Integrated Impact Assessment (incorporating Strategic Environmental Assessment and Integrated Well-Being Appraisal) of the South West Wales Regional Transport Plan

Scoping Report

DECEMBER 2024

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Contents

Appendices

Tables

Figures

Abbreviations

Abbreviation	Definition
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
CCRA	Climate Change Risk Assessment
CJC	Corporate Joint Committee for South West Wales
CO_2	Carbon Dioxide
CRIA	Children's Rights Impact Assessment
cSAC	Candidate Special Area of Conservation
DBEIS	Department for Business, Energy and Industrial Strategy
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EqIA	Equalities Impact Assessment
GHG	Greenhouse Gas
HIA	Health Impact Assessment
HRA	Habitats Regulations Assessment
IIA	Integrated Impact Assessment
IWBA	Integrated Well-Being Appraisal
NECP	National Energy and Climate Plan
NO_2	Nitrogen Dioxide
NRW	Natural Resources Wales
NTDP	National Transport Delivery Plan
$PM_{2.5}$	Particulate Matter 2.5
PM_{10}	Particulate Matter 10
pSPA	Potential Special Protection Area
RTDP	Regional Transport Delivery Plan
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SMNR	Sustainable Management of Natural Resources
SoNaRR	State of Natural Resources Report
SoFA	Statement of Funds Available
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Urban Drainage

Abbreviation	Definition
SWW RTP	South West Wales Regional Transport Plan
TfW	Transport for Wales
ULEV	Ultra Low Emission Vehicles
UNCRC	United Nations Convention on the Rights of the Child
WelTAG	Welsh Transport Appraisal Guidance
WTS	Llwybr Newydd: the Wales Transport Strategy 2021

1   Background to the South West Wales Regional Transport Plan and Integrated Impact Assessment

1.1 Summary

1.1.1 Arcadis Consulting (UK) Limited (Arcadis) is developing an Integrated Impact Assessment (IIA) incorporating Strategic Environmental Assessment (SEA) and Integrated Well-Being Appraisal (IWBA), which will help guide the development of the South West Wales Regional Transport Plan (SWW RTP). The SWW RTP covers Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire. It is being prepared by the Corporate Joint Committee for South West Wales (CJC), and seeks to make a positive contribution towards Wales's seven national well-being goals[1], whilst also embedding the principles of sustainable development at all stages of the plan-making process.

1.1.2 The SWW RTP will set out regional policy based on the priorities set out in the National Transport Delivery Plan (NTDP)[2] and in Llwybr Newydd: the Wales Transport Strategy 2021 (WTS)[3], to guide the delivery of transport improvements across the four South West Wales authorities over the period 2025-2030. The SWW RTP will support the implementation of Future Wales – the National Plan 2040[4] and be aligned with the Wales Infrastructure Investment Plan (Project Pipeline 2021) and the emerging Wales Infrastructure Investment Strategy (2021).

1.1.3 The development of the RTP is at a relatively early stage. It is intended that a draft version of the RTP will be published for full consultation in early 2025 and it is hoped that the RTP will be adopted in mid-2025.

1.1.4 This report is related to the formal scoping stage required for the SEA process aspect of the overall IIA process.

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[1] Well-being of Future Generations (Wales) Act 2015. Available at: https://www.futuregenerations.wales/about-us/future-generations-act/ [Accessed: 22.08.24]
[2] Welsh Government (2022) National Transport Delivery Plan 2022 to 2027. Available at: https://www.gov.wales/national-transport-delivery-plan-2022-2027 [Accessed: 22.08.24]
[3] Welsh Government (2021) Llwybr Newydd: the Wales Transport Strategy 2021. Available at: https://gov.wales/llwybr-newydd-wales-transport-strategy-2021 [Accessed: 22.08.24]
[4] Welsh Government (2021) Future Wales: The National Plan 2040. Available at: https://gov.wales/future-wales-national-plan-2040-0 [Accessed: 22.08.24]

1.2 What is the South West Wales Regional Transport Plan?

1.2.1 The new SWW RTP will replace the existing Joint Local Transport Plan. It aims to:

- Establish a vision and aims for the future of transport in the region
- Determine high level policies which:
  - o Deliver the priorities of the WTS
  - o Meet the needs of people living, working, visiting and travelling through the region
- Include a Regional Transport Delivery Plan identifying priority schemes in each of the local authorities.

1.3 What is the Integrated Impact Assessment?

1.3.1 The RTP will be supported by an IIA which will incorporate environmental as well as well-being assessments. The IIA will incorporate Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA), which are both legal requirements. In line with best practice these will be integrated into one coherent process.

1.3.2 In addition, Welsh Government requires the preparation of an IWBA in accordance with the Welsh Transport Appraisal Guidance (WelTAG)[5]. WelTAG states that an IWBA may need to be supported by relevant statutory or regulatory impact assessments including Equalities Impact Assessment (EqIA); Welsh Language Assessment; and Health Impact Assessment (HIA). To provide a holistic approach to the development of the SWW RTP, these assessments are combined within this IIA.

1.3.3 Integral to the principles of sustainable development is the need to adopt an integrated approach. The integration of environmental, well-being, equalities, language and health assessments into one process ensures that a collaborative approach is undertaken on different issues, sharing knowledge and recognising links between topics in a consistent and transparent manner. This provides a robust and thorough mechanism for identifying issues and opportunities, assessing impacts including cumulative and indirect effects and undertaking monitoring in a holistic manner. Overall, the IIA will facilitate a more rounded view of the sustainability implications and opportunities arising from the SWW RTP.

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[5] Welsh Government (2024) Welsh Transport Appraisal Guidance. Available at:
https://www.gov.wales/sites/default/files/publications/2024-02/welsh-transport-appraisal-guidance-weltag-2024.pdf [Accessed: 02.10.24]

1.3.4 The IIA is a process for predicting and evaluating the likely social, economic and environmental impacts of a plan or policy, and aims to ensure that sustainable development is at the heart of the plan-making process. In addition, it can also be used to capture cultural impacts, which enable it to be consistent with the four components of sustainable development in Welsh law. These are described in the sections below.

1.4 Strategic Environmental Assessment/ Sustainability Appraisal

1.4.1 SEA is a requirement of several pieces of legislation including the European Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment' (The Strategic Environmental Assessment Directive)[6] which was transposed directly into Welsh law through the SEA Regulations[7]. SEA is a systemic process for evaluating the environmental consequences of plans and programmes to ensure that environmental issues are integrated and assessed at the earliest opportunity in the decision-making process. Article 1 of the SEA Directive states that the aim is to:

"provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development".

1.4.2 Sustainability Appraisal (SA) is an assessment of the economic, environmental and social effects of a Plan carried out from the outset of the Plan-making process to ensure that decisions are made that accord with sustainable development principles. SA is a systematic and iterative process that identifies and reports on the extent to which implementation of the plan will achieve the environmental, social and economic objectives by which sustainable development can be defined and identifies opportunities for improving plan performance in relation to these.

1.4.3 It is best practice to integrate SA and SEA into one coherent process.

1.4.4 The SEA Directive specifies certain topics in Appendix 1(f) that require consideration throughout the SEA and will therefore be a key element of this IIA. These includes:

- Biodiversity;
- Population;

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[6] Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment
[7] Environmental Assessment of Plans and Programmes (Wales) Regulations (SI 2004/1656 (W/170)) and in England, the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004/1633)

- Human health;
- Fauna;
- Flora;
- Soil;
- Water;
- Air;
- Climatic factors;
- Material assets;
- Cultural heritage including architectural and archaeological heritage;
- Landscape; and
- The interrelationship between the above factors.

1.4.5 Guidance produced by the UK Government[8] (see also Section 2 of this report) presents a series of prescribed stages for SEA. These same stages are adopted for this IIA albeit the coverage is broader than environmental issues. Nevertheless, the principles and legal requirements of the SEA Regulations must be upheld. This Scoping Report identifies and explains the specific requirements of the SEA Directive that need to be fulfilled. A key part of the Scoping process is that it is shared with the statutory consultees to agree the scope of the SEA assessment (see section 1.10).

1.5 Integrated Well-Being Appraisal

1.5.1 Welsh Government advises that transport initiatives funded by Welsh Government must deliver well-being benefits for people in Wales in accordance with the Well-being of Future Generations Act (Wales) 2015. A key tool for doing this is the Integrated Well-Being Appraisal (IWBA). WelTAG provides guidance on how to conduct IWBA for transport programmes, policies and projects.

1.5.2 The IWBA for the SWW must show how well-being has been addressed within the project. For transport projects, the IWBA should address four key questions based on the four ambitions in the Wales Transport Strategy:

- How will the programme or project benefit people and communities?
- How will it benefit the environment?
- How will it benefit places and the economy?
- How will it benefit culture and the Welsh language?

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[8] ODPM (2005) A Practical Guide to Strategic Environmental Assessment Directive. Available at:
https://www.gov.uk/government/publications/strategic-environmental-assessment-directive-guidance [Accessed: 22.07.24]

1.5.3 WelTAG explains that these questions should be addressed both qualitatively, by considering the more detailed goals under each ambition in the WTS; and quantitatively, using the Wales Transport Strategy monitoring framework. WelTAG also recommends the integration of several other impact assessments (if these are needed) to form part of the IWBA, including but not limited to:

- Equalities Impact Assessment;
- Welsh Language; and
- Health Impact Assessment.

1.6 Integrated Impact Assessment

1.6.1 It is important to note that the cross-cutting and overlapping nature of the impact assessments is recognised. The nature of the assessments in the IIA will seek to ensure that topics are ultimately considered as a whole, with repetition across different topics avoided as much as feasible, with no topic area being given greater 'weight' over another.

Table 1-1: Summary of Integrated Assessments Screening

Impact Assessment	Summary of Integrated Assessments Screening Results
Strategic Environmental Assessment/ Sustainability Appraisal	See section 1.4
Integrated Well-Being Appraisal	See section 1.5
Health Impact Assessment	At this early stage, it has been concluded that the SWW RTP will have a potential impact on health and well-being. This is due to the potential adverse impacts on physical health due to air pollutants released by many modes of transport, but also positive impacts for health and well-being through the encouragement of active travel. The assessment of health will be based on the broad, participatory and inclusive methodology as advocated in Wales and described in 'Health Impact Assessment: A Practical Guide'[9] and it will use the wider determinants

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[9] Wales HIA Support Unit (2012) Health Impact Assessment: A Practical Guide. Available at: https://phwwhocc.co.uk/wp-content/uploads/2020/07/Health-Impact-Assessment-A-Practical-guide.pdf [Accessed: 23.08.24]

Impact Assessment	Summary of Integrated Assessments Screening Results
	of health including well-being as a framework for discussion. The IWBA Framework (which will be used to appraise the SWW RTP) encompasses health and well-being objectives that reflect the Public Health Wales indicators.
Equalities Impact Assessment	Under the equality duty (set out in Section 149 of the Equality Act 2010[10]), many public authorities must have 'due regard' to the need to eliminate unlawful discrimination, harassment and victimisation as well as to advance equality of opportunity and foster good relations between people who share a protected characteristic and those who do not, this includes race, sexuality, gender and disabilities.
	At this early stage, it has been concluded that the SWW RTP will have a potential impact on equalities and human rights, primarily due to fair access to transport and active travel options for all, including those living in more rural South West Wales. The nine protected characteristic groups as identified in the Equality Act 2010 have been screened and the following groups have been screened in for further consideration in the assessment process: race, age, disability and sex (gender). These protected characteristics will be incorporated in the objectives and questions within the IIA Framework. At this stage, all protected characteristics are scoped-in to the assessment. However, it is recognised that this will be reviewed as part of the assessment process, as it is not anticipated that there will be effects on some protected groups, including marriage and civil partnership and religion.
Welsh Language Assessment	The Welsh Language (Wales) Measure 2011[11] and Standards[12] require the following effects to be considered: • What effect, if any, the SWW RTP would have on the opportunities for other persons to use the Welsh language, or treating the Welsh language no less favourably than the English language; • How the SWW RTP could have positive effects or increased positive effects on opportunities for other persons to use the Welsh

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[10] Equality Act 2010. Available at: https://www.legislation.gov.uk/ukpga/2010/15/contents [Accessed: 23.08.24]

[11] Welsh Language (Wales) Measure 2011. Available at: https://www.legislation.gov.uk/mwa/2011/1/contents/enacted [Accessed: 23.08.24]

[12] The Welsh Language Standards (No. 7) Regulations 2018. Available at: https://www.legislation.gov.uk/wsi/2018/441/contents/made [Accessed: 23.08.24]

Impact Assessment	Summary of Integrated Assessments Screening Results
	language, or treating the Welsh language no less favourably than the English language; and
	• How the SWW RTP could be developed so that it doesn't have or reduces any adverse effects which the policy decision would have on opportunities for other persons to use the Welsh language or treating the Welsh language no less favourably than the English language.
	At this early stage, it has been concluded that the SWW RTP will have a potential impact on the Welsh language. Objectives encompassing Welsh language have therefore been incorporated into the IIA Framework. This will ensure opportunities for the SWW RTP to contribute to the future well-being of the Welsh language are considered and identified where possible through this work.

1.6.2 Figure 2-1 illustrates the main stages of the IIA process as they fit with the SWW RTP development process. A more detailed explanation is provided in Section 2 of this report.

Figure 1-1: Outline of IIA and SWW RTP Process

Key Stages in IIA Process		Key Stages in SWW RTP
SEA Scoping	⟷	Evidence gathering and stakeholder engagement
IIA of RTP draft list of policies	⟷	Develop and refine list of policies
IIA of Draft and Final RTP	⟷	Prepare Draft SWW RTP and consultation
	⟷	Prepare Final SWW RTP
Monitor Significant Effects	⟷	Publish SWW RTP
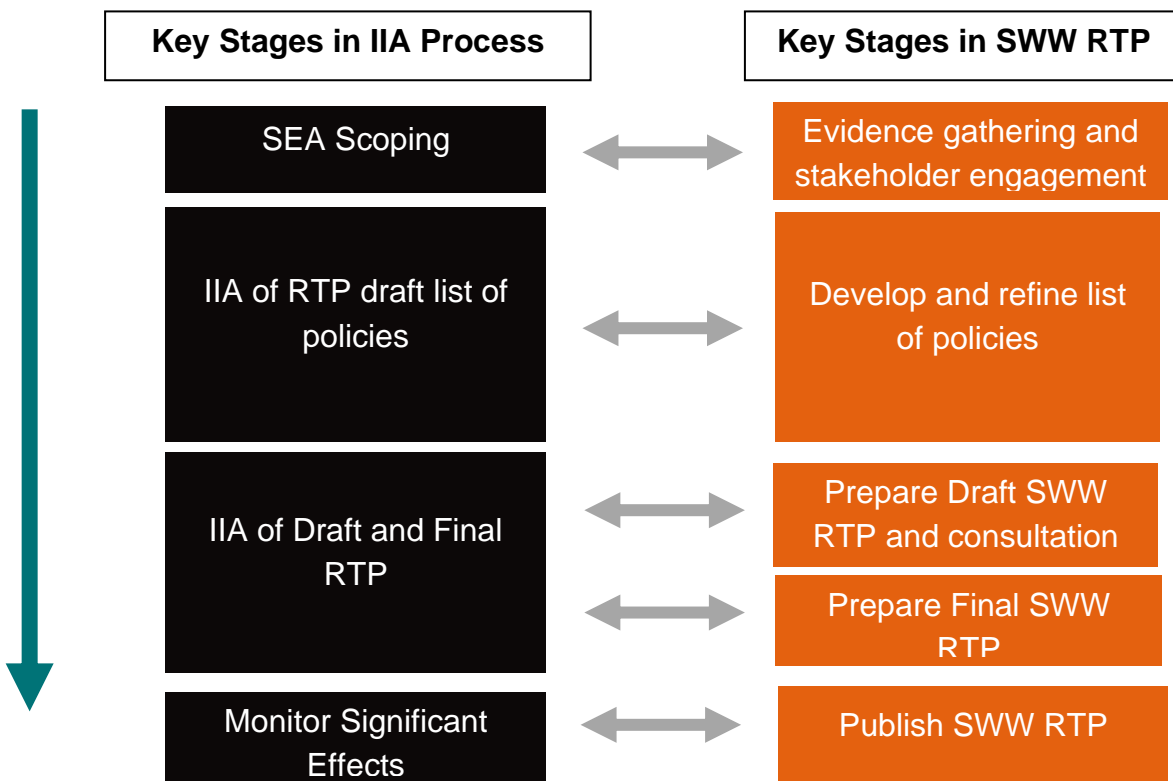
1.7 Purpose of the Scoping Report

1.7.1 Although the IIA will incorporate SEA and IWBA, there is only a requirement to prepare a Scoping Report to meet the requirements of the SEA Regulations, and therefore this Scoping Report aims to meet these SEA Regulations requirements, and future iterations of the IIA will integrate SEA and IWBA.

1.7.2 This Scoping Report represents the initial stage of the SEA and sets the scope for the remainder of the process. It is an integrated approach which has been shaped through engagement and involvement of stakeholders and follows the methodology set out in the published guidance[13] and seeks to:

- Set the scope and level of detail of the SEA;
- Identify relevant plans, policies, programmes and initiatives that will inform the SEA process and the SWW RTP;
- Identify relevant information about existing social, economic, cultural and environmental conditions in South West Wales at a regional scale of relevance to transport;
- Identify key sustainability issues and opportunities; and
- Present an appraisal framework for the SEA, against which the SWW RTP can be appraised.

