assets will be made accessible to support this transition.	EqIA
Policy G2-2	Given its focus on the cost of living and barriers to employment, the policy could specify that gaps and weaknesses in the transport system in more deprived areas will be targeted in the first instance.	IIA
Policy G2-3	Need to ensure that the provision or micromobility options do not adversely affect the streetscape and/or cause accessibility issues. Need to support safe and responsible usage.	IIA

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 82 of 85

Item	Recommendation	Source Document
Policy G2-3	Dedicated women and girls / LGBTQIA+ car clubs would create a more inclusive, safe space for those groups wanting to utilities this mode of transport.	EqIA
Policy G2-6	The policy supporting text could details how the CA will support freights transition to rail / sustainable fuels e.g. will this include monetary incentive to switch current operations in keeping with this goal.	IIA
Goal 3	Suggest that goal is reworded to include physical and mental health and wellbeing.	HIA
Policy G3-1	The policy could also consider micromobility training. Supporting text could also specify how training will be rolled out, for example, through programmes in partnership with schools across the City Region.	IIA/ HIA
Policy G3-1	Policy G3-1 could specify how Bikability will be rolled out, for example, through programmes in partnership with schools across the City Region.	IIA
Policy G3-2	Policy G3-2 should clarify the ways in which transport will become increasingly accessible for people of all ages and abilities. Specification on accessibility features could be set out.	IIA
Policy G3-2	Paragraph 5.3.17 states that 'patients and visitors do not need to drive and will not be at a disadvantage' – The policy needs to consider that some accessing healthcare facilities are dependent upon private vehicles.	HIA
Policy G3-2	There could be opportunities to implement green infrastructure and urban greening measures in line with other proposed public realm improvements, with a view to boost health and wellness.	HIA
Policy G3-3	Supporting text should also include details on how improvements to air quality can also be beneficial to biodiversity, natural capital and the historic environment. It's very much focussed on the human element but there are wider benefits that aren't be acknowledged.	IIA
Policy G5-1	There are potential funding clashes with the trialling and rollout of technological advancement in travel vs. the need to financially support low income groups. Specification as to how capital will be allocated / protected is needed.	EqIA

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 83 of 85

Item	Recommendation	Source Document
Policy G5-3	The provision of 4G/5G to existing rail stations may reinforce current hotspots and areas of poor connectivity. All new stations should be designed and constructed with similar technological improvements to support the evening out of access and convenience for users.	IIA

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 84 of 85

12 NEXT STEPS

12.1.1. LCRCA is seeking the views of statutory bodies, the public and other stakeholders on the results of the IIA. Consultation at this stage continues to ensure that the IIA provides a robust assessment of the LTP.

12.1.2. This IIA Report will be issued to consultees for consultation alongside the draft LTP for a 10-week period between October and December 2024.

12.1.3. An indicative timetable of the remaining stages of the IIA and LTP have been included in **Table 12-1** below.

Table 12-1 – Indicative Local Plan and IIA Timetable

IIA/ Local Plan Stages	Timescales
Consultation	October - December 2024
IIA Updates	Winter 2025
LTP4 Adoption	Spring 2025
IIA Post Adoption Statement	Spring 2025

LTP4 INTEGRATED IMPACT ASSESSMENT
Project No.: 70099325 | Our Ref No.: Final
Liverpool City Region Combined Authority

PUBLIC | WSP
SEPTEMBER 2024
Page 85 of 85

Appendix A

SEA ASSURANCE CHECKLIST

Table A-1 sets out the quality assurance checklist, taken from the Office of the Deputy Prime Minster's Practical Guide to the Strategic Environmental Assessment Directive[15].

Table A-1 – Quality Assurance Checklist

Item	Where this has been addressed
Objectives and Context	
The plan's purpose and objectives are made clear.	Section 2.3 of the Environmental Report sets out the plan's vision and objectives.
Environmental issues and constraints, including international and environmental protection objectives, are considered in developing objectives and targets	Key sustainability issues have been identified through a review of relevant plans and programmes (see Appendix C, Section 4.2 and 4.4) and analysis of baseline conditions (see Appendix D). These have informed the development of the IIA Framework presented in Section 4.4.
SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate	Section 4 sets out in detail how the IIA framework has been devised.
Links with other related plans, programmes and policies are identified and explained.	A review of plans policies and programmes is set out in Appendix C.

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[15] Office of the Deputy Prime Minster's Practical Guide to the Strategic Environmental Assessment Directive, 2005 [online] available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf

Item	Where this has been addressed
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	Section 5 tests the compatibility of the IIA framework objectives against the LTP's draft vision and goals.

Scoping

Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report	The statutory consultees were consulted on the Scoping Report between July and August 2023. Details of this have been provided in Section 4.1 and comments received are presented in Appendix C.
The assessment focuses on significant issues.	Key sustainability issues have been identified in the baseline analysis contained in Appendix D. Section 4.3 summarises the key sustainability issues identified.
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit	Section 3.7 discusses the assumptions and limitations encountered.
Reasons are given for eliminating issues from further consideration.	No issues have been knowingly eliminated from the assessment at this stage.

Alternatives

Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	Section 7 sets out the assessment of alternatives, which examines four different plan scenarios - Just about managing: A business-as (usual model), Prioritised Places, Digitally Distributed and Urban Zero Carbon. These have been assessed in the same level of detail as the proposed policies.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared	

Item	Where this has been addressed
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained	Where possible, this has been highlighted within the assessment of policies in Section 7.
Reasons are given for selection or elimination of alternatives.	A summary in Section 7 is provided that details why the proposed plan has been selected.
Baseline Information	
Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described.	Appendix D of this IIA Report presents the baseline analysis of the region's social, economic and environmental characteristics including their likely evolution without the LTP.
Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.	Section 3.7 sets out the criteria for assessing the spatial extent of effects. This has been further documented throughout the assessment in Appendix F.
Difficulties such as deficiencies in information or methods are explained.	Section 3.7 discusses the assumptions and limitations encountered.
Prediction and evaluation of likely significant environmental effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate	Sections 5 to 7 summarise the appraisal of the sustainability performance of the LTP. The Vision and Key objectives Policies and strategic sites are appraised. Detailed appraisal matrices are also provided at Appendix F (policies) and G (strategic sites and alternatives).

Item	Where this has been addressed
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	Positive and negative effects are considered within the appraisal matrices and within Sections 6 and 7. Potential effects are identified in the short, medium and long-term. The temporal scope for short-, medium- and long-term effects is defined in Section 3.7.
Likely secondary, cumulative and synergistic effects are identified where practicable.	The potential for cumulative and synergistic effects is considered in Section 9. These have also been highlighted within the assessment of policies (Appendix F).
Inter-relationships between effects are considered where practicable.	Inter-relationships between effects are identified in the assessment commentary, where appropriate. These have also been assessed as part of the Intra-project cumulative effects.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds	These have been detailed in Appendix F and identified where appropriate within the commentary for assessment.
Methods used to evaluate the effects are described.	These have been detailed in Section 3.7.
Mitigation Measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	These have been outlined in Section 10.
Issues to be taken into account in project consents are identified.	These have been outlined in Section 10.
The Environmental Report	

Item	Where this has been addressed
Is clear and concise in its layout and presentation	The IIA Report is clear and concise.
Uses simple, clear language and avoids or explains technical terms	Clear non-technical language has been used throughout.
Uses maps and other illustrations where appropriate.	Figures and tables have been used to present information where appropriate. Appendix E presents the figures used as part of the Scoping Report.
Explains the methodology used.	The methodology is set out in Section 3.7.
Explains who was consulted and what methods of consultation were used.	The statutory consultees were consulted on the Scoping Report between April and May 2023. Details of this have been provided in Section 4.1 and comments received are presented in Appendix B.
Identifies sources of information, including expert judgement and matters of opinion	The IIA is fully referenced throughout. Where expert judgment has been applied this has been clearly stated.
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	A non-technical summary has been included separately.
Consultation	
The SEA is consulted on as an integral part of the plan-making process	The IIA Scoping Report was consulted on in May 2023 with the statutory consultees and the responses have been recorded in Appendix A. The statutory consultees and other stakeholders will

Item	Where this has been addressed
	be engaged as part of the main consultation alongside the draft LTP.
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.	The statutory consultees and other stakeholders will be engaged as part of the main consultation of the draft LTP and IIA Report.

Decision-making and information on the decision

Item	Where this has been addressed
The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme	Responses received to this IIA Scoping Report have been taken into consideration whilst undertaking this assessment. Responses to consultation on this report and the LTP will be taken into account at the next stage.
An explanation is given of how they have been taken into account.	This will be detailed in the post-adoption statement, which will be produced once the Local Plan has been adopted.
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	Section 7 sets out the assessment of reasonable alternatives and outlines why the draft LTP policies are preferred.

Monitoring measures

Item	Where this has been addressed
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Proposed monitoring measures are set out in Section 10.2. Measures have been linked specifically to IIA objectives.

Item	Where this has been addressed
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	This will be detailed in the post-adoption statement, which will be produced once the LTP has been adopted.
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)	Proposed monitoring measures are set out in Section 10.2. These are proposed for those residual significant effects – in this case they are just uncertain effects.

Appendix B

SCOPING CONSULTATION COMMENTS
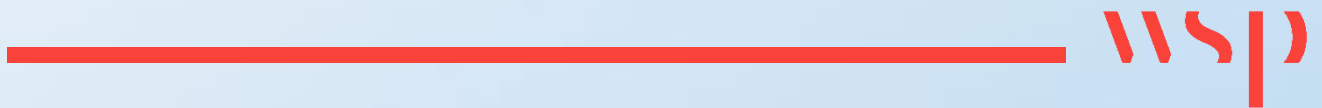
Table B-1 – Scoping Consultation Comments

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
1	Natural England	We note the title above this section is "Equalities Impact Assessment" instead of "Habitats Regulations Assessment" to which it is relevant to.	Section 3.4.6	Amended to Habitats Regulations Assessment.
2	Natural England	We advise the reference to the "Natura 2000 network" is updated to "national site network" in line with changes to the Habitats Regulations.	Section 3.4.7	Amended to national site network
3	Natural England	We welcome this section, which notes the value of woodland and grassland in carbon sequestration, however this section omits mention of peat. England's peatlands are our largest terrestrial carbon store. Following the publication of the England Peat Action Plan, Natural England have a better understanding of the impact of carbon loss from damaged and unmanaged peat as well as the opportunity costs of not restoring peat as functioning ecosystem	Section 5.6.6	The importance of peatland will be included, with reference to England Peat Action Plan.
4	Natural England	We advise this section is amended from "Biodiversity on development sites will need to be preserved (…)" to "Biodiversity on development sites will need to be retained and enhanced (…)" for consistency.	Section 5.6.10	Text amended.
5	Natural England	Local Nature Recovery Strategy (LNRS) data should inform whether tree planting is the suitable biodiversity enhancement for an area, for example, in cases where grassland enhancements may be more suitable.	Section 5.6.11	Text added to the opportunities section within Table 5-9.
6	Natural England	We advise that further reference should be made to the secondary impacts of transport networks on biodiversity and species movement, such as via lighting, noise, and air quality impacts - https://publications.naturalengland.org.uk/publication/6331846246793216	Section 5.6 Table 5-9	Secondary effects of transport has been included within Table 5-9.
7	Natural England	We recommend reference is made to LNRS data and ecological opportunity mapping to identify appropriate areas for biodiversity enhancement.	Section 5.6 Table 5-9	Text added to the opportunities section within Table 5-9.
8	Natural England	We welcome the supporting appraisal questions "Increase walking and cycling?" and "Promote health enhancing environments, behaviours and activities for local communities?". We consider this would be strengthened by the inclusion of high quality Green Infrastructure (GI) within the criteria. Natural England's Green Infrastructure Framework provides evidence-based advice and tools on how to design, deliver and manage GI. GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all.	Sustainability Framework	Text added within the sustainability framework and brought out within the opportunities section within Table 5-3.
9	Natural England	We recommend that the protection of existing recreational assets that contribute to positive physical and mental wellbeing be prioritised within the document. We therefore advise a supporting appraisal question be added, such as: "Avoid impacts on the quality and extent of existing recreational assets, such as formal or informal footpaths?".	Sustainability Framework	additional appraisal question added.
10	Natural England	Transport related vibration, air and noise pollution can also have a detrimental effect on protected species and habitats. Enjoyment of those habitats is known to have a positive effect on Human Health and wellbeing we therefore recommend that this section be amended to recognise this.	Sustainability Framework	Text amended for IIA2 and appraisal question added for IIA5.

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
11	Natural England	We suggest that you consider adding a supporting appraisal question that highlights the economic benefits of improvements to physical and mental health, that can be realised by promoting a modal shift to active travel particularly utilising high quality Green Infrastructure. The 2021 Dasgupta Review states "To date, estimates of accounting values of natural capital have, for the most part, not included the health benefits green spaces that ecosystems confer on us. They have remained even further from including the mental health benefits we derive from green spaces. However, the importance of including health benefits in natural capital accounts is increasingly recognised".	Sustainability Framework	Added an additional key opportunity to Table 5-6 and 6-1.
12	Natural England	Wildlife collisions can result in safety risks on the road and rail networks. We note that this aspect is not currently considered in this objective and would suggest adding a further question: "Reduce the potential for collisions and accidents involving wildlife, particularly protected species, which could affect the safety of people using the transport network, the efficiency of that network and the future of individuals and populations of protected species?"	Sustainability Framework	Text added to Section 5.5 community Safety and appraisal question added to sustainability framework.
13	Natural England	We recommend the supporting appraisal question "Cause damage to locally and nationally designated sites though infrastructure provision, traffic or maintenance?" is amended to include consideration of internationally designated sites, such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), and Ramsar sites. We further advise that the wording "Cause damage to" is amended to "Protect and restore".	Sustainability Framework	Appraisal question amended.
14	Natural England	Local Nature Recovery Strategies: We would like to see this objective have an ambition to support the development of Local Nature Recovery Strategies and the Nature Recovery network, a major commitment in the government's 25 Year Environment Plan. Local Nature Recovery Strategies (LNRS) are a new mandatory system of spatial strategies for nature established by the Environment Act 2021. They are designed as tools to encourage more coordinated practical and focused action and investment in nature.	Sustainability Framework	Appraisal question added.
15	Natural England	Geodiversity is an integral part of nature and England is extremely geodiverse with numerous geological and geomorphological sites, features and processes of great importance to science, education, recreation and tourism. Development, such as that from the transport sector, can offer positive opportunities to deliver geoconservation. We therefore recommend that a supporting appraisal question is included with the aim of delivering geoconservation.	sustainability Framework	Appraisal question added.
16	Natural England	Nature-based solutions can help communities become more resilient to the effects of climate change, including flooding, and improve local water quality, whilst enhancing nature and biodiversity. We recommend a supporting appraisal question is added to recognise the value of nature-based solutions in the water environment	Sustainability Framework	Text added to Table 5-15 and appraisal question added to sustainability framework.
17	Natural England	Airborne pollutants from transport are known to contain nutrients that can adversely affect vulnerable habitats. We therefore suggest that you add the following supporting appraisal question: "Support the reduction of harm to vulnerable habitats and ecosystems by reducing the deposition of airborne nutrients associated with low air quality?".	Sustainability Framework	Text added to Table 5-16 and appraisal question added to sustainability framework.

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
18	Natural England	We recommend that a new Assessment Criteria be added to demonstrate LCRCA's commitment to tackling Climate Change through building in the environment from the earliest stages of planning. We note that the Nature Positive 2030 summary document states "The crises of biodiversity loss and climate change share many of the same causes and solutions. We need to tackle both crises or we will tackle neither. Restoring wildlife habitats on land and sea can lock up carbon and help us adapt to climate change, such as by reducing flood risk. Embracing natural solutions has never been more important because climate change is already impacting upon us, creating profound and new challenges for humanity. Nature can help us survive this uncertain future, but its ability to do so depends upon biodiverse ecosystems that are resilient to the changes ahead."	Sustainability Framework	The appraisal questions in Table 6-1 (for climate change and GHGs) have been updated to include nature based solutions.
19	Natural England	We welcome the inclusion of the sustainability objective IIA14 "To ensure the efficient use of land, promote sustainable use of resources (…)", however we advise that a soil-specific supporting appraisal question is added with the aim of protecting the best and most versatile agricultural land, as set out in paragraph 174 of the NPPF. Such as, "Support the prevention of disturbance, harm, contamination or permanent (irreversible) loss of soil resources?"	Sustainability Framework	Appraisal question added.
20	Natural England	Following the publication of the England Peat Action Plan, Natural England have a better understanding of the impact of carbon loss from damaged and unmanaged peat as well as the opportunity costs of not restoring peat as functioning ecosystem. England's peatlands are our largest terrestrial carbon store and are vital for capturing and storing carbon. They provide a range of other valuable benefits including biodiversity rich ecosystems, improved water quality and natural flood management, the protection of historic environment features and connect people with nature. We therefore recommend that you include an assessment criteria aimed at protecting peatlands. Such as, "Minimise damage to areas of peatland and promote the restoration of areas of Peat as a functioning ecosystem to promote carbon capture and storage, biodiversity, improved downstream water quality and natural flood management?"	Sustainability Framework	Appraisal question added.
21	Natural England	Natural England has not reviewed the plans listed. However, we advise that the following types of plans relating to the natural environment should be considered where applicable to the plan area; • Green and Blue infrastructure strategies • Local Nature Recovery Strategies (where they are in development) • Biodiversity plans and strategies • Rights of Way Improvement Plans • Shoreline management plans • Coastal access plans • River basin management plans • AONB and National Park management plans. • Relevant landscape plans and strategies.	Appendix A	Where appropriate, these plans have been included within Appendix A.
22	Natural England	We have noted however that the Marine and Coastal Access Act does not appear to be listed – this would cover Marine Conservation Zones. The act also covers Marine Plans, including the North West Marine Plans.	Appendix A	The Marine and Coastal Access Act and the North West Marine Plans have been included within Appendix A.
23	Natural England	We note that only internationally designated sites are included in figure B5, and nationally designated sites and local nature reserves are included in figure B6. We recommend that Local Wildlife Sites, irreplaceable habitats (such as Ancient Woodland), peat, and priority habitat are included.	Appendix B	Due to the scale of region, this figure would lack the detail it deserves. At the subsequent assessment stage, data for local wildlife sites and priority habitats will be used to inform the assessment of biodiversity.

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
24	Historic England	The baseline information in the scoping report on the historic environment should include all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged. This not only involves undesignated (or local heritage assets) but the potential for unrecorded archaeology, and historic landscape character areas for example.	Baseline	Text amended in Table 5-13 and within the sustainability framework for consistency.
25	Historic England	The NPPF recognises the importance of undesignated heritage assets and therefore this should be included within the baseline data. The source of this information should be included within the scoping report; references made to them and recognise the opportunities for their enhancement and contribution to other aspects of the Plan area.	Baseline	Text included within paragraph 5.8.7.
26	Historic England	The importance of local character and identity including the landscape and townscape of an area is an important consideration. The scoping report should recognise the importance of this and the source of this information should be included within the scoping report, with reference made to them in key issues and opportunities.	Baseline	Noted. Landscape and townscape have been included within section 5.7.
27	Historic England	The LTP is for the (whole) City region yet this section does not provide enough detail on the historic environment for the whole area. This needs to be expanded in line with the advice in this letter.	Baseline	Further details across the whole region have been provided.
28	Historic England	Para 5.8.1 to 5.8.3: Why is the section opened with a discussion about what a WHS is and details about it in Liverpool? The WHS is not the current baseline for the area and the LTP covers the City Region. It is suggested that this be rewritten as it is no longer relevant and is not something that needs to be considered in such detail in terms of impacts of the LTP.	Baseline	We believe this should remain as it is, as it signifies the impact that development can have on the historic environment
29	Historic England	The text seems to be dominated by references to Liverpool and does not provide equal attention to the other areas of the region.	Baseline	We do not believe this to be the case - all LAs within the LCR have been brought out within the text. The scoping report also needs to remain high level.
30	Historic England	There is a lack of detail in this section of the report and it does not provide any context to understand what the character/historic environment of the area is and the trends and issues that are currently affecting it.	Baseline	This section has been updated in line with the comments above.
31	Historic England	Future trends – it is unclear what this paragraph is stating. What policy is it referring to when talking about being developed independently of the European Union? What about the impacts of changes to the NPPF and SA which are either proposed or in consultation? The sentence on 'direct [physical] impacts' is confusing and it is not clear that it is talking about in terms of future trends. What restrictions are on designated historical sites and why is it just about setting? I am not sure that the loss of a WHS is a future trend. The text also needs to reflect terminology of the NPPF. What are the future trends for the Region's historic environment – are any asset types at risk for example (would listed bridges be under pressure from new transport proposals etc). Why is the reduced funding of LPAs and Historic Environment an issue when it comes to the baseline information and the regions historic environment? This needs specific detail. There is nothing in this section which provides this information.	Baseline	We've removed the following text - 'independently of the European Union'. Removed reference to the WHS Removal. Text updated in line with NPPF.
32	Historic England	What is 'land take' from historical assets? Is it referring to harm to heritage assets and potentially total loss? This seems to contradict previous paragraphs where it is suggested that the sites are robustly protected.	Baseline	Amended to 'loss of historic assets'.