1.7.3 This Scoping Report represents the first stage of the SEA process but has been used as an opportunity to combine baseline information useful for the development of the wider IIA process. A key output of the Scoping Stage is the assessment Framework. For the purposes of the SEA Regulations, this is the SEA Framework. This is referred to as the IIA Framework to support the integrated approach to assessment being undertaken. This has been developed through the review of the relevant plans, policies and programmes, as well as a review of the relevant baseline information, and identification of key sustainability issues and opportunities. The Draft IIA Framework is the main assessment tool used during the IIA and comprises a series of 13 Draft IIA Objectives covering social, economic, cultural and environmental issues identified, ensuring that the requirements of each of the integrated assessments are included. Following consultation on this Scoping Report, the amended Final IIA Objectives will be used to assess the SWW RTP as it develops (please note there is no order of importance for these IIA Objectives):

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[13] ODPM (2005) A Practical Guide to Strategic Environmental Assessment Directive. Available at:
https://www.gov.uk/government/publications/strategic-environmental-assessment-directive-guidance [Accessed: 22.07.24]

1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales
2. To create the conditions within which an improvement in social cohesion and equality can be achieved
3. To support sustainable economic development
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces
5. To encourage the protection and promotion of the Welsh Language
6. To reduce greenhouse gas emissions from transport and contribute to modal shift
7. To enable climate change resilience
8. To protect and improve air quality
9. To protect and enhance the local distinctiveness of our landscapes and townscapes
10. To promote the conservation and enhancement of heritage assets
11. To promote the conservation and enhancement of biodiversity and geodiversity
12. To ensure the sustainable use of natural resources
13. To enable the protection of tranquil and quiet areas and prevention of noise and light pollution

1.8 Relationship between the SWW RTP, the WTS, the IIA and the Well-being of Future Generations

1.8.1 The SWW RTP will set out a vision and aims for the future of transport in the region and high-level policies in line with the WTS, which is the Welsh Government's national 20-year transport strategy. The IIA is the appraisal process through which the SWW RTP will be developed. It places sustainable development at the heart of the process and integrates a range of assessments into a simple yet comprehensive assessment tool.

1.8.2 The Well-being of Future Generations (Wales) Act 2015[14], approved by the National Assembly in March 2015, seeks to directly place Wales on a sustainable path to improving our well-being. The Act requires that public bodies carry out sustainable development which is defined as:

'Sustainable development' means the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in

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[14] Well-being of Future Generations (Wales) Act 2015. Available at: https://www.futuregenerations.wales/about-us/future-generations-act/ [Accessed: 22.08.24]

accordance with the sustainable development principle, aimed at achieving the well-being goals.

1.8.3 Rather than an end in itself, sustainable development is a way of doing things and the Act guides how public bodies should operate to achieve it. The Act provides for a shared purpose through seven well-being goals for Wales. These well-being goals are indivisible from each other and explain what is meant by the well-being of Wales (see Table 2-1).

1.8.4 Sustainable development is a process which also contributes to improving well-being. It acknowledges that there are many things that determine a person's quality of life (their well-being), and that these all can broadly be categorised as environmental, economic, social and cultural factors. These are captured in the well-being goals. This means that improving the quality of our environment, our economy, society and culture can improve the well-being of individuals and that of Wales as a whole.

Table 1-2: Definition of Well-being of Future Generations Act Goals

Goal	Description of the goal
A prosperous Wales	An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.
A resilient Wales	A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).
A healthier Wales	A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.
A more equal Wales	A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio-economic background and circumstances).

Goal	Description of the goal
A Wales of cohesive communities	Attractive, viable, safe and well-connected communities.
A Wales of vibrant culture and thriving Welsh language	A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.
A globally responsible Wales	A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

Source: Welsh Government, Well-being of Future Generations (Wales) Act 2015: The Essentials[15]

Importance of Integrating the Seven Well-being Goals into the IIA

1.8.5   The SWW RTP will have an important role in contributing to the achievement of well-being goals over the five-year period, and the approach to appraisal will help the CJC to understand where the SWW RTP can maximise that contribution. The well-being goals were also used to inform the review of the evidence, identify issues and structure the IIA Framework.

Ways of Working

1.8.6   The sustainable development principle defined by the Act is a fundamental part of how public bodies – including the Welsh Government – must now operate. This includes acting in a manner that seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs, by taking account of the sustainable development principle.
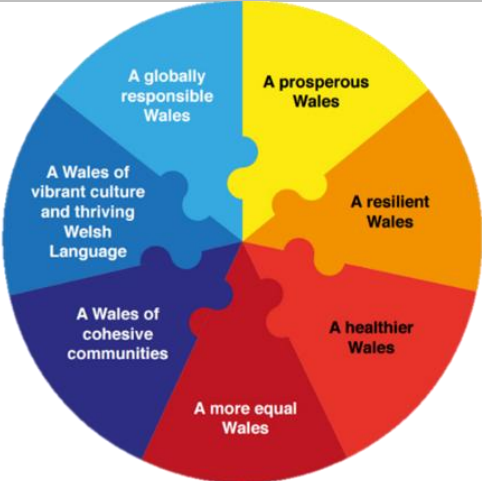
1.8.7   The principle is made up of five ways of working that public bodies are required to take into account when applying sustainable development (see Figure 2-3). These are:

- Looking to the **long term** so that public bodies do not compromise the ability of future generations to meet their own needs;

- Taking an **integrated** approach so that public bodies look at all the well-being goals in deciding on their well-being objectives;

- **Involving** a diversity of the population in the decisions that affect them;

- Working with others in a **collaborative** way to find shared sustainable solutions;

- Understanding the root causes of issues to **prevent** them from occurring.

Figure 1-2: Well-being goals & the Five Ways of Working

Source: adapted from: Well-being of Future Generations (Wales) Act 2015: The Essentials[16]

The Five Ways of Working, the SWW RTP and the IIA

1.8.8 The five ways of working are integral to the SWW RTP preparation-process and therefore, by association, the IIA. During the development of the SWW RTP, the integrated impact assessment experts and the plan-maker will consider how the ways of working shape what we do. Table 2-2 sets out an overview of our approach.

Table 1-3: The five ways of working and the SWW RTP/ IIA

Looking to the long term
Development of SWW RTP
Although a 5-year plan, to ensure we consider the long term, the SWW RTP will be developed to provide aims, objectives and priorities that will ensure the long-term

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sustainable development of South West Wales through its transport system. Importantly, the SWW RTP will also support thinking beyond 2030 wherever possible, making use of evidence and trends and seek to understand outcomes over the longest timeframes available.

Role of IIA

The role of the IIA is to support long term policy and proposal making decisions in the SWW RTP. It identifies and considers a broad range of social, environmental, cultural and economic evidence. The review of baseline plans and programmes, and the identification of issues and opportunities draws on a detailed body of evidence which consider the short, medium and long term. The testing framework will test emerging policy and assess its ability to deliver the long-term objectives. The options that will be developed and tested through the IIA will specifically consider the delivery of long-term strategic change. Appendix B of this Scoping Report sets out the baseline evidence that looks at short, medium and long-term trends. This feeds into the identification of key issues and opportunities for the SWW RTP to address and has shaped the IIA Framework for assessment of the SWW RTP.

Taking an integrated approach

Development of SWW RTP

The SWW RTP will be consistent with and support the delivery of Welsh Government policies including the NTDP, WTS; and Future Wales: the national plan 2040. The SWW RTP will make important decisions on investment options that will affect the future development of South West Wales.

Its policies will be integrated, maximising the contribution to the well-being goals, and developed through a detailed, evidenced assessment process. The IIA will be the tool through which we test this integration and ensure the contribution to meeting the well-being goals is maximised.

Role of IIA

The IIA is the integrated approach to the development of the SWW RTP and the assessment of its emerging policies. It ensures a holistic approach is undertaken, sharing knowledge and recognising links between the different topic areas and therefore the goals. The IIA process incorporates a review of relevant plans, programmes and environmental objectives at national to international scale. This enables the Welsh Government to take advantage of potential synergies, identify opportunities and deal with any inconsistencies and constraints. As part of the IIA a compatibility assessment of the

assessment Framework has also been undertaken to ensure any conflicts are highlighted, resolved or managed as necessary (see Appendix C).

The IIA of the SWW RTP will be largely based on the ISA Frameworks developed for the appraisal of the WTS and the NTDP, as the SWW RTP will need to be in line with these higher tier plans. A cross-government approach was undertaken for the ISA of the WTS. This comprised expert policy leads covering decarbonisation, transport, marine planning, natural resources, nature conservation, future trends and statistics. This also ensured the identification of synergies and conflicts at an early stage, ensuring a robust approach to the assessment. For the WTS, the consultation and supporting ISA workshop with key stakeholders ensured that a range of views were gathered on the draft ISA Scoping Report including the draft Framework and proposed integrated approach. This consultation will continue with NRW in particular, to ensure that the specificity of the IIA Framework, in particular, will be relevant to the appraisal of the SWW RTP.

It is intended that a collaborative approach will evolve throughout the process to fill data gaps, undertake monitoring and increase engagement with stakeholder groups and other interested parties. This process will begin with consultation on the IIA Scoping Report.

Involving people

Development of SWW RTP

We will involve key stakeholders in the development of the SWW RTP.

Engagement on the draft SWW RTP will be held as follows:

- stakeholder input to the development of the plan, including internal and external consultation with key stakeholders.

- public consultation and engagement on the draft plan document.

- recording the outputs from the consultation exercise.

- analyse feedback and produce a consultation report.

- consultation input to refining the plan

The objectives of the engagement are:

1. To make audiences aware of the development process for the SWW RTP

2. To make sure that the consultation is inclusive and provides opportunities for involvement by a diverse range of stakeholders and the public.

3. To ensure a high level of awareness and understanding of the plan being proposed.

Role of IIA

The IIA provides an important opportunity to consult on the shaping of the SWW RTP as it progresses. It is a process that tells the story of the plan aiding understanding of its development.

Future stages of the IIA work will involve consulting with different organisations and individuals to ensure a wide range of views continue to be captured and considered whilst finalising the SWW RTP. The IIA will involve incorporate the promotion and protection of the Welsh language.

Collaborating with others

Development of SWW RTP

The role of the WTS is to facilitate actions by others and to maximise the opportunities to support the delivery of common goals, maximise positive outcomes and help achieve the well-being goals. The SWW RTP will seek to deliver the aims and priorities of the WTS in South West Wales.

Role of IIA

The IIA, through the review of plans, programmes and environmental objectives (Appendix A), baseline evidence (Appendix B), will help to identify the key sustainability issues and sets out opportunities for the SWW RTP (Table 5-1). Following engagement and consultation the evidence, plans and programmes, and issues and opportunities will be updated and amended. This will lead to an update to the IIA Framework, against which the SWW RTP aims and objectives will be tested and will help to maximise collaborative opportunities and ensure the SWW RTP is as sustainable as possible.

Prevention

Development of SWW RTP

The WTS is one of the government's levers in identifying future outcomes and measures to monitor success. The WTS sets out the Welsh Government's long-term strategic vision for transport accompanied by a set of outcomes to achieve that vision, as well as measures so that progress can be tracked. This has given a clear basis on which to plan investment and the development of the network in the way best suited to realising collective priorities, as well as to prevent future transport problems and the impacts of transport, and the SWW RTP will reflect this. The WTS also provides for the safety and protection of disadvantaged and minority groups within Wales, which will be reflected in

the aims and objectives in the SWW RTP. The SWW RTP will be subject to a programme of monitoring and review, to establish its progress towards meeting its outcomes.

Role of IIA

The IIA is evidence-based, and the evidence feeds through the Scoping Report and shapes the IIA Framework (see Table 6-2). The review of this evidence identified key issues and opportunities for the SWW RTP, which is based on that developed for the WTS. This will seek to address and ensure the SWW RTP prevents negative outcomes and enhances positive outcomes where possible (Table 5-1). The identification of these issues and trends at this early stage will help in the development of the SWW RTP through shaping the IIA Framework objectives and questions. The IIA process ensures that the SWW RTP will be monitored to ensure the SWW RTP is being successfully implemented and delivering its objectives, taking into consideration the WTS Monitoring and Evaluation Framework. Any issues highlighted will feed into the review of the SWW RTP.

1.9 Will a Habitats Regulations Assessment be undertaken?

1.9.1 The European Council Directive 92/43/EEC[17] on the conservation of natural habitats and of wild flora and fauna (the 'Habitats Directive') requires that any plan or programme likely to have a significant impact upon a Natura 2000 site (Special Areas of Conservation (SAC), candidate Special Areas of Conservation (cSAC), Special Protection Areas (SPA), potential Special Protection Areas (pSPA) and Ramsar sites), which is not directly concerned with the management of the site for nature conservation, must be subject to an Appropriate Assessment. The Directive was transposed into Welsh law via the Habitats Regulations[18]. The overarching process is referred to as HRA.

1.9.2 Following consultation with Natural Resources Wales (NRW), the SWW RTP will be subject to HRA Screening. The outcome of this process will be published alongside the SWW RTP and the IIA.

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[17] European Council Directive 92/43/EEC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN [Accessed: 30.11.21]
[18] The Conservation of Habitats and Species Regulations 2010 (SI 2010/490). Available at: https://www.legislation.gov.uk/uksi/2010/490 [Accessed: 30.11.21]

1.10 What consultation will be undertaken on the Scoping Report?

1.10.1 Engagement on the SWW RTP to date has included workshops with local authority officers, briefings for elected Members and Community Councils as well as an informal public consultation on problems and issues. The Scoping Report for the IIA of the SWW RTP is one of the first formal stages in engagement and collaboration for the SWW RTP. The Scoping Report was issued for consultation with NRW and Cadw on the 18th October 2024.

1.10.2 Cadw responded saying "*The historic environment has been appropriately considered in the scoping report and we agree with the proposed methodologies for assessing the impact of the strategy on it*".

1.10.3 No response was received from NRW within the statutory timeframe, although any response received in the future will be integrated into the reporting at the next stage.

1.10.4 During the development of the options and assessment of the SWW RTP, workshops will be held with those leading the development of the SWW RTP to enable the IIA to influence the scope and issues considered within the SWW RTP.

2 The Strategic Environmental Assessment Process

2.1 Stages in the Strategic Environmental Assessment Process

2.1.1 The Practical Guide to the SEA Directive subdivides the SEA process into a series of stages. These stages are mirrored in this IIA (incorporating SEA and IWBA) with additional information provided to ensure each of the integrated assessments are incorporated. The intention is that the process is iterative. Figure 3-1 presents the key stages of the SEA, alongside the SWW RTP key stages of development, and which assessments will be integrated as part of the IIA process. In summary, this IIA will comprise the following process:

Stage A: Setting the Context and Objectives, Establishing the Baseline and Deciding on Scope (This Stage)

2.1.2 This report provides a summary of the Scoping stage of the SEA element of the IIA. This stage provides the basis on which the subsequent stages of the IIA will be undertaken. The review of other relevant plans and programmes and the development of environmental objectives, including other national and higher-tier policies and plans, establishes the context within which the SWW RTP will sit. To accurately predict how the SWW RTP proposals could affect environmental, social, cultural and economic factors, it is first important to understand the current state of these factors and then examine their likely evolution without the implementation of the SWW RTP. This baseline is then analysed, to identify the key sustainability issues that will inform the emerging SWW RTP and opportunities that the SWW RTP could influence. Following on from this, the IIA Framework will be established, to determine a set of key objectives and questions, to be used to assess the emerging SWW RTP and how it could improve these environmental, social, cultural and economic factors, within the context of the well-being goals.

2.1.3 The consultation process helps to refine this work so that we have an IIA Framework that is effective in appraising the SWW RTP.

Stages B1 and B2: Developing and refining alternatives and assessing effects (Next Stage)

2.1.4 Following the SEA Scoping Consultation, the IIA will move to Stage B. Stage B will involve a high-level appraisal of an initial draft of the SWW RTP policies and proposals against the established IIA Framework. The assessment will enable the draft SWW RTP policies and proposals to be assessed at an early stage, with any potential options identified. Recommendations can be made for improvements or alternatives, as appropriate. This will inform the development of the SWW RTP to be taken forward and refined.

Stages B3, B4, B5 and B6: Predicting and evaluating the effects of the Draft SWW RTP, including alternatives

2.1.5 Following the development of the revised SWW RTP policies and proposals, this stage of the assessment is the evaluation of the predicted significant effects. The evaluation involves forming a judgement on whether or not the predicted effects would be environmentally significant. Stages B5 and B6 are an integral part of this process and comprise the recommendations for an improvement in outcomes and potential monitoring of predicted significant effects (see Stage E).

Stages C and D: Draft IIA Report and Consultation

2.1.6 A Draft IIA Report will be published (Stage C) to accompany the Draft SWW RTP statutory consultation (Stage D), intended to be in early 2025.

2.1.7 Following the consultation on the Draft SWW RTP the IIA will again be updated to reflect any significant changes in the SWW RTP as a result of the consultation (continuation of Stage D). A Final IIA Report will then be produced to accompany the Final SWW RTP.

Stages E: Monitoring the Significant Effects of the SWW RTP

2.1.8 Stage E of the IIA process includes the finalisation of a monitoring framework that will be used to identify issues, both positive and negative and significant effects of the SWW RTP over time. Following the adoption of the SWW RTP, a post-adoption IIA Statement will be prepared, alongside a Statement of Environmental Particulars, providing detail of how the IIA process has influenced the development of the SWW RTP, the predicted significant effects, as well as the monitoring framework.

Figure 2-1: Stages in the IIA process (adapted from OPDM 2005)

Assessments Integrated	SEA Stages	SWW RTP Stages
Screening for Health, Equalities, and Welsh Language	**SA/SEA Screening** Is a formal IIA that fulfils the SEA Regulations required?	Case for Change
Scoping and Evidence Gathering for each of the following incorporated into each stage of IWBA Scoping: IWBA, Health, Equalities, and Welsh Language	**Stage A: Scoping** A1. Identifying other relevant plans, programmes, and environmental protection objectives A2. Collecting baseline information A3. Identifying sustainability problems A4. Developing IIA Objectives A5. Consulting on the scope **(Scoping Report)**	
Input into developing alternatives and assessing effects for each of the following incorporated into each stage of IIA Stage B through SEA Framework and specialist input: IWBA, Health, Equalities, and Welsh Language Input to stakeholder options workshop and Draft IIA Report	**Stage B: Developing and refining alternatives and assessing effects** B1. Testing the SWW RTP objectives against the IIA Objectives B2. Developing strategic alternatives B3. Predicting the effects of the Draft SWW RTP including alternatives B4. Evaluating the effects of the Draft SWW RTP including alternatives B5. Considering ways of mitigating adverse effects and maximising benefits B6. Proposing measures to monitor the effects of SWW RTP implementation **(Interim IIA Report on Issues and Options)**	Develop the main issues, options and preferred option Prepare Draft SWW RTP and consultation
Assessment of the above to be reported within the IIA Report.	**Stage C: Prepare Draft IIA Report** Prepare formal IIA Report and Non-Technical Summary to report findings of IIA of Draft SWW RTP.	
Consultation on the above assessments as part of Draft IIA Report. Update assessment of the above as part of IIA of Final SWW RTP and report in Final IIA Report.	**Stage D: Consultation on Draft IIA Report and assessing significant changes** D1. Consulting on the IIA Report D2. Assessing significant changes made to the Final SWW RTP and update IIA Report D3. Provide Post Adoption Statement and Statement of Particulars	Prepare Final SWW RTP for Senedd consideration
Monitoring the significant effects of the above assessments as part of IIA monitoring.	**Stage E: Monitoring the Significant Effects of the SWW RTP**	Publish SWW RTP

Integrated Impact Assessment (incorporating Strategic Environmental Assessment and Integrated Well-Being Appraisal) of the South West Wales Regional Transport Plan
Scoping Report

3 Review of Plans, Programmes and Environmental Protection Objectives

3.1 Introduction

3.1.1 The SWW RTP will be influenced in various ways by other plans or programmes, or by external environmental (or sustainability) protection objectives such as those laid down in policies or legislation. Understanding these relationships can enable the CJC to take advantage of potential synergies, identify opportunities and deal with any inconsistencies and constraints. A large number of other plans and programmes have been reviewed with respect to relevant social, economic, environmental and cultural issues of importance to each of the integrated assessment strands.