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
33	Historic England	Vehicle damage can affect all aspects of the historic environment and not just listed buildings and scheduled monuments.	Issues and Opportunities	Amended.
34	Historic England	Unclear what encroachment on assets is? Why does noise and visual affects only affect setting?	Issues and Opportunities	Amended.
35	Historic England	Is there no other sustainability issues than the two mentioned?	Issues and Opportunities	Added issue surrounding buried archaeology.
36	Historic England	Surely the main opportunity would be to ensure that any proposals sustain and enhance the historic environment, heritage assets and their settings. Why is the opportunities only concerned with above ground heritage assets and reducing traffic noise and improving accessibility? What about the design of new infrastructure for example and other proposals, what about archaeology? How can the LTP positively impact on the City Region's historic environment?	Issues and Opportunities	amended.
37	Historic England	There appears to be key information missing in terms of the relevant legislation. For example, the Planning (Listed Buildings and Conservation Areas) Act 1990 and Ancient Monuments and Archaeological Areas Act 1979) etc.	Relevant Plans, Programmes and Policies	Legislation added.
38	Historic England	The reference to the NPPF incorrectly talks about AONBs and the countryside and nothing about heritage assets and the historic environment. Within the Regional/Local section only reference is made to the Liverpool Local Plan. It is unclear what the document Liverpool City Council Heritage Assets is included here? What is it and what is its relevance – when was it adopted? Why is this of regional importance and no other area of the City Region is included.	Relevant Plans, Programmes and Policies	This has been updated.
39	Historic England	This section needs to be expanded and corrected. It should cover the whole of the LTP area and changes need to be made to ensure that it is factually correct	Relevant Plans, Programmes and Policies	This section has been reviewed and updated.
40	Historic England	There does not appear to be any reference to the need to avoid harm to the significance of heritage assets.	Key messages	Added.
41	Historic England	Setting is not mentioned.	Key messages	added.
42	Historic England	Bullet 2a: would it be better if non designated and designated references were separate points? The terminology should reflect that used in the NPPF – historical assets for example, does this mean a heritage asset? What is undesignated and locally designated are these separate assets?	Key messages	Amended.
43	Historic England	Bullet 2b: it is unclear what this means. What is considerations of [natural scenery] heritage, for example? What about the historic environment?	Key messages	amended.
44	Historic England	Bullet 2c: it is unclear what this means - encourage engagement with the natural environment. Why is it not the historic environment?	Key messages	amended.
45	Historic England	There does not appear to be any reference to place making, local character and identity.	Key messages	amended.

No.	Consultee	Comment	In Reference too	Summary of Action taken/ Why no Action is Required
46	Historic England	The focus seems to be on natural environment and omits built/urban environment.	Key messages	amended.
47	Historic England	Bullet 2d: The setting of heritage assets can be affected by development proposals that are not just adjacent/in close proximity to. In addition, the list of proposals that are not just adjacent/in close proximity to. In addition, the list of asset types is rather confusing and suggests that conservation areas are 'local', designated assets are separate to listed buildings etc. This needs to be worded. In addition, the sentence seeks to respect the list in terms of character and context – for example when assessing impacts on a scheduled monument (which is not mentioned at all in this section), you would not seek to respect its character and context, rather it would be about avoiding harm to its significance as a minimum. In addition, there is no mention of setting in this section.	Key messages	amended.
48	Historic England	IIA7: Proposals should conserve and enhance the historic environment not just 'protect' so it is suggested that this be amended. Reference to 'unique' should be deleted as it is not relevant when referring to setting.	Sustainability Framework	Amended.
49	MMO	Please see below some suggested policies from the North West Marine Plan that we feel are most relevant to your plan. We recommend considering reference to these policy areas within the supporting policy text. These suggested policies have been identified based on the activities and content within the document entitled above. They are provided only as a recommendation and we would suggest your own interpretation of the North West Marine Plan is completed. Seascape and Landscape: NW-SCP-1 Heritage Assets: NW-HER-1 Climate Change: NW-CC-1, NW-CC-2, NW-CC-3 Marine Litter: NW-ML-1, NW-ML-2 Access: NW-ACC-1 Tourism and recreation: NW-TR-1 Biodiversity: NW-BIO-1, NW-BIO-2, NW-BIO-3	Relevant Plans, Programmes and Policies	The Marine Plan has been added to the relevant sections appendix 1

Appendix C

REVIEW OF PLANS, POLICIES & PROGRAMMES

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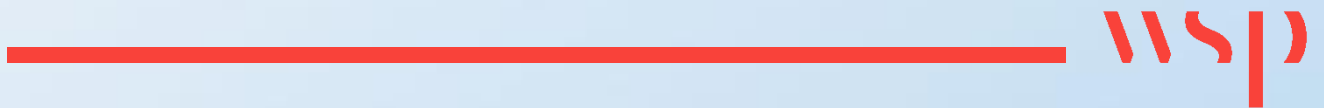
This appendix presents the findings of the review of legislation, policies and plans including relevant international, national and regional documents undertaken as a part of the evidence gathering exercise for the Scoping Report.

Details of relevant legislation, policies and plans per topic are provided below in **Table C-1.**

Table C-1 – Key Messages from Review of Plans, Policies and Programmes

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
Population and Equalities	**National**	
	The Equality Act legally protects people from discrimination in the workplace and in wider society. It is against the law to discriminate against anyone because of: Age; Being or becoming a transsexual person; Being married or in a civil partnership; Being pregnant or having a child; Disability; Race including colour, nationality, ethnic or national origin; Religion, belief or lack of religion/belief; Sex; and Sexual orientation	Equality Act, 2010
	When delivering new schemes, applicants must avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the UK Government's planning guidance. Applicants should provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes.	National Planning Policy Framework (NPPF), 2021
	The Action Plan sets what the UK Government is doing to ensure people from all communities in society have the option to use public transport. The main aim of the report is to '*deliver better access to jobs and key services through an accessible and socially inclusive transport system, by removing the barrier to travel and ensuring that social impacts are addressed in policy development and service delivery*'.	Department for Transport, Transport for Everyone: an action plan to promote equality, 2012

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Deliver better public services through involving and consulting users more fully, providing better information about local standards and managing services at neighbourhood level.	Strong and Prosperous Communities: The Local Government White Paper, 2006
	As the number of older adults increases substantially in the UK over the next six decades, the existing urban and rural infrastructure will need to be adapted so that the needs of these people are met. For example, issues of access, transport, amenity and security will substantially affect the wellbeing of older people.	Foresight Mental Capital and Wellbeing Project (2008). Final Project report, The Government Office for Science.
	Transport is a key factor shaping experiences of poverty. The ability of households in poverty to find paid work often depends on access to affordable, regular and reliable transport. Residents of low-income neighbourhoods generally have a significant reliance on bus services. This can create issues regarding variable frequency, timing, reliability and range of places served. There is considerable evidence that transport issues affect different groups to varying extents and in particular ways, especially in terms of gender. A distinguishing feature of low-income neighbourhoods is the relatively low incidence of motor vehicle ownership. This means that residents have a much higher reliance on public transport than those living in middle and high-income areas Difficulties in meeting the costs of transport from current incomes have given rise to the concept of 'transport poverty'.	Addressing Transport Barriers to work in Low Income Neighbourhoods, Sheffield Hallam University, 2017
	The Marmot Review identified that the levels of social, environmental and economic inequality in society are damaging health and well-being. This report identifies that as the UK emerges from the pandemic it would be a mistake to attempt to re-establish the status quo that existed before the pandemic. The reductions in car traffic during the pandemic resulted in cleaner air and reduction in emission of greenhouse gases. Walking and cycling as modes of transport became both necessary and desirable. As	Build Back Fairer: The Covid-19 Review, 2020

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	the pandemic is brought under control and public transport again becomes safe, a future for our cities based on reduction in vehicle traffic and made safe for walking and cycling in addition to public transport is a future we can both imagine and realise. Building Back Fairer requires a sizeable reduction in private car use and greater active travel and use of public transport. Efforts to support this are required urgently and would help to reduce Greenhouse Gas Emissions and lead to a more sustainable environment.	
	Although the initial strategy is based in London, the approach is becoming more widely adopted nationally. The Healthy Streets Approach puts people and their health at the centre of decisions about how we design, manage and use public spaces. It aims to make our streets healthy, safe and welcoming for everyone. The Approach is based on 10 Indicators of a Healthy Street which focus on the experience of people using streets. These are as follows: Pedestrians from all walks of life; Easy to cross; People chose to walk, cycle and use public transport; Clean air; People feel safe; Not too noisy; Places to stop and rest; Shade and shelter; People feel relaxed; and Things to see and do.	TfL, Healthy Streets for London, 2017
	Regional/Local	
	This Strategy sets out how TfN will act to reduce transport-related social exclusion, monitoring measures, and the broader policy agenda necessary for significant process on this issue.	Transport for the North

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	TfN's vision is for a transport system that meets the needs of the diverse places and populations of the North – reducing inequalities and enhancing social inclusion. Underlying this vision are eight principles: The role of car access; Diverse travel patterns; Integration; Equality of access; Technology; Local and digital access; Affordability; and Safety.	Socially Inclusive Transport Strategy 2022
	The framework sets out that integrating social value within everything the combined authority does will be crucial for delivering the strategic vision for the Liverpool City Region, which will be: Fairer: redressing inequalities, empowering communities, reducing deprivation, and supporting good health and wellbeing; Greener: environmental sustainability, net zero carbon, cleaner air, a circular economy and protected natural capital; Stronger: economic prosperity, high quality employment, improved skills and enhanced quality of place. A key objective of the plan is to provide social value to people through transport delivery including through: Concessionary travel schemes that go beyond the national scheme requirements, including free travel for 60+, tunnel concessions for residents and an extended offer for young people; Additional supported bus services on routes and at times that may not be commercially viable; Targeted provision of free bus tickets to support communities to access services (e.g. Black, Asian and Minority Ethnic communities accessing breast screening services); A well-trained transport delivery team, who have received disability awareness training. Part of this is to look at innovative and expanded ways of making transport hubs and service centres operate as assets for the communities they serve.	Liverpool City Region Combined Authority Social Value Policy and Framework, 2022

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	The Plan is committed to making the City Region prosperous and economically, socially and environmentally sustainable. It offers a vision for a City Region where meaningful prosperity, opportunity, and equality is shared by all communities, and that will build up the resilience and productivity of its economy and unlock its global potential. It will also pioneer sustainable ways of living and working together which will protect the health of our people and the environment. It sets the strategic direction for City Region policies on the economy, business support, skills, transport, housing, planning, underpinned by an ambitious pathway to net zero carbon.	Liverpool City Region: Plan for Prosperity, 2022
	The Index of Multiple Deprivation 2019 measures relative deprivation across small areas called Lower-layer Super Output Areas (LSOAs) – there are 32,844 of these areas across England, including 298 in Liverpool. An overall IMD score is based on seven different domains of deprivation which are: Income Employment Education Health Crime Barriers to Housing and Services Living Environment Patterns of deprivation across larger areas can be complex. At the local authority level, summary scores are produced based on – Average Rank (average level of deprivation across an area, based on population weighted ranks or all neighbourhoods within it); Average Score (average level of deprivation across a whole area, based on scores of all neighbourhoods within it); Proportion of Lower Super Output Areas (LSOAs) (the most deprived 10% nationally). For Average Score, Liverpool is considered the 3rd most deprived of 317 local authority areas. For Average Rank, Liverpool is considered the 4th most deprived local authority in England. For proportion of Lower-layer Super Output Areas in the most deprived 10% nationally, Liverpool is ranked 2nd most deprived.	The Index of Multiple Deprivation 2019: A Liverpool Analysis, Liverpool City Council, 2020

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	LCRCA is creating a Spatial Development Strategy (SDS). The SDS is a statutory planning document that will set out for the development and use of land for the next 15 years. This means that when it is published, it will form part of the 'development plan' for the six City Region local authorities alongside their own Local Plans. The SDS's policies, when finalised, will therefore be considered when determining planning applications across the LCR.

The SDS will have regard to:

The Government's policies on planning;
The health of people in the Liverpool City Region and the effect of the SDS on health inequalities;
Achieving sustainable development in the United Kingdom;
Climate change and its consequences; and
The need to ensure consistency with national policies and the EU obligations of the United Kingdom.

Planning matters that can be considered include housing, health and wellbeing, transport, the economy, the environment, air quality and connectivity.

The development of the SDS's transport and infrastructure-related priorities is being developed in close association with this Vision document and with LTP4. This provides a unique opportunity to align land use planning and transport planning policies and in a way that support the wider transport policy aims summarised din the section. | LCR Spatial Development Strategy (in progress) |
| | The Equality Strategy and the supporting four year action plan to 2026 follow's the LCRCA vision for a fairer, stronger, cleaner city region where no one is left behind. To achieve this, discrimination must be eliminated and equality is promoted within its policies, service delivery and funding decisions.

The strategy prioritises those left behind, disadvantaged, or experiencing discrimination, and reduce inequality by enhancing how public services (including transport) are delivered.

Its vision hopes for a city region that:

Achieves equity by doing more for those facing greatest disadvantage.
Promotes equality, diversity, and inclusion in all that we do.
Values and celebrates human diversity and treats everyone with dignity and respect.
Champions social justice and challenges discrimination and prejudice. | Liverpool City Region Combined Authority Equality Strategy, 2022 |

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Involves people in decision making, develops solutions with them and removes barriers to participation in civic life. Promotes inclusive organisations with a culture that recognises the benefits and opportunities of diverse workforces. Has accessibility at the heart of all that we provide.	
	Policy NW-ACC-1: Proposals demonstrating appropriate enhanced and inclusive public access to and within the marine area, including the provision of services for tourism and recreation activities, will be supported.	North West Marine Plan 2021
Human Health	**National**	
	Reducing health inequalities is a matter of fairness and social justice. In England, the many people who are currently dying prematurely each year as a result of health inequalities would otherwise have enjoyed, in total, between 1.3 and 2.5 million extra years of life. Ensure a healthy standard of living for all; Create and develop healthy and sustainable places and communities; and Strengthen the role and impact of ill health prevention.	Fair Society, Healthy Lives: The Marmot Review: Strategic review of health inequalities in England post, 2012
	The Marmot Review identified that the levels of social, environmental and economic inequality in society are damaging health and well-being. This report identifies that as the UK emerges from the pandemic it would be a mistake to attempt to re-establish the status quo that existed before the pandemic. The reductions in car traffic during the pandemic resulted in cleaner air and reduction in emission of greenhouse gases. Walking and cycling as modes of transport became both necessary and desirable. As the pandemic is brought under control and public transport again becomes safe, a future for our cities based on reduction in vehicle traffic and made safe for walking and cycling in addition to public transport is a future we can both imagine and realise. Building Back Fairer requires a sizeable reduction in private car use and greater active travel and use of public transport. Efforts to support this are required urgently and would help to reduce Greenhouse Gas Emissions and lead to a more sustainable environment.	Build Back Fairer: The Covid-19 Marmot Review, 2020

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Paragraph 92 of the NPPF states: *'Planning policies and decisions should aim to achieve healthy, inclusive and safe places which:* *a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;* *b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of attractive, well-designed, clear and legible pedestrian and cycle routes, and high-quality public space, which encourage the active and continual use of public areas; and* *c) enable and support healthy lifestyles, especially where this would address identified local health and* *well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.'*	National Planning Policy Framework (NPPF), 2021
	Poorly located and designed new development seriously hinders healthy lifestyles. Physical inactivity directly contributes to one in six deaths in the UK, drives rising levels of obesity, and is the fourth largest cause of disease and disability. It costs society an estimated £7.4 billion a year and places the national healthcare system under increasing financial strain. By enabling compact, higher density, and mixed-use patterns of development. This encourages more people to incorporate physical activity into their daily journeys, improving productivity and dramatically reducing ill health.	Chartered Institute of Highways & Transportation (CIHT), Better planning, better transport, better places, 2019
	There are three main mechanisms that link transport and health and wellbeing: Transport and access: Transport plays a key role in improving access to health services, particularly for vulnerable groups like older people. Mode of transport: Mode of transport affects physical and mental health, via mechanisms including physical activity and commuting time.	Transport, health and wellbeing: An evidence review for the Department for Transport, 2019

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Wider effects of transport and infrastructure: Transport can facilitate social interactions and promote social inclusion.	
	Regular physical activity provides a range of physical and mental health and social benefits, including: Reducing the risk of many long-term conditions Helping manage existing conditions Ensuring good musculoskeletal health Developing and maintaining physical and mental function and independence Supporting social inclusion Helping maintain a healthy weight Reducing inequalities for people with long-term conditions The CMOs' Physical Activity Guidelines state that for good physical and mental health, adults should aim to be physically active every day. Any activity is better than none, and more is better still. Regular physical activity can help to prevent and manage a range of chronic conditions and diseases, many of which are on the rise and affecting people at an earlier age.	Public Health England, Health Matters, Physical Activity: Prevention and management of long-term conditions
	Regional/Local	
	TfN's vision is of "a thriving North of England, where world class transport supports sustainable economic growth, excellent quality of life and improved opportunities for all." One of the main objectives of the Plan is 'Improving inclusivity, health, and access to opportunities for all'.	Transport for the North Strategic Transport Plan 2019
	Strategic Objective 2: Addressing health inequalities and creating a healthier City Region. This will be achieved by: Improving the conditions in which people and our future generations are born, live, work and age. Ensuring that development contributes to reducing inequalities in health and wellbeing. Shaping the environment to enable healthy and active lifestyles.	LCR Spatial Development Strategy (in progress)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Protecting and supporting the delivery of facilities that promote health, wellbeing and social cohesion. Tackling poor air quality by raising standards and improving air quality.	
	The framework sets out that integrating Social Value within everything the combined authority does will be crucial for delivering part of their strategic vision for the Region, one of which is to be: Fairer: redressing inequalities, empowering communities, reducing deprivation, and supporting good health and wellbeing. The Social Framework has been developed with reference to the six priorities of the Marmot Review 2010 (Health Inequalities, Fair Society, Healthy Lives). These seek to: Give every child the best start in life Enable all children, young people and adults to maximise their capabilities and have control over their lives Create fair employment and good work for all Ensure a healthy standard of living for all Create and develop healthy and sustainable places and communities Strengthen the role and impact of ill health prevention. One in four of LCRCA's working age residents have limiting health conditions, with an especially high prevalence of people experiencing mental health problems. Life expectancy in the Liverpool City Region is two and a half years lower than the average across England.	Liverpool City Region Combined Authority Social Value Policy and Framework, 2022
	This project will bring together a partnership that will enable health and wellbeing to be incorporated across LCR's economic strategies. The Core aims are to incorporate health and wellbeing outcomes into all LCR economic strategies and labour market programmes; integrate employment services with health and the wider social offer; put systems in place to identify groups with combined employment and health risks; and ensure labour market programmes are based on the best available evidence for maximising benefits.	Liverpool City Region employment programmes for healthier lives, Liverpool City Region Combined Authority
	While the city region's domestic and business carbon dioxide emissions are steadily falling, transport emissions have risen since 2013 – mostly as a result of the increased use of cars. These emissions are bad for our health. Data from UKHSA indicates that poor air quality causes around 800 deaths each year	Active Travel in the Liverpool City Region

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	in the region, while many more suffer due to the aggravation of health conditions such as asthma, COPD and fibromyalgia.	
Economy and Employment	**National**	
	The Act allows the modification or discharge of the affordable housing elements of section 106 agreements in order to make developments more viable. Contains measures to extend permitted development rights to allow single-storey extensions of up to eight metres. Reduces the volume of extra paperwork required with a planning application; removing over-lapping development consent regimes that require multiple extra permissions from different Government agencies.	Growth and Infrastructure Act (2013)
	To determine the minimum number of homes needed, strategic policies should be informed by a local housing need assessment. In addition to the local housing need figure, any needs that cannot be met within neighbouring areas should also be taken into account in establishing the amount of housing to be planned for. Within this context, the size, type and tenure of housing needed for different groups in the community should be assessed and reflected in planning policies, including, but not limited to: Those who require affordable housing; Families with children; Older people; Students; People with disabilities; Service families; Travellers; People who rent their homes; and People wishing to commission or build their own homes.	National Planning Policy Framework, 2021
	Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach	National Planning Policy Framework (NPPF), 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future.	
	The Enterprise Act includes measures to: Establish a Small Business Commissioner to help small firms resolve issues. Extend the Primary Authority scheme to make it easier for businesses to access tailored and assured advice from local authorities, giving them greater confidence to invest and grow. Protect and strengthen apprenticeships by introducing targets for apprenticeships in public sector bodies in England, and establish an Institute for Apprenticeships – an independent, employer-led body that will make sure apprenticeships meet the needs of business.	The Enterprise Act (2016)
	The Industrial Strategy sets out a long term plan to boost the productivity and earning power of people throughout the UK. It sets out how the UK Government is working towards building a Britain fit for the future – how they will help businesses create better, higher-paying jobs in every part of the UK with investment in the skills, industries and infrastructure of the future. The strategy includes five foundations: Ideas: the world's most innovative economy People: good jobs and greater earning power for all Infrastructure: a major upgrade to the UK's infrastructure Business environment: the best place to start and grow a business Places: prosperous communities across the UK The UK Government will use this strategy to work with industry, academia and civil society over the coming years to build on the UK's strengths, make more of untapped potential and create a more productive economy that works for everyone across the UK.	UK Industrial Growth Strategy, 2017
	This Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions. The Strategy has two guiding objectives: 1. To meet our domestic commitments at the lowest possible net cost to UK taxpayers, consumers and businesses; and,	The Clean Growth Strategy, 2017

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	2. To maximise the social and economic benefits for the UK from this transition. In order to meet these objectives, the UK will need to nurture low carbon technologies, processes and systems that are as cheap as possible.	
	Regional/Local	
	TfN's vision is of "a thriving North of England, where world class transport supports sustainable economic growth, excellent quality of life and improved opportunities for all."	Transport for the North – Strategic Transport Plan 2019
	Supporting this vision are four pan-Northern transport objectives, which have informed the development of the Strategic Transport Plan and TfN's work programmes:	
	Transforming economic performance. Increasing efficiency, reliability, integration, and resilience in the transport system. Improving inclusivity, health, and access to opportunities for all. Promoting and enhancing the built, historic, and natural environment	
	To achieve this vision and objectives the Plan focuses on local and sustainable transport such as targeting shorter trips that can be taken on public transport, by cycling or walking, integrated and smart travel, rail systems (including High Speed 2 and Northern Powerhouse), major road networks, and strategic development corridors	
	The plan is an ambitious economic recovery plan for the whole of the city region. The plan sets out how £1.4 billion in investment could unlock £8.8 billion of projects to begin in the next 12 months. Those projects would create 94,000 permanent jobs, with a further 28,000 jobs in construction.	Building Back Better: The LCR Economic Recovery Plan
	The plan highlights that despite the comparative strength of the public transport system in the City Region, there is evidence that too many people can find it difficult to access employment and other opportunities via public transport. The plan and its subsequent plans for investment link closely to the City Region's priorities through Transport for the North's plans and investments such as Liverpool Central Station and new Merseyrail Stations to connect people to wider areas of employment in the future.	