3.1.2 The iterative nature of this work will ensure new plans and programmes which are published as the SWW RTP develops can and will be taken into account.

3.1.3 The SEA Regulations specifically requires relevant plans and programmes to be considered. The box below stipulates the SEA Regulations requirements for this stage of the process.

Box 1: SEA Regulations requirements for the review of Plans Programmes and Environmental Protection Objectives

"An outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes" (Schedule 2 (1))

"The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation" (Schedule 2 (5))

3.1.4 A review of other plans and programmes that may affect the preparation of the SWW RTP was undertaken in order to contribute to the development of both the IIA (incorporating SEA and IWBA) and the SWW RTP, the full results of which are presented in Appendix A. This included:

- Identification of any social, environmental, cultural or economic objectives that should be reflected in the IIA process;
- Identification of any baseline data relevant to the IIA;
- Identification of any factors that might influence the preparation of the document, for example sustainability issues;

- Identification of any objectives or aims that would contribute positively to the development of the SWW RTP; and

- Determining whether there are clear potential conflicts or challenges between other identified plans, programmes or environmental objectives and the emerging SWW RTP.

3.1.5 The review included documents prepared at international, European, UK-wide and national scale. A brief summary of the documents reviewed, and the main findings are summarised in Table 3-1. Further details are presented in Appendix A.

Table 3-1: Summary of the review of Plans, Policies and Programmes

Level	Summary (Full results are presented in Appendix A)
International Plans and Programmes	A review was undertaken of key International Conventions that could potentially influence the development of the SWW RTP and the IIA.
UK-wide Plans and Programmes	A review was also undertaken of relevant publications from organisations including, for example, Department for Transport (DfT), the Department of Business, Energy and Industrial Strategy (DBEIS), and the Department for Environment, Food and Rural Affairs (Defra). These publications outline the action plans and strategies across a breadth of topic areas for example The Air Quality Strategy for England, Scotland, Wales and Northern Ireland[19] and the UK Integrated National Energy and Climate Plan (NECP)[20] as well as the Committee on Climate Change (2021) UK Climate Change Risk Independent Assessment: Technical Report (particularly the 'Summary for Wales'). The objectives of these plans, as well as some of the challenges they raise need to be taken on board, as appropriate. Any previous relevant European Directives are transposed into national regulations.
Wales Plans and Programmes	A review was undertaken of plans produced at the Wales national level. Many of these are produced by Welsh Government and specifically address strategic issues such as the economy; transport; health; safety; sustainable communities; housing; employment; the Welsh Language; and environmental protection. • The Well-being of Future Generations (Wales) Act (2015) identifies seven well-being goals for Wales. In November 2016, the Welsh Government published its initial well-being national indicators[21], designed to maximise its contribution to the seven well-being goals. Other specified public bodies have also set out their well-being objectives for contributing to the well-being goals.

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[19] DEFRA (2011) The air quality strategy for England, Scotland, Wales and Northern Ireland: Volume 1. Available at: https://www.gov.uk/government/publications/the-air-quality-strategy-for-england-scotland-wales-and-northern-ireland-volume-1 [Accessed: 22.08.24]

[20] DBEIS (2021) UK National Energy and Climate Plan. Available at: https://www.gov.uk/government/publications/uk-national-energy-and-climate-plan-necp [Accessed: 22.08.24]

[21] Welsh Government (2021) Wellbeing of Wales: national indicators. Available at: https://gov.wales/wellbeing-wales-national-indicators [Accessed: 22.08.24]

Level	Summary (Full results are presented in Appendix A)
	• The Llwybr Newydd: the Wales Transport Strategy 2021 (WTS) sets out three priorities and four well-being ambitions which seek to implement the WTS's vision. The WTS then sets out nine Mini-Plans which s focuses on each mode of transport, and provides more specific aims for each of these transport modes.
	• The Natural Resources Wales 2020 SoNaRR, together with the Natural Resource Policy (NRP) have also been included. Each has a focus on Welsh natural resources, with SoNaRR providing an assessment of the sustainable management of natural resources and the NRP seeking to set out the national priorities in relation to the sustainable management of natural resources in Wales. These documents, in particular, are key national documents that the SWW RTP will draw from. They contain common goals, and a range of evidence is shared between them. These plans should include the main influences of international and UK level plans through the 'trickle-down effect'. They should also provide a strategic Wales focus. It is, through identifying these themes and incorporating them into the SWW RTP, that synergies can be achieved with other relevant documents.
	• Advancing Gender Equality in Wales Plan (2020) sets out a commitment to recognise the existing ways in which power structures based on factors such as gender, race, sexuality, disability, class, age and faith interact with each other and create inequalities, discrimination and oppression. The SWW RTP will need to ensure that transport in Wales facilitates economic independence of all people including women and non-binary people, with all forms of unpaid and paid work recognised; facilitates the freedom of women to live their lives as they choose; challenges any existing power structures that may be disadvantaging women; is committed to equality of outcome for all women, men and non-binary people; places a gender perspective at the heart of decision-making; is open, transparent and welcomes scrutiny through a gender-lens; actively monitors progress towards equality; and leads by example for delivering equality.
	• The Nature Recovery Action Plan sets out how Wales will address the Convention on Biological Diversity's Strategic Plan for Biodiversity and the associated Aichi biodiversity targets in Wales. The Nature Recovery Action Plan identifies actions that can be delivered in the short term and sets a course to deliver longer term commitments beyond 2020. These commitments and actions are pertinent to the IIA of the SWW RTP and have informed the IIA Framework Objectives.
	• The Net Zero Wales Carbon Budget 2 (2021-2025) represents Wales's planned commitments and actions to progress to a net

Level	Summary (Full results are presented in Appendix A)
	zero future. The report sets out Wales's commitment to reduce greenhouse gas emissions to 89% on 1991 emissions, and 100% reduction by 2050. The report stresses the need to outperform these targets, and as such sets out actions to improve energy efficiency and integrate policies to achieve the maximum social and environmental benefit.
South West Wales Plans and Programmes	In some circumstances, there are South West Wales specific plans and programmes that have been prepared. This includes and Energy Strategy, Regional Economic Framework and Economic Delivery Plan. These documents set out locally specific aims and priorities to promote growth and sustainable measures in South West Wales.

3.2 Key Themes Resulting from the Review

3.2.1 There were many common themes identified in the review of relevant plans, policies and programmes. Whilst full results are presented in Appendix A, Table 3-2 provides a summary of the key themes identified. These themes were also considered against the seven well-being goals and where they could make a contribution to the achievement of those goals. It is noted that these are themes arising from the review of plans and programmes, as opposed to the key sustainability issues arising from the review of baseline information.

Table 3-2: Key Themes Resulting from the Review of Relevant Plans, Policies and Programmes

Key Themes from the Review	National Well-being goals (Where the themes may make a contribution)
Reduce air pollution and ensure improvements in air quality contributing to a healthier Wales	A resilient Wales A healthier Wales A globally responsible Wales
Promote sustainable patterns of mobility, including active travel and public transport	A prosperous Wales A resilient Wales A healthier Wales A globally responsible Wales
Promote greater equality of opportunity for all citizens. This should include a focus on ensuring equal accessibility for all, including for disabled and vulnerable	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales

Key Themes from the Review	National Well-being goals (Where the themes may make a contribution)
people, as well as equality of outcome for all women, men and non-binary people.	A Wales of cohesive communities A Wales of vibrant culture and thriving Welsh language A globally responsible Wales
Maintain and enhance biodiversity, habitats and species with healthy functioning and resilient ecosystems, including connected networks of green infrastructure throughout rural and urban areas.	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities A globally responsible Wales
Reduce the existing or future risk of flooding and/or coastal erosion by adapting existing infrastructure to the impacts of climate change and promote protection of floodplains or areas of managed realignment	A resilient Wales A healthier Wales A globally responsible Wales
Sustainably manage natural resources and tackle the causes of climate change, including a reduction in carbon emissions associated with the transport sector in accordance with Wales's carbon budgets	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales A Wales of cohesive communities A globally responsible Wales
Protect and improve the quality of the natural environment, including water resources; soil resources; landscapes; seascapes; and historic assets and their settings.	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities A globally responsible Wales
Manage mineral extraction and minimise waste generation and increase levels of reuse and recycling to achieve more sustainable waste management and reduce landfill	A resilient Wales A globally responsible Wales
Relieve pressure on natural resources by increasing energy efficiency, stimulating investment and innovation and promoting	A prosperous Wales A resilient Wales

Key Themes from the Review	National Well-being goals (Where the themes may make a contribution)
the sustainable use of national renewable energy resources	A healthier Wales A Wales of cohesive communities A globally responsible Wales
Improve the physical and mental health and well-being of the population and reduce health inequalities to create a healthier Wales	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales A Wales of cohesive communities A globally responsible Wales
Contribute towards the future well-being of the Welsh language, culture and heritage	A prosperous Wales A resilient Wales A more equal Wales A Wales of vibrant culture and thriving Welsh language A globally responsible Wales
Promote sustainable economic growth and business competitiveness through transport and innovation	A prosperous Wales A resilient Wales A more equal Wales A Wales of vibrant culture and thriving Welsh language A globally responsible Wales
Establish a strong tourist economy, sensitively capitalising on environmental, heritage, and leisure assets	A prosperous Wales A resilient Wales A Wales of cohesive communities A Wales of vibrant culture and thriving Welsh language
Improve the connectivity of existing communities and reduce isolation through better planned and designed future communities and more inclusive public transport.	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales A Wales of cohesive communities

4 Baseline Data and Identification of Key Sustainability Issues and Opportunities

4.1 Introduction

4.1.1 Baseline information (social, economic, environmental and cultural) provides the basis for predicting and monitoring environmental effects and helps to identify environmental issues and alternative ways of dealing with them. As the SWW RTP is a regional-scale document, baseline evidence gathering has been focussed on regional-scale data with some national-scale data where there are regional data gaps.

4.1.2 The SEA Regulations specifically requires this to be considered. The box below stipulates the SEA Regulations requirements for this stage of the process.

Box 2: SEA Regulations Requirements for baseline and the identification of key sustainability issues

> *"Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme"* (Schedule 2 (2))
>
> *"The environmental characteristics of the areas likely to be significantly affected"* (Schedule 2 (3))
>
> "*Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds(a) and the Habitats Directive"* (Schedule 2 (4))

4.1.3 Understanding the characteristics of Wales's economic, social, cultural and environmental well-being is essential in being able to understand the effects of the SWW RTP. Characterising the environmental and sustainability baseline, issues and context is an important activity in defining the Framework for the IIA. It involves the following elements:

- Characterising the current state of the environmental, social, cultural and economic well-being of Wales;
- Understanding the future trends based on current trends and future projections that may impact on Wales's economic, social, environmental and cultural well-being; and
- Using this information to identify existing problems and opportunities which could be influenced by the SWW RTP.

4.2 Methodology

4.2.1 The environmental, social, economic and cultural baseline was characterised through the following methods:

- Review of relevant international, UK, national (Wales) and regional (South West Wales) plans and programmes;
- Data research based around a series of baseline datasets developed from the Welsh Government, guidance, previous consultation recommendations from similar IIAs and the data available for Wales; and
- The Well-being of Wales: national indicators[22], which provide national-scale data across 46 indicators of progress against the seven well-being goals.

4.2.2 Understanding the baseline conditions enabled the identification of the key sustainability issues and opportunities in South West Wales (Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire). These are summarised in Section 5.3 and presented in full in Appendix B.

4.2.3 The baseline data has been divided according to the seven Well-being of Future Generations (Wales) Act 2015 goals and then subdivided by topics. There are many overlaps between the baseline sets and topics. Each of the baseline topics identified in the SEA Regulations are represented.

4.2.4 The SEA Regulations also require 'material assets' to be considered within the SA/SEA. Material assets refer to the stock of valuable assets within a study area and can include many things from valuable landscapes, natural and cultural heritage through to infrastructure and quality agricultural land. For the purposes of the IIA material assets of Wales are appropriately covered in the following baseline sections, and are not included in their own designated topic:

- Biodiversity, flora, fauna and geodiversity;
- Soil and land quality;
- Cultural heritage;
- Landscape;
- Minerals and waste;
- Housing; and
- Transportation.

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[22] Welsh Government (2021) Wellbeing of Wales: national indicators. Available at: https://gov.wales/wellbeing-wales-national-indicators [Accessed: 22.07.24]

4.2.5 It is important to note that baseline data, issues and opportunities for each of the integrated assessment strands has been collated and included as part of this process and is presented under the relevant Well-being goals.

4.3 Key Sustainability Issues and Opportunities

4.3.1 Table 5-1 presents the key sustainability issues and opportunities for Wales identified across the seven Well-being goals and IIA topic subheadings which stem from the baseline data (Appendix B). These will be refined and updated alongside the emerging SWW RTP when further details of the content of the SWW RTP are known.

4.3.2 Environmental impacts from transport schemes, whether beneficial and/or adverse, can arise from different sources during the construction phase, from the presence of the infrastructure, and from its operation/use. Typically, impacts are divided into two main categories:

- Use: arising because of changes in traffic (road or rail traffic) such as noise, air pollution and greenhouse gases; and
- Infrastructure: arising from the physical presence of new or improved transport infrastructure and associated development, such as effects on land use, landscape, biodiversity, greenhouse gases, air pollution, heritage and the water environment[23].

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[23] Department for Transport (2019) Valuation of Landscape Impacts of Transport Interventions & Mitigations Using an Ecosystem Services Approach. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/824186/valuation_of_landscape_impacts_of_transport_interventions.pdf [Accessed: 22.07.24]

Table 4-1: Key Sustainability Issues and Opportunities arising from review of Baseline

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
1. A prosperous Wales	The economy of Wales is closely aligned with that of the rest of the UK. There has been a move towards service sector employment and a decline in heavy industry; Wales still has a diverse manufacturing sector. There are regional differences in economic inactivity with decreases in Carmarthenshire and Neath Port Talbot whereas Pembrokeshire and Swansea had experienced increases. In 2023, Qualification levels in Wales were lower than the UK as a whole. The younger demographic is much less likely to work from home than older age groups. Wales is anticipated to experience the greatest house price growth within the next five years compared to the rest of the UK. The largely rural nature of South West Wales results in relatively small urban areas, which would otherwise be more strongly associated with agglomeration effects, influences relatively poor economic performance.	The RTP provides an opportunity for the economy to be guided towards a more sustainable future. This can be through the promotion of sustainable travel infrastructure and improvement of access to employment centres. It can also provide a framework that is more responsive to the needs of the economy and able to support new, emerging sectors and support transition of existing ones through the creation and enhancement of networks. Furthermore, it can also help to guide the creation of an environment that is attractive to inward investment and encourages sustainable access to jobs. Similarly, the RTP may facilitate improvements in access to education and health facilities. The RTP could seek to help address issues related to poverty and inequality through access to better education, better connectivity between communities and access to jobs and the job market. RTP could promote the use of active travel to encourage the older demographic to commute to work. Additionally, this could help maintain the increase in economic inactivity rates in Carmarthenshire and Neath Port Talbot if jobs are more accessible via transport links while simultaneously reducing the increase in Swansea and Pembrokeshire. There is an opportunity to promote the use of active travel to primary and secondary schools through walk to

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
		school schemes. This could be adapted and extended to encourage adults to use active transport methods for travel to work and training.
		The RTP presents an opportunity to improve sustainable and public transport methods to tourist locations, to facilitate increases in tourism numbers.
		There is an opportunity for the RTP to reduce congestion through promoting active travel and public transport through re-allocation of road space and integrated sustainable travel modes.
2. A resilient Wales	**Air Quality**	
	Air quality in South West Wales is generally very good, reflective of its largely rural nature and high-quality natural environment. However, there are seven AQMAs in South West Wales and targets are being breached for a number of key pollutants which pose a risk to human health and the natural environment so the transport plan must take this into account.	The transport system is a significant contributor to air pollution at present, an opportunity to reduce this negative effect on air quality could be affected by helping to minimise pollution from transport through minimising the distance travelled and encouraging more sustainable modes of transport. Sustainable design and landscaping policies could help to provide opportunities for absorbing some pollutants.
	90% of semi-natural nitrogen sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits.	Active travel routes could suffer from high air pollution, which could exacerbate health issues.
	Ammonia remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter, including the formation of ultra-fine particulates (PM2.5), which can have a more serious	

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	impact on human health and ecosystems than the larger PM10s. Road transport accounts for nearly a third of all NO2 emissions in the UK and transport is the biggest source of air pollution in the UK.	
	Noise Pollution	
	Noise from railways and main roads in SWW remain high. It is unclear how changes to transport modes, such as electrification, will affect noise pollution from transport sources.	The RTP can affect noise pollution through ensuring decisions are based on the principle of reducing emissions through the transition to implementing the sustainable transport hierarchy. Sustainable design and landscaping policies could help to reduce the effect of noise and the potential impact from transport on tranquil areas.
	Biodiversity, Flora and Fauna and Ecosystem Resilience	
	South West Wales has a rich and varied natural environment including a wide representation of important habitats and species. However, the condition of species features in European designated sites in Wales and the condition of priority habitats in Wales remains mostly unfavourable, the transport plan must do its best to not impede on the habitats via habitat fragmentation or indirect effects such as nitrogen deposition, wildlife fatalities or noise disturbance. Terrestrial and marine biodiversity is under threat from transport infrastructure, pollution and climate change, all	The RTP can both benefit and enhance biodiversity through guiding the location and manner in which new transport infrastructure occurs. It provides opportunities to ensure biodiversity is protected and enhanced through the transport system, not just in terms of protected sites but also in terms of biodiversity and connectivity in general. Other benefits might include improved habitat management; new structures e.g. bridges and tunnels may provide habitats for some species e.g. bats; and habitat creation. There is opportunity for the RTP to introduce additional green infrastructure as part of future transport proposals to support placemaking as well as biodiversity, flora and