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	The Liverpool City Region Combined Authority has a £33bn economy, serving (approximately) 1.6m people. As a proportion of the total population, LCR has a similar sized working age population as the rest of the country, with many at working age being between 20-34 (21% of the LCR population). Covid-19 had a large negative impact upon the economy but this has slowly been recovering. Part of the strategy is to upskill people to improve employment rates and therefore build a stronger economy, including within the transport sector. The LCR as of 2020 had 5.5% of its population working in the transport sector compared to England's 5.2%.	Liverpool City Region Local Skills Report 2022-23
	HS2 and Northern Powerhouse Rail have the potential to deliver substantial benefit to the Liverpool City Region's economy and in doing so, help rebalance the national economy. The Liverpool City Region is a growing economy, with sectors supporting that growth including those highlighted in the Northern Powerhouse Independent Economic Review as likely to drive a transformed North of England economy. The prime sectors are Advanced Manufacturing, Health Innovation, Energy and Digital, with the enabling capabilities of Financial & Professional Services, Logistics and Education. These sectors typically generate demand for business and commuting travel. For Liverpool another area of opportunity is the visitor economy (Liverpool being the 5th most visited city in the UK by overseas visitors), which is generating increasing levels of long-distance rail trips. Growth at the Port of Liverpool and other sites will mean increased demand for rail freight paths. The Government is promoting a national high-speed rail network, HS2, to be implemented in phases over the period to 2032/33. The current HS2 proposition is that the Liverpool City Region will be served by 'classic compatible' high speed trains that will operate on dedicated high-speed tracks between London and Crewe and the classic rail network between Crewe and Liverpool via the existing West Coast Mainline. Transport for the North is also promoting a west-east rail network, Northern Powerhouse Rail (NPR), which would allow rail services to connect Liverpool with Manchester, Leeds, Sheffield, Hull and Newcastle at higher speeds than at present. This work also sits alongside LCR's Long Term Rail Strategy and the improvements to connectivity this could deliver.	High Speed Rail - Linking Liverpool (2018)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	LCR Local Enterprise Partnership estimates that up to 100,000 jobs are to be created by 2025 as part of the HS2 and Northern Powerhouse legacy and associated development.	
	Policy NW-TR-1: Proposals that promote or facilitate sustainable tourism and recreation activities, or that create appropriate opportunities to expand or diversify the current use of facilities, should be supported.	North West Marine Plan 2021
Community Safety	**National**	
	Paragraph 185 of the NPPF states that any significant impacts from developments on the transport network (in terms of capacity and congestion), or on highway safety, should be cost effectively mitigated to an acceptable degree.	National Planning Policy Framework (NPPF), 2021
	Paragraphs 3.10 – 3.12 of the NN NPS advise that "scheme promoters are expected to take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate", and that it is the UK Government's policy to ensure that risks of rail passenger and workforce accidents are reduced so far as reasonably practicable.	National Networks National Policy Statement (NN NPS) (2014)
	Although there has been an ongoing reduction of people Killed or Seriously Injured (KSI) on UK roads has generally been declining since 2005, over the last few years the number of fatalities has remained fairly consistent with a small increase in KSIs in 2013. National Highways recognise that they must continue to improve safety by investing in the road network, both to prevent incidents from occurring and to reduce the severity of those that do. By the end of 2025, they aim to continue to reduce the number of KSIs on the Strategic Road Network to support a decrease of at least 50%, against the 2005-2009 average baseline.	National Highways Delivery Plan 2020-2025
	Safety is an important consideration for road users owing to the significant impact of serious and fatal accidents. A considerable economic cost is also associated with collisions on all roads, estimated at £15 billion annually to the UK economy.	Department for Transport, Road Investment Strategy: 2020-2025 (2020)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	The strategy outlines what the Strategic Road Network (SRN) should be like in 2050 and the steps to achieve this. Traffic growth on the SRN is predicted to be between 29% and 59% by 2050 though it has been recognised that overall trips rates for the majority of trip purposes have been declining and there is a trend of more young people not learning to drive. This has been outweighed however by the increase in journeys made by older drivers and the expectation of a continued rise in total population. National Highways is still working towards an ongoing reduction in the number of people killed or seriously injured (KSI) on the SRN to support a decrease of at least 50% by the end of 2025 (against the 2005-09 baseline) through means of increased investment and maintenance of the network whilst also working towards achieving reductions of effects on the wider environment.	
	Road deaths in Britain have been reducing over the past 30 years because of multiple factors such as – safer infrastructure, new vehicle technologies, hazard perception testing, tougher enforcement, shifting social attitudes and better trauma care. Part of the United Nations' 2010 Global Plan for Road Safety promotes a five pillar approach for managing road safety – road safety management, safer roads and mobility, safer vehicles, safer road users, post-crash response - which interlinks with those outlined in Liverpool's Vision Zero.	Working together to build a safer road system: British Road Safety Statement. Department for Transport, 2015
	Regional/Local	
	A new strategy focused on driving down the number road traffic collisions with a bold aspiration that no one will die or be seriously injured on the region's roads by 2040. The strategy aims to reduce the number of those killed or seriously injured on Merseyside's roads, working towards an overall Vision Zero target that aims to ensure that by 2040 there are no avoidable collisions on the region's roads. The plan is also focused on creating a safer environment for people to travel on foot and by bike and more children to walk or cycle to school, while also contributing to improved air quality across the region. The strategy focuses on four key pillars – Safe Speed, Safe streets, Safe Vehicles, Safe Behaviour – and outlines the methods and measures which will be used to drive change. The strategy also includes targeted action plans to keep cyclists, motorcycle users, senior road users and pedestrians safe on and around Merseyside's roads.	Liverpool City Region Vision Zero Strategy (2022)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Citysafe is delivering Aim 3 of the City Plan: to ensure safe and thriving neighbourhoods – all residents live in safe, inclusive and welcoming neighbourhoods, where people choose and aspire to live, raise their families and grow old.	Citysafe Plan 2021-2024, Citysafe Partnership
	This strategy aims to raise awareness of the issues of road safety in the region and hopes to achieve safer roads through means of education, engineering, enforcement, and monitoring and evaluation. In 2017, the Liverpool City Region developed a Road Safety Strategy, working towards a target of fewer than 400 people killed or seriously injured (KSI) on the region's roads by 2020. The strategy also refers to the region's 'Vision Zero' – a strategy to eliminate all traffic fatalities and sever injuries, while increasing safe, healthy, equitable mobility for all. Figures show that the public of Merseyside are more likely to be killed or seriously injured (KSI) per 100,000 head of population than similar Metropolitan areas. KSIs have risen significantly since 2010, and four main casualty groups make up 98% of the KSI's on Merseyside – pedestrians, pedal cyclists, motorcyclists and in-car casualties.	Liverpool City Region Road Safety Strategy 2017-2020
	This strategy aims to raise awareness of the issues of road safety in the region and hopes to achieve safer roads through means of education, engineering, enforcement, and monitoring and evaluation. In 2017, the Liverpool City Region developed a Road Safety Strategy, working towards a target of fewer than 400 people killed or seriously injured (KSI) on the region's roads by 2020. The 2022 strategy outlines its strategic outcomes for road safety: A reduction in the number and severity of road traffic collisions working to a target of no avoidable collisions by 2040. Creating the conditions for more people to make safer journeys on foot or by bicycle, and enabling more children to walk or cycle to school. Contributing to improved air quality and reducing climate changing CO2 emissions. The strategy also refers to the region's 'Vision Zero' – a strategy to eliminate all traffic fatalities and sever injuries, while increasing safe, healthy, equitable mobility for all, and outlining its four key pillars of – safe speed, safe streets, safe vehicles, safe behaviour.	Liverpool City Region Road Safety Strategy 2022

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	This strategy sets out 10 priority themes to help make Wirral safer. These are: Anti-social behaviour Violent crime Domestic abuse Drugs and alcohol Hate crime Modern slavery Prevent Road safety Emergency planning Coastal and inland water safety	Wirral Community Safety Strategy (2021 – 2026)
Biodiversity and Natural Capita	**International**	
	The convention has three main aims which are stated in Article 1: To conserve wild flora and fauna and their natural habitats; To promote cooperation between states; and To give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species.	Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)
	The identification of a European network of Sites of Community Importance (SCIs) to be designated as Special Areas of Conservation (SACs). A SA would need to report on any potential effects on SACs and all development plans should aim to avoid adverse effects on them.	Conservation of Natural Habitats and Wild Fauna & Flora (the 'Habitats Directive') (1992)
	The 8th EAP guides EU environmental policy up to 2030 and sets ambitions for 2050. The Programme sets the following as a long-term priority objective: *The long-term priority objective is that, by 2050 at the latest, Europeans live well, within planetary boundaries, in a well-being economy where nothing is*	EU (2022) 8th Environment Action Programme (EAP) to 2030

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	wasted. Growth will be regenerative, climate neutrality will be a reality, and inequalities will have been significantly reduced. There are also six other priority objectives to 2030: achieving the 2030 greenhouse gas emission reduction target and climate neutrality by 2050 enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change advancing towards a regenerative growth model, decoupling economic growth from resource use and environmental degradation, and accelerating the transition to a circular economy pursuing a zero-pollution ambition, including for air, water and soil and protecting the health and well-being of Europeans protecting, preserving and restoring biodiversity, and enhancing natural capital reducing environmental and climate pressures related to production and consumption (particularly in the areas of energy, industry, buildings and infrastructure, mobility, tourism, international trade and the food system)	
	This strategy is a comprehensive, ambitious and long-term plan to protect nature and reverse the degradation of ecosystems. The strategy aims to put Europe's biodiversity on a path to recovery by 2030 and contains specific actions and commitments. These include: Establishing a larger EU-wide network of protected areas on land and at sea; Launching an EU nature restoration plan; Introducing measures to enable the necessary transformative change; and Introducing measures to tackle the global biodiversity challenge.	EU (2020) EU Biodiversity Strategy to 2030
	The Ramsar Convention covers all aspects of wetland conservation. It has three main pillars of activities: The designation of wetlands of international importance as Ramsar sites; The promotion of the wise use of all wetlands in the territory of each country; and International co-operation with other countries to further the wise use of wetlands and their resources.	Ramsar Convention on the Conservation on Wetlands of International Importance (1971)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	While the initial emphasis was on selecting sites of importance to waterbirds, now non-bird features are increasingly taken into account, both in the selection of new sites and when reviewing existing sites.	
	National	
	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. The Biodiversity Gain objective requires the biodiversity value attributable to a development to exceed pre-development biodiversity value by at least 10%.	The Environment Act (2021)
	The 25 Year Environment Plan outlines the UK Government's ambition: 'To leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition.' The Plan includes ten key targets of which two focus on biodiversity. Thriving plants and wildlife: Restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term; Creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits; Taking action to recover threatened, iconic or economically important species of animals, plants and fungi and where possible to prevent human-induced extinction or loss of known threatened species in England and the Overseas Territories; Increasing woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042. Enhancing biosecurity: Managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species;	25 Year Environment Plan, HM Government (2018)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Reaching the detailed goals to be set out in the Tree Health Resilience Plan of 2018; Ensuring strong biosecurity protection at our borders, drawing on the opportunities leaving the EU provides; and Working with industry to reduce the impact of endemic disease.	
	The Wildlife and Countryside Act 1981 consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) and the protection of wildlife.	Wildlife and Countryside Act (as amended 1981)
	The Biodiversity Strategy for England sets a fundamental shift in train by ensuring that biodiversity considerations become embedded in all the main sectors of economic activity, public and private. The Strategy capitalises on the opportunities presented by the report of the Policy Commission on Food and Farming and the current review of the Common Agricultural Policy. The Strategy sets out a programme for five years for the other main policy sectors, to make the changes necessary to conserve, enhance and work with the grain of nature and ecosystems rather than against them. It takes account of climate change as one of the most important factors affecting biodiversity and influencing policies.	Working with the grain of nature: A Biodiversity Strategy for England 2002
	The aim of the White Paper is to set out a clear framework for protecting and enhancing the things that nature gives us for free. Four core themes: 1. Protecting and improving our natural environment 2. Growing a green economy 3. Reconnecting people and nature	The Natural Environment White Paper (2011)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	4. International and EU leadership	
	Species and habitats should be restored and enhanced in comparison with 2000 levels.	Making Space for Nature: A review of England's Wildlife Sites and Ecological Network: Chaired by Professor Sir John Lawton CBE FRS (2010)
	Improve the long term sustainability of ecological and physical processes that underpin the functioning of ecosystems, thereby enhancing the capacity of ecosystem services. Provide accessible natural environments rich in wildlife for people to enjoy and experience.	
	Protect and enhance biodiversity through Nature Improvement Areas (NIAs), biodiversity offsetting, Local Nature Partnerships and phasing out peat use.	The Natural Choice: Securing the value of nature: HM Government (2011)
	Place natural capital at the centre of economic decision making to avoid the unintended environmental consequences that arise from undervaluing natural assets.	
	NN NPS states that development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation to counteract impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.	National Networks National Policy Statement (NN NPS) (2014)
	Paragraphs 3.2 to 3.5 of the NN NPS state that not only should national road and rail networks be designed to minimise social and environmental impacts, but that they should also seek to improve quality of life. In part this may be achieved by "reconnecting habitats and ecosystems […] improving water quality and reducing flood risk, […] and addressing areas of poor air quality."	
	Paragraph 5.162 recognises the potential for developments to provide positive environmental and economic benefits through the provision of green infrastructure. Paragraph 5.175 of the NN NPS highlights that green infrastructure identified in development plans should be protected and, where possible, enhanced.	

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Paragraphs 174 and 179 to 182 of the NPPF require development to protect and safeguard biodiversity, and advise that development should aim to conserve, restore and enhance biodiversity adequately through mitigation or, as a last resort, using compensation. Proposals which aim to conserve or enhance biodiversity should be supported. Recognise the wider benefits of ecosystem services; minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the UK Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Paragraph 174 of the NPPF requires that planning decisions should be taken to enhance the natural environment by recognising the wider benefits from natural capital and ecosystem services. Further, Paragraph 175 requires plans to take a strategic approach to maintaining and enhancing green infrastructure networks and improving natural capital at a catchment or landscape scale.	National Planning Policy Framework (NPPF), 2021
	The report identifies that: Some assets are currently not being used sustainably and the benefits that we derive from them are at risk; There are major economic benefits to be gained from natural capital and that their value should be incorporated into decision making; and A long-term restoration plan is necessary to maintain and improve natural capital for future generations.	The State of Natural Capital: Restoring our Natural Assets; Natural Capital Committee (2014)
	In the report, the Natural Capital Committee sets out: Despite some improvements, only limited progress has been made towards the 25 Year Environment Plan's goals. Its advice to Government that biodiversity net gain should be expanded to environmental net gain. Its advice that an England wide baseline of natural capital assets should be established to measure progress towards environmental goals. Natural capital should be seen as infrastructure in its own right, in recognition of its contribution to economic wellbeing.	The State of Natural Capital; Natural Capital Committee (2020)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	This Act introduces a new system of marine management through the creation of the Marine Management Organisation (MMO). The Act requires the designation of Marine Conservation Zones (MCZs) as part of a UK network of Marine Protected Areas.	Marine and Coastal Access Act 2009
	Regional/Local	
	In May 2019, LCRCA's Metro-Mayor declared a 'climate emergency' and affirmed LCRCA's commitment to undertaking urgent and proportionate remediating actions; including becoming net zero-carbon by 2040. The report outlines the main critical challenges, including – global warming, biodiversity loss, poor air quality and growing waste. Some of LCR's plans for remediation spanning the above challenges have already begun, such as: Increasing and improving upon recycling infrastructure; Declaring 12 Air Quality Management Areas; Investment in the first phase of a £16m, 600km cycling and walking network; Developing the LCR Ecological Network audit of natural assets, including 'designated sites and priority habitats' and a 'Nature Improvement Area'; Protection in planning of LCRs strategic natural assets including – estuarine and coastal habitats and species, bogs and mosses, ancient semi-natural woodlands etc; Prepared a Mersey Forest Plan – engaging in an ambitious proposal to create a 'Northern Forest' joining Liverpool, Chester, Manchester, Leeds, Sheffield and Hull by planting 50 million new trees LCR also benefits from natural environmental advantages which will prove helpful in its efforts to confront the climate and ecological emergency: its coastal location (creating unique opportunities for wind power), estuaries (tidal power), urban parks and green spaces, rural hinterland, and the richness and diversity of its natural ecology and habitats. It also has brownfield sites that have significant potential to be renatured.	Towards a Green Future for Liverpool City Region, Liverpool Heseltine Institute for Public Policy, Practice and Place, Liverpool University (2019)
	The Liverpool City Region Ecological Network is a strategy formed in response to changing Government policy on the natural environment and publication of the National Planning Policy Framework. The LCR Ecological Network ties into wider guidance and strategies relating to housing, transport, business and the natural environment.	Liverpool City Region Ecological Network (2015)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	The LCR Ecological Network is an evidence base which comprises ecological and biodiversity information on the City Region's natural assets. It also identifies opportunities to enable better protection of those natural assets and at the same time, describes opportunities to create new natural assets. The LCR Ecological Network is part of the Districts' evidence for Local Plans (core strategies, unitary development plans, development plan documents, supplementary planning documents and neighbourhood plans) and is capable of supporting decision-taking on individual planning proposals.	
	LCR is dominated by urban buildings and infrastructure (roads, pavements), and urban habitats such as amenity grassland and residential gardens (48% in total). Arable agriculture is significant in its extent (14%) outside of the urban centre and suburbs, as is the intertidal habitat (14%) of the Mersey Estuary. There is a mosaic of small areas of other habitats in-between these comprising of grasslands, freshwater and coastal habitats. Woodland is dominated by broadleaved species, and is spread throughout the LCR (5%), with the largest continuous patch on the Sefton coast. Access to greenspace is being increasingly recognised for the multiple benefits that it can provide to people. Research has also shown that there is a link between well-being and perceptions of biodiversity and naturalness. The accessible nature capacity of LCR has its highest provisions either in the coastal areas, or along the urban River Mersey, where there is good access, and high perceived naturalness. Other areas that have a reasonable capacity are publicly accessible parks, woodlands and local wildlife sites, that score well for perceived naturalness. These occur both in and around the urban centres. The lowest scores are found in the urban centres where there is less access to nature and less natural surroundings. The demand for accessible nature is around where people live, with the highest demand in the urban centres of the LCR. The most gains of improving natural capital in a region like this is through mitigating the effects of air pollution and transport movements, much of which is targeted at being reduced through LCRCA's transport and environmental plans.	Baseline Natural Capital Assessment for the Liverpool City Region, Liverpool John Moores University and Natural Capital Solutions (2020)
	Policy NW-BIO-1: Proposals that enhance the distribution of priority habitats and priority species will be supported. Policy NW-BIO-2:	North West Marine Plan 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Proposals that enhance or facilitate native species or habitat adaptation or connectivity, or native species migration, will be supported. Policy NW-BIO-3: Proposals that conserve, restore or enhance coastal habitats, where important in their own right and/or for ecosystem functioning and provision of ecosystem services, will be supported.	
Landscape and Townscape	**International**	
	The Council of Europe Landscape Convention promotes the protection, management and planning of the landscapes and organises international co-operation on landscape issues. Specific measures include: raising awareness of the value of landscapes among all sectors of society and of society's role in shaping them; promoting landscape training and education among landscape specialists, other related professions and in school and university courses; the identification and assessment of landscapes, analysis of landscape change, with the active participation of stakeholders; setting objectives for landscape quality, with the involvement of the public; and the implementation of landscape policies through the establishment of plans and practical programmes.	European Landscape Convention 2000 (became binding March 2007)
	National	
	Goal 6: Enhancing beauty, heritage and engagement with the natural environment, is to "safeguard and enhance the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage."	25 Year Environment Plan (2018)
	Paragraph 5.149 states that when judging the impact of a project on landscape, the decision is dependent on the nature of the existing landscape likely to be affected and the nature of the effect likely to occur. The project should aim to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.	National Policy Statement for National Networks (NN NPS) (2014)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Paragraph 174 of the NPPF requires developments to protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside. Paragraph 176 of the NPPF states that great weight should be given to conserving and enhancing landscape and scenic beauty in National parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas. Paragraph 177 of the NPPF states that when considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest.	National Planning Policy Framework (NPPF), 2021
	The Landscape Institute's most recent position statement, 'Green Infrastructure LI Position Statement 2013' sets out why GI is crucial to our sustainable future. The publication showcases a range of successful GI projects and shows how collaboration is key to delivering multifunctional landscapes. It also illustrates why landscape professionals should take the lead on the integration of GI.	Green Infrastructure: An integrated approach to landscape use. Landscape Institute Position Statement (2013)
	Communities should identify green infrastructure requirements in their local area through addition to or creative enhancement of the existing network. Look to enhance local landscape character, heritage and biodiversity and ensure long term management is included in an overall strategy.	Local Green Infrastructure: helping communities make the most of their landscape: Landscape Institute for Green Infrastructure Partnership (2011)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Fields in Trust guidance, first published in the 1930s, is based on a broad recommendation that 6 acres (2.4 hectares) of accessible green space per 1,000 head of population enables residents of all ages to participate in sport and play; 75% of local authorities adopt this or an equivalent standard (2014 Fields in Trust / David Lock Associates Survey).	Guidance for Outdoor Sport and Play (2015)
	English Nature (now Natural England) recommends that provision should be made of at least 2 ha of accessible natural greenspace per 1000 population according to a system of tiers into which sites of different sizes fit:

No person should live more than 300m from their nearest area of natural greenspace;
There should be at least one accessible 20ha site within 2km from home;
There should be one accessible 100ha site within 5km; and
There should be one accessible 500ha site within 10km. | Accessible Natural Green Space Standards in Towns and Cities: A review and Toolkit for their implementation (2003) and Nature Nearby: Accessible Green Space Guidance (2010) |
| | **Regional/Local** | |
| | The Climate Action Plan outlines the following objectives for LCR for Green/Blue Space and Habitats:

Include environmental requirements (including biodiversity/natural capital, access to nature, water management) in standards for new housing and commercial developments;
Prioritise areas where natural capital should be enhanced and produce a plan for delivery;
Secure gains in biodiversity and the long term storage of natural carbon through strategic tree planting, restoration, re-creation and management of a broad range of habitats including wetlands and grasslands;
Map access to green space/infrastructure to start addressing injustices in accessibility, especially young people;
Work with financial partners to create and consult on affordable finance mechanisms for green infrastructure i.e. municipal green bonds;
Utilise natural capital baseline work completed to consider how habitat connectivity could be enhanced to improve biodiversity across LCR and set out a plan to achieve defined targets; | Liverpool City Region Year One Climate Action Plan 2021/22 |

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Support partners in delivering the LCR Recreation Mitigation Strategy which seeks to protect important biodiverse sites which are being impacted by increased recreational use	
	"The city region is 80% blue/green space, which is more than any other city in the UK". The Plan outlines its designs to 'prioritise a robust and joined up approach to green and blue infrastructure, fully accounting for the city region's natural capital assets and green spaces' through means of nature recovery, working with stakeholders (e.g. housing providers, community organisations, Mersey Forest) to enhance the natural capital of the city region and create and sustain green spaces (with efforts informed by the Natural Capital Baseline Assessment by Liverpool John Moores University). This ambition will be supported through the Spatial Development Strategy and the Strategic Infrastructure Plan.	Liverpool City Region Plan for Prosperity, 2022
	"An internationally recognised, design led competition that focuses on developing contextual, local and variable responses to the overlooked, passed-by and often neglected fringe areas of LCRs built environment. The design ideas competition seeks out under-used areas of the region and explores their possibilities."	LCR Forgotten Spaces/Found Spaces
	Around 3,000 ha or 9 million trees have been planted since The Mersey Forest was established in 1991. Woodland cover has doubled from 4% to 8%, whilst also creating a diverse range of habitats along the way. The Mersey Forest project plants trees and woodlands on different land types (rural and urban) including derelict land, public land, employment sites, transport sites, ex-landfill sites, temporary planting, and new developments. From its establishment, one of the main intentions of The Mersey Forest was to use tree and woodland planting and management to transform a largely post-industrial landscape, and to use this as a springboard for wider social, environmental, and economic regeneration, with up to 65% of people in Merseyside and North Cheshire having noticed an improvement in their local landscape thanks to the Mersey Forest project.	More from Trees: The Mersey Forest Plan, 2014
	Policy NW-SCP-1:	North West Marine Plan 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Proposals should ensure they are compatible with their surroundings and should not have a significant adverse impact on the character and visual resource of the seascape and landscape of the area. The location, scale and design of proposals should take account of the character, quality and distinctiveness of the seascape and landscape.	
	Proposals within or relatively close to nationally designated areas should have regard to the specific statutory purposes of the designated area. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks and Areas of Outstanding Natural Beauty.	
Historic Environment	**International**	
	This convention sets out a framework for the identification and designation of cultural or natural heritage sites of 'outstanding universal value' as World Heritage Sites.	UNESCO, The World Heritage Convention, 1972
	This convention outlines protection measures for archaeological heritage assets, including the development and maintenance of an inventory of sites. The aim of this convention is to protect sites for future study, outlines the requirements to report 'chance finds', as well as controlling excavations. The input of expert archaeologists into the making of planning policies and decisions is also required under this convention.	The Valetta Convention, 1992
	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It affirms the needs for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. The convention considers comprising the following permanent properties, which are stated in Article 1: Monuments: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings; Groups of buildings: homogenous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units; and	Convention for the Protection of the Architectural Heritage of Europe, Granada (1985)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.	
	National	
	Paragraph 174 of the NPPF requires developments to protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside.	National Planning Policy Framework (NPPF) 2021
	Paragraph 176 of the NPPF states that great weight should be given to conserving and enhancing landscape and scenic beauty in National parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection. The scale and extent of development within these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.	
	Paragraph 177 of the NPPF states that when considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest.	
	Paragraph 5.149 states that when judging the impact of a project on landscape, the decision is dependent on the nature of the existing landscape likely to be affected and the nature of the effect likely to occur. The project should aim to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.	National Policy Statement for National Networks (NN NPS) (2014)
	Regional/Local	
	The Liverpool Maritime Mercantile World Heritage site was inscribed by UNESCO in 2004 under the 1972 World Heritage Convention, before it lost its status in 2021. The area was made up of six locations covering more than 130 hectares and included the world famous docks and Grade I Listed Liver Building.

Liverpool however has a wide range of historic features, including:

Liverpool Ropewalks (Duke Street Conservation Area) | Liverpool City Council – Heritage Assets |

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Listed Buildings (over 2000) Conservation Areas – 36 covering 1,000 ha Historic Parks and Gardens – 10 of which are on the national list Scheduled Monuments – 4, including Speke Hall.	
	The plan sets out how the City's heritage assets will be conserved. Given that heritage assets are a finite resource, it is critical they are retained, and if necessary, re-used, as a crucial endowment for the future. It is also equally important that these resources should not only be conserved, but enhanced wherever possible, and that it continues to make a positive contribution to local pride and cultural awareness and aids investment. In accordance with the National Planning Policy Framework the council will only permit development resulting in substantial harm to or loss of a grade II listed building, park or garden in exceptional circumstances. Liverpool's listed buildings and structures provide a rich and unique historic and architectural legacy and make an important and valued contribution to the appearance of the City. It is important to preserve and maintain them for present and future generations.	Liverpool Local Plan 2013-2033 (adopted in 2022)
	Policy NW-HER-1: Proposals that demonstrate they will conserve and enhance the significance of heritage assets will be supported. Where proposals may cause harm to the significance of heritage assets, proponents must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate - any harm to the significance of heritage assets	North West Marine Plan 2021
Water Environment	**International**	
	The main aims of the Water Framework Directive (WFD) are to: prevent deterioration and enhance status of aquatic ecosystems, including groundwater	Directive 2000/60/EC of the European

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	promote sustainable water use reduce pollution contribute to the mitigation of floods and droughts The WFD requires the creation of River Basin Management Plans (RBMPs). Statutory objectives are set for Scottish waters through River Basin Management Planning. These objectives are based on ecological assessments and economic judgments. The plans cover all types of water body, e.g. rivers, lochs, lakes, estuaries, coastal waters and groundwater.	Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy ("The Water Framework Directive")
	Requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.	Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks
	This Directive establishes a regime which sets groundwater quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater. The directive establishes quality criteria that takes account local characteristics and allows for further improvements to be made based on monitoring data and new scientific knowledge.	Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration
National		
	Paragraph 159 "… inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is	National Planning Policy Framework (NPPF), 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere".	
	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration: reduce pollution from agriculture, in particular phosphorus and nitrate reduce pollution from wastewater, in particular phosphorus and nitrate reduce water demand improve the quality of habitat on land, including freshwater and coastal sites, expressed through the condition of our protected sites (SSSIs) improve the overall status of species populations on land and in freshwaters	The Environment Act (2021)
	Paragraph 5.105 "… if there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. Both elements of the test will have to be passed for development to be consented…"	National Policy Statement for National Networks (2014)
	Paragraph 5.109 "Any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or 3b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows".	National Policy Statement for National Networks (2014)
	Paragraph 5.224 "Activities that discharge to the water environment are subject to pollution control"	National Policy Statement for National Networks (2014)
	Paragraph 5.225 "… impacts on the water environment should be given more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive".	National Policy Statement for National Networks (2014)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	"Improve at least three quarters of our waters to be close to their natural state as soon as is practicable by: […] Reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water".	A Green Future: Our 25 Year Plan to Improve the Environment (2018) - Goal 2 'Clean and plentiful water'
	The Environment Agency regularly assesses the water quality of the UK's waterbodies, however many of these are not achieving the required standards and are often prevented by a number of factors and are described as 'Reasons for Not Achieving Good Status (RNAGS)'. Such pressures include pollution from towns, cities and transport affecting 18% of water bodies.	Water Targets: Detailed Evidence Report, Department for Environment Food and Rural Affairs (2022)
	Regional/Local	
	The overall aim of the WRMP is to develop a system of supply that is reliable, affordable and sustainable. "It ensures that we have an adequate supply to meet demand over the 25 years from 2020 to 2045, whilst ensuring that our supply system is resilient to drought and other hazards. Our proposals for enhanced demand management activities will also enable us to reduce the frequency of implementing drought permits to augment supply by 2025".	United Utilities, Water Resources Management Plan (2019)
	The Climate Action Plan outlines the following objectives for LCR for Water: Work with partners including Mersey Rivers Trust, Environment Agency, United Utilities and Local Authorities to learn lessons from pilot projects in Sefton on water friendly farming, creating mechanisms to allow these lessons to be shared with the agricultural sector across the City Region Map the network of partners and organisations working in water supply, water management and water quality across the City Region, to determine whether there is a need for additional support in this area	Liverpool City Region Year One Climate Action Plan 2021/22
Air Quality	**International**	

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	The Ambient Air Quality Directive provides the current framework for the control of ambient concentrations of air pollution in the EU. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims.	Ambient Air Quality Directive
	These guidelines offer quantitative health-based recommendations for air quality management, expressed as long- or short-term concentrations for a number of key air pollutants. Exceedance of the air quality guideline levels is associated with important risks to public health. These guidelines are not legally binding standards; however, they do provide WHO Member States with an evidence-informed tool that they can use to inform legislation and policy. Ultimately, the goal of these guidelines is to provide guidance to help reduce levels of air pollutants in order to decrease the enormous health burden resulting from exposure to air pollution worldwide.	World Health Organisation (WHO), Global Air Quality Guidelines
	National	
	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration: Reducing the annual mean level of fine particulate matter (PM2.5) in ambient air (as required by the Environment Bill) In the long-term, reducing population exposure to PM2.5	The Environment Act (2021)
	With regards to the transport sector, the 25 Year Environment Plan identifies four 'early' priorities through the 'Future of Mobility Grand Challenge'. These include encouraging new modes of transport; addressing the challenges of moving from hydrocarbon to zero emission vehicles; and Preparing for a future of new mobility services, increased autonomy, journey-sharing and a blurring of the distinctions between private and public transport.	25 Year Environment Plan, HM Government (2018)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	This Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions. Key Policies and Proposals in the Strategy: Develop world leading Green Finance capabilities; Develop a package of measures to support businesses to improve their energy productivity, by at least 20 per cent by 2030; Improving the energy efficiency of our homes; Rolling out low carbon heating; Accelerating the shift to low carbon transport; Delivering clean, smart, flexible power emissions; and Enhancing the benefits and value of our natural resources.	The Clean Growth Strategy, 2017
	Accords air quality considerations substantial weight where, after taking into account mitigation, a scheme would lead to a significant air quality impact in relation to Environmental Impact Assessment (EIA) and/ or where they lead to deterioration in air quality in a zone/ agglomeration.	National Policy Statement for National Networks (2014) – Paragraph 5.12
	This guidance is statutory and all relevant Local Authorities (both district and county level), the Environment Agency and all designated Relevant Public Authorities must have regard to it. The guidance applies to local authority led action to improve local air quality using available levers, including planning, public health and transport responsibilities. In two - tier authorities, it is directly relevant to both district and county councils who have obligations under Part IV of the Environment Act. The guidance is also relevant to Mayoral Combined Authorities, and to external organisations who may need to engage with the local authority to assist in the delivery of their statutory duties on managing air quality.	Defra, Local Air Quality Management Policy Guidance (PG22)
	Addresses action to reduce emissions from transport "as a significant source of emissions of air pollution", in-particular oxides of nitrogen (NOx) – which is responsible for high levels of NO2 in ambient air, especially in urban areas - and particulate (PM10 and PM2.5) emissions.	Clean Air Strategy, 2019
Regional/Local		

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	There is a consensus locally, nationally and internationally around the need to take urgent action to address the significant challenges presented by poor air quality, and nitrogen dioxide specifically. In 2018, the LCRCA examined the issue of poor air quality across the region and agreed a number of recommendations (one of which was to produce this plan), including: Increase in and improvement of air quality monitoring; Fully utilising and aligning the region's funding, transport, planning and economic development powers to create an environment where people have reduced reliance on road transport; Engage with schools and young people who are particularly vulnerable to the effects of poor air quality; Engage with public protection and public health sectors to jointly raise awareness; Promote National Clean Air Day and related campaigns; Promoting low emission vehicles and reducing emissions from existing vehicles; Work on implementing Clean Air Zones	Liverpool City Region Combined Authority, Building Back Better – Improving our Air Quality (2020)
	In keeping with many other local authorities across England and Wales, Liverpool fails to meet the European Union (EU) air quality standard for Nitrogen Dioxide (NO_2) of an annual mean of 40µg/m3. These exceedances are often localised in areas of the city that have higher levels of vehicular traffic (e.g. city centre, arterial roads). Liverpool does however meet the required EU air quality standard for Particulate Matter for both PM10 and PM2.5, though there is still clear evidence that despite being under the standard, health issues still arise across the local population. Through the Clean Air Plan, and the Air Quality Task and Finish Group, as well as further actions such as low emission zones, improving public transport and investing in alternative travel options, LCR can reduce its NO_2 and Particulate Matter emissions.	2020 Air Quality Annual Status Report (ASR), Liverpool City Council
	The Climate Action Plan outlines the following objectives for LCR for Air Quality: ▪ In conjunction with Local Authorities, set out and publish a plan to improve data on air quality to help prioritisation and decision making, utilising existing data resources where possible. ▪ Removing all fossil fuel boilers, saving an estimated 5500 tonnes of direct emissions over the building lifetime (30 years)	Liverpool City Region Five Year Climate Action Plan 2023-28

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	▪ Removing carbon from the atmosphere, which is a function of the type, expanse and the health of these natural systems ▪ Review and implement a fully integrated public transport network that supports large-scale shift from private car usage and improves levels of connectivity	
Climate Change and Greenhouse Gases	**International**	
	The Ambient Air Quality Directive provides the current framework for the control of ambient concentrations of air pollution in the EU. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims.	Ambient Air Quality Directive
	Aims to limit the global warming change to below 2°C above pre-industrial levels. However, countries aim to limit the increase to 1.5°C to reduce the impacts of global warming. The EU has committed to a binding target of a reduction of at least 40% in greenhouse gas emissions by 2030 compared to 1990	The Paris Agreement, 2015
	National	
	Paragraph 154 of the NPPF states that "New development should be planned for in ways that: a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the UK Government's policy for national technical standards."	National Planning Policy Framework (NPPF), 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Improve carbon management and help the transition towards a low carbon economy in the UK. Demonstrate strong UK leadership internationally, showing the commitment to taking shared responsibility for reducing global emissions in the context of developing negotiations on a post-2012 global agreement at Copenhagen in 2009. Greenhouse gas emission reductions through action in the UK and abroad of at least 80% by 2050, and reductions in CO_2 emissions of at least 26% by 2020, against a 1990 baseline.	The Climate Change Act, 2008
	Paragraph 4.38 of the NN NPS states that "New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure." The NN NPS also requires carbon impacts to be considered as part of the appraisal of scheme options, and an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It goes on to state that "it is very unlikely that the impact of a road project will, in isolation, affect the ability of UK Government to meet its carbon reduction plan targets."	Department for Transport, National Policy Statement for National Networks (NN NPS), 2014
	The 25 Year Environment Plan outlines the UK Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. Mitigating and adapting to climate change: Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases. The UK Climate Change Act 2008 commits us to reducing total greenhouse gas emissions by at least 80 per cent by 2050 when compared to 1990 levels; Making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century; and Implementing a sustainable and effective second National Adaptation Programme	A Green Future: Our 25 Year Plan to Improve the Environment, 2018
	The UK has committed to an 80% reduction in its greenhouse gas emissions by 2050. In order to help meet this target, the UK Committee on Climate Change (CCC) has devised a series of interim UK "carbon budgets" as follows:	UK Committee on Climate Change,

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	1st carbon budget (2008 to 2012): 23% reduction; 2nd carbon budget (2013 to 2017): 29% reduction; 3rd carbon budget (2018 to 2022): 35% reduction by 2020; 4th carbon budget (2023 to 2027): 50% reduction by 2025; 5th carbon budget (2028 to 2032): 57% reduction by 2030.	Interim UK Carbon Budgets
	Regional/Local	
	TfN committed to scoping, developing and implementing a 'Pathway to 2050' setting out the challenge of decarbonising surface transport and the need for road transport emissions to be near-zero and rail to be decarbonised by 2050. The decarbonisation trajectory of the plan includes: A 56% reduction in emissions from 2018 to 2030, achieved mostly through mode-shift and demand reduction. A 96% reduction in emissions from 2018 to 2040, reflecting longer-term decarbonisation measures, such as a high proportion of zero-emissions vehicles in the vehicle fleet. A close to zero date of 2045 for carbon emissions from surface transport in the North. This is a challenging benchmark reflecting the ambition of our partners and their desire to push further and faster than current national policy. A total carbon budget of approximately 290 mega-tonnes of CO2 from 2018 to 2050	Transport for the North Transport Decarbonisation Strategy 2019
	This Plan sets out actions for the Combined Authority to 2028. These actions will be critical in helping ensure that the City Region achieves its 2040 net zero carbon emissions target. All six constituent Local Authorities in the Liverpool City Region have declared Climate Emergencies and all are taking action on different aspects of the climate and net zero agenda, reflecting the particular opportunities and challenges in their area. The plan is split into five pillars – Transport, buildings, industry, clean energy and natural environment. Each of these pillars has a number of associated actions, complemented by a series of cross-cutting	Liverpool City Region Five Year Climate Action Plan 2023-28

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	actions. These actions have timescales for completion – short-term (1-2 years), medium-term (3-4 years) and long-term (up to 5 years or potentially running after 2028).	
	"In response to the Covid-19 pandemic, the Economic Recovery Plan for the City Region – Building Back Better – embeds environmental sustainability as one of six principles guiding recovery initiatives. The Plan outlines the opportunities and imperative for a 'greener recovery' committing to engaging with Government on the devolution of tree planting and conservation in alignment with Mersey Forest Partnership's programme to 'Grow Back Greener'." The Combined Authority also intends to commission work on assessing flood risk (from all sources) at a strategic level in the City Region with advice from EA and other partners in order to further develop policy.	Energy and Resources – Our Considerations | Liverpool City Region Combined Authority
	In 2019, the government passed legislation committing the UK to achieve net zero carbon emissions by 2050. In response to this LCRCA's Metro Mayor pledged that LCR would become pioneers of the zero-carbon goals and pledged to achieve a net-zero city by 2040. Since 2019, LCRCA have made great progress towards achieving its net zero carbon goal through means of: ▪ The LCRCA Corporate Plan 2021-2024 – setting out the region's ambitions and strategic objectives towards a 'Green Industrial Revolution'; ▪ The Year One Climate Action Plan, highlighting opportunities and easy wins towards the 2040 goal; ▪ Investment into new cycling and walking infrastructure, procuring a fleet of 20 hydrogen buses, purchasing a £500m fleet of publicly owned energy efficient trains; ▪ Funding 58 environmental projects across LCR through the Mayor's Community Environment Fund and a further 10 environmental projects through the Future Innovation Fund, and; ▪ Developed plans to retrofit 1200 homes to make them more efficient and have approved a Green Bus Routes programme to improve bus journeys on key corridors.	Liverpool City Region Combined Authority Carbon Emissions Report 2019/20