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	of which are effects that come from the transport network.	fauna. Reclaiming disused railways for multi-user routes could allow for wildlife management and the control of dominant species allowing for a more biodiverse environment.
	Changes in habitat quality coming from changes to the groundwater regime, changes in natural rates of flow from hard surfaces increasing surface water flooding.	
	Disturbance to fauna from noise, lighting and vibrations from traffic and road lighting.	
	Road structures may cause problems for certain birds/mammals by reducing visibility.	
	The edge habitat or ecotone and traffic on the road may facilitate dispersal for some species. This may result in dispersal and establishment of alien and invasive species or pest species that may have secondary effects on biological communities.	
	Surrounding habitats may be placed under increasing public pressure, because of access, leading to effects including the disturbance of animals, and physical destruction of ground flora. Also, litter may accumulate along road.	
	Off-site habitat losses and changes in habitat quality in relation to the obtaining and disposal of materials e.g. mining for aggregates for road building.	
	Even relatively minor habitat loss, fragmentation and indirect impacts of an individual road project can, when added to other past, present and reasonably foreseeable future impacts of other projects and activities, contribute	

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	to significant impacts in an area. All relevant types of future projects and activities should be considered (i.e. not just other road projects) including induced development.	
	Climate, Flood Risk and Coastal Erosion	
	The effects of climate change are increasing and adaptation and resilience to its effects is an increasing necessity. Notably, flood risk is a significant issue in South West Wales including coastal, fluvial and surface water flooding that may affect transport infrastructure. This is exacerbated by an increase in extreme weather events and this means that properties and businesses are increasingly becoming at risk. Disruption can disproportionately impact communities with fewer and less resilient transport options.	The RTP has a significant role to play in terms of climate change adaption and resilience. Flooding and coastal erosion are key areas in which the effects of climate change are felt locally, and the programmes set out in the RTP could be designed to help minimise flood risk. Transport infrastructure should be designed to be resilient to erosion and other impacts of climate changes, including increased storminess and temperature extremes.
	Climate change will impact on South West Wales in ways other than just flooding, such as more extreme weather events, an increase in storminess, higher maximum and minimum temperatures, more severe droughts and exacerbated rates of coastal erosion. Climate change will also affect habitats and species throughout South West Wales.	The RTP should focus on significantly reducing greenhouse gas emissions from transport, through the promotion of more sustainable transport methods such as public transport and active travel. Provision could be made within the RTP for increasing the provision of electric vehicle charging points to encourage the uptake of electric vehicles.
	Issues such as potholes are caused by surface cracks due to warm weather and rain are everyday hazards experienced by road users and cyclists.	The RTP could encourage the monitoring the impact of weather events on existing infrastructure, capacities and strains on the wider network.
	Geology and Soils	

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	In the future, geological hazards may change as a response to climate change. For example, coastal erosion, landslides and pollution from former mine sites. This poses significant risks to the transport system. The soils of best quality and most productive agricultural land are a scarce and finite resource in Wales and soil quality has deteriorated over time across all habitats. This is important for biodiversity, landscape character, tourism, agricultural productivity and climate change resilience. Topsoil, in particular peaty soils in Wales are a major carbon sink which needs protection. All of this must be taken into account when planning the location of future transport infrastructure.	The RTP has an opportunity to guide the sustainable use of South West Wales's geology and soils in the transport system in terms of their use in the construction of transport infrastructure or utilising previously developed land and contributing to the ongoing remediation or land and soils. Aspects such as this, as well as the management or avoidance of geological hazards could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.
	Water Environment	
	The quality of Wales's water bodies is still not up to Water Framework Directive requirements with only 40% being of good ecological status in 2020. Transport activities can be a big contributor to poor water quality. In many Welsh rivers, flows are particularly vulnerable to climate change because they tend to rise and fall quickly in response to rainfall. Increased surface water flows during winter, resulting from increased precipitation from climate change, may increase pressure upon sewerage and drainage systems and diffuse pollution. Whilst Wales is perceived to be water-rich, it is already facing challenges in terms of supply and water	The RTP could help facilitate the development of new of transport infrastructure and transport routes in a manner that seeks to avoid pollution of water bodies. Aspects such as this could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	resources can become relatively scarce during prolonged warm, dry weather.	
	Run off from roads and spillages on roads and during construction can all lead to pollution in surface waters, ground waters and marine environments (around ports).	
	Minerals and Waste	
	Minerals safeguarding can sometimes also conflict with other forms of development e.g. transport infrastructure.	The RTP could potentially help to guide the sustainable use of such resources through its policies. Aspects such as this could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.
	There may be high material requirements for construction of transport infrastructure putting further strain on the limited resources.	
3. A healthier Wales and A more Equal Wales	Overall health statistics for Wales are improving, with life expectancy increasing and fewer people with reported poor health over the past decade. However, health gains are not distributed equally across South West Wales and in particular access to services is varied, being good in more urban areas but relatively poor across much of rural areas.	The RTP could recognise the potential for natural green spaces as places for health and recreation, connecting habitats and supporting community interaction. Improving the access to green and open spaces, including National Parks, could greatly encourage healthier lifestyles and a healthier population could enable people (including children) to achieve their potential and to make Wales a more equal society.
	Factors specific to a rural environment compared to those of urban environments that can impact on health more significantly and lead to inequalities and poorer health, such as distance from public services and support, availability of transport, and the ageing population. Access to healthcare can be limited in many parts of rural South West Wales. Public transport is	Protecting and enhancing green infrastructure throughout Wales is an opportunity to enhance people's access to green and open spaces. Access to a diverse range of semi-natural and natural habitats, as well as providing space for outdoor exercise and community

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	important for both the sustainability and independence of rural communities. Whilst people are living longer and the rates of some diseases is decreasing, challenges such as living environment and modern lifestyles can contribute towards increasing levels of chronic diseases such as diabetes, joint problems, heart disease and some cancers which in turn can lead to disability and increased demand on health services. In addition, poor mental health can also be an underpinning factor in a number of physical diseases and unhealthy lifestyles. Poor air quality, noise and light pollution as well as road traffic crashes can have direct effects on the physical and mental health of the population. Increasing levels of those aged 65 and over could present pressures across South West Wales (dependent on whether healthy life expectancy i.e. the number of years you live a healthy life, continues to track overall life expectancy) e.g. provision of appropriate services for an older generation (e.g. transport). Issues relating to young people relate to their transition from dependence to independence, as transport plays an important role at particular 'trigger points' such as the move from primary to secondary school, and the move from education to employment.	engagement, is fundamental to physical and mental well-being. The RTP has an important contribution to make towards ensuring that human health is provisioned through improved access to health facilities, a focus on reducing air pollution emissions, road safety and the encouragement of active travel in order to improve health and well-being and reduce inequalities. (It should be noted that a lot of active travel occurs within the context of trip chaining - any travel between two anchors that is direct or has an intervening stop of 30 minutes or less). Overall, the RTP can help to address issues surrounding the aging population through facilitating the provision of accessible transport services supported by connective infrastructure to meet local population growth needs and the needs of individual groups. An equal Wales can enable people to reach their full potential whilst addressing social, economic, cultural and environmental inequality. The RTP could provide an opportunity to reduce isolation and encourage the development of integrated and liveable communities through provisioning the inclusivity of public transport to allow everyone to have the same level of access. The transport system should ensure that all groups are able to access public transport and the transport network equally and without fear or prejudice.

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	Health inequalities reflect inequalities in the distribution of health determinants, such as access to transport, education and employment opportunities.

Disabilities and/or mobility impairments can be both physical and mental barriers to using the transport network across all modes.

There is still a high risk of road casualty for younger people which must be addressed by the RTP.

There is still a large disparity between the number of drivers licenses owned by women and men, with women having much fewer, this makes it more difficult for women to have the same access to facilities and amenities as men.

Levels of noise pollution around key roads within Wales are high. Noise can have multi-ranging effects, including on landscape receptors, ecological resources and human health. | Reducing inequality can be achieved by increasing access for the most deprived more than the least deprived or increasing access for the most deprived and keeping the least deprived constant, any other form would involve the reduction of access to either or both groups so should not be an aim of the RTP.

Health inequalities can also be addressed through policies and infrastructure to promote active travel, thereby increasing physical activity, reducing pollution and noise. Active travel measures should be focussed in areas of deprivation to reduce inequalities. |
| **4. A Wales of cohesive communities** | Bus fares are rising in cost at a rate higher than inflation, this could exclude some people or communities from this form of transport due to a price barrier. In 2020, local bus services fare indices for Wales and Great Britain showed that there was a 3.5% increase in Wales and a | The RTP could support the creation of connections between and within safe and well-maintained communities through public transport opportunities and active travel opportunities including foot and cycle paths.

The RTP could also plan for reducing the need to travel; and provide opportunities to access new and existing development and services by a range of sustainable travel modes and or improvements to digital connectivity. By reducing the amount of single- |

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	2.6% increase in Great Britain, both higher than the inflation rate of 2.3%[24].	occupancy car journeys, the risk to non-motorised users could be reduced and the issue of isolation be lessened.
	There has been a long-term downward trend in the number of 'killed or seriously injured' accidents on Welsh roads[25]. The number of fatal accidents has been broadly stable over the past nine years up to 2019 after falling significantly over previous decades. Despite this, more efforts should be made to improve the safety of drivers and other road users as much as possible.	The RTP could consider strategic transport proposals in terms of the opportunities they present to encourage regional equality as well as improving human health, landscape and nature conservation from a reduction in noise and light pollution. Transport schemes can improve road safety, which can improve actual and perceived road safety. Driver stress can also be improved by the introduction of transport schemes.
	Levels of noise pollution around key roads within Wales are high. Noise can have multi-ranging effects, including on landscape receptors, ecological resources and human health.	The RTP could seek to address current satisfaction levels with the frequency and reliability of bus and train services in Wales to promote well-connected and viable communities.
	Rural isolation and loneliness can lead to mental health problems, this can be caused by a less accessible transport system reducing access to communities and local services, but also cars travelling through communities can sever communities and reinforce isolation. The percentage of people within walking distance of sustainable modes of transport is much higher in urban areas than in rural areas.	The RTP could seek to encourage the continued improvement in the condition of rail track in Wales. In addition, to promote inclusivity, safety and accessibility, the RTP could also support the wider provision of step-free access in Welsh railway stations. Furthermore, data from Transport for Wales suggests that assistance services could be improved to increase independent accessibility.

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[24] Welsh Government (2021) Public service vehicles (buses and taxis): April 2019 to March 2020. Available at: https://www.gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#66265 [Accessed: 30.08.24]

[25] Welsh Government (2021) Statistical First Release. Police recorded road accidents, 2020. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2021-06/police-recorded-road-accidents-2020-952.pdf [Accessed: 30.08.24]

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	People in deprived communities may not be able to afford bicycles and may not have access to bicycle storage areas, restricting their active travel opportunities.	
	When people are travelling, they should be able to do so without the fear or threat of crime.	
	Active travel funding is available from the Welsh Government for settlements with a population over 2,000 residents. This limits new active travel infrastructure development in smaller settlements.	
5. A Wales of vibrant culture and thriving Welsh language	**Welsh Language**	
	There has been an upward trend since the 1990s in the number of people using the Welsh language, noting large regional variations; there are opportunities to increase levels of fluency.	The RTP has an opportunity to protect and promote the use of the Welsh language through the transport system through encouragement of its use in signposting and employees of bus and train stations.
	In some cases, opportunities to use the Welsh language when utilising public transport is limited, such as due to customer service staff not speaking Welsh.	The RTP could seek to ensure that access to Welsh-Medium education facilities is specifically targeted as part of this aim, to support the strategy seeking to expand Welsh-Medium education provision.
		The RTP could also seek to support the aim to increase the range of services offered to Welsh speakers, and an increase in use of Welsh-language services.
		The RTP could also seek to 'support the socioeconomic infrastructure of Welsh-speaking communities' through its policies, helping to support the aim of 'Develop[ing] a new regional focus to economic development to help all parts of Wales to benefit from prosperity and support

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
		each area to develop its own distinctive identity.' Within the RTP there will be opportunities to promote the Welsh language through its use in station announcements, road signs and signs within rail and bus stations.
	Landscape and Townscape Character	
	Wales is renowned for its high-quality landscapes with over 50% of the land area being nationally valued for its scenic quality and character. National Parks and Areas of Natural Beauty are internationally recognised Designated Landscapes and cover 25% of Wales. This has implications for new transport infrastructure within these areas with a key challenge for sustainable management being to enable appropriate levels of growth whilst retaining the distinctiveness of places and landscapes. This must also recognise that the natural and historic components of landscape are important to both place and the cultural value of landscape. The loss of visual amenity and character could have impacts on local people and tourists. Motor traffic, parking and associated impacts can blight the character of landscapes and townscape.	The transport system has a major role to play in how future transport infrastructure development will affect landscape, townscape, and sense of place in general. There is an opportunity for improved access to valued landscapes, townscapes and viewpoints, including by sustainable and active travel modes to reduce the impact of motor traffic. The RTP has an opportunity to provide high quality transport connections to National Parks for both tourists/visitors and local leisure users. There is an opportunity to incorporate dark sky-friendly lighting to new developments to support the dark sky designations and efforts to maintain these, alongside dark-sky tourism.
	Historic Environment, Cultural Heritage and Assets	
	Wales has a wealth of historic and cultural assets which are important components of national cultural identity. Many such assets are at risk from, for example, decay, climatic factors, neglect and inappropriate development.	As with landscape, the RTP has a major role to play in the protection and enhancement of cultural heritage through guidance to the transport system. This could include the recognition that non-designated heritage

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	As with other environmental factors, protecting and provisioning fair access to cultural heritage assets is a key challenge for sustainable planning of the transport system.	assets are also an important part of the make-up of cultural identify and sense of place and that indirect effects on the setting of assets are also important considerations.
	New development can have a range of direct and indirect effects on heritage assets which need to be avoided or mitigated. This includes effects from noise and air pollution from construction of busy traffic routes in close proximity to culturally significant areas which may make them less appealing to visit or decrease their visual amenity (indirect effects), it also includes the physical removal of heritage assets as this may be required for the development of new travel infrastructure. Effects on the historic environment can include the intensification of existing traffic or the construction of new road or rail. Increasing levels of congestion can affect historic towns, cities and the countryside, while development of new transport infrastructure can affect historic landscapes and may cause direct damage to heritage assets.	Opportunities also exist for the RTP to promote awareness of cultural heritage and encourage the enhancement of access to cultural education centres. The RTP could seek to identify and protect transport infrastructure that may be of heritage value in its own right. The RTP has the opportunity to contribute towards the efficient management of the transport system during major events, including sporting, leisure and recreational activities and cultural events.
6. A globally responsible Wales	Since 2012, total greenhouse gas emissions from the Welsh domestic transport sector have been relatively stable over time. The level in 2021 is below the pre-COVID-19 pandemic level, which follows the long-term trend of falling greenhouse gas emissions in the domestic transport sector. In 2019, transport	The RTP has an opportunity to help promote low carbon fuels, renewable energy and improved standards of energy efficiency in transport infrastructure. As only 3.7% of the rail network in Wales is electrified, as of March 2022, and the transport sector in Wales is heavily reliant on petroleum as a fuel source, the RTP should encourage a positive change which would help to

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	consumption by fuel is dominated by petroleum, while bioenergy and wastes only make up 4% of the total.	reduce greenhouse gas emissions associated with the transport sector.
	In 2021 compared to the previous year, Wales increased its electricity generation share resulting from greater fossil fuel generation, particularly gas. While all four nations experienced a decline in their shares of renewable generation, Wales and England did both record their second highest shares from 2017 to 2021.	The RTP should support the increase of publicly available electric vehicle charging points.
		The RTP should aim to reduce the growth of motor traffic.
		The RTP should consider how the quality of transport in rural areas can be improved.
	The challenge remains to ensure that the positive trend of falling greenhouse gas emissions associated with the domestic transport sector continues and accelerates. The gradual shift in energy generation to renewable and cleaner fuels together with technological and efficiency improvements are key issues.	The RTP should address the tension between local amenity and business requirements associated with the movement of HGVs carrying freight. In line with The Case for Change, 'change will need to come in the form of effective routing, suitable facilities for HGV parking and locking into ways to decarbonise HGV use'.
	Wales has an ecological footprint which is estimated to be roughly 1.2-1.8 times the global average. Ecological footprint is an indicator of the total environmental burden that society places on the planet. Transport developments should seek to alleviate this whilst also accommodating new development and economic growth.	The RTP must promote sustainable transport modes (including active travel and Ultra Low Emission Vehicles (ULEVs) and Zero Emission Vehicles (ZEVs)).
		The RTP could help support businesses through promoting work travel plans and literature for sustainable travel options.
	Measures must be taken to improve the safety of pedestrians and cyclists on the road, in order to promote them as viable forms of travel.	The RTP presents an opportunity to implement the sustainable transport hierarchy:
	A key issue to address within the RTP shall be to effectively respond to rural need, particularly with	• Firstly, by reducing the need to travel unsustainably:

Well-Being goals	Summary of Key Issues	Opportunities for the SWW RTP to address
	regards to public transport, with a view to helping to reduce private vehicle use. It is noted in The Case for Change for the Regional Transport Plan for South West Wales that a key challenge is capturing value for the community associated with the movement of freight.	o bring services closer to people, integrated planning (communities built around transport hubs) o ICT, flexible working, homeworking • Secondly, by widening and promoting more sustainable travel choices: o integration, modal shift. • Thirdly, by making better use of the existing transport network: o managing demand, facilities, capacity, targeted infrastructure improvements

5 Appraisal Process and the IIA Framework

5.1 Approach to Impact Assessments

5.1.1 Our integrated approach to assessing the impact of the SWW RTP brings together key assessments into a single appraisal framework. This approach enables them to be integrated effectively. Table 5-3 demonstrates how the requirements of the impact assessments have been included within the IIA Framework to be used to appraise the SWW RTP.

5.1.2 Guidance on the impact assessments, where available, sets out the approaches to be undertaken for each of the impact assessments; they broadly contain the following stages:

- Screening/ scoping.
- Assessment – identifying both positive and negative impacts and opportunities for promotion including equalities, health and Welsh Language.
- Reporting and recommendations – ensuring transparency of the process that has been used and setting out the details of the decisions taken including what avoidance and mitigation measures are proposed.
- Review, monitoring and evaluation.