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	▪ The total carbon emission figure for LCRCA's estate and operations for the financial year of 2019/20 was 5,892 tonnes CO2e. As also outlined in the LCRCA Corporate Plan 2021-24, the LCR aims to reduce these emissions by 35% by 2024 in line with the Net Zero 2040 Plan.	
	This report examines the climate resilience policies and objectives mentioned within the local plans for the region (e.g. Liverpool, Knowsley, St Helens etc) and key messages that LCRCA could utilise within its Spatial Development Strategy. Some key factors, and recommendations are as follows: ▪ Consider different scenarios and probabilities; ▪ Support climate-justice based approaches that tackle climate change challenges while ensuring an equitable approach that tackles climate change for everyone; ▪ Support targeted policy interventions through evidence of strategies that specifically reduce risk factors and set out management priorities; ▪ Generate evidence bases for both small scale local issues and also issues that might impact the region as a whole.	Strategic Planning for Climate Resilience: Recommendation to the Liverpool City Region Combined Authority. Royal Town Planning Institute, 2020
	A case study portfolio of some of the good practice examples of climate resilience that have developed in the City Region over the last few years in order to enable more action to increase resilience. Case studies include: Sustainable Buildings at Alder Hey Hospital, River Alt Restoration/Flood Alleviation, Behaviour Change with CLASP, a not-for-profit organisation.	Building Climate Resilience – Good Practice Case Studies in Liverpool City Region, 2017
	Policy NW-CC-1: Proposals that conserve, restore or enhance habitats that provide flood defence or carbon sequestration will be supported. Policy NW-CC-2: Proposals in the north west marine plan areas should demonstrate for the lifetime of the project that they are resilient to the impacts of climate change and coastal change. Policy NW-CC-3:	North West Marine Plan 2021

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Proposals in the north west marine plan areas, and adjacent marine plan areas, that are likely to have significant adverse impact on coastal change, or on climate change adaptation measures inside and outside of the proposed project areas, should only be supported if they can demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate - adverse impacts so they are no longer significant.	
Noise and Vibration	**National**	
	Paragraph 185 state planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.	National Planning Policy Framework (NPPF), 2021
	Paragraph 5.193 states that developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the UK Government's associated planning guidance on noise. Paragraph 5.192 states that the Secretary of State should not grant development consent unless satisfied that the proposals will meet, the following aims, within the context of UK Government policy on sustainable development: avoid significant adverse impacts on health and quality of life from noise as a result of the new development; mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and	National Networks National Policy Statement (NN NPS) (2014)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	contribute to improvements to health and quality of life through the effective management and control of noise, where possible.	
	The long-term vision for the Noise Policy Statement for England is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."	Noise Policy Statement for England (2010)
	Regional/Local	
	Policy R1 states that development proposals which are likely to have a pollution impact should demonstrate that the impact of noise, vibration and lighting will not be significant.	Liverpool Local Plan 2013 -2033
	Policy WD14

Development proposals with the potential to give rise to pollution to soil, air or water or from insects, noise or artificial light or increase the risk of accident hazard will not normally be permitted unless it can be clearly demonstrated that:

1. all practical measures have been taken to minimise potential risk and harm to human health and safety, nature conservation interests, property and the built and natural environment; and

2. all practical measures have been taken to minimise pollution levels and mitigate the impacts of the pollution, including exposure to air pollution; and

3. the residual risk of harm to human health and the environment will be acceptable and will not cause unacceptable harm to the general amenity of neighbouring uses and the character of the area, either individually or cumulatively. | Wirral Local Plan Draft 2021-2037 |
| | Policy CS23: Managing Pollution and Risk

To control development which may give rise to pollution: Development proposals should not exacerbate and where possible, should minimise, all forms of emissions and odour, water, noise and light pollution. | Halton Local Plan 2022 |

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Policy CS2 – Principle 4: Recognise environmental limits, protect and enhance environmental assets, enhance local character and promote quality of place by mitigating potential negative impacts of traffic growth and road traffic on highway safety, air quality, noise and health.	Knowsley Local Plan Core Strategy 2016
	Policy EQ4: Pollution and Hazards - Development proposals should demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise the risks of adverse impacts which include amenity, damage to health and wellbeing, property and the natural environment (including internationally important nature sites) from noise/vibration, dust, odour or artificial light pollution.	A Local Plan for Sefton 2017
	Policy LPA06: Transport and Travel: To minimise air and noise pollution and carbon emissions, non-residential forms of development that would generate a significant amount of transport movement by employees or visitors must be supported by suitably formulated Travel Plans. Conditions and/or legal agreements will be used to ensure that Travel Plans submitted in such cases are fully implemented and monitored. Policy LPD01: Ensuring Quality Development: All proposals for development will be expected, as appropriate having regard to their scale, location, and nature, to meet or exceed the following requirements: Minimise and mitigate to acceptable levels any effects that the development may have on air quality; light, land and / or water pollution (including contamination of soil, surface water and groundwater resources); and levels of noise, vibration, smells, dust and electromagnetic fields in the area	St Helens Borough Local Plan up to 2037
Material Assets	**National**	
	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration increase resource productivity reduce the volume of 'residual' waste we generate	The Environment Act (2021)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Paragraph 174 states: "… contribute to and enhance the natural and local environment by: Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils…; Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability…; and Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate". Paragraph 17 also seeks to facilitate the sustainable use of minerals. Paragraph 210 encourages so far as practicable, planning policies should *"take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously"*.	National Planning Policy Framework (NPPF), 2021
	Paragraph 5.117 requires land stability to be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. Paragraph 5.168 states *"Applicants should also identify any effects, and seek to minimise impacts, on soil quality, considering any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this"*. Paragraph 5.19 states *"Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout and use of materials) in both design and construction should be presented"*.	National Policy Statement for National Networks (NN NPS) (2014)
	Goal 5 'Clean and plentiful water' involves using resources from nature more sustainably and efficiently. The plan states: *"Improve our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches"*.	A Green Future: Our 25 Year Plan to Improve the Environment (2018)

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	Sets out how the UK Government aims to preserve material resources by minimising waste, promoting resource efficiency and moving towards a circular economy in England.	Out Waste, Our Resources: A Strategy for England (2018)
	Regional/Local	
	The Plan outlines actions and objectives for waste such as:

Develop a Zero Waste 2040 strategy for all wastes in the City Region, including action plans to reach 55% re-use and recycling by 2025
Moved towards a circular economy through improving effective material resources management by all organisations, and the promotion of positive behaviours from manufacturers and consumers;
Conduct a Circular City Region Scan to understand how barriers can be overcome and opportunities taken, as well as guidance on how to embed the circular economy in the region;
Conduct a waste composition analysis to help inform future decisions around waste reduction, reuse and recycling;
Develop and support the creation of an LCR Reuse Network consisting of reuse, repair, upcycling and sharing hubs to support waste reduction;
Implement the National Waste and Resources Strategy at City Region level. | Liverpool City Region Year One Climate Action Plan 2021/22 |
| | "The LCR generates lower levels of household waste per person than regional and national equivalent figures (2018/2019). Rates of recycling have been experiencing a decline in recent years although targets to limit the amount of residual waste sent to landfill are being met (currently approx. 4%), with almost all remaining residual waste being recovered for energy."

"In terms of mineral resources, there is little in the way of extraction of land won (or primary) minerals in the LCR although historically this has been significant. The City Region does, by virtue of its port facilities, play a key role in the landing and subsequent distribution of marine-won aggregate resources (sand and gravel). It also has a number of facilities processing construction, demolition and excavation waste contributing to the supply of recycled aggregates. The LCR is one of the North West's main consumers of aggregate minerals needed in construction." | Energy and Resources – Our Considerations | Liverpool City Region Combined Authority |

IIA Topic	Messages/Issues for the development of the Transport Plan	Document
	"The draft LCR Local Industrial Strategy (LIS) reaffirms the ambition to become a leading clean and green City Region, pioneering approaches and initiatives in the transition towards a zero carbon economy. Key commitments include the delivery of energy infrastructure including the Mersey Tidal Energy Project; and embedding the principles of a circular economy and resource efficiency, with an ambition to be zero waste by 2040."	
	The Merseyside Recycling and Waste Authority is helping the Liverpool City Region to achieve its zero carbon by 2040 target by making the most efficient use of resources, maximising reuse, recycling and recovery.

Through the development of the Climate Action Plan, the MRWA has ensured it will respond effectively to the emergency and have identified the following core areas for action:

Energy conservation, consumption, and production
Closed landfill management – gas and waste water control
Waste stream and waste treatment impacts
Food Waste

The MRWA Community Fund also invests in projects that will benefit communities across the Liverpool City Region, and which have the potential to reuse, upcycle and prevent waste, save money and avoid landfill. | Zero Waste, Merseyside Recycling and Waste Authority |
| | "The Merseyside and Halton Joint Waste Local Plan was adopted as part of the Local Plans of the six constituent authorities in July 2013. The Plan provides a range of policies and site allocations aimed at supporting a sustainable waste management framework for the Liverpool City Region for the period up to 2027." | Merseyside and Halton Joint Waste Local Plan (2013) |

Appendix D

BASELINE INFORMATION

12.2 INTRODUCTION

12.2.1. This section sets out the key baseline information for each of the IIA topics, as well as anticipated future trends without the implementation of the LTP4. It also identifies key issues and opportunities for sustainability in relation to LTP4, which have been used to develop an appraisal framework in Section 6.

12.3 POPULATION AND EQUALITIES

Summary of Current Baseline

The Liverpool City Region (LCR) has a total population of approximately 1,551,400 people[16]. Out of the Local Authorities (LAs) within the LCR, Liverpool has the highest population density of 486,100 people per square kilometre, compared to Halton which has the lowest at 128,200 people per square kilometre[16] However, this is still much higher than the regional and national population density averages of 526 people per square kilometre, and 434 people per square kilometre, respectively.

The LCR is predominantly urban, however in 2011,11.3% of the total population lived in rural areas[17].

The highest proportion of people within the LCR are aged between 55 to 59 years and make up 7.1% of the total population. The percentage of those aged 65+ years within LCR is 19.2% which is higher than the national average of 18.6%. The highest population of elderly people are located within Sefton with 23.2%. Spatially, residents aged 65 and above tend to live away from major population centres and are more concentrated around the rural parts of the LCR[18].

Within the LCR, 51.4% of the population are females and 48.6% are males. This is comparable to both the North West average (50.9% females and 49.1% males) and the national average (48.4% females and 46.4% males)[16].

According to the 2021 Census data, 93.2% of the population of the LCRCA region are White, 0.13% are Gypsy, Irish Traveller or Roma, 1.78% are mixed ethnicity, 3.35% are black, Asian and minority

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[16] Office for National Statistics Population and household estimates, England and Wales: Census 2021. Available online at:
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationandhouseholdestimatesenglandandwalescensus2021
[17] GOV.UK (2021) 2011 Local Authority Rural Urban Classification. Available online at:
https://www.gov.uk/government/statistics/2011-rural-urban-classification-of-local-authority-and-other-higher-level-geographies-for-statistical-purposes
[18] Liverpool City Region Spatial Development Strategy: Evidence Base. Available online at: https://www.liverpoolcityregion-ca.gov.uk/sds/

ethnic (BAME) and 0.62% other. Liverpool is the most ethnically diverse of the LAs, where 9% of the population identify as BAME, 4% as mixed ethnicity and 1.6% as other[19].

The majority of the residents within the LCR are Christian (60.7%), followed by no religion (31.5%), Muslim (1.5%), Hindu (0.41%), Other (0.37%), Buddhist (0.27%), Jewish (0.12%), and Sikh (0.05%)[20]. However, over 5% of people did not answer the Census question about religious belief.

Looking at the Indices of Multiple Deprivation (IMD) in 2019[21], the LCRCA region contains neighbourhoods ranging from 10% most deprived to 10% least deprived, see **Figure E2** in **Appendix E**. However, the LCR is ranked the most deprived of England's 38 Local Enterprise Partnership areas for multiple deprivation[22], with residents in almost one third of all the neighbourhoods in the LCR experiencing high levels of multiple deprivation. The breakdown of these most deprived neighbourhoods can be seen in **Table D-1**. These are particularly concentrated in east Wirral, north Liverpool, south Sefton and north Knowsley. Liverpool is also considered the fourth most deprived of the 317 local authorities in England.

Table D-2 - Overview of LCR's LSOAs and population in selected deprivation percentiles

	% of LSOAS	Population
1% most deprived	7.5	115,125
10% most deprived	33.9	523,309
. **20% most deprived**	. 47.4	. 737,695

FUTURE TRENDS

The North West as a whole is predicted to see a population increase of approximately 4% by mid-2028[23]. In the LCR, population is estimated to increase to 1.68 million people by 2043[23], which is

1.1.1.   [19] Office for National Statistics. Ethnic group, England and Wales: Census 2021. Available online at: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/bulletins/ethnicgroupenglandandwales/census2021

[20] Office for National Statistics, Religion, England and Wales: Census 2021. Available online at: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/religion/bulletins/religionenglandandwales/census2021
[21] Ministry of Housing, Communities and Local Government, Indices of Multiple Deprivation 2019. Available online at: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

1.1.2.   [22] Liverpool City Council, The Index of Multiple Deprivation 2019 A Liverpool analysis. Available online at: https://liverpool.gov.uk/media/1359213/imd-2019-liverpool-analysis-main-report.pdf

[23] Office for National Statistics, Subnational population projections for England: 2018-based. Available online at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2018based

higher than the North West prediction. The population isn't just growing it is also becoming older and more diverse. This is likely to increase the demand for services, facilities and health and social care, putting additional strain on these existing services.

Population projections by the Office for National Statistics suggest that, by 2050, the 65 and over population will be 24.7% of England's total population. By 2032, it is anticipated that more people will be living on their own, making up 40% of all households nationally[24]. The number of over 85s living alone is expected to more than double to 1.4 million nationally so social isolation could become a more prevalent issue.

In 2016, 14% of the working age population in the UK were from a BAME background. This is increasing, with the proportion expected to rise to 21% by 2051. The working population within the LCR region is likely to become increasingly diverse, as indicated by this national trend.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-2**.

Table D-3 - Issues and Opportunities for Population and Equalities

Sustainability Issues	Opportunities for the LTP4
Transport issues affect different groups to varying extents, with barriers to accessing and using transport exacerbated by age, ethnicity and gender; There are opportunities to improve access to facilities and services for the elderly, young adults and rural communities; The population of the LCR is predicted to increase both in number and age profile; Changing work patterns such as remote, internet-based jobs and working from home are likely to reduce transport demand, particularly after Covid-19, but may also increase social isolation, which could increase reliance on alternative social interaction; and The change in working habitats has also affected traditional 5/2 day shift patterns for public transport with one in 10 local bus services in the UK cancelled in 2022[25]	There are opportunities to improve access through transport services, digital services and by bringing services to people; There will be a need for adequate support and greater access to services and facilities for the elderly population, families with young children and single parent families; Increasing and improving access will enable more disabled people to access work, allowing people to reach their potential and to achieve economic independence; and Despite being predominantly urban, the LTP4 should seek opportunities to improve connectivity in rural areas.

HUMAN HEALTH

CURRENT BASELINE

The average life expectancy (at birth) across the LCR is lower than the national average (79.5 years for males and 83.2 for females) for both males and females at 78 years and 81.8 years respectively. When looking at the individual LAs, the life expectancy for both males and females in Liverpool,

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[24] The Kings Fund. 2012. Demography: Future Trends. Available online at: https://www.kingsfund.org.uk/projects/time-think-differently/trends-demography

[25] The Guardian (2033) Almost one in 10 local bus services axed over last year in Great Britain. Available online at: https://www.theguardian.com/uk-news/2023/jan/24/almost-one-10-local-bus-services-axed-last-year-great-britain?utm_source=substack&utm_medium=email

Halton, St. Helens, Sefton, and Wirral are significantly lower than lower than the national average. Knowsley has the highest life expectancy at 80.6 years for males and 83.8 years for females.

The percentage of physically active adults varies across the LCR. Similar levels to the national average of 66.3% are recorded in Liverpool (66.4%), however physical activity in Halton (62.8%), St. Helens (61.7%), Sefton (63.7%), Wirral (62.1%), and Knowsley (63.3%) are all significantly worse than the national average[26].

The percentage of adults who are overweight or obese in the LCR is significantly higher than the national average (62%) at 69.1%. Similar levels of obesity to the national are seen in Liverpool (62.4%), and Wirral (62.5%). Conversely, levels in Halton, St. Helens, Sefton and Knowsley are significantly worse the national average[26].

All LAs within the LCR also have a higher obesity rate amongst Year 6 children compared to the national average[18]. Spatially, these children tend to be residing in more urban areas of the LCR where takeaways are more concentrated, such as central Liverpool, east Wirral and south Sefton. Two-thirds of educational institutions within the LCR are within 400 metres of a takeaway establishment, which is likely to exacerbate child obesity. In Liverpool, the figure is almost 80%[18].

Overall, the health in the LCR is varied, with Liverpool, Halton, and Knowsley all described as having levels of health that are generally worse than the national average[26]. In the LCR, 22.7% of the population are disabled or living with a long-term illness that impacts their day-to-day activities, which is higher than the national average of 17.8%[27].

This trend is reflected within the IMD 2019 health and disability deprivation figures. This domain measures the risk of premature death and the impairment of quality of life through poor physical or mental health. The LCR has a large number of neighbourhoods with high concentrations of health deprivation, indicating poor health outcomes and high levels of work-limiting illness and disability. These are shown in **Figure E3** in **Appendix E**.

In LCR, 47% of neighbourhoods are in the top 10% most deprived in the country, underlining the extent of poor health, and potentially mobility issues[18]. In addition to this, 82,205 children in the Liverpool City Region live in poverty (25.6% of all children)[28].

Poor air quality is a significant public health issue and there is clear evidence that particulate matter has a significant contributory role in mortality. Each year in the UK between 28,000 and 36,000 deaths a year are attributed to long-term exposure to poor air quality[29]. Air pollution can also be linked to cardiovascular disease, diabetes and dementia. Sufferers of chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD) and asthma are especially vulnerable to the

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[26] Office for Health Improvement and Disparities. Local Authority Health Profiles (2019). Available online at: https://fingertips.phe.org.uk/profile/health-profiles/data#page/13/gid/1938132696/pat/6/ati/102/are/E08000012/iid/90366/age/1/sex/1/cat/-1/ctp/-1/yrr/3/cid/4/tbm/1
[27] Liverpool City Region Combined Authority 2022. Equality Strategy.
[28] Liverpool City Region, Child Poverty and Life Chances Strategy 2015-2018
[29] Gov.uk, Public Health England publishes air pollution evidence review, 2019 [online] available at: https://www.gov.uk/government/news/public-health-england-publishes-air-pollution-evidence-review

effects of air pollutants. Air pollution has also been shown to have an increased health impact on those in lower socio-economic groups.

There are several AQMAs located in the LCR that identify areas of higher air pollution that may affect health, particularly in the vicinity of AQMAs.

The LCR has a higher rate of emergency hospital admissions for COPD when compared to the national average (415 people per 100,000 people), at 624 people per 100,000 people[26]. The mortality rate (under 75 years) from all causes in the LCR is 435 people per 100,000 people. This is significantly higher than the regional and national averages of 398 people per 100,000 people and 336.5 people per 100,000 people, respectively[26]

FUTURE TRENDS

The population of older people in the LCR is expected to continue to grow in the future, which may cause a strain on services, community facilities, and transportation due to rising inequalities in healthcare.

A population with a larger proportion of older people will likely result in an increase in the number of people in the LCR with physical and sensory impairments which could result in a greater demand for access to health and social care services.

The anticipated population growth and the increasing affordability and convenience of car travel is likely to result in an increase in the number of private vehicles on the roads. This could have cumulative effects on air quality, noise pollution and public health if current trends continue.

Reduced levels of physical activity is a growing issue nationally, with fewer people reporting that they are achieving the level of activity recommended by the NHS. Effective transport planning can play a role in encouraging active transport choices (e.g. walking and cycling) as well as improving accessibility to sports and recreation facilities. Continued traffic growth without adequate provision for pedestrian and cyclists facilities is unsustainable.

Social isolation and loneliness are also likely to become more prevalent in LCR as more people work from home, particularly due to and following the Covid-19 pandemic, and as the population ages. This has the potential to undermine well-being, thereby impacting negatively on people's quality of life. Social isolation and loneliness are also associated with increasing the likelihood of sensory and mobility impairments and deteriorating health.

Air pollution has been linked to diabetes and dementia – both chronic illnesses in the UK are expected to rise in future. Increased mortality and morbidity amongst diabetics is associated with increased nitrogen dioxide concentrations with long term exposure to traffic borne air pollution positively correlating with incidence of type two diabetes and increased mortality among diabetics[30].

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[30] Committee on the Medical Effects of Air Pollutants (COMEAP), The Mortality Effects of Long-Term Exposure to Particulate Air Pollution in the United Kingdom, 2010. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/304641/COMEAP_mortality_effects_of_long_term_exposure.pdf

Addressing poor air quality within the LCR is an important element of their climate emergency declaration. The Air Quality Action Plan 2020[31] sets out visions and actions to improve air quality within the region. These include replacing polluting buses with greener hydrogen models, retrofitting homes to make them more energy efficient and encouraging people to walk instead of drive using the 600m walking and cycling network that the LCR are currently building.

In 2022, the government published the Levelling Up white paper[32], setting out a broad approach to rebalancing the UK economy and addressing significant regional inequalities that restrict people, places and prosperity. If the Levelling Up and Regeneration Bill come into force, there is further potential to reduce inequalities, improving health outcomes.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-3**.

Table D-4 - Issues and Opportunities for Human Health

Sustainability Issues	Opportunities for the LTP4
The population of the region is ageing; older people may not have access to appropriate forms of private transport to access healthcare, community, and social care facilities. Levels of car ownership within the LCR are lower than regional and national averages which can present equality issues between those who have private means to travel and those that do not, due to cost, confidence or availability[Error! Bookmark not defined.]. There are high levels of physical inactivity and obesity within the LCR. Health inequalities are high within the LCR.	The transport plan should maximise opportunities to enhance walking and cycling routes and encourage the use of non-motorised forms of transport. This will help to improve both access and levels of physical activity within the region; There are opportunities to provide high quality green infrastructure which can help to provide green liveable places that enable people to experience and connect with nature; There will be an ongoing need to provide inclusive services in order to meet the needs of older residents; and There will be a need to improve public transport users' confidence in returning to public transport post-Covid19.

ECONOMY AND EMPLOYMENT

SUMMARY OF CURRENT BASELINE

In 2021, 60.3% of the population within the LCR are of working age (between 16-64 years) which is slightly lower than both the regional and national averages of 62.5% and 62.9% respectively. Of the

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[31] Liverpool city Region Combined Authority (2020) Air Quality Action Plan. Available online at: https://www.liverpoolcityregion-ca.gov.uk/air-quality/

[32] Department for Levelling Up, Housing and Communities, Levelling Up and Regeneration. Available online at: https://www.gov.uk/government/publications/levelling-up-and-regeneration-further-information/levelling-up-and-regeneration-further-information

LAs within the LCR, Liverpool has the highest working age population at 65.6% and Wirral and Sefton have the lowest at 58%.

Liverpool city centre is the LCR's major economic hub, containing a large concentration of jobs. Other town centres such as Birkenhead, St Helens and Runcorn, and employment sites, such as Halewood and Knowsley Industrial Park, also have a large cluster of employability[18] However, the LCR has a relatively low number of jobs compared to its size. This is primarily due to job supply and high economic inactivity rates[18].

The LCR has one of the highest economic inactivity rates in England. From 2019 to 2020, 23.7% of the LCR's working age population were economically inactive[18], compared to 21.9% in the North West and 20.9% in England[33].

This is also demonstrated by the lower than national average productivity levels within the LCR. The LCR generates £20.4k of GVA per head compared to £27.1k of GVA per head nationally[34].

Those with lower levels of qualifications are more likely to be economically inactive[18]. **Table D-4** shows the breakdown of qualifications in the LCR compared to regional and national averages. Even though the number of residents with no qualification has more than halved since 2004[18], the percentage of residents without qualifications is still higher than regional and national averages at 7.9%[33].

Table D-5 - Qualification levels

	Liverpool City Region (%)	North West (%)	Great Britain (%)
NVQ4 and Above	39.4	38.6	43.6
NVQ3 and Above	58.8	58.2	61.5
NVQ2 and Above	78.2	77.2	78.1
NVQ1 and Above	86.8	87.2	87.5
No Qualifications	7.9	7.5	6.6

There are 48,000 active business in the LCR, as of 2017[34]. **Table D-5** shows the LCR's key economic sectors compared to regional and national averages. Human health and social activities are the largest economic sector in the LCR, with a higher employment rate than the national average. This is followed by wholesale and retail trade; repair of motor vehicles and motorcycles, education, accommodation and food services, and administration and support services.

Table D-6 - Employment by economic sector[33]

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[33] Nomis (2021) Labour Market Profile. Available online at: https://www.nomisweb.co.uk/reports/lmp/la/contents.aspx
[34] Liverpool City Region Local Industrial Strategy Evidence base (2019). Available online at: https://moderngov.merseytravel.gov.uk/documents/s38475/LIS%20Evidence%20Base%20Summary%20Deck.pdf

Industry	Liverpool City Region (%)	North West (%)	Great Britain (%)
B : Mining And Quarrying	0.1	0.1	0.1
C : Manufacturing	7.0	8.6	7.6
D : Electricity, Gas, Steam And Air Conditioning Supply	0.1	0.5	0.4
E : Water Supply; Sewerage, Waste Management And Remediation Activities	0.4	0.5	0.7
F : Construction	4.8	5.4	4.9
G : Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	13.2	14.6	14.4
H : Transportation And Storage	5.8	5.4	5.1
I : Accommodation And Food Service Activities	8.2	7.9	7.5
J : Information And Communication	2.2	2.8	4.5
K : Financial And Insurance Activities	3.0	3.5	3.6
L : Real Estate Activities	2.1	2.0	1.8
M : Professional, Scientific And Technical Activities	6.8	8.9	8.9
N : Administrative And Support Service Activities	7.3	8.3	8.9
O : Public Administration And Defence; Compulsory Social Security	6.2	4.9	4.6
P : Education	8.6	7.9	8.8
Q : Human Health And Social Work Activities	20.2	15.0	13.7
R : Arts, Entertainment And Recreation	2.7	2.2	2.3
S : Other Service Activities	1.5	1.5	1.9

The LCR plays a key role in automotive manufacturing. The LCR is home to Jaguar Land Rover (based in Halewood) and the specialist Briggs Automotive Company (BAC) which produce 20 supercars each year. Across the sector there are approximately 55 businesses, employing more than 7,000 people, which are growing considerably faster than the UK average[34].

Pharmaceutical, life sciences and healthcare sectors also contribute highly to the LCR's economy. In 2017, the sectors contributed in excess of £4.5bn of GVA and providing c. 102,000 jobs[34].

There are ferry terminals in Liverpool which create links to Dublin, Belfast and the Isle of Man. The Port of Liverpool (Seaforth, Liverpool and Birkenhead) and Garston provide trading links across the world and are a major freight gateway. Liverpool is also an increasing popular calling point for certain cruise liners. The airport provides key international links and brings significant income to the city region through jobs and supply chain.

The visitor economy in the LCR is worth £4.9bn and supports over 55,500 jobs[35]. This continues to develop as a major growth sector bringing both economic benefits and reputational advantages. Major sporting activities, such as the Grand National at Aintree, the Open Golf (at Hoylake or Birkdale) and the two Premier League football teams contribute to that, as well as a thriving arts and cultural scene and a range of conference and concert venues. Some examples Major tourist attractions in the region include:

Liverpool City Centre and Waterfront
Museum of Liverpool
Royal Albert Dock Liverpool
Liverpool Cathedrals (both Anglican and Metropolitan)
The Beatles Museum
Anfield Stadium
Walker Art Gallery and World Museum
Lady Lever Art Gallery
Wirral Country Park
Southport Beach and Marine Lake
Crosby Beach and the Another Place figures (Iron Men)
Knowsley Safari Park
Norton Priory Museum and Gardens
Carr Mill Dam

FUTURE TRENDS

The rising population in the region is accelerating the need for the delivery of additional services and infrastructure. Growth in jobs is also anticipated in order to close the gap between increases in population and the need for employment. There is a need for improving accessibility to these jobs and training opportunities, particularly given that levels of economic inactivity and those with no qualifications are significant.

The LCR are currently working towards being fully connected to the HS2 network via a new twin-track line between Liverpool and Manchester as part of Northern Powerhouse Rail. This will help to meet capacity needed for the doubling in passenger numbers by 2040, meaning faster journeys, and will free-up space on the existing network to make the most of investments in the freight and logistics sector in the city region.

Evidence shows that linking Liverpool to HS2 and Northern Powerhouse Rail in this way will generate an extra £15 billion boost to the city region's economy, including 24,000 new jobs, 11,000 new homes and 3.7 million more visitors every year[36].

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[35] Liverpool City Region Local Enterprise Partnership (2019) Visitor Economy. Available online at: https://www.liverpoollep.org/growth-sectors/visitor-economy/
[36] Liverpool City Region's Transport Infrastructure. Available online at: https://www.liverpoolcityregion-ca.gov.uk/what-we-do/transport/

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-6**.

Table D-7 - Issues and Opportunities for Economy and Employment

Sustainability Issues	Opportunities for the LTP4
There are high levels of economic inactivity and residents with no qualifications; There is a low density of jobs within the LCR compared to regional and national averages; The region is also dependant on health and social care, and retail jobs which are generally considered to be low paid.	The LCR is in a prime location for new and existing business, benefiting from being well connected to air, rail and maritime transport; There is the potential to improve connectivity between business which will help to improve access to the skills pool as well supporting improvements in productivity. Linking Liverpool to HS2 and Northern Powerhouse Rail will be transformative across the LCR, providing opportunities for increased economic growth, prosperity and employment.

COMMUNITY SAFETY

SUMMARY OF CURRENT BASELINE

Taking an average across the LCR's LAs, 89.1 people (per 100,000 resident population) are killed or seriously injured (KSI) on the region's roads each year. Of the LAs, Knowsley has the lowest number of people killed or seriously injured on the roads at 44.7 people (per 100,000 resident population), whilst Liverpool has the highest with 122 people (per 100,000 resident population) far exceeding the national average of 86.1 people.

The North West is the second safest region in England. The overall crime rate in the North West in 2021 was 51 crimes per 1,000 people, and the most common crimes were violence and sexual offences, which happened to roughly every 24 out of 1,000 residents[37].

Compared to the regional average, the LCR average crime rate is much higher at approximately 149 crimes out of 1,000 residents. Of the LAs in the LCR, Sefton had the highest overall crime rate at 238 crimes per 1,000 people. Birkenhead and St Helens have the second and third highest crime rates of larger towns in the North West after Blackpool[37].

A survey run by the Merseyside Police and Crime Commissioner found that 54% of women felt unsafe using public transport in Merseyside at night and nearly 42% had concerns about using it in the day[38].

12.3.15. With regards to crime deprivation, levels of deprivation are varied across the LCR. Of the LAs within the LCR, Liverpool has the highest crime deprivation levels, ranking 23rd out of 317 local authorities within the UK (an indicator of 1st being the most deprived neighbourhood, and 317 being the least

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[37] CrimeRate. Merseyside Crime Statistics. Available online at: https://crimerate.co.uk/merseyside
[38] Emily Spurrell Merseyside Police and Crime Commissioner (2022) Safer Streets for Women in Liverpool. Available online at: https://www.merseysidepcc.info/news-and-events/news/safer-streets-for-women-in-liverpool/

deprived neighbourhood)[21]. The least deprived LA within the LCR is Wirral, ranking 135th out of 317 local authorities within the UK[5]. These are shown in **Figure E4** in **Appendix E**.

FUTURE TRENDS

As the population of the LCR increases, and the level of car ownership increases from the current lower than average levels, there are expected to be a greater number of vehicles on the region's roads, which may result in an increase in the number of accidents and those KSI on roads.

However, the implementation of the Liverpool City Region Road Safety Strategy commits to a 'Vision Zero' target that by 2040 no one will be KSI on the roads within the LCR[39]. The strategy is supported by all the LAs and Merseyside Police and aims to reduce serious road accidents in the LCR by focussing on four key pillars; 'Safe Speeds, Safe Streets, Safe Vehicles, and Safe Behaviour'.

In response to the Merseyside Police and Crime Commissioner survey, the Safer Streets Liverpool scheme aims to provide multiple ways to improve safety on public transport. These include[38]:

Enhanced CCTV coverage at city centre bus stations;

New 'help points' connected to the CityWatch control room and better links with emergency services;

'Safe spaces' for anyone who feels vulnerable within travel centres at each of the bus stations;

Bus drivers and frontline bus station staff to receive 'bystander training' to better understand and know how to prevent sexual violence. The training will equip them to act as 'guardians', to make passengers feel safer;

A new text message service, specifically requested by young people, which can be used to report concerns and help to identify offenders;

Educational training for up to 70 schools across Liverpool raising awareness of sexual harassment and misogyny;

Increased police and uniformed presence on the transport network;

Monthly awareness events and partnership days at transport hubs; and

The use of the mobile police unit in hotspot areas and at times when women feel most unsafe.

Issues and Opportunities

12.3.16. The following sustainability issues and opportunities have been identified in **Table D-7**.

Table D-8 - Issues and Opportunities for Community Safety

Sustainability Issues	Opportunities for the LTP4
Crimes rates are high within the LCR, particularly with regards to sexual assault and violence which are also the crimes most likely to occur on public transport.	There are opportunities for LTP4 proposals to include designing out crime principles, particularly in those areas with high crime rates and crime deprivation.

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[39] Liverpool City Region Road and Safety Strategy. Available online at: https://www.liverpoolcityregion-ca.gov.uk/governance/policy-documents/#transport

Sustainability Issues	Opportunities for the LTP4
There are areas across the region which have high levels of crime deprivation. Children in the most deprived neighbourhoods are nearly three times more likely to be KSI as a pedestrian compared to non-deprived neighbourhoods[40] Vulnerable road users such as cyclists and pedestrians are more likely to be traffic accident casualties; As the population within the LCR increases there are expected to be a greater number of vehicles on the borough's roads, which may result in an increase in the number of accidents and those KSI on roads; and Wildlife collisions can also result in safety risks on the road and rail networks.	The LTP could help to increase engagement within communities to encourage the reporting of crimes on the transport network as well as ensuring safety for all transport users; The LTP should seek opportunities to increase the safety of active transport modes such as cycling and walking. The LTP should support the implementation of the Liverpool City Region Road Safety Strategy; There are also opportunities to improve safety on public transport across the region, especially for women, in line with the Safer Streets Liverpool scheme.

BIODIVERSITY AND NATURAL CAPITAL

SUMMARY OF CURRENT BASELINE

The LCR is predominantly urban area, however there are several nationally and locally designated sites within the LCR including:

Sites of Special Scientific Interest (SSSI);
Local Nature Reserves (LNR); and
National Nature Reserves (NNR)

In addition to these, there are also 11 internationally designated sites within the LCR region, outlined in **Table D-8**. These designated sites encompass a range of coastal habitats and species including, rare amphibians, fish, a rare liverwort and a range of wintering, passage and breeding waterbirds[41]. For example Sefton Coast SAC supports 40% of the UK's population of Natterjack toads.

Table D-9 - Internationally designated sites within the LCR[42]

Ramsar	Special Area for Conservation (SAC)	Special Protection Areas (SPA)
Ribble and Alt Estuaries	Sefton Coast Dee Estuary	Ribble and Alt Estuaries Mersey Estuary

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[40] Centre for Transport Studies, Road Safety Research Briefing 1: Children and Traffic: Those in deprived areas still at disproportionate risk. Available online at: https://www.ucl.ac.uk/transport/sites/transport/files/deprivation-and-road-safety-children.pdf

[41] Merseyside Environmental Advisory Service, 2021. Towards a Liverpool City Region European Sites Recreation Mitigation & Avoidance Strategy – Evidence Report (Version 24). Available online at: http://www.meas.org.uk/media/11039/LCR_RMS_EvidenceReport_v24_Optv2.pdf

[42] Defra (n.d) Magic Maps Available online at: https://magic.defra.gov.uk/MagicMap.aspx

Ramsar	Special Area for Conservation (SAC)	Special Protection Areas (SPA)
Mersey Estuary Mersey Narrows and North Wirral Foreshore Dee Estuary		Mersey Narrows and North Wirral Foreshore Dee Estuary Liverpool Bay

All designated sites are shown in **Figure E5** and **Figure E6** in **Appendix E**.

There are 29 habitats recognised as being of 'principal importance' for the conservation of biological diversity in England under section 41 of the Natural Environment and Rural Community (NERC) Act 2006[43]. Priority habitats are a focus for conservation action in England. These habitats include (but are not limited to) coastal saltmarsh, coastal sand dunes, intertidal mudflats, saline lagoons, lowland calcareous grassland, lowland heathland, reedbeds, and lowland mixed deciduous woodland. The region's coastal habitats are particularly important but it also contains some areas of ancient and semi-natural woodland, which are a valuable resource. As well as providing ecologically rich habitats for wildlife, woodlands play an important role in flood amelioration, soil conservation, carbon storage, recreation and tourism. The LCR supports nearly 66 million visits per year mainly to it's coastline at an annual value of £236 million (PV 6.02Bn), with associated greenspace supporting an estimated 144,586 active visits per year[44].

Carbon storage sequestration, air pollution and noise regulation are largely dependent on woodland habitat. Within the LCR, this is relatively low with the majority of these processes occurring outside of the urban centres. The region's woodland sequesters 32,560 tonnes of carbon every year, with an annual value of £2.22M (present value (PV) 127.6M over 50 years). The woodland and grassland also capture 213 tonnes of PM2.5 with an annual value of £29.96M (PV 1.05Bn)[29].

The River Mersey, the Mersey Estuary and the coastal areas are also important for local climate regulation, providing an important cooling service[44].

FUTURE TRENDS

The 2019 State of Nature Report highlights the general decrease in biodiversity in the UK. Since 1970, species abundance has decreased by 13% and species distribution has decreased by 5%. Of the 8,431 species that have been assessed using the International Union for Conservation of Nature (IUCN) Regional Red List criteria, 15% are currently threatened with extinction from Great Britain and 2% are already extinct.

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[43] Liverpool City Region Ecological Network, 2015. Available online at: http://lcreconet.uk/

[44] Natural Capital Solutions 2020. Baseline natural capital assessment for the Liverpool City Region. Available online at: https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/LCR-Natural-Capital-Baseline-Report.pdf

The UK is one of the worst rated nations for biodiversity loss[45]. Rising population and urbanisation of natural areas can further exacerbate decreases in biodiversity. Biodiversity is also under threat from climate change, with changing temperatures and extreme weather events resulting in the loss, degradation and movement of species and habitats.

Climate change presents another threat to natural capital and biodiversity. Current IPCC predictions for temperature increases are expected to be 2°C by the middle of the 21st century. This increase in temperature is expected to lead to increases in flooding events, northward colonisation of species in the UK, and increase in invasive species. Increased flooding will need to be mitigated. In order to preserve biodiversity and natural habitats, soft engineering and nature-based solutions will need to be used over traditional hard engineering. Northward migration of species is likely to lead to changes in local and regional ecology.

The Environment Act specifies a mandatory 10% increase in biodiversity net gain for new developments. This is expected to become law in 2023. Biodiversity on development sites will need to be retained and enhanced, with additional mitigation put in to increase biodiversity. This increase in biodiversity may be provided on site, or through off-site compensation.

Since 2018, the Northern Forest scheme, a joint venture between the Woodland Trust and the Community Forests in the north of England, has established over 3 million new trees in around cities such as Liverpool, Chester, Manchester, Leeds, Bradford, Sheffield, York and Hull. The aim is to plant over 50 million trees to help increase the woodland cover, which is currently much lower than the UK average (13%) at 7.6%[46].

The 25 Year Environment Plan sets out the ambition to create and deliver a new ambitious framework for peat restoration in England of which is outlined within the England Peat Action Plan[47]. Peatlands are areas of land with a 'naturally accumulated layer of peat, formed from carbon rich dead and decaying plant material under waterlogged conditions'. This creates a rich organic soil that has a high carbon density even when its dry and provides habitats for some of England's rarest species. There are approximately 1,420,000 hectares of peatland in England. Therefore, the preservation of these peatlands will help to significantly increase the amount of carbon stored, helping to meet the Government's Net Zero targets and wider environmental benefits.

ISSUES AND OPPORTUNITIES

12.3.17. The following sustainability issues and opportunities have been identified in **Table D-9**.

Table D-10 - Issues and Opportunities for Biodiversity and Natural Capital

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[45] The Guardian (2021) Nearly half of Britain's biodiversity has gone since industrial revolution. Available online at: https://www.theguardian.com/environment/2021/oct/10/nearly-half-of-britains-biodiversity-has-gone-since-industrial-revolution

[46] The Northern Forest. Available online at: https://thenorthernforest.org.uk/

[47] DEFRA (2021) England Peat Action Plan. Available online at: https://www.gov.uk/government/publications/england-peat-action-plan

Sustainability Issues	Opportunities for the LTP4
There are a wide range of statutory local, national and international sites designated for nature conservation in the LCR which may be affected by increased population, transport infrastructure development, and climate change; Habitats, including peatlands and wildlife corridors outside of these protected areas are especially at risk of being lost, damaged or fragmented by transport development; Secondary impacts of transport networks, such as noise disturbance, air pollution and lighting can have detrimental impacts on biodiversity and species movements; and Though not the key cause, transport networks have contributed to the decline in natural capital, habitat fragmentation, and species decline.	The LTP4 presents opportunities to be strategic in the enhancement of biodiversity at the landscape scale through the use of green infrastructure. These can be combined with priorities for wider ecosystems services benefits to deliver landscape wide environment gain for biodiversity and people. The LTP4 presents an opportunity to promote and implement biodiversity net gain to support development. As transport corridors are typically linear, ensuring the connectivity of ecosystems is both an issue and an opportunity for the LTP4. There is scope to encourage the redevelopment of existing assets as well as build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors in order to improve habitat connectivity. The Local Nature Recovery Strategy Statutory Guidance[48] should be used to inform the most suitable biodiversity enhancement measure for an area.