Geographical Scope of the IIA

5.1.3 The geographical scope of the IIA will be driven by the geographical scope of the SWW RTP, i.e., the South West Wales region (Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire). Both terrestrial and marine effects (up to the mean low water mark) are possible and will need to be considered.

Temporal Scope of the IIA

5.1.4 The SWW RTP is intended to set a five-year plan for delivery, within the scope and framework of the 20-year WTS. This timescale will be reflected in the IIA. If there are likely to be any sustainability effects of the SWW RTP that would last longer than this, these would also be considered.

The Integrated Impact Assessment Framework

5.1.5 To test the performance of the SWW RTP, this report establishes an IIA Framework containing 13 IIA Objectives (covering social, economic, environmental and cultural issues). The SWW RTP will be appraised against each IIA Objective individually and holistically. Topic areas have been grouped based on professional judgement for

clarity, but in practice, the assessment will encompass the interrelationships between each of the objectives and guide questions, where relevant to the assessment.

5.1.6 To help measure the performance of the SWW RTP components against the IIA Objectives, these are supported by a series of questions. Baseline data at the national and regional scale has been collated (see Appendix B), as this provides a means of determining current performance across Wales and gauging how much intervention or the extent of work needed to ensure a positive direction in the achievement of more sustainable development.

5.1.7 The IIA Objectives are separate from the Government's wider well-being objectives, although there may be some overlaps between them as per Table 5-1.

Table 5-1: Explanation of objectives

Objectives	Purpose
WTS Ambitions	IWBA should address the four questions based on the four ambitions of the Wales Transport Strategy.
IIA Appraisal Objectives	Used to test the performance of the SWW RTP to enable social, economic, environmental and cultural well-being to be fully considered.
Welsh Government's well-being objectives	The Welsh Government has published well-being objectives which set out how we will use the Well-being of Future Generations Act 2015 to help deliver our programme for government and maximise our contribution to the seven shared national well-being goals.

Development of the IIA Objectives

5.1.8 Table 5-2 presents the proposed IIA Objectives and questions that will be used. The corresponding well-being goals are identified in the table. The IIA Objectives have been developed using the following:

- Review of relevant plans, programmes and objectives, including, for example, the national well-being goals and the Welsh Government's well-being objectives;
- Review of baseline information, issues and opportunities;
- Input from the other appraisal strands identified in Section 1 of this report, notably: Health, Equalities, and Welsh Language;
- Experience of developing other SA/SEA/ISA/IIA Objectives in Wales and beyond; and
- The understanding that the IIA Framework could be added to and adapted following stakeholder consultation.

5.1.9 In summary, the review of plans, programmes and objectives in Appendix A identified a range of key themes (see Table 3-2). As a starting point the IIA Objectives were

designed to reflect these key themes. Following the review of baseline environmental data in Appendix B where key sustainability issues were identified (see Table 4-1), the IIA Objectives were refined to ensure that they account for these key sustainability issues i.e., to ensure that achieving the IIA Objectives would help to tackle the key sustainability issues in South West Wales.

5.1.10 For example, the review in Appendix A identified a key theme of the need to reduce air pollution and ensure improvements in air quality. The review of baseline environmental data in Appendix B identified a key sustainability issue of air pollution limits being exceeded in various areas of South West Wales. IIA Objective 8 (see Table 5-2), which is *'To encourage the protection and improvement of air quality'*, was therefore designed to reflect the key theme and key issue of air quality. IIA assessments and recommendations for IIA Objective 8 will therefore be a means of ensuring that the key theme of air pollution, and the key issue of improving air quality, is integrated into the SWW RTP.

5.1.11 The decision aiding questions that will be used to guide the assessment against each Objective are based on integrated impact assessment expert experience and best practice. The IIA Objectives are not designed to be aims of the SWW RTP. Not all of the guide questions will be used as part of the assessment at each stage; this will be dependent on what is being assessed and the relevance at that stage. The assessment process will be transparent and clear as to how the plan is developed and will set out the methodology used.

5.1.12 The IIA Objectives have also been assessed for their internal compatibility and a compatibility matrix has been included in Appendix C. The purpose of this exercise is to highlight any potential for incompatibilities at an early stage in order for any potential issues to be balanced within the Framework. The matrix shows that the relationships between the IIA Objectives are predominantly neutral i.e. no clear impact or compatible. Some uncertain compatibilities have also been identified; these are set out in further detail in Appendix C.

5.1.13 IIA Objectives are often likely to have some degree of conflict or uncertainty when implementing specific schemes. The appraisal process necessarily seeks to identify the trade-offs between any such conflicts and uncertainty.

5.1.14 IIA Objectives are in no particular order and their position and number within the IIA Framework is not an indication of order of importance or preference. The SWW RTP will be assessed against all IIA Objectives to the same level of detail.

Table 5-2: IIA Objectives and Questions

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
How will the programme or project benefit people and communities?	1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	• Contribute towards an improvement in access to health and social care services especially in isolated/ rural areas? • Contribute towards an improvement in the accessibility of Welsh medium health and welfare services? • Contribute towards a reduction in health inequalities amongst different groups in the community including specifically the mobility impaired, children and older people? • Promote healthy lifestyles through transport planning initiatives and the promotion of active travel? • Reduce the effect of transport infrastructure on limiting connectivity within communities through severance? • Reduce danger from road traffic, particularly for vulnerable and priority groups? • Improve confidence for users of sustainable transport modes? • Reduce driver stress and potential stresses caused to other road users? • Reduce the health impacts of transport, including the impacts of air quality and noise, such as respiratory and cardiovascular health and stress?	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales A Wales of cohesive communities	HIA EqIA

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Contribute towards improving access to open space including opportunities for play and access to National Parks by means of inexpensive and accessible transport? • Ensure children can develop healthily, and have access to good quality health care? • Contribute towards reducing loneliness and social isolation?		
	2. To create the conditions within which an improvement in social cohesion and equality can be achieved	• Improve the accessibility and availability of public transport, so that access is equitable? • Improve the safety, convenience and accessibility of walking, cycling and multi-user routes so that walking, cycling and multi-user routes are seen as realistic, safe and attractive options for people of all ages, backgrounds and abilities? • Create conditions to reduce levels of crime and the fear of crime? • Create the conditions within which an improvement in satisfaction of people with their neighbourhoods as a place to live can be achieved? • Create the conditions within which equalities or circumstances can be improved? • Create the conditions within which gender inequality may be reduced? • Create the conditions within which age inequality may be reduced?	A Wales of cohesive communities A prosperous Wales A healthier Wales	HIA EqIA Welsh Language

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Create the conditions within which inequalities based on disability can be improved, in accordance with the Social Model of Disability?		
		• Encourage and support an increase in levels of participation and attainment in education for all members of society through increased accessibility?		
		• Ensure safe travel to education, health and leisure services?		
		• Support the third sector and community transport providers and identify opportunities for growth in order to reduce inequalities between urban, rural and semi-rural communities?		
How will it benefit places and the economy?	3. To support sustainable economic development	• Support equitable access to employment, education and training opportunities?	A prosperous Wales	HIA
		• Encourage sustainable access to tourist facilities and attractions?	A resilient Wales	EqIA
		• Encourage the promotion of improved and resilient international transport links, including by air, sea, road and rail?	A more equal Wales A Wales of vibrant	
		• Improve broadband connectivity to support remote working?	culture and thriving Welsh Language	
		• Support the regeneration of underperforming areas?	A globally responsible Wales	
		• Support freight transport and improve the reliability and resilience of the road, rail and air freight transport networks?		
		• Encourage inward investment and access to new job opportunities?		

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Encourage improved productivity through enhanced connectivity?		
		• Support enhancements to the rural economy and rural diversification by encouraging new investments?		
		• Support and encourage third sector activities, including community transport?		
		• Support reducing the need to travel for work?		
		• Help to reduce inequalities associated with socio-economic disadvantage?		
How will it benefit culture and the Welsh language?	4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	• Promote sustainable and resilient access to Wales' cultural and heritage assets and activities? • Encourage the enhancement of cultural heritage assets, recreational spaces and their setting? • Contribute towards the efficient management of the transport system during major events, including sporting, leisure and recreational activities and cultural events? • Contribute to the efficient management of travel in tourist areas during peak periods?	A Wales of vibrant culture and thriving Welsh language	Welsh Language
	5. To encourage the protection and promotion of the Welsh Language	• Seek to support improved access by sustainable modes to Welsh-Medium education facilities? • Seek to support the increase in the range of services offered in Welsh? • Seek to support Welsh-speaking communities through transport initiatives?	A prosperous Wales A more equal Wales A Wales of cohesive communities	EqIA Welsh Language

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Create the conditions in which the Welsh language thrives? • Seek to promote the Welsh language through its use in station announcements, road signs and signs within rail and bus stations?	A Wales of vibrant culture and thriving Welsh Language A globally responsible Wales	
How will it benefit the environment?	6. To reduce greenhouse gas emissions from transport and contribute to modal shift	• Encourage a reduction in greenhouse gas emissions from existing transport infrastructure? • Contribute to a reduction in CO_2 emissions from the transport sector? • Encourage cleaner technology for transport? • Create the conditions whereby sustainable design is required to be an integral part of new development? • Encourage a reduction in the demand for energy and increase energy efficiency? • Increase the potential for the use of low carbon or zero energy sources? • Reduce the volume of road traffic by reducing the need to travel, reducing travel distances and increasing active travel and public transport options available? • Encourage the inclusion of digital infrastructure to reduce pressure on the transport system?	A prosperous Wales A resilient Wales A healthier Wales A more equal Wales A Wales of cohesive communities A globally responsible Wales	HIA
	7. To enable climate change resilience	• Contribute to the reduction and management of flood risk?	A prosperous Wales A resilient Wales	-

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Encourage all new transport development to be climate change resilient?	A healthier Wales	
		• Encourage existing transport infrastructure to be maintained to be climate change resilient and ensure the continued capacity of the network.	A Wales of cohesive communities	
		• Reduce the inequalities experienced in relation to access to transport during flooding events?	A globally responsible Wales	
		• Reduce the increased risk of flooding and/or coastal flooding and promote protection of floodplains or areas of managed flood risk?		
		• Maximise opportunities for improving ecosystem resilience and functions that help reduce climate vulnerability?		
		• Contribute to the implementation of coastal adaptation due to coastal erosion?		
		• Contribute to the reduction of effect of heatwaves and ensure the resilience of the transport system to extreme heat events?		
	8. To protect and improve air quality	• Create the conditions within which air quality can be improved and protected?	A prosperous Wales	HIA
		• Reduce the negative effects of transport on local air quality?	A resilient Wales	
		• Improve air quality in order to get rid of existing Air Quality Management Areas (AQMAs) and reduce the likelihood of new AQMAs being required through transport initiatives?	A healthier Wales	
			A Wales of cohesive communities	
			A globally responsible Wales	

Integrated Impact Assessment (incorporating Strategic Environmental Assessment and Integrated Well-Being Appraisal) of the South West Wales Regional Transport Plan
Scoping Report

5

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
		• Create the conditions within which potential emissions from traffic and industry may be reduced? • Reduce the disproportionate impact of poor air quality on the most disadvantaged and vulnerable communities? • Reduce adverse impacts on air quality on ecosystems.		
	9 To protect and enhance the local distinctiveness of our landscapes and townscapes	• Encourage the protection and enhancement of areas of landscape character, distinctiveness, diversity and quality? • Encourage the protection and enhancement of townscape character and quality? • Promote sensitive design in transport infrastructure development? • Reduce the adverse impacts of road traffic and parking (e.g., visual intrusion and noise) on Wales's valued landscapes and townscapes?	A prosperous Wales A more equal Wales A Wales of cohesive communities A Wales of vibrant culture and thriving Welsh Language A globally responsible Wales	-
	10 To promote the conservation and enhancement of heritage assets	• Encourage the conservation and enhancement of heritage assets and their settings, which may include some transport assets themselves? • Encourage upgrading existing heritage assets, such as historic bridges, to meet updated operational standards? • Encourage the conservation and enhancement of the historic landscape?	A prosperous Wales A more equal Wales A Wales of cohesive communities	-

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
			A Wales of vibrant culture and thriving Welsh Language	
			A globally responsible Wales	
	11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	• Help ensure more coherent and resilient ecological networks? • Ensure ecosystem resilience and the ecosystem functions they deliver? • Encourage the delivery of Green Infrastructure to help reduce the urban heat island effect? • Encourage the conservation and enhancement of designated nature conservation sites, habitats and species including their connectivity in the landscape? • Encourage the conservation and enhancement of non-designated habitats and species, including their connectivity in the landscape? • Provide an improvement in opportunities for people to access wildlife and open green spaces? • Promote good design of transport infrastructure to secure biodiversity benefits? • Protect geodiversity?	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities A globally responsible Wales	-

WTS Ambitions	IIA Objectives	Decision aiding questions Will the SWW RTP….?	Well-being goal	HIA/ EqIA/ Welsh Language
	12.To ensure the sustainable use of natural resources	• Contribute to the protection and enhancement of ground and surface water quality? • Encourage the use of recycled and sustainable materials in the development of transport infrastructure, with a focus on reducing the embodied carbon in new transport infrastructure? • Reduce overall waste volumes through transport initiatives? • Encourage the conservation of soil, including avoiding soil pollution? • Encourage the protection of peaty soils? • Increase opportunities to enjoy Wales's natural environment and rights of way network? • Encourage the use of nature-based solutions to mitigate a variety of effects?	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities A globally responsible Wales	-
	13. To enable the protection of tranquil and quiet areas and prevention of noise and light pollution	• Encourage the avoidance of habitats and settlements sensitive to noise pollution? • Encourage the maintenance and expansion of tranquil areas? • Promote the reduction and use of mitigation to reduce light pollution, particularly at night? • Promote the use of mitigation and enhancements to areas affected by noise pollution? • Reduce the number of areas negatively affected by noise pollution?	A more resilient Wales A healthier Wales A Wales of cohesive communities	-

Coverage of the SEA Directive Topics and Integrated Assessments by IIA Objective

5.1.15 Table 5-3 sets out where each of the environmental topics listed in Annex 1(f) of the SEA Directive, as well as each of the different impact assessments that form the IIA are accounted for in the IIA Objectives.

Table 5-3: SEA Directive topics and main IIA Objectives of relevance

SEA Topic/Integrated Assessment	IIA Objective(s)
SEA: Biodiversity	6, 7, 8, 9 and 11
SEA: Population	1, 2, 3, 5, 6, 7 and 12
SEA: Human Health	1, 2, 6, 7, 8 and 13
SEA: Fauna	6, 7, 8, 9 and 11
SEA: Flora	6, 7, 8, 9 and 11
SEA: Soil	6 7, 8, 9 and 11
SEA: Water	6, 7, 11 and 12
SEA: Air	6, 7, 8, 11 and 12
SEA: Climatic Factors	3, 6, 7, 8, 9, 11 and 12
SEA: Material Assets	3, 6, 7, 9, 10 and 12
SEA: Cultural Heritage including architectural and archaeological heritage	4, 5, 9 and 10
SEA: Landscape	4, 9, 10 and 13
Integrated Assessment: Health	1, 2, 6, 7, 8 and 13
Integrated Assessment: Equalities	1, 2 and 3
Integrated Assessment: Welsh Language	4 and 5
Integrated Assessment: Rural Proofing	1, 3, 9 and 13
Integrated Assessment: Children's Rights	1 and 2
Integrated Assessment: Climate Change	3, 6, 7, 8, 9, 11 and 12
Integrated Assessment: Economic Development	1, 2, 3, 9, 10 and 12

6   Next Steps

6.1.1   The next stage for the SWW RTP is the publication of the Draft SWW RTP. An IIA Report will be published and consulted upon alongside this. The IIA Report will:

- Demonstrate how the IIA has shaped the development of the SWW RTP;
- Set out the methodology for the appraisal;
- Set out the options that were considered, how they were identified and any mitigation measures proposed
- Set out the social, economic, cultural and environmental effects of the SWW RTP; and
- Describe the proposals for monitoring.

6.1.2   Further information about future stages of the IIA process can be found in Section 2.1 of this report.

Appendix A

SEA Scoping: Plans, Programmes and Environmental Protection Objectives

Appendix A

Table A-1: List of Relevant Plans, Programmes and Environmental Protection Objectives

International Plans and Programmes
United Nations (1994) The United Nations Framework Convention on Climate Change
United Nations (1997) Kyoto Protocol to the UN Framework Convention on Climate Change
United Nations (2002) The World Summit on Sustainable Development
United Nations (2006) Convention on the Rights of Persons with Disabilities
United Nations (2009) The Copenhagen Accord
United Nations (2010) Cancun Adaptation Framework
United Nations (2015) Sustainable Development Goals
United Nations (2016) Paris Agreement
United Nations (2016) Committee on the Rights of the Child Recommendations report
United Nations (2019) The PEP Partnerships
United Nations, World Health Organisation and United Nations Economic Commission for Europe (2017) Cycling and Green Jobs
United Nations Economic Commission for Europe (1998) The Aarhus Convention
United Nations Economic Commission for Europe (1999) The Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone
Universal Declaration of Human Rights (1948)
World Health Organization (1999) Guidelines for Community Noise 1999
World Health Organisation (2004) Children's Environment and Health Action Plan for Europe
World Health Organisation (2014) Developing National Action Plans on Transport, Health and Environment
World Health Organisation (2018) Making THE (Transport, Health and Environment) Link
UK Plans and Programmes
Committee on Climate Change (2008) Building a Low-Carbon Economy - the UK's Contribution to Tackling Climate Change
Committee on Climate Change (2020) Sixth Carbon Budget
Committee on Climate Change (2021) UK Climate Risk Independent Assessment (CCRA3) Technical Report
Department for Business, Energy and Industrial Strategy (2020) The UK's Integrated National Energy and Climate Plan
Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
Defra (2007) Conserving Biodiversity the UK Approach 2007
Defra (2011) Air Quality Plans for the Achievement of EU Air Quality Limit Values for Nitrogen Dioxide (NO_2) in the UK: List of UK and National Measures
Defra (2011) The Natural Choice: Securing the Value of Nature (Natural Environment White Paper)
Defra (2011) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
Defra (2011) Mainstreaming Sustainable Development
Defra (2017) UK Climate Change Risk Assessment: Government Report
Defra and Department for Transport (2017) Air Quality plan for NO_2 in the UK, Defra (2013) The National Adaptation Programme: Making the Country Resilient to a Changing Climate
Defra (2018) Clean Air Strategy
DECC (2009) UK Ports for the Offshore Wind Industry: Time to Act
DECC (2011) Carbon Plan: Delivering our Low Carbon Future
DECC (2011) National Policy Statements for Energy Infrastructure
DECC (2011) UK Renewable Energy Roadmap
DECC (2017) UK National Energy Efficiency Action Plan
Department for Culture, Media & Sport (2007) Heritage Protection for the 21st Century
Department for Culture, Media & Sport (2013) Scheduled Monuments & Nationally Important but Non-Scheduled Monuments
Department for Transport (2007) Ports Policy Review Interim Report
Department for Transport (2008) Delivering a Sustainable Transport System
Department for Transport (2012) National Policy Statement for Ports
Department for Transport (2016) Rail Freight Strategy
Department for Transport (2017) Transport Investment Strategy – Moving Britain Forward
Department for Transport (2017) Transport Infrastructure Efficiency Strategy
Department for Transport (2017) Connecting People: A Strategic Vision for Rail
Department for Transport (2017) Cycling and Walking Investment Strategy
Department for Transport (2018) Aviation 2050: The future of UK Aviation
Department for Transport (2018) The Inclusive Transport Strategy: Achieving Equal Access for Disabled People
Department for Transport (2018) Connecting communities with the railways: the community rail development strategy (updated 2020)
Department for Transport (2019) Future of Mobility: Urban Strategy
Department for Transport (2019) Clean Maritime Plan: Maritime 2050
Department for Transport (2019) Port Air Quality Strategies
Defra, Scottish Government, Welsh Government (2015) The Invasive and Non-Native Species Framework Strategy for Great Britain
Environment Agency (2010) Managing the Environment in a Changing Climate

Environment Agency (2018) The Environment Agency's Approach to Groundwater Protection V1.2

Health Protection Agency (2007) Children's Environment and Health Action Plan

Health Protection Agency (2008) Health Effects of Climate Change in the UK 2008 - An update of the Department of Health report 2001/2002

HM Government (1949) National Parks and Access to the Countryside Act 1949 (last amended in December 2023)

HM Government (1973) The Protection of Wrecks Act 1973 (last amended in November 2013)

HM Government (1979) Ancient Monuments and Archaeological Areas Act 1979 (last amended in February 2022)

HM Government (1981) Wildlife and Countryside Act (last amended in August 2024)

HM Government (2020) Agriculture Act

HM Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990

HM Government (2000) Transport Act 2000

HM Government (2002) The National Emission Ceilings Regulations 2018

HM Government (2003) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

HM Government (2006) Natural Environment and Rural Communities Act 2006

HM Government (2006) Commons Act 2006

HM Government (2007) Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended 2010)

HM Government (2008) Climate Change Act 2008

HM Government (2008) The Energy Act 2008

HM Government (2009) The Climate Change Act 2008 (2020 Target, Credit Limit and Definitions) Order 2009

HM Government (2009) Flood Risk Regulations 2009

HM Government (2009) The Marine and Coastal Access Act 2009

HM Government (2010) Flood and Water Management Act 2010

HM Government (2010) Air Quality Standards Regulations

HM Government (2010) The Equality Act 2010

HM Government (2010) Marine Strategy Framework Directive - putting in place the legal framework for implementation

HM Government (2010) Conservation of Habitats & Species Regulations 2010 (as amended 2011)

HM Government (2010) Marine Strategy Regulations 2010

HM Government (2010) Environmental Permitting (England and Wales) Regulations

HM Government (2013) Aviation Policy Framework

HM Government (2015) Ozone-Depleting Substances Regulations 2015

HM Government (2017) Industrial Strategy: Building a Britain fit for the Future

HM Government (2017) Clean Growth Strategy

HM Government (2017) Wales Act

HM Government (2017) The Habitat Regulations 2017 (as amended 2019)

HM Government (2018) The Road to Zero

HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment

HM Government (2019) Clean Air Strategy 2019

HM Government (2021) Net Zero Strategy: Build Back Greener

HM Government (2021) The Environment Act 2021

HMG, NI Executive, Scottish Government, Welsh Government (2011) UK Marine Policy Statement

HM Treasury (2014) National Infrastructure Plan

HM Treasury (2021) Build Back Better: Our Plan for Growth

House of Commons (2016) Regional Airports

Joint Nature Conservation Committee and Defra (2012) UK Post-2010 Biodiversity Framework

Natural England and JNCC (2011) Marine Conservation Zone (MCZ) Project

NERC (2010) Marine Environmental Mapping Programme (MAREMAP)

Strategic Plan for Biodiversity 2011-2020 (2010)

Sustainable Development Commission (2010) Sustainable Development: The Key to Tackling Health Inequalities

UK Marine Monitoring and Assessment Strategy (2010) Charting Progress 2: The State of UK Seas

UK National Ecosystem Assessment (2011) UK National Ecosystem Assessment: Understanding Nature's Value to Society

National (Wales) Plans and Programmes

Welsh Government (2024) Planning Policy Wales

Welsh Government (2021) Future Wales: The National Plan 2040

Brecon Beacons National Park Authority (2015) A Management Plan for the Brecon Beacons National Park 2015 - 2020

Committee on Climate Change (2021) Evidence for the third UK Climate Change Risk Assessment (CCRA3): Summary for Wales

Committee on Climate Change (2021) UK Climate Change Risk Independent Assessment: Technical Report, Summary for Wales

Committee on Climate Change (2020) The path to Net Zero and progress on reducing emissions in Wales

Countryside Council for Wales (now Natural Resources Wales) (2001) Register of Landscapes of Historic Interest

Countryside Council for Wales (now Natural Resources Wales) (2015) National Seascape Assessment for Wales, LUC, NRW

Future Generations Commissioner for Wales (2020) The Future Generations Report

Joint Nature Conservation Committee (ongoing) Geological Conservation Review

Historic Environment Group (2020) Historic Environment and Climate Change in Wales Sector Adaption Plan

Appendix A

National Assembly for Wales (2009) Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009
National Assembly for Wales (2012) Contaminated Land (Wales) (Amendment) Regulations 2012
National Assembly for Wales (2014) Social Services and Well-being (Wales) Act 2014
National Assembly for Wales (2015) Planning (Wales) Act 2015
National Assembly for Wales (2015) Well-being of Future Generations (Wales) Act 2015
National Assembly for Wales (2016) Environment (Wales) Act 2016
National Assembly for Wales (2016) Historic Environment (Wales) Act 2016
National Assembly for Wales (2016) Public Health (Wales) Act
National Assembly for Wales (2019) The Future Development of Transport for Wales
Natural Resources Wales (ongoing) LANDMAP Programme
Natural Resources Wales (2015) LIFE Natura 2000 Programme for Wales
Natural Resources Wales (2015) Western Wales River Basin Management Plan 2015 – 2021
Natural Resources Wales (2017) Natural Resources Policy Statement
Natural Resources Wales (2019) State of Natural Resources (SoNaRR) Interim Report
Natural Resources Wales (2020) Second State of Natural Resources Report (SoNaRR)
Natural Resources Wales (2020) Marine Area Statement
Natural Resources Wales (2020) South West Wales Area Statement
Natural Resources Wales (2014) Carmarthen Bay Abstraction Licensing Strategy
Natural Resources Wales (2014) Cleddau & Pembrokeshire Coastal Rivers Abstraction Licensing Strategy
Natural Resources Wales (2014) Swansea Bay Abstraction Licensing Strategy
Natural Resources Wales (2014) Teifi and North Ceredigion Abstraction Licensing Strategy
NHS Wales (2016) Together for Health
Oxfam (2020) The Welsh Doughnut – A Framework for Environmental Sustainability and Social Justice
Pembrokeshire Coast National Park Authority (2019) Management Plan 2020 - 2024
Public Health Wales (2015) A Healthier, Happier and Fairer Wales
Public Health Wales (2018) Long Term Strategy 2018-2030
Public Health Wales (2019) Our Strategic Plan 2019 – 2022
Sustainable Development Commission (2009) Low Carbon Wales
Swansea Council (2017) Gower Area of Outstanding Natural Beauty Management Plan 2017
The Socio-Economic Duty (2021)
Wales Council for Voluntary Action (2016) Shape Your Future - future trends: Implications for the third sector in Wales
Welsh Assembly Government (2008) The Wales Freight Strategy
Welsh Government (2022) The National Events Strategy for Wales 2022 to 2030
Wales Biodiversity Partnership (2010) Wales Biodiversity Framework
Welsh Government (2006) Play Policy Implementation Plan
Welsh Government (2006) Environment Strategy for Wales
Welsh Government (2007) Coastal Access Improvement Programme
Welsh Government (2007) Making the Most of Wales' Coast: The Integrated Coastal Zone Management Strategy for Wales
Welsh Government (2009) Woodlands for Wales Strategy
Welsh Government (2009) Living Well Living Independent Lives
Welsh Government (2010) Economic Renewal: A New Direction
Welsh Government (2010) Valuing the Welsh Historic Environment
Welsh Government (2010) Climate Change Strategy for Wales
Welsh Government (2010) Low Carbon Revolution – the Welsh Government Energy Policy Statement
Welsh Government (2010) Fulfilled Lives, Supportive Communities
Welsh Government (2011) Policy Statement: Preparing for a Changing Climate
Welsh Government (2011) Rights of Children and Young Persons (Wales) Measure 2011
Welsh Government (2011) Welsh Language (Wales) Measure 2011
Welsh Government (2012) Working Differently – Working Together
Welsh Government (2012) Energy Wales: A Low Carbon Transition
Welsh Government (2012) Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource Management in Wales
Welsh Government (2012) Wales Infrastructure Investment Plan
Welsh Government (2021) Wales Infrastructure Investment Strategy
Welsh Government (2020) Welcome to Wales: Priorities for the visitor economy 2020-2025
Welsh Government (2013) National Flood and Coastal Erosion Strategy for Wales
Welsh Government (2013) The Historic Environment Strategy for Wales
Welsh Government (2013) Vibrant and Viable Places New Regeneration Framework
Welsh Government (2021) Age friendly Wales: our strategy for an aging society
Welsh Government (2013) Active Travel (Wales) Act 2013
Welsh Government (2014) Declaration of Rights for Older People
Welsh Government (2014) Green Growth Wales: Investing in the Future

Appendix A

Welsh Government (2015) Water Strategy for Wales

Welsh Government (2016) Active Travel Action Plan for Wales

Welsh Government (2016) Healthy Child Wales Programme

Welsh Government (2016) Consultation on a Welsh Government draft strategy: a million Welsh speakers by 2050

Welsh Government (2017) Natural Resources Policy

Welsh Government (2017) Prosperity for All: The National Strategy

Welsh Government (2017) Prosperity for All: Economic Action Plan

Welsh Government (2017) Welsh Transport Appraisal Guidance

Welsh Government (2018) Clean Air Zone Framework for Wales

Welsh Government (2018) Improving Public Transport (White Paper)

Welsh Government (2018) Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks

Welsh Government (2018) Review of the Road Safety Framework for Wales

Welsh Government (2018) Noise and Soundscape Action Plan 2018 -2023

Welsh Government (2019) Draft National Development Framework 2020 – 2040

Welsh Government (2019) Healthy Weight: Healthy Wales

Welsh Government (2019) A railway for Wales: the case for devolution

Welsh Government (2019) The Clean Air Plan for Wales; Healthy Air, Healthy Wales

Welsh Government (2024) The Clean Air Plan for Wales; Healthy Air, Healthy Wales - Update Report on Progress Against Actions

Welsh Government (2019) Public Transport (Wales) Bill: Draft Regulatory Impact Assessment

Welsh Government (2019) International Strategy – Draft for Consultation

Welsh Government (2019) Prosperity for All: A Low Carbon Wales

Welsh Government (2019) Prosperity for All: A Climate Conscious Wales

Welsh Government (2020) Connected Communities

Welsh Government (2020) 20mph Task Force Group Report

Welsh Government (2020) The Nature Recovery Action Plan for Wales 2020-21

Welsh Government (2021) Future Wales: The National Plan 2040

Welsh Government (2024) Planning Policy Wales; Edition 12

Welsh Government (2021) All Wales Plan 2021-25 Working Together to Reach Net Zero

Welsh Government (2021) Net Zero Wales Carbon Budget 2 (2021 – 2025)

Welsh Government (2021) Llwybr Newydd: The Wales Transport Strategy 2021

Welsh Government/ NHS (2016) Measuring the health and well-being of a nation: Public Health Outcomes Framework for Wales

Welsh Government (2009) TAN 5: Nature Conservation and Planning

Welsh Government (2010) TAN 6: Planning for Sustainable Rural Communities

Welsh Government (2005) TAN 8: Renewable Energy

Welsh Government (1997) TAN 10: Tree Preservation Orders

Welsh Government (1997) TAN 11: Noise

Welsh Government (2016) TAN 12: Design

Welsh Government (1997) TAN 13: Tourism

Welsh Government (1998) TAN 14: Coastal Planning

Welsh Government (2004) TAN 15: Development and Flood Risk

Welsh Government (2007) TAN 18: Transport

Welsh Government (2013) TAN 20: Planning and the Welsh Language

Welsh Government (2014) TAN 23: Economic Development

Welsh Government (2017) TAN 24: The Historic Environment

Welsh Government: Wales We Want National Conversation, 2015

Welsh Water (2008) Surface Water Management Strategy

Future Generations Commissioner for Wales: 10 Point Plan to Fund Wales' Climate Emergency, White Paper: Detailed Report, June 2019

Welsh Government (2020): Advancing Gender Equality in Wales Plan

Learner Travel (Wales) Measure 2008

Regional (South West Wales) Plans and Programmes

Swansea Council (2019) Swansea Local Development Plan 2010 – 2025

Neath Port Talbot Council (2016) Local Development Plan (2011 – 2026)

Pembrokeshire County Council (2013) Local Development Plan: Planning Pembrokeshire's Future (up to 2021)

Carmarthenshire Council (2014) Carmarthenshire Local Development Plan 2006 - 2021

South West Wales Energy Core Group (2022) South West Wales Energy Strategy

Welsh Government (2021) Regional Economic Framework For South West Wales

Welsh Government and the South West Wales local authorities (2021) South West Wales Regional Economic Delivery Plan

South Wales Regional Aggregates Working Party and North Wales Regional Aggregates Working Party (September 2020) The Regional Technical Statement for the North Wales and South Wales Regional Aggregate Working Parties- Second Review (RTS2)

White Consultants and Cardiff University (2017) Carmarthen Bay, Gower and Swansea Bay Local Seascape Character Assessment

Appendix A

Lead Local Authorities in South West Wales (2022/23) UK Shared Prosperity Funding, Investment Plan for South West Wales
Swansea Council (2017) Gower Area of Outstanding Natural Beauty Management Plan 2017
South Wales Coastal Group (2012) Shoreline Management Plan 20 – Lavernock Point to St Anne's Head
West of Wales (2011) Shoreline Management Plan 21 – St Anne's Head to the Great Orme
Natural Resources Wales (2024) South West Wales Area Statement
Swansea Council (2024) Swansea Human Rights and Strategic Equality Plan 2024 - 2028
Pembrokeshire Council (2024) Pembrokeshire Equality Plan 2024 - 2028
Carmarthenshire Council (2024) Carmarthenshire Strategic Equality Plan 2024 - 2028
Neath Port Talbot Council (2024) Neath Port Talbot Strategic Equality Plan 2024 - 2028
Neath Port Talbot Council (2013) Neath Port Talbot Air Quality Strategy
Neath Port Talbot (2024) Neath Port Talbot County Borough Council Air Quality Action Plan (2024 – 2029)
Carmarthenshire Council (2019) Carmarthenshire County Council Air Quality Action Plan
Swansea Council (2022) Climate Change and Nature Strategy 2022-2030

Appendix A

Table A-2 summarises the outcomes of the review of International, European, UK, National and Regional plans, policies and environmental protection objectives. This identified key themes and the implications for the IIA and the SWW RTP illustrating how these link to the development of the IIA framework. The Well-being of Future Generations (Wales) Act 2015 that are applicable to the themes relevant to the IIA have also been included within Table A-2. The goals are listed below:

1. A prosperous Wales
2. A resilient Wales
3. A healthier Wales
4. A more equal Wales
5. A Wales of cohesive communities
6. A Wales of vibrant culture and thriving Welsh language
7. A globally responsible Wales