12.4 LANDSCAPE AND TOWNSCAPE

SUMMARY OF CURRENT BASELINE

12.4.1. The LCR is predominately urban, however, approximately 45% of the LCR land area is designated green belt and contains a high number of green spaces. There is extensive in both Sefton and Wirral, with agricultural land located in west Wirral, east Sefton, and in St Helens and Knowsley.

12.4.2. There are no Areas of Outstanding Natural Beauty (AONB) within the LCR.

12.4.3. The LCR falls within four of Natural England's National Character Areas (NCA)[49], as shown in **Table D-10** and can be seen in **Figure E7** in **Appendix E**.

Table D-11 - National Character Areas within the LCR

[48] DEFRA (2023) Local Nature Recovery Strategy Statutory Guidance. Available online at:
https://www.gov.uk/government/publications/local-nature-recovery-strategy-what-to-include
[49] Natural England (2014) National Character Areas. Available online at:
https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles

NCA	Description
57: Sefton Coast	Runs from the mouth of the Ribble Estuary in the north to the edge of Crosby in the south. It is characterised by intertidal sand flats and mudflats, coastal sand dunes, coastal dune heathland and conifer plantations, and is backed by farmland. It contains a series of coastal settlements that include Southport, Ainsdale, Formby and Hightown.
58: Merseyside Conurbation	Predominantly urban and suburban landscape, based around the settlements of Liverpool, Birkenhead, Bootle, Kirkby, Maghull, Huyton, Bebington and Wallasey. The NCA sits on a low-lying but gently rolling platform punctuated by low sandstone ridges and bisected by the lower estuary of the River Mersey.
59: Wirral	Located on a peninsula formed by the Mersey and Dee estuaries. The landscape of the NCA is based on the formal landscapes of former large country estates, rural areas, natural coastal scenery and wooded sandstone ridges, which combine to give the NCA a unique character. The NCA is separated from the urban areas of east Wirral by a dramatic sandstone ridge, as well as by the M53 motorway.
60: Mersey Valley	Consists of a wide, low-lying river valley landscape focusing on the River Mersey, its estuary, associated tributaries and waterways. It is a varied landscape that extends from the moss lands near the Manchester Conurbation NCA in the east, to the Merseyside Conurbation NCA and the wide estuary with intertidal mudflats/sand flats and salt marsh in the west. The area encompasses a complex mix of extensive industrial development and urban areas, with high-quality farmland in between.

The main urban area within the LCR is the city of Liverpool, located along the eastern bank of the River Mersey and the wider metropolitan area extends from Speke in the south northwards along the river through Liverpool and Bootle and up to Crosby. Further inland, the main settlements are Huyton and Kirkby (in Knowsley), Maghull (in Sefton) and St Helens. In the north of the LCR, there are important urban areas along the coast at Formby and Southport and in the south, the settlements of Widnes and Runcorn (in Halton) are located either side of the River Mersey. On the Wirral, the main urban areas are located along the western bank of the River Mersey, from Eastham in the south, through Birkenhead and Wallasey to New Brighton in the north. The western parts of Wirral are much more rural in character with Heswall and West Kirby as the main settlements.

The LCR is well served with transport connections, between and through the main urban areas. It is well connected to the national motorway network and national rail lines, as well as having a strong local public transport network.

Major transport routes include:

- Sections of the M53, M56, M62, M57, and M58;
- A well established Key Route Network of the main road connections through the LCR.
- Liverpool John Lennon Airport, located on the outskirts of Liverpool in Speke;
- Liverpool Lime Street station providing connections to the national rail network with regular services to London, Manchester, Birmingham, Leeds and beyond
- The Merseyrail network providing frequent services on the Wirral Line and Northern Line, with major interchanges at Moorfields and Central stations in Liverpool City Centre.
- The LCR has an extensive and well used bus network, operated mainly by Arriva and Stagecoach

There are five national cycle routes in LCR which provide links between towns across most of the region:

Route 62 – Southport – Selby (Trans-Pennine Trail)

Route 810 – Ainsdale - Liverpool

Route 56 – Chester - Wallasey and via the Mersey ferry to Liverpool

Route 562 - Southport - Aston to the south of Runcorn via Burscough, Wigan, St Helens and Widnes

Route 5- Reading – Holyhead - Oxford - Stratford-upon-Avon – Bromsgrove – Birmingham -Stoke-on-Trent- Chester - Colwyn Bay - Bangor.

FUTURE TRENDS

Landscape and townscape character and quality is under particular threat from future development (including the construction and operation of transport infrastructure) through, for example, loss of tranquillity, increased lighting, visual intrusion, and the incremental loss of landscape features and characteristic elements.

Similarly, pressures from expanding populations put more strain on existing systems, and more pressure on recreational landscapes and tourist attractions.

The presence of greenbelt land surrounding the LCR puts pressure on the existing land within the LCR as expansion is limited within these areas, putting strain on current land uses.

ISSUES AND OPPORTUNITIES

12.4.4.   The following sustainability issues and opportunities have been identified in **Table D-11**.

Table D-12 - Issues and Opportunities for Landscape and Townscape

Sustainability Issues	Opportunities for the LTP4
Transport infrastructure has the potential to cause direct and indirect impacts on designated landscapes, eroding the character and quality of the landscapes, increasing pollution and eroding the visual amenity for residents and visitors alike. Future growth in some locations could risk compromising landscape and townscape character and features, however a landscape-led design with the incorporation of green infrastructure, could play a key role in the enhancement of the natural environment, visual amenity and physical and mental health of its people.	The design of transport infrastructure requires a landscape-led approach to design, to ensure the best placement and integration of the proposed development into the existing landscape, especially in sensitive locations. Landscape-led designs can help contribute to the climate change agenda, health and wellbeing, and tackling pollution in all its forms (such as air, light and noise). There is potential for transport to improve access to the countryside, to promote sustainable tourism and to provide greater awareness for the UK's designated areas. Increasing access to the countryside, whilst increasing pressure on those resources, can greatly improve health and wellbeing, help combat air pollution, provide storm water management and reduce flooding (contributing to climate change adaption) and provide connectivity through urban built form to the countryside for wildlife. It can also bring new audiences to tourist attractions and enable better appreciation of historic assets through creating

Sustainability Issues	Opportunities for the LTP4
	new views and vistas, providing information and enhancing access.

HISTORIC ENVIRONMENT

SUMMARY OF CURRENT BASELINE

World Heritage Sites are considered to be of 'Outstanding Universal Value', which have been inscribed on the World Heritage List by the World Heritage Committee. World Heritage status is a high accolade that brings international scrutiny.

Liverpool is home to six areas that were formally designated as an UNESCO World Heritage Sites in 2004[50]. These included:

The Pier Head
The Albert Dock Conservation Area
The Stanley Dock Conservation Area
The Commercial District
The Cultural Quarter
The Merchant's Quarter

They were defined as '*the supreme example of a commercial port at the time of Britain's greatest global influence'* and was awarded due to its rich inheritance of 19th and early 20th century buildings and its pivotal role in world history. However, Liverpool was delisted in 2021 following development of the Victorian Docks that has resulted in an 'irreversible loss' to its historic value[51].

There are a number of designated assets though the LCR, including[52]:

3,017 Listed Buildings;
44 Scheduled Monuments;
22 Registered Parks and Gardens; and
One Registered Battlefield (Battle of Winwick 1648 located in St Helens).

These are primarily concentrated within Liverpool. More details of these can be seen in **Figure E8 i**n **Appendix E**.

Local planning authorities are obliged to designate conservation for areas in their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. There are 120 Conservation Areas located within the LCR, with Liverpool

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[50] Liverpool World Heritage City. Available online at: https://www.liverpoolworldheritage.com/
[51] The Guardian (2021) Unesco strips Liverpool of its world heritage status. Available online at: https://www.theguardian.com/uk-news/2021/jul/21/unesco-strips-liverpool-waterfront-world-heritage-status
[52] AECOM (2020) Liverpool City Region Combined authority: Spatial Development Strategy Scoping Report. Available online at: https://www.liverpoolcityregion-ca.gov.uk/sds/

having the greatest number with 36 designations. The breakdown for each LA is shown in **Table D-12** below.

Table D-13 - Conservation Area

LA	Conservation Areas
Liverpool	36
Knowsley	15
Halton	10
Sefton	25
St Helens	8
Wirral	26

Undesignated historic assets have great importance, recognised by the NPPF. Merseyside was one of 22 areas chosen to benefit from an allocation of £1.5million by the Ministry of Housing, Communities and Local Government (MHCLG) to develop a local heritage list for the Merseyside region[53]. This project is still in its infancy, meaning the list cannot be accessed at the time of writing this Report, however, once complete the Local Heritage List will allow these assets to be identified and shared.

Historic England's Heritage at Risk (HAR) programme[54] helps to understand the overall state of England's historic sites. It identifies those sites that are most at risk of being lost as a result of neglect, decay or inappropriate development. In LCR there are 68 heritage assets on the HAR register; 51.5% listed buildings, 29.4% Conservation Areas, 13.2% Scheduled Monuments, 5.9% parks and gardens:

23 in Liverpool (seven conservation areas, five grade II* listed buildings, six grade II listed buildings, three grade I listed buildings, and two Registered Parks and Gardens.

Two in Knowsley (one conservation area and one grade II* listed building)

Six in Halton (three grade II* listed buildings, two grade II listed buildings, and one scheduled monument)

10 in Sefton (six conservation areas, three grade II listed buildings, and one scheduled monument)

13 in St Helens (three conservation areas, two grade II* listed buildings, three grade II listed building, five scheduled monuments); and

14 in Wirral (three conservation areas, two grade II* listed buildings, five grade II listed buildings, two scheduled monuments, and two Registered Parks and Gardens).

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[53] The Local Heritage List for Knowsley, Sefton and Wirral (2023) Available online at: https://local-heritage-list.org.uk/merseyside
[54] Historic England. Search the Heritage at Risk Register. Available online at: https://historicengland.org.uk/advice/heritage-at-risk/search-register/

FUTURE TRENDS

Protection of the historic environment is firmly embedded in national and local policy, and this has been the case since 1990. This policy has developed independently of the European Union and is unlikely to change in the near future. However, whilst direct (physical) impacts on designated historical sites are strongly restricted, adverse effects on the setting of designated heritage assets do still occur. This is highlighted by Liverpool's loss of their UNESCO World Heritage designation. Therefore this can be a sensitive planning issue.

Historic England provides specific guidance on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes, set against the background of the NPPF and the related guidance given in the Planning Practice Guide (PPG). In addition to the visual setting, 'setting' can also include intangible characteristics such as sound, smells and historic associations / relationship.

One trend over the last few years which may well continue, is the reduction in funding for Historic England and county and local authorities, with increased pressure on the case workload of Archaeological Officers, Conservation Officers and Historic England advisors. This can have an impact on the response times for the provision of planning advice.

The number of vehicles on the roads is likely to increase as LCR's population rises, increasing air pollution and road traffic. This has the potential to impact and degrade the settings of listed buildings, scheduled monuments and parks and gardens.

Expansion of roads and the development of new residential and commercial areas, to accommodate the increased number of private vehicles, road traffic, and population increase, will put pressure on land space and could result in loss of historical assets.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-13**.

Table D-14 - Issues and Opportunities for Historic Environment

Sustainability Issues	Opportunities for the LTP4
There is potential for development to disturb the setting of historic assets due to increased noise and visual effects, or potential for loss of assets due to land take; There is the potential for disturbance on buried archaeology if present; Vehicle damage and pollution can adversely affect all aspects of the historic environment, so reducing vehicle movements within historic urban areas is also an important area to address.	Ensure that any proposals sustain and enhance the historic environment, heritage assets and their settings; There are opportunities for enhancing the setting of heritage assets through the reduction in traffic noise and enhance accessibility through active transport modes; The LTP should preserve and enhance the current settings of above and below ground heritage assets.

WATER ENVIRONMENT

SUMMARY OF CURRENT BASELINE

The LCR crosses three river basins, these are Mersey Lower to the east and west of the region, North West TraC that encompasses the Mersey Estuary, and Alt and Crossens to the north of the

region. These river basins cover eight operational management catchments and 38 waterbodies that fall within the LCR:

Mersey Lower operational management catchments:

- Ditton;
- Glaze;
- Sankey; and
- Wirral;

North West TraC operational management catchments:

- North West Region Coastal Waters;
- Mersey Estuary

Alt and Crossens operational management catchments:

- Alt
- Crossens System

The Water Framework Directive (WFD)[55] sets an objective of aiming to achieve at least 'good status for all waterbodies by a set deadline specific for each waterbody. The majority of the monitored waterbodies are 'main rivers' that are under the jurisdiction of the Environment Agency. **Table D-14** below shows water quality data of the 38 waterbodies across the LCR for 2019 Cycle 3[56].

Table D-15 - Water Quality

River Basin Management Catchment	Classification							
	Ecological Status						Chemical Status	
	Total Water Bodies	High	Good	Moderate	Poor	Bad	Fail	Good
Mersey Lower								
Ditton	4	0	0	4	0	0	4	0
Glaze	10	0	0	9	0	1	10	0
Sankey	8	0	0	8	0	0	8	0
Wirral	3	0	0	2	1	0	3	0
North West TraC								

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[55] Department for Environment Food & Rural Affairs (2014) Water Framework Directive implementation in England and Wales: new and updated standards to protect the water environment.
[56] Environment Agency. Catchment Data Explorer – North West River Basin District. Available online at: https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/12

| River Basin Management Catchment | Classification | | | | | | | |
| | Ecological Status | | | | | | Chemical Status | |
	Total Water Bodies	High	Good	Moderate	Poor	Bad	Fail	Good
North West Region Coastal Waters;	1	0	0	1	0	0	1	0
Mersey Estuary	1	0	0	1	0	0	1	0
Alt and Crossens								
Alt	9	0	0	9	0	0	9	0
Crossens System	2	0	0	2	0	0	2	0
Total	**38**	0	0	36	1	1	38	0

Of the 116 water bodies, just three are 'good' ecological status, falling far short of the WFD target of 100%. The percentage of the waterbodies achieving moderate' status was 64.7%, whilst 32.8% were 'poor' or 'bad' status. All water bodies failed based on their chemical status. Failure is predominantly due to agriculture and rural land management, and urban and transport issues, whereby there is pollution from rural areas, towns, cities and transport, and physical modification which change the natural flow of the river.

The North West River Basin Management Plan, developed in 2009 and updated in 2015, states that 87% of waterbodies should be of 'good' ecological status by 2027[57].

Due to being surrounded by water and located on a number of floodplains, flooding is regarded as one of the most likely major disasters in the LCR[52]. National flood zone data correlates with the location of main rivers and ordinary watercourses as areas with the greatest risk of flooding. The government's flood map for planning[58] shows that the majority of LCR lie within Flood Zone 1, where the risk of flooding is low. However, there are areas of Flood Zone 3 within the floodplains of the River Mersey, and areas at risk of coastal flooding such as to the north of Southport, south of Formby and around the north and north west of Wirral. Levels of flooding and flood risk can be seen in **Figure E9** in **Appendix E**.

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[57] Environment Agency 2015. North West river basin district - River basin management plan. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718335/North_West_RBD_Part_1_river_basin_management_plan.pdf
[58] Environment Agency, Flood Map for Planning. Available at: https://flood-map-for-planning.service.gov.uk/

The Mersey Estuary Catchment Flood Management Plan (2009)[59] estimate that 19,000 properties in the catchment are at risk of fluvial flooding with a 1% annual probability (1 in 100). Specifically, to the areas of Liverpool and Birkenhead, 4,850 properties were found at risk from a 1% annual probability event. In addition, critical infrastructure vulnerable to flooding includes 12km of transport network, seven recreational assets and an additional 34 infrastructures and community assets including schools. This risk becomes increasingly important with the changes in weather patterns as a result of climate change.

FUTURE TRENDS

In terms of water quality, the requirements of the WFD should lead to continued improvements to water quality in watercourses. However, water quality is also likely to continue to be affected by pollution incidents in the area; runoff from urban, transport and agricultural areas; the presence of non-native species; and physical modifications to water bodies.

Meeting water supply demand over the next 25 years will challenging in the North West. Deficits may develop across England by the 2050s due to climate change alone; these would be exacerbated by population growth.

At a regional level, the future implications of climate change projections include: increased coastal and flood-plain flood events leading to damage to property and disruption to economic activity; water shortages; and higher incidence of damage to transportation, utilities, property and communications infrastructure caused by an increase in the number of extreme weather events (e.g. heat, high winds and flooding).

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-15**.

Table D-16 - Issues and Opportunities for Water Environment

Sustainability Issues	Opportunities for the LTP4
The physical and chemical quality of water resources is an important aspect of the natural environment and can be adversely affected by pollution associated with surface water runoff from new or existing transport infrastructure, as well as by changes to waterbodies which can affect their quality as a habitat; Of the 116 water bodies, just 2.6% are achieving 'good' status, falling far short of the WFD target; Climate change is likely to increase the occurrence of flooding from all sources and hence raise the flood risk in the LCR;	Upgrading existing infrastructure provides the opportunity to improve pollution control on older drainage systems; The LTP should support nature-based solutions to help communities become more resilient to the effects of flooding, and improve local water quality, whilst enhancing nature and biodiversity; New transport infrastructure could result in improved drainage, reducing surface water flooding.

[59] Environment Agency (2009) Mersey Estuary Catchment Flood Management Plan. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/293769/Mersey_Estuary_Catchment_Flood_Management_Plan.pdf

Sustainability Issues	Opportunities for the LTP4
Increased development (including transport infrastructure) can increase flood risk on a local and catchment scale.	

AIR QUALITY

Summary of Current Baseline

Air quality plays an important role in human health. Poor air quality can have large impacts on health through short term exposure, but particularly through long term exposure, see **Section 5.3** of this Report. According to the World Health Organization (WHO), air quality is one of the greatest environmental risks to human health. Reducing air pollution can result in reductions in stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. In 2019, 99% of the world's population were living in places where the WHO air quality guidelines levels were not met, and that ambient air pollution caused 4.2 million premature deaths worldwide in 2019[60].

The most significant air pollutants from the transport sector are nitrogen oxides (NO_X) and particulate matter (PM)[61]. Transport contributed a substantial portion of these air pollutants to the UK's domestic total: a third of nitrogen oxides, 14% of PM2.5 emissions, and 12% of PM10 emissions came from transport in 2020[61].

Large areas of the LCR have a Nitrogen Dioxide annual mean of between 11 to 20µg m^{-3}[62], which is higher than the UK average of 10 µg m^{-3} and below. Some areas have an annual nitrogen dioxide mean of between 31 to 40 µg m^{-3}. These are located within the Liverpool city centre and along the coast near Bootle and Seaforth.

Local authorities must declare areas that are not likely to achieve national air quality objectives as Air Quality Management Areas (AQMAs). There are several AQMAs across the LCR, these areas are shown in **Figure E10** in **Appendix E**. There are five AQMAs within Sefton, four within St. Helens and two within Halton; however, the largest AQMA within the region is the whole of the city of Liverpool. These were designated for exceedances in either nitrogen dioxide, particulate matter, or a combination of both, of which comes from a mixture of road types.

Liverpool City Council has been mandated by the UK Government (through the Joint Air Quality Unit JAQU) to address the ongoing exceedances of nitrogen oxides in the city through the implementation of a Clean Air Zone (CAZ). The City Council has been preparing a business case for its Clean Air Plan, but is now focussing on targeted interventions at key locations to improve air quality and meet the required standards rather than a CAZ. Sefton Council has also been

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[60] World Health Organisation (2022) Ambient (outdoor) air pollution. Available online at: https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health

[61] Department for Transport (2022) Transport and environment statistics. Available online at: https://www.gov.uk/government/statistics/transport-and-environment-statistics-2022/transport-and-environment-statistics-2022#co2-emissions-from-transport-by-local-authority

[62] Defra. (2022). UK Air Information Resource. Available online at: https://uk-air.defra.gov.uk/data/gis-mapping/

developing a Clean Air Plan to address ongoing poor air quality in the south of the Borough and has also been considering the option of a CAZ, even though it has not been mandated to do so.

Exposure to ozone (O3) induces effects on health and the environment, causing respiratory difficulties in sensitive people and possible damage to vegetation and ecosystems. The Air Quality Standards Regulations 2010 set a threshold for 8-hour mean concentrations of O3 of 120 µg/m3. This is a level at which acute effects on public health are likely to be small. The target is for this not to be exceeded more than 25 times averaged over three years and the long-term objective is for this not ever to be exceeded. The LCR exceeded the ozone max daily mean by 2.3 days in the year 2021, with all LA's exceeding the ozone max daily mean by two days, apart from Wirral which exceeded this mean by four days[63].