Table A-2: Sustainability Themes linked to IIA Objectives

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
Reduce air pollution and ensure improvements in air quality contributing to a healthier Wales	2, 3 and 7	The United Nations Framework Convention on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change; Declaration of Human Rights; The Copenhagen Accord; Cancun Adaptation Framework (2010); Paris Agreement (2016).	Building a Low-Carbon Economy - the UK's Contribution to Tackling Climate Change; Air Quality Plans for the Achievement of EU Air Quality Limit Values for Nitrogen Dioxide (NO_2) in the UK: List of UK and National Measures; The National Adaptation Programme: Making the Country Resilient to a Changing Climate; Carbon Plan: Delivering our Low Carbon Future; UK Climate Change Risk Assessment: Government Report; Delivering a Sustainable Transport System; Managing the Environment in a Changing Climate; Climate Change Act 2008; Air Quality Standards Regulations 2010; Mainstreaming Sustainable	Environment (Wales) Act 2016; Environment Strategy for Wales; Climate Change Strategy for Wales; Low Carbon Revolution – the Welsh Government Energy Policy Statement; Policy Statement: Preparing for a Changing Climate; A Climate Conscious Wales; Energy Wales: A Low Carbon Transition; Wales Transport Strategy; Well-being of Future Generations (Wales) Act 2015; UK Climate Change Risk Assessment 2017 Evidence Report, summary for Wales; A Healthier, Happier and Fairer Wales; Low Carbon Wales; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Planning (Wales) Act 2015; TAN 18: Transport; Clean Air Zone Framework (2018); Healthy Air, Healthy Wales (2019); Prosperity for All: A Low Carbon Wales, Public Health Wales (2018) Long	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales, South West Wales Area Statement	The SWW RTP should seek to incorporate measures to improve air quality such as promoting low carbon initiatives and sustainable transport modes. The SWW RTP should maximise the ability of Wales' natural habitats to absorb pollutants and improve air quality. The plans, programmes and environmental protection objectives seek to improve air quality through low carbon initiatives and policies, Plans, programmes and environmental protection objectives that prioritise economic development without consideration of ecosystems services, may conflict with this theme. This is as an increase in built development or transport infrastructure could threaten the achievement of an improvement in, or the protection of, the natural environment. The SWW RTP should also consider if poor air	The IIA Framework should include objectives that seek to improve air quality and health through a range of potential opportunities such as transport, housing, economic development and improvements to the natural environment and ecosystems services.	Air, Population, Human Health and Climatic Factors	1, 6, 7, 8, 11 and 12

| Themes relevant to IIA of the RTP | Relevant Goals | Source | | | | Implications for the RTP | Implications for the IIA | Main SEA Topics | Relevant Draft IIA Objective |
		International and European	UK	National	Regional				
			Development; Environment Act 2021; Ozone-Depleting Substances Regulations 2015; Aviation Policy Framework; UK Climate Change Risk Assessment; Air Quality plan for NO$_2$ in the UK; Clean Air Strategy (2019)	Term Strategy, Public Health Wales (2019), Our Strategic Plan 2019 – 2022; The Future Generations Report (2020)		quality hot spots relate to areas of economic disparity. The health implications of poor air quality and the impact this has on vulnerable groups should also be considered.			
Promote sustainable patterns of mobility, including active travel and public transport and enhance Sustainable Transport provision to improve air quality	1, 2, 3, 7	Cycling and Green Jobs; The PEP Partnerships (2019), Developing National Action Plans on Transport, Health and Environment (2014) Making the (Transport, Health and Environment) Link (2018); Green Paper: Towards a New Culture for Urban Mobility (2007); Action Plan on Urban Mobility (2009); A Sustainable Transport Future (2009); Strategic Plan 2016 – 2020: Mobility and Transport (2017)	UK Ports for the Offshore Wind Industry: Time to Act; Ports Policy Review Interim Report; Delivering a Sustainable Transport System; National Policy Statement for Ports; Transport Act 2000; Cycle and Walking Investment Strategy (2017); Port Air Quality Strategies (2019); Maritime (2050); The Community Rail Development Strategy (2018)	Wales Transport Strategy; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Clean Air Zone Framework (2018); Planning Policy Wales 12; Public Transport Bill (2019); A railway for Wales: the case for devolution (2019); Improving Public Transport (White Paper); The Future Development of Transport for Wales; Prosperity for All: A Low Carbon Wales; The Social Model of Disability.	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales, South West Wales Area Statement	The SWW RTP should seek to promote and enhance sustainable transport modes, including Active Travel and Public Transport, in order to dissuade the use of single occupancy vehicles. The SWW RTP should enhance and maintain sustainable connectivity between communities and across Wales, with the aim to reduce emissions and improve air quality. Patterns of mobility should be considered, in particular, if there are gendered or demographic differences associated with journey type, mode and journey time. The SWW RTP should promote the decarbonisation of transport. The SWW RTP should ensure that there is a strategic vision for modern EV charging infrastructure.	The IIA Framework should include objectives which seek to ensure the number single occupancy vehicle trips decreases and public transport and active travel patronage increases.	Air, Population, Human Health and Material Assets	1, 2, 6, 7, 8, 11 and 12
Improve the connectivity of existing communities and reduce isolation through better planned and designed future communities	1, 2, 3, 4, 5, 6 and 7	Declaration of Human Rights; Convention on the Rights of Persons with Disabilities	The UK's Shared Framework for Sustainable Development; National Parks and Access to the Countryside Act 1949; Achieving Equal Access for Disabled People (2018); Connecting People: A Strategic Vision for Rail (2017); Future of Mobility:	PPW edition 12; TAN18; TAN6- Planning for Sustainable Rural Communities;; Well-being of Future Generations Act; Wales Transport Strategy; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Framework for Action on Independent Living; Planning (Wales) Act 2015; Shape Your Future - future	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales	Development and transport infrastructure should encourage efficient and sustainable patterns of movement in the first instance. The SWW RTP should plan for reducing the need to travel and provide opportunities to access new and existing development and services	The IIA Framework should include objectives that encourage improving the connectivity of communities and sustainable patterns of	Population, Human Health and Material Assets	1, 2, 3 and 9

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
and more inclusive public transport.			Urban Strategy (2019); The Community Rail Development Strategy (2018)	trends: Implications for the third sector in Wales; Connected Communities (2020); Improving Public Transport (White Paper); The Future Development of Transport for Wales; The Future Generations Report (2020); The Welsh Doughnut	Regional Economic Delivery Plan; Investment Plan for South West Wales	by a range of sustainable travel modes.	movement, as well as sustainable transport options.		
Promote greater equality of opportunity for all citizens. This should include a focus on ensuring equal accessibility for all, including for disabled and vulnerable people, as well as equality of outcome for all women, men, and non-binary people	1, 2, 3, 4, 5, 6 and 7	Convention on the Rights of Persons with Disabilities; Transport Connectivity: A Gender Perspective, International Transport Forum, 2019	The UK's Shared Framework for Sustainable Development; National Parks and Access to the Countryside Act 1949; Achieving Equal Access for Disabled People (2018); Connecting People: A Strategic Vision for Rail (2017); Future of Mobility: Urban Strategy (2019); The Community Rail Development Strategy (2018); Public Transport and Gender, Women's Budget Group, October 2018; 3 Campaign for Better Transport (2018) Buses in Crisis: A report on bus funding across England and Wales 2010-2018; Strategic Equality Plan 2020 - 2024	PPW edition 12; TAN18; One Wales, One Planet; TAN6-Planning for Sustainable Rural Communities; Well-being of Future Generations Act; Wales Transport Strategy; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Framework for Action on Independent Living; Planning (Wales) Act 2015; Shape Your Future - future trends: Implications for the third sector in Wales; Connected Communities (2020); Improving Public Transport (White Paper); The Future Development of Transport for Wales; The Future Generations Report (2020); The Welsh Doughnut: A framework for environmental sustainability and social justice; Advancing Gender Equality in Wales Plan (2020)	Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales	The SWW RTP will need to recognise the existing ways in which power structures based on factors such as gender, race, sexuality, disability, class, age and faith interact with each other and create inequalities, discrimination and oppression. The SWW RTP will need to ensure that transport in Wales facilitates economic independence of all women with all forms of unpaid and paid work recognised; facilitates the freedom of women to live their lives as they choose; challenges any existing power structures that may be disadvantaging women; is committed to equality of outcome for all women, men and non-binary people; places a gender perspective at the heart of decision-making; is open, transparent and welcomes scrutiny through a gender-lens; actively monitors progress towards equality; and leads by example for delivering equality.	The ISA will need to help ensure that a gender perspective is at the heart of all decision-making during the preparation of the SWW RTP. Appraisals through the ISA will provide scrutiny from a gender-lens and help to ensure equality of outcome for all men, women, and non-binary people. The ISA will help to ensure that key issues such as safety on public transport, in public toilets and when using services such as taxis are appropriately addressed in the SWW RTP.	Population and Human Health	1, 2, 3 and 9

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
Maintain and enhance biodiversity, habitats and species with healthy functioning and resilient ecosystems, including connected networks of green infrastructure throughout rural and urban areas. This is so that ecosystem services provided by green infrastructure can be enhanced and taken full advantage of, including climate change resilience & mitigation, enhancements to biodiversity, geodiversity and soils and filtering air and water. Well-connected green infrastructure networks also provide active travel links	1,2,3,5 and 7	World Summit on Sustainable Development; Cancun Adaptation Framework (2010); Paris Agreement	Mainstreaming Sustainable Development; The Natural Choice: Securing the Value of Nature; Wildlife and Countryside Act 1981; Natural Environment and Rural Communities Act 2006; Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended 2010); Conservation of Habitats & Species Regulations 2010 (as amended 2011); The UK Post-2010 Biodiversity Framework; Charting Progress 2: The State of UK Seas; UK National Ecosystem Assessment: Understanding Nature's Value to Society; The Paris Agreement; Joint Nature Conservation Committee and Defra (2012) UK Post-2010 Biodiversity Framework; Conserving Biodiversity the UK Approach; Joint Nature Conservation Committee (2012) The UK Post-2010 Biodiversity Framework; Strategic Plan for Biodiversity 2011-2020 (2010); Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended 2010); Conservation of Habitats & Species Regulations 2010 (as amended 2011); The Invasive and Non-Native Species Framework Strategy for Great Britain; National Parks and Access	Woodlands for Wales Strategy; Wales Biodiversity Framework; UK Climate Change Risk Assessment 2017 Evidence Report; National Seascape Assessment for Wales; Planning (Wales) Act 2015; SoNaRR; Draft NRP; Water Strategy for Wales; Surface Water Management Strategy; TAN 5: Nature Conservation and Planning; TAN 10: Tree Preservation Orders; Nature Recovery Action Plan (2020); Western Wales River Basin Management Plan.	Investment Plan for South West Wales, Shoreline Management Plan 20, Shoreline Management Plan 21, South West Wales Area Statement	The SWW RTP should seek to make transport, the environment and communities more resilient to major environmental problems including addressing declining biodiversity. Section 6 of the Environment (Wales) Act 2016 introduces an enhanced biodiversity and resilience of ecosystems duties for public authorities in relation to the exercise of their functions. The emphasis of the duty is that the consideration of biodiversity and ecosystem are embedded in the early thinking of the development of the SWW RTP. The design of new transport infrastructure should retain and enhance biodiversity and habitats and the SWW RTP should reflect this, with no interventions resulting in a net loss of biodiversity. Capturing this duty as an integral part of the SWW RTP development process will be essential. The Plans, programmes and environmental protection objectives seek to conserve and protect biodiversity through international and national regulations or frameworks. Plans, programmes and environmental protection objectives that prioritise economic development without consideration of ecosystems resilience, may conflict with this theme. This is as an increase in built development or transport infrastructure could threaten the achievement of an improvement in, or the protection of, the natural environment.	The IIA Framework should include objectives that seek to conserve and enhance biodiversity, species and habitats as part of a wider aim to protect and enhance ecosystems services.	Biodiversity Flora and Fauna	6, 7, 8, 9 and 11

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
			to the Countryside Act 1949; Environment Act 2021; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; Ozone-Depleting Substances Regulations 2015; HMG, NI Executive, Scottish Government; Inshore Fisheries and Conservation Authorities Bylaws (various); Natural England and JNCC (2011) Marine Conservation Zone (MCZ) Project; NERC (2010) Marine Environmental Mapping Programme (MAREMAP)						
Reduce the existing or future risk of flooding and/or coastal erosion by adapting existing infrastructure to the impacts of climate change, and promote protection of floodplains or areas of managed realignment	2, 3 and 7	The United Nations Framework Convention on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change; Cancun Adaptation Framework (2010); Paris Agreement (2016)	Flood Risk Regulations 2009; Flood and Water Management Act 2010; The Marine and Coastal Access Act 2009; Environment Act 2021; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; Ozone-Depleting Substances Regulations 2015; Inshore Fisheries and Conservation Authorities Bylaws (various); NERC (2010) Marine Environmental Mapping Programme (MAREMAP); Sustainable Development Commission (2005) One Future – Different Paths. Shared	PPW edition 12; TAN15 Development and Flood Risk; National Flood and Coastal Erosion Strategy for Wales; Welcome to Wales: Priorities for the visitor economy 2020-2025; Coastal Access Improvement Programme; Making the Most of Wales' Coast: The Integrated Coastal Zone Management Strategy for Wales; UK Climate Change Risk Assessment 2017 Evidence Report; National Seascape Assessment for Wales; Planning (Wales) Act 2015; Welsh Government Strategic Policy Position on Water; Water Strategy for Wales; Surface Water Management Strategy; TAN 14: Coastal Planning; Western Wales River Basin Management Plan.	Investment Plan for South West Wales, Shoreline Management Plan 20, Shoreline Management Plan 21, South West Wales Area Statement	The SWW RTP should use natural features that contribute to flood management to reduce flood risk and coastal erosion. Optioneering and design should seek to adapt to the risk of flooding when determining the location and design of new development and associated transport infrastructure. The SWW RTP should ensure that new transport infrastructure avoids areas of flood risk where possible and does not increase flood risk and should seek to ensure transport development incorporates climate change adaptation measures. The RTP should consider if areas of economic disparity are associated with a higher flood risk and should contribute to managing this additional risk.	The IIA Framework needs to include objectives that to seek to ensure that flood risk is reduced, reflecting the principles of national studies and objectives.	Water Climatic Factors Population and Human Health	3, 6, 7, 9, 11 and 12

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
			Framework for Sustainable Development						
Sustainably manage natural resources and tackle the causes of climate change, including a reduction in carbon emissions associated with the transport sector in accordance with Wales' carbon budgets	1, 2, 3, 4, 5 and 7	Johannesburg Declaration on Sustainable Development; United Nations Framework Convention on Climate Change; UN Framework Convention on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change; Cancun Adaptation Framework (2010); Paris Agreement (2016);	Building a Low-Carbon Economy – the UK's Contribution to Tackling Climate Change; UK Climate Change Risk Assessment: Government Report; Health Effects of Climate Change in the UK 2008 – An update of the Department of Health report 2001/2002; Climate Change Act 2008; The Climate Change Act 2008 (2020 Target, Credit Limit and Definitions) Order 2009; Air Quality Strategy for England, Scotland, Wales and Northern Ireland; Water Resources Strategy for England and Wales; EA's Approach to Groundwater Protection V1.2; Planning (Listed Buildings and Conservation Areas) Act 1990; A Green Future (2018); Environment Act 2021; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; Ozone-Depleting Substances Regulations 2015; One Future – Different Paths. Shared Framework for Sustainable Development	Environment Strategy for Wales; Energy Policy Statement; Climate Change Strategy for Wales; One Wales, One Planet; Surface Water Management Strategy; TAN6-Planning for Sustainable Rural Communities Energy White Paper: Our Energy Future; Climate Change Wales; Well-being of Future Generations (Wales) Act 2015; A Climate Conscious Wales. Energy Wales A Low Carbon Transition; UK Climate Change Risk Assessment 2017 Evidence Report; Low Carbon Wales; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Planning (Wales) Act 2015; Woodlands for Wales Strategy; Welsh Government Strategic Policy Position on Water; Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource Management in Wales; Water Strategy for Wales; Surface Water Management Strategy; Final Water Resources Management Plan; Catchment Abstraction Management Strategies; Natural Resources Policy (2017); Prosperity for All: A Low Carbon Wales; The Future Generations Report (2020); Nature Recovery Action Plan (2020); 10 Point Plan to Fund Wales' Climate Emergency Future Generations Commissioner for Wales, White Paper: Detailed Report, June 2019	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales, South West Wales Area Statement	The SWW RTP should seek to reduce the consumption of natural resources and act to tackle the causes and consequences of climate change, through the promotion of sustainable transport modes and energy efficient transport systems. The SWW RTP could highlight the importance of managing and seeking to mitigate the consequences of climate change by building resilience into the natural and built environment.	The IIA Framework should include objectives that address climate change issues. This is likely to be reflected across the whole range of SA objectives as a key integral cross-cutting theme.	Air and Climatic Factors	3, 6, 7, 8, 9, 11 and 12.

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
Protect and improve the quality and quantity of water resources	2, 3 and 7	The United Nations Framework Convention on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change; Cancun Adaptation Framework (2010); Paris Agreement (2016)	Flood and Water Management Act 2010; The Marine and Coastal Access Act 2009; Environment Act 2021; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; Sustainable Development Commission (2005) One Future – Different Paths. Shared Framework for Sustainable Development	Surface Water Management Strategy; Coastal Access Improvement Programme; Making the Most of Wales' Coast: The Integrated Coastal Zone Management Strategy for Wales; UK Climate Change Risk Assessment 2017 Evidence Report; National Seascape Assessment for Wales; Planning (Wales) Act 2015; Welsh Government Strategic Policy Position on Water; Water Strategy for Wales; Surface Water Management Strategy; Final Water Resources Management Plan; Catchment Abstraction Management Strategies; TAN 14: Coastal Planning; Western Wales River Basin Management Plan.	Investment Plan for South West Wales, Shoreline Management Plan 20, Shoreline Management Plan 21, South West Wales Area Statement	The SWW RTP should seek opportunities to protect and improve the quality of water resources. The sustainable use of water should also be considered in new transport developments. The SWW RTP should also consider the use of SuDS where appropriate.	The IIA Framework needs to include objectives that seek to ensure that the quality of water resources is protected and improved.	Water	6, 7, 11 and 12
Manage mineral extraction and minimise waste generation and increase levels of reuse and recycling to achieve more sustainable waste management and reduce landfill	2 and 7		National Policy Statement for WasteWater; The UK's Shared Framework for Sustainable Development; Environment Act 2021; One Future – Different Paths. Shared Framework for Sustainable Development	Environment Strategy Wales; TAN21 – Waste; PPW edition 12; One Wales, One Planet; Towards Zero Waste; Well-being of Future Generations (Wales) Act 2015; Low Carbon Revolution – the Welsh Government Energy Policy Statement; UK Climate Change Risk Assessment 2017 Evidence Report; Planning (Wales) Act 2015; TAN 21: Waste; The Future Generations Report (2020)	The Regional Technical Statement for the North Wales and South Wales Regional Aggregate Working Parties- Second Review (RTS2); Investment Plan for South West Wales	The SWW RTP should promote the reduction of waste and seek to contribute to achieving a circular economy. Opportunities for recycling and reuse should be encouraged and opportunities to reduce the amount of waste sent to landfill should be increased in line with National targets and goals.	The IIA Framework should include objectives that seek to encourage sustainable waste management.	Materials Assets, Soil, Population, Human Health and Climatic Factors	6, 7, 8, 9, 11 and 12
Relieve pressure on natural resources by	1, 2, 3, 5 and 7	2030 Policy Framework for Climate and Energy; The United Nations Framework Convention	National Policy Statements for Energy Infrastructure; UK Renewable Energy Roadmap; UK National	One Wales, One Planet; Wales a better Country; PPW edition 12; TAN8 – Renewable Energy; TAN6-Planning for Sustainable	South West Wales Energy Strategy; Regional	The SWW RTP should promote reduced energy usage and energy efficiency within the national transport network and incorporate	The IIA Framework should include objectives that	Population, Air and	3, 6, 7, 8, 11 and 12