In Liverpool City Region in 2018, it is estimated that 4.7% of deaths could be attributed to particulate air pollution (i.e. high concentrations of particulate matter in the air)[18]. This was below that of the England average, which was 5.2%. Out of all the local authority areas in the North West, Liverpool and Knowsley had the highest and second highest proportion of deaths attributable to particulate air pollution in 2018[18].

FUTURE TRENDS

The UK Clean Air Strategy outlines plans to reduce emission of pollutants and improve air quality by the year 2030[64]. This will include reductions in public exposure to particulate matter, ammonia, nitrogen oxides, sulphur dioxide, and non-methane volatile organic compounds. However, the 29% increase in road traffic from 1990 and 2018 and 6% increase in GHG emission from 1990 to 2017 is likely to continue.

It is likely that increases in population and urbanisation will contribute to increased air pollution. More severe and frequent heat episodes (associated with the changing climate) can also worsen air quality and therefore asthma, respiratory diseases and allergic reactions, without further intervention.

A ban on new petrol and diesel vehicle sales in the UK by 2030 is expected to further reduce NO_x and SO_2 emissions. This will improve air quality, particularly across urban areas, and further the improvements to emissions reductions. Electric and hybrid vehicles are expected to become dominant (with the ban on hybrid vehicle sales in the UK by 2035).

The UK wide ban on the new petrol and diesel vehicle sales by 2030 is expected to lead to a reduction in emissions from vehicles[65]. This will improve air quality in urban areas, which will have a positive impact on health problems associated with air pollution.

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[63] Department for Environment Food & Rural Affairs 2023, Ozone max daily 8hr running mean Local Authority 2021
[64] Defra. (2019). Clean Air Strategy. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf
[65] HM Government (2020). Available online at: https://www.gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030

Overall, increases in population and urbanisation have the possibility to degrade air quality, while higher standards for air pollutants and vehicle emissions have the potential to improve air quality. These opposing trends may balance each other out in future.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-16**.

Table D-17 - Issues and Opportunities for Air Quality

Sustainability Issues	Opportunities for the LTP4
The number of vehicles on the roads is likely to increase as the population rises, putting air quality and AQMAs at further risk of degradation; Airbourne pollutants from transport are known to contain nutrients that can adversely affect vulnerable habitats[66]; More severe and frequent heat episodes as a result of climate change can contribute to the worsening of air quality; The UK Government's plan to end the sale of all new conventional petrol and diesel cars and vans by 2030 and support for work and home-based electric charging facilities, will promote use of hybrid and electric vehicles, with positive effects for air quality; Air quality issues across LCR can be addressed via a modal shift towards less polluting methods of transport (low carbon transport initiatives) and inclusive of active transport (e.g. cycling, walking etc.) thereby leading to a higher standard of air quality.	There is the potential that improved transport links will facilitate traffic flows, reduce idling times and thus improving air quality locally. However, an improved highway network could also result in increased usage, thus increasing emissions; Consideration should be given to methods of modal shift to sustainable transport modes (public transport and active transport), to aid in reducing emissions; There is a potential for improvements to support the development of electric charging facilities in line with the UK Government's plan to end the sale all new conventional petrol and diesel cars and vans by 2030; The LTP4 should aim to improve congested areas of LCR, minimising excess emissions where possible and aiding in improving air quality.

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[66] DEFRA (2023) Nutrient pollution: reducing the impact on protected sites. Available online at: https://www.gov.uk/government/publications/nutrient-pollution-reducing-the-impact-on-protected-sites/nutrient-pollution-reducing-the-impact-on-protected-sites

CLIMATE CHANGE AND GREENHOUSE GASES

SUMMARY OF CURRENT BASELINE

In 2020, the UK produced 406 MtCO2e of GHG emissions, down 9% from 2019. It is to be noted however, that this was during the Covid-19 pandemic where travel was considerably reduced due to Government enforced lockdowns. Transport was responsible for 99 MtCO2e (24%)[67]. Between 1990 and 2019, domestic transport emissions had decreased by 5%, from 128 to 122 MtCO2e. The majority (91%) of emissions from domestic transport came from road vehicles (89 MtCO2e). The biggest contributors to this were cars and taxis, which made up 52% of the emissions[40].

Between 2019 and 2020, transport emissions decreased 19%. Overall, domestic transport emissions have decreased by 23% from 1990 to 2020, while total UK domestic emissions fell by 50% in the same period[40].

In 2020, a total of 6,929kt CO2 emissions were generated across the LCR[68]. **Table D-17** shows the breakdown of emissions generated by LA compared to regional and national averages. Of the LA's Liverpool had the highest transport related greenhouse gas emissions with 575.2kt CO2e and Halton had the lowest at 226.1kt CO2e. However, Wirral and Liverpool also have the lowest per capita emissions at 3.6 and 3.7kt CO2e respectively, which are also lower than the regional (5.7kt CO2e) and national (5.1kt CO2e) averages.

Table D-18 – Carbon Emissions

Local Authority	Total Emissions (kt CO2e)	Transport Related Emissions (kt CO2e)	Per Capita Emissions (kt CO2e)
Halton	682.9	226.1	5.3
Knowsley	764.7	340.2	5.0
Liverpool	1,841.7	575.2	3.7
Sefton	1,191.2	254.9	4.3
St. Helens	1,275.5	277.6	7.0
Wirral	1,173.0	390.0	3.6
LCR	6,929	2,064	28.9

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[67] Department for Transport 2022 Transport and environment statistics. Available online at: https://www.gov.uk/government/statistics/transport-and-environment-statistics-2022/transport-and-environment-statistics-2022#co2-emissions-from-transport-by-local-authority

[68] GOV.UK (2022) UK Local authority and regional greenhouse gas emissions national statistics, 2005 to 2020. Available online at: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2020

Local Authority	Total Emissions (kt CO2e)	Transport Related Emissions (kt CO2e)	Per Capita Emissions (kt CO2e)
North West	41,921.9	12,095.4	5.7
England	89,510.9	291,134.6	5.1

During the most recent decade (2009-2018) the UK has been on average 0.3°C warmer than the 1981-2010 average and 0.9°C warmer than 1961-1990. All of the top ten warmest years have occurred since 2002. In the past few decades there has been an increase in annual average rainfall over the UK, for which the most recent decade (2009–2018) has been on average 5% wetter than 1961–1990 and 1% wetter than 1981-2010[69].

Sea level rises, increased storminess and changes in temperatures are key factors to changes in coastlines. Climate predictions indicate that over the next 100 years around 350m of the Sefton coastline could be lost to erosion and flooding[70].

FUTURE TRENDS

The UK is committed to legally binding GHG emissions reduction targets of 80% by 2050, compared to 1990 levels, as set out in the Climate Change Act 2008[71]. The UK ratified the 2015 Paris Agreement, which set out a GHG emission reduction target of at least 40% by 2030, compared to 1990 with a long-term strategy for net zero emissions by 2050[72]. However, a more ambitious target was set by the UK in 2020 to reduce greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels[73]. Currently there is widespread criticism as to whether the UK is on track to meet these ambitions.

Working towards these targets means changes to technology as well as ways in which people travel. For example prior to the 26th Conference of the Parties (COP26) Summit in 2021, the UK brought forward its ban on the selling of new petrol, diesel or hybrid cars from 2040 to 2030. The last decade has seen a remarkable surge in demand for electric vehicles in the UK. The number of licensed ultra-low emission vehicles (ULEVs) in the UK has increased by 3,427% between the end of March 2010 to the end of June 2020, a jump from just under 9,000 ULEVs to 317,000 ULEVs[74].

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[69] Met Office, UK Climate Projections: Headline Findings, 2022 Available online at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18_headline_findings_v4_aug 22.pdf

[70] The Guide Liverpool 2022 Sefton coastline could be lost to erosion if action isn't taken now, says Green Sefton. Available online at: https://theguideliverpool.com/sefton-coastline-could-be-lost-to-erosion-if-action-isnt-taken-now-says-green-sefton/

[71] Climate Change Act 2008, Available online at: https://www.legislation.gov.uk/ukpga/2008/27/contents

[72] Paris Agreement, Available online at: https://ec.europa.eu/clima/policies/international/negotiations/paris_e

[73] Department for Business, Energy and Industrial Strategy, Press Release: UK Sets Ambitious New Climate Target Ahead of UN Summit, 2020, Available online at: https://www.gov.uk/government/news/uk-sets-ambitious-newclimate-target-ahead-of-un-summit

[74] House of Commons, Briefing Paper: Electric Vehicles and Infrastructure, 2020 Available online at: file:///C:/Users/UKELL002/Downloads/CBP-7480.pdf

In 2019, the Metro Mayor of the LCR declared a Climate emergency and set an ambitious target to reach net zero by 2040 or sooner. The Liverpool City Region Pathway to Net Zero document sets out the strategic vision on how this is going to be achieved[75]. All the LCR LAs have also declared a climate emergency and have all made commitments to reach net zero by 2035.

By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter. This projected temperature rise in the UK is consistent with future warming globally. Rainfall patterns across the UK are not uniform and vary on seasonal and regional scales and will continue to vary in the future, with significant increases in hourly precipitation extremes[69]. Both temperature and rainfall changes will be much larger if greenhouse gas emissions continue to increase.

Predicted climate change effects for North West England are drier summers with more frequent and severe periods of drought, and wetter winters with increased rainfall. Combined with rising sea levels, flooding (including surface water, coastal and rivers) is of key concern to the LCR with considerable properties potentially at risk

Despite this, the current estimate for temperature increases and changes to rainfall patterns are unlikely to alter significantly in the near future, given the timescales associated with climate change. This being the case, there will be an increasing need to implement climate change mitigation and adaptation measures in light of changing environmental conditions.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-18**.

Table D-19 - Issues and Opportunities for Climate Change and Greenhouse Gases

Sustainability Issues	Opportunities for the LTP4
Transport is the largest contributor to GHG emissions in the UK, with the largest contributor being domestic transport; There is a need to ensure climate resilience of the transport infrastructure in the LCR; The extent of future climate change will be strongly affected by the amount of greenhouse gases that the population chooses to emit.	There is a need to plan for and implement/facilitate climate change adaptation, in respect of rising temperatures, water scarcity and extreme weather events, particularly heavy rainfall/flooding. There is a need to support the continued increase in infrastructure to support the demand in electric cars.

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[75] Liverpool City Region Combined Authority Pathway to Net Zero. Available online at: https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/LCR-PathwaytoNetZero-Report-2022--FINAL-compressed.pdf

NOISE AND VIBRATION

SUMMARY OF CURRENT BASELINE

Noise Important Areas (NIAs) are where the 1% of the population that are affected by the highest noise levels from major roads or railways are located. The location of these can be seen in **Figure E11** in **Appendix E**. There are a higher number of NIAs through the LCR concentrated in and around the town and city centres and along major roads. Data from the England Noise Viewer[76] shows that the M62, A561, A580, and A565 create significant noise with noise levels exceeding 55dB in areas within 1km of the source (Lden, 24-hour annual average noise levels with weightings applied for the evening and night periods).

The LCR also contains the Liverpool John Lennon Airport and some other smaller commercial, public, private and military airfields and airstrips. The John Lennon Airport is one of the major regional airports in the UK, providing over 60 destinations and handling 5 million passengers annually[52]. The activities at airports, including take-off and landing, generate high noise levels and further noise contributions from road transport.

FUTURE TRENDS

Given the projections for an increasing population, and the current preference for cars as the main mode of transport, there is potential that noise levels will increase along major roads. However, more congestion may lead to slower moving traffic which may reduce noise levels. A modal shift to sustainable transport modes such as walking, cycling and public transport, will also help to reduce noise levels. Furthermore, recent vehicle innovations such as hybrid and electric cars have led to quieter vehicles and this trend is expected to continue with greater uptake.

Pre Covid-19 levels, the number of passengers using airports in the UK was 296 million in 2019, an increase of 1.6% from 2018. However, the number of flights decreased by 15,000 over the same period, this suggests that larger planes are in use or up-gauging is occurring. In 2021, the number of passengers using airports in the UK was 64 million[77].

The International Air Transport Association expects that global passenger numbers will increase to 7.2 billion by 2035[78], with the UK predicted to hit 300 million passengers by 2035, which will inevitably increase flight numbers resulting in the potential for increase noise levels.

Future trends in noise targets are expected to focus on more stringent criteria, where the link between health effects and noise begins to be better understood. Additionally, future climate change effects will likely result in an increase in ambient temperatures and for longer periods, creating a

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[76] Extrium. England Noise and Air Quality Viewer. Available online at: http://www.extrium.co.uk/noiseviewer.html

[77] UK Civil Aviation Authority Annual Airport Data. Available online at https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2021/annual-2021/

[78] The International Air Transport Association (IATA) Available online at https://www.moodiedavittreport.com/international-air-passenger-traffic-to-almost-double-during-the-next-20-years-says-iata/?format=pdf#:~:text=The%20International%20Air%20Transport%20Association,Pacific%20region%2C%20the%20association%20said

need to seek thermal relief, which generally with existing housing stock tends to be satisfied by opening of windows, thus increasing exposure to noise.

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-19**.

Table D-20 - Issues and Opportunities for Noise and Vibration

Sustainability Issues	Opportunities for the LTP4
Increased transport development and infrastructure may adversely impact sensitive receptors and increase current noise levels in areas adjacent to roads, rail lines and airports across the LCR. Excessive noise exposure from transport can cause stress and sleep disturbance and is often perceived as a nuisance. This can result in adverse effects on human health. Transport noise can adversely affect biodiversity including nesting and feeding habits of many species. Increased noise exposure can also have negative impacts on designated sites with road, rail or air traffic noise reducing amenity within these areas.	There exists an opportunity to better understand transport noise profiles and exposure, accounting for the benefits from low-noise electrified road vehicles and reactions to climate change, to develop a plan that accounts for the future and realises benefits for the LCR.

MATERIAL ASSETS

SUMMARY OF CURRENT BASELINE

Land, soils and geology

The LCR contains a large proportion of urban or land not in agricultural use or poor quality[79]. Only 40% of land in the LCR is classified as agricultural, however half of this land is classified as very good or excellent quality. The majority of agricultural land is located in Sefton, St. Helens and Wirral. There is also a significant amount of excellent agricultural land to the northeast of the City Region border in West Lancashire[55].

The bedrock geology within the LCR is predominantly sandstone with small areas of mudstone and siltstone[80].

There are four areas within the LCR designated for their geological importance, these include:

Dee cliffs SSSI – best known example of a clay cliff;
The Dungeon SSSI - shows the Tarporley Siltstone Formation of the Mercia Mudstone Group;
Sefton Coast SSSI – shows Triassic Mudstone of the Singleton Mudstone Group; and

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[79] Natural England (2021) Liverpool City Region Natural Capital Atlas: Mapping Indicators. Available online at: http://publications.naturalengland.org.uk/publication/6672365834731520
[80] British Geological Society, Geology Viewer. Available online at: https://geologyviewer.bgs.ac.uk/?_ga=2.40981476.739853416.1672832649-1352688571.1672832649

Thurstaston Common - underlain by Triassic sandstone.

There is a long history of the exploitation of mineral resources in Merseyside although many operations have now ceased. These have varied in nature from mining of coal to clay extraction for brick making and sand winning along the coast.

Most of the LCR is underlain by a Principal Bedrock Aquifer[81], however the north of Wirral and Sefton is underlain by a Secondary Aquifer. A Principal Aquifer usually provides a high level of water storage. It may support water supply and/or river base flow on a strategic scale, however these have high vulnerability to pollution.

Energy

The LCR is dominated by offshore wind energy, plant biomass generation, and is one of the two major hydrogen producing regions in the UK. Liverpool Bay is aiming to becoming the UK's renewable energy coast with one of the largest concentrations of off-shore wind turbines in the world. There are currently 11 wind farms in Liverpool Bay, with four more in development. This has helped to make the UK the largest producer of wind power in Europe, with production set to triple by 2032[82].

The LCR also have new scheme, Solar Together, offering high-quality solar photovoltaic (PV) panels, and battery storage. Solar Together is a group-buying scheme which brings households together to get high-quality solar panels at a competitive price, as well as providing support at each stage of the process[82].

Waste

The UK generated 222 million tonnes of waste in 2018[83]. In the LCR a total of 784,534 tonnes of residual waste was collected from the kerbside between 2020 and 2021. Within the same timeframe 35% was recycled through 14 household waste recycling centres[84].

The residual waste in the LCR is taken to Wilton Energy from Waste facility located in Teeside[84]. The energy produced makes a major contribution to the power needs of local manufacturing businesses within the region, with approximately half of the steam generated used by the businesses on the neighbouring industrial estate.

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[81] Magic Maps Available online at: https://magic.defra.gov.uk/magicmap.aspx

[82] Liverpool City Region Combined Authority - Liverpool City Region's Energy and Environment. Available online at: https://www.liverpoolcityregion-ca.gov.uk/what-we-do/energy-environment/#:~:text=Solar%20Together%20Liverpool%20City%20Region,power%20generated%20to%20the%20grid.

[83] Department for Environment Food and Rural Affairs (2022) UK statistics on waste. Available online at: https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#total-waste-generation-and-final-treatment-of-all-waste

[84] Merseyside Recycling and Waste Authority. Available online at: https://www.merseysidewda.gov.uk/

There are three landfill sites within the LCR. These are Cronton Quarry in Knowsley, Lea Green Road in St Helens, and Vista Road in St Helens. However only the landfill in Knowsley has remaining capacity in 2021 (625,148 cubic metres)[85].

Future Trends

The LCR declared a Climate Emergency in 2019, setting an ambitious target to reach net zero carbon by 2035 or sooner. To help achieve this they are aiming to increase its renewable energy supply, including tidal energy through the Mersey Tidal Power Project[86]. This project could generate enough power for up to 1 million homes, and create thousands of local jobs, through harnessing power from the River Mersey.

The increase in renewable energies will require further land for development and subsequent infrastructure. The projected population will increase LCR's energy needs, and renewables will be required to meet this demand. It will therefore be necessary to ensure these sites and infrastructure developments do not negatively impact the borough's agricultural land.

The growing population and associated need for development are also likely to increase use of mineral resources and waste generation. As such, it will be necessary to apply resource efficiency and waste management measures, including the re-use and recycling of materials. To help with increases in waste, the LCR have also committed to zero waste by 2040[87].

ISSUES AND OPPORTUNITIES

The following sustainability issues and opportunities have been identified in **Table D-20**.

Table D-21 - Issues and Opportunities for Material Assets

Sustainability Issues	Opportunities for the LTP4
The LCR has limited very good or excellent quality rated agricultural land some of which could be lost due to new transport infrastructure developments; The growing population and associated need for development is likely to increase the use of mineral resources and waste generation. This is highly important considering the low landfill capacity within the LCR; Minerals are a finite resource and materials will be required for any new transport infrastructure, with subsequent waste produced; There is a continued increase in renewable energy supplies across the LCR, of which needs to be	The LTP should protect the region's best and most valuable land from development where possible. Resource efficiency is important in the reduction of waste and conservation of resources, therefore, the LTP4 could promote opportunities to support a circular economy; The LTP4 should incorporate resource efficiency and waste management measures

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[85] Environment Agency 2022. 2021 Remaining Landfill Capacity. Available online at: https://environment.data.gov.uk/portalstg/home/item.html?id=b8236bc4b739408eada95f8528de9ff8

[86] Liverpool City Region Combined Authority- It's Time for Tidal. Available online at: https://www.liverpoolcityregion-ca.gov.uk/its-time-for-tidal/

[87] Zero Waste Merseyside Recycling and Waste Authority. Available online at: https://www.zerowastelcr.com/

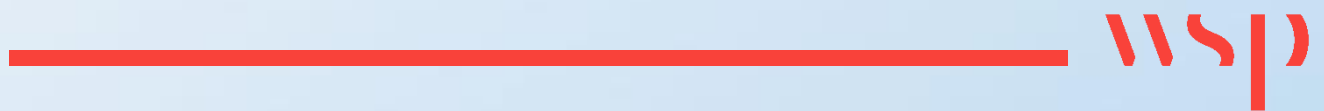| Sustainability Issues	Opportunities for the LTP4
managed efficiently to ensure the capacity requirements of this transition are met.	

Appendix E

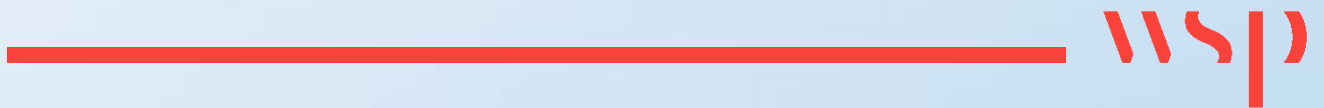## FIGURES

Appendix F

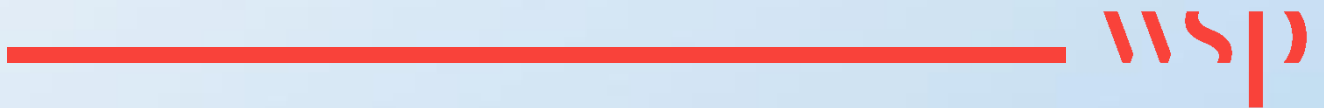## ASSESSMENT OF DRAFT LTP POLICIES

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Appendix G

EQUALITIES IMPACT ASSESSMENT

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Appendix H

HEALTH IMPACT ASSESSMENT

1st Floor Station House
Tithebarn Street, Exchange Station
Liverpool
L2 2QP

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