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
increasing energy efficiency, stimulating investment and innovation, and promoting the sustainable use of national renewable energy resources		on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change.	Energy Efficiency Action Plan; The Energy Act 2008; The UK's Shared Framework for Sustainable Development; Water Resources Strategy for England and Wales; DECC (2009) Framework for the Development of Clean Coal; UK Ports for the Offshore Wind Industry: Time to Act; Environment Act 2021; Environmental Permitting (England and Wales) Regulations; Ozone-Depleting Substances Regulations 2015; A Green Future (2018);	Rural Communities; Energy Policy Statement; Climate Change Strategy for Wales; Well-being of Future Generations (Wales) Act 2015; Low Carbon Revolution – the Welsh Government Energy Policy Statement; Towards Zero Waste One Wales: One Planet; A Climate Conscious Wales; Energy Wales A Low Carbon Transition; UK Climate Change Risk Assessment 2017 Evidence Report; Low Carbon Wales; Planning (Wales) Act 2015; Woodlands for Wales Strategy; Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource Management in Wales; Water Strategy for Wales; Surface Water Management Strategy; Final Water Resources Management Plan; The Future Generations Report (2020); Nature Recovery Action Plan (2020)	Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales, South West Wales Area Statement	this into the design phase of new transport infrastructure. The creation of energy from low or zero carbon energy sources for transport modes should also be promoted, capitalising on the potential of the region.	seek to encourage energy efficiency as well as the creation of energy from low or zero carbon energy sources, capitalising on the potential of the region.	Climatic Factors	
To conserve soil resources, control soil erosion and maintain their quality	2 and 7		Environment Act 2021	Environment Strategy for Wales; Surface Water Management Strategy; The Future of our Farming; UK Climate Change Risk Assessment 2017 Evidence Report; Planning (Wales) Act 2015; Woodlands for Wales Strategy; Nature Recovery Action Plan (2020); Western Wales River Basin Management Plan.	South West Wales Area Statement	Better soil management will contribute to erosion prevention and supporting habitats. The SWW RTP should ensure soil resources are not adversely affected by transport infrastructure or development.	The IIA Framework should include objectives with a focus on the protection of soil resources.	Soil, Material Assets and Water	6, 7, 8, 11 and 12
Protect and enhance the distinctiveness of our landscapes National Parks,	1, 4, 5, 6 and 7	European Landscape Convention; European Convention on the Protection of the Archaeological Heritage	Heritage Protection for the 21st Century; The Protection of Wrecks Act 1973; Ancient Monuments and Archaeological Areas Act 1979; Protection of	PPW edition 12; Cultural Tourism Strategy; Welcome to Wales: Priorities for the visitor economy 2020-2025; TAN12 – Design; Register of Landscapes of Historic Interest; Historic	Carmarthen Bay, Gower and Swansea Bay Local Seascape Character	The SWW RTP should protect and retain distinctiveness of the national landscapes, valued historic environment and cultural heritage and its setting and	The IIA Framework should include objectives that seek to protect local	Cultural Heritage and Landscape	4, 5, 9, 10 and 13

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
AONBs, seascapes, historic environment, historic assets, and their settings			Military Remains Act 1986; Planning (Listed Buildings and Conservation Areas) Act 1990; Environment Act 2021; Commons Act 2006	Environment (Wales) Act 2016; Valuing the Welsh Historic Environment; The Historic Environment Strategy for Wales; UK Climate Change Risk Assessment 2017 Evidence Report; National Seascape Assessment for Wales; Planning (Wales) Act 2015; Valuing the Welsh Historic Environment; Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks; A Management Plan for the Brecon Beacons National Park 2015 – 2020; Pembrokeshire Coast National Park Management Plan 2020 – 2024; Historic Environment and Climate Change in Wales Sector Adaption Plan	Assessment, South West Wales Area Statement, Gower Area of Outstanding Natural Beauty Management Plan	improve access to cultural facilities for citizens and visitors.	distinctiveness and the historic environment.		
Improve the physical and mental health and well-being of the population and reduce health inequalities to create a healthier Wales	1, 2, 3, 4, 5 and 7	Guidelines for Community Noise 1999; Children's Environment and Health Action Plan for Europe;	Children's Environment and Health Action Plan; Health Effects of Climate Change in the UK 2008 - An update of the Department of Health report 2001/2002; Sustainable Development: The Key to Tackling Health Inequalities; One Future – Different Paths. Shared Framework for Sustainable Development; PHE Strategy 2020 – 2025	PPW edition 12; Play Policy Implementation Plan; National Energy Efficiency Action Plan; One Wales, One Planet; Living Well – Living Independent Lives; Age friendly Wales: our strategy for an aging society; Third Sector Scheme; Volunteering Policy, Supporting Communities, Changing Lives; Towards Zero Waste; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Well-being of Future Generations (Wales) Act 2015; Together for Health; UK Climate Change Risk Assessment 2017 Evidence Report; A Healthier, Happier and Fairer Wales; Fulfilled Lives, Supportive Communities; Declaration of Rights for Older People; Social Services and Well-being (Wales)	Investment Plan for South West Wales	The SWW RTP should encourage active travel and use the natural resources available to encourage an improvement in physical and mental health whilst promoting healthy and active lifestyles. The SWW RTP should recognise the potential for national green spaces as places for health and recreation, connecting habitats and supporting community interaction. A healthier population could enable people to achieve their potential and to make Wales a more equal society. The SWW RTP should avoid and remove barriers to access for all members of society, including in accordance with the Social Model of Disability.	The IIA Framework should include a variety of social, environmental, cultural and economic objectives that seek to benefit health and the local community, reflecting the wide range of potential influences that can affect health and well-being within communities. This is likely to be reflected	Population, and Human Health	1, 2, 6, 7 and 8

| Themes relevant to IIA of the RTP | Relevant Goals | Source | | | | Implications for the RTP | Implications for the IIA | Main SEA Topics | Relevant Draft IIA Objective |
		International and European	UK	National	Regional				
				Act 2014; Planning (Wales) Act 2015; Shape Your Future - future trends: Implications for the third sector in Wales; Designed to Add Value - a third dimension for One Wales; A Framework for Action; Working Differently – Working Together; TAN 11: Noise Healthy Weight, Healthy Wales (2019); Public Health Wales - Long Term Strategy; Public Health Wales - Our Strategic Plan 2019 – 2022; Review of the Road Safety Framework for Wales; Noise and Soundscape Action Plan 2018 - 2023; The Future Generations Report (2020); The Welsh Doughnut; The Socio-Economic Duty (2021)			across the whole range of ISA objectives as a key integral cross-cutting theme.		
Contribute towards the future well-being of the Welsh language, culture, and heritage	1, 2, 4, 6 and 7		Heritage Protection for the 21st Century (2007)	Welsh Language (Wales) Measure 2011; a million Welsh speakers by 2050; Planning (Wales) Act 2015; Well-being of Future Generations (Wales) Act (2015); Vibrant and Viable Places New Regeneration Framework; Welsh Medium Education Strategy 2010; TAN 24: The Historic Environment; The Future Generations Report (2020); Historic Environment and Climate Change in Wales Sector Adaption Plan	Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales	The SWW RTP should support activities which promote and facilitate the use of the Welsh language as well as those who are reliant upon British Sign Language.	The IIA Framework should include objectives that promote the Welsh language	Population and Cultural Heritage	4, 5, 9 and 10
Create safe, sustainable, balanced, connected, and cohesive communities, including in	1, 2, 3, 4, 5 and 6	Johannesburg Declaration on Sustainable Development; European Spatial Development Perspective; European Sustainable Development Strategy;	Natural Environment and Rural Communities Act 2006; The Equality Act 2010; Planning (Listed Buildings and Conservation Areas) Act 1990; Commons Act 2006; One Future – Different Paths. Shared	National Energy Efficiency and Savings Plan; Living Well – Living Independent Lives; Framework for Regeneration Areas – Vibrant and Viable Places; Wales – A Better Country; National Flood and Coastal Erosion Strategy for Wales; TAN 12- Design, Play	South West Wales Energy Strategy; Regional Economic Framework For South West Wales;	The SWW RTP should provide access to a range of employment and other opportunities to enable people to realise their individual aspirations. The SWW RTP should promote cohesive communities through design and connectivity and promote equal access to well-	The IIA Framework should include objectives that address community needs.	Population and Material Assets	1, 2 and 3

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
both rural and urban areas		Agenda 21; Aarhus Convention; Towards Social Investment for Growth and Cohesion 2014-2020	Framework for Sustainable Development; The Community Rail Development Strategy (2018)	Policy Implementation Plan; TAN1- Joint Housing Land Availability Studies; Gypsy Traveller Good Practice Guidelines; Travelling to a Better Future; Improving Lives and Communities; Third Sector Scheme; Volunteering Policy, Supporting Communities, Changing Lives; A Healthier, Happier and Fairer Wales; Fulfilled Lives, Supportive Communities; Welsh Language (Wales) Measure 2011; a million Welsh speakers by 2050; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Framework for Action on Independent Living; Planning (Wales) Act 2015; Wales Infrastructure Investment Plan; Wales Infrastructure Investment Strategy; Vibrant and Viable Places New Regeneration Framework; Age friendly Wales: our strategy for an aging society; Review of the Road Safety Framework for Wales; 20mph Task Force Group Report; The Welsh Doughnut: A framework for environmental sustainability and social justice	South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales	being services and educational opportunities. The SWW RTP should avoid and remove barriers to access for all members of society, including in accordance with the Social Model of Disability.			
Promote quality employment opportunities and economic activity	1, 2, 4, 5, 6and 7	Johannesburg Declaration on Sustainable Development; The European Employment Strategy	National Infrastructure Plan; One Future – Different Paths. Shared Framework for Sustainable Development; Aviation 2050; Regional Airports (2016).	PPW edition 12; Welcome to Wales: Priorities for the visitor economy 2020-2025; Sustainable Tourism Framework; A Skills and Employment Strategy and Action Plan; Wales – A Better Country, Well-being of Future Generations (Wales) Act 2015; Natural Resources Policy Statement; Planning (Wales) Act 2015; Sustaining a Living Wales: A	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales Regional	The SWW RTP should use the natural resources and transport infrastructure available to ensure adequate provision of employment opportunities, accessibility to employment and increased economic activity.	The IIA Framework should address employment provision.	Population and Material Assets	1, 2 and 3

| Themes relevant to IIA of the RTP | Relevant Goals | Source | | | | Implications for the RTP | Implications for the IIA | Main SEA Topics | Relevant Draft IIA Objective |
		International and European	UK	National	Regional				
				Green Paper on a New Approach to Natural Resource Management in Wales; Wales Infrastructure Investment Plan; Wales Infrastructure Investment Strategy; TAN 4: Retail and Commercial Development; TAN 20: Planning and the Welsh Language; TAN 23: Economic Development; Prosperity for All: National Strategy; Prosperity for All: Economic Action Plan; The Future Generations Report (2020); The Socio-Economic Duty (2021)	Economic Delivery Plan; Investment Plan for South West Wales				
Promote sustainable economic growth and business competitiveness through transport and innovation.	1, 2, 4, 6 and 7	The Aarhus Convention;	Build Back Better: Our Plan for Growth; National Infrastructure Plan; Rail Freight Strategy (2016); Transport Investment Strategy – Moving Britain Forward (2017); Transport Infrastructure Efficiency Strategy (2017); Industrial Strategy (2017); Clean Growth Strategy (2017); Aviation 2050; Regional Airports (2016).	Economic Renewal: A New Direction; Third Sector Scheme; Volunteering Policy, Supporting Communities, Changing Lives; Planning (Wales) Act 2015; Wales Infrastructure Investment Plan; Wales Infrastructure Investment Strategy; Vibrant and Viable Places New Regeneration Framework; Welsh Government TAN 4: Retail and Commercial Development; TAN 23: Economic Development; Wales Freight Strategy (2008); The Socio-Economic Duty (2021)	South West Wales Energy Strategy; Regional Economic Framework For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales	The SWW RTP should encourage the creation of transport infrastructure and networks which enable business innovation and stimulates business growth. As this has the potential to conflict with environmental sustainability aims, this should seek to be achieved within the boundaries of environmental limits, as reflected in the first well-being goal (a prosperous Wales).	The IIA Framework should include objectives relating to economic growth and development within the context of the delivery of the green growth agenda, ecosystems services and environmental limits.	Population and Material Assets	1, 2 and 3
Establish a strong tourist economy, sensitively capitalising on environmental, heritage, and leisure assets	1, 2, 5 and 6		Heritage Protection for the 21st Century (2007); Aviation 2050; Regional Airports (2016); Clean Air Strategy (2018)	TAN13 – Tourism, Cultural Tourism Strategy for Wales; Welcome to Wales: Priorities for the visitor economy 2020-2025; Welsh Language (Wales) Measure 2011; a million Welsh speakers by 2050; Planning (Wales) Act 2015; Wales Infrastructure Investment Plan; Wales Infrastructure Investment	Carmarthen Bay, Gower and Swansea Bay Local Seascape Character Assessment; Regional Economic Framework	The SWW RTP should promote the use and enhancement of transport infrastructure for tourism development, within environmental limits. This includes addressing the impacts of aviation from international travel, whilst not negatively impacting on the tourist economy. The SWW RTP could support the tourism industry	The IIA Framework should include reference to capitalising on the tourist economy nationally, capitalising on, but not	Population, Cultural Heritage and Landscape	2, 3, 4, 9 and 10

Themes relevant to IIA of the RTP	Relevant Goals	Source				Implications for the RTP	Implications for the IIA	Main SEA Topics	Relevant Draft IIA Objective
		International and European	UK	National	Regional				
				Strategy; Vibrant and Viable Places New Regeneration Framework; Draft International Strategy; Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks; A Management Plan for the Brecon Beacons National Park 2015 – 2020; Pembrokeshire Coast National Park Management Plan 2020 – 2024	For South West Wales; South West Wales Regional Economic Delivery Plan; Investment Plan for South West Wales	through targeting improvements to travel including: • Improving the experience of car/coach/motorcycle based visitors to Wales. • Increasing the use of public transport for journeys to and within Wales • Maximise the potential of the ports.	threatening, the wealth of national environmental and cultural resources and attractions.		

Appendix B

SEA Scoping: Baseline Data, Key Sustainability Issues and Opportunities

Contents

Tables

Figures

1 Introduction

1.1.1.1 This appendix provides the baseline social, economic, cultural and environmental data for South West Wales (Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire) that is being used to help undertake the following aspects of the IIA:

- Identify the current baseline social, economic, cultural and environmental situation within South West Wales, against which the likely effect of the RTP will be predicted.
- Identify key trends issues and opportunities for the IIA and RTP to consider.
- Develop the IIA Framework to use for the appraisal of the RTP.
- Ultimately assist the development of a monitoring framework to monitor the significant effects of the RTP.

1.1.1.2 The appendix has been structured around each of the seven well-being goals. Under those sub-headings, the baseline data has been sub-divided into a series of IIA topics. Each section is structured as follows:

1. Wellbeing Goal and identification of relevant IIA topics within it.
2. Overview of Baseline Conditions for each topic. This comprises:
    a. The relevance of that topic to the RTP;
    b. The baseline conditions and trends structured around the baseline data sets;
    c. Any data gaps that are in the process of being filled; and
    d. Key Issues derived from the above that are relevant to the RTP and opportunities for it to address them.

Note on the baseline data sets

1.1.1.3 The baseline data sets used are specific facts and statistics that are gathered by different organisations including, for example, the Welsh Government; the UK Government; or statutory bodies such as Natural Resources Wales (NRW), amongst others. These have been carefully selected to help give an appropriate overview of the baseline conditions and trends over time at a national scale and where necessary more detail on regional variations within Wales.

1.1.1.4 It is intended that the baseline data sets can be used as factual yardsticks to support the appraisal of the effects of the RTP against each of the relevant IIA Framework Objectives.

1.1.1.5 Ultimately, once the IIA is complete and the RTP is adopted, indicators will be produced to help monitor the predicted significant effects of the RTP as it is used.

1.1.1.6 There are hundreds of potential baseline data sets that could be used, many providing only subtly different information. As such, the selection of indictors for this IIA will be focussed, streamlined and reflective of the regional scale and influence that the RTP is expected to have.

1.1.1.7 The South West Wales region comprises the local authorities of Carmarthenshire, Neath Port Talbot, Pembrokeshire and Swansea.

2 Well-Being Goal: A Prosperous Wales

2.1.1.1   This section provides baseline data relating to the following well-being goal:

"An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work".

2.1.1.2   The data relates primarily to:

- The Economy, Employment and Income in South West Wales; and
- Education in South West Wales.

2.2 The Economy, Employment and Income in Wales

2.2.1   Relevance to the SWW RTP

2.2.1.1   A strong economy is vitally important for securing people's wealth, jobs and incomes. This has a large contribution to the quality of life and the economic, social, cultural and environmental well-being of people and communities in Wales. Investment in transport networks can influence the functioning of labour markets, business productivity and competitiveness. These impacts interact over time and can lead to improvements in economic output and the geographical distribution of economic activity. They can also impact on the environment, quality of life and the overall attractiveness of towns and cities.

2.2.1.2   Figure B-1 highlights how direct impacts from transport investment could create market efficiencies leading to investment and relocation decisions which in-turn can lead to changes in productivity and economic growth[1]. The mechanisms for delivering economic impacts include:

- Benefits to non-users. In the case of public transport investments, these include reduced negative externalities from car travel (i.e. reduced congestion and CO_2 emissions) and option values (i.e. the value that is placed on maintaining a public asset or service even if there is little or no likelihood of the individual actually ever using it).
- Productivity effects. Productivity impacts generated through efficiencies resulting from improved connectivity, which effectively brings businesses, suppliers and workers closer together. These benefits are additional to user and non-user benefits at the national level.
- Induced investment impacts. Changes in the level or location of private sector investment as a result of a transport investment. These benefits are context specific and may be partially displaced from other areas.
- Employment impacts. Labour market impacts resulting from connectivity improvements, which may allow people to move to more productive jobs or enter the labour market as a result of reduced and cheaper commuting journeys.
- Regeneration impacts. Local economic impacts resulting from improved local image and attraction of land use development. In some cases, transport can act as a catalyst of local economic growth. These benefits may not be completely additional at a national level and may arise as a result of displacement of economic activity from elsewhere.

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[1] Greener Transport Solutions (2024) Transport and the economy. Available at: https://greenertransportsolutions.com/guidance-tool/ [Accessed: 20.08.24]

2.2.1.3   In addition to the potential long-term impacts on productivity, the construction of large infrastructure projects provides an injection of resources into local economies during construction which may create new employment opportunities. Whilst this expenditure may simply be redirected from other government activities, the local impacts could be both significant in the short term and catalytic over the longer term.

Figure B-1: Transport investment and economic growth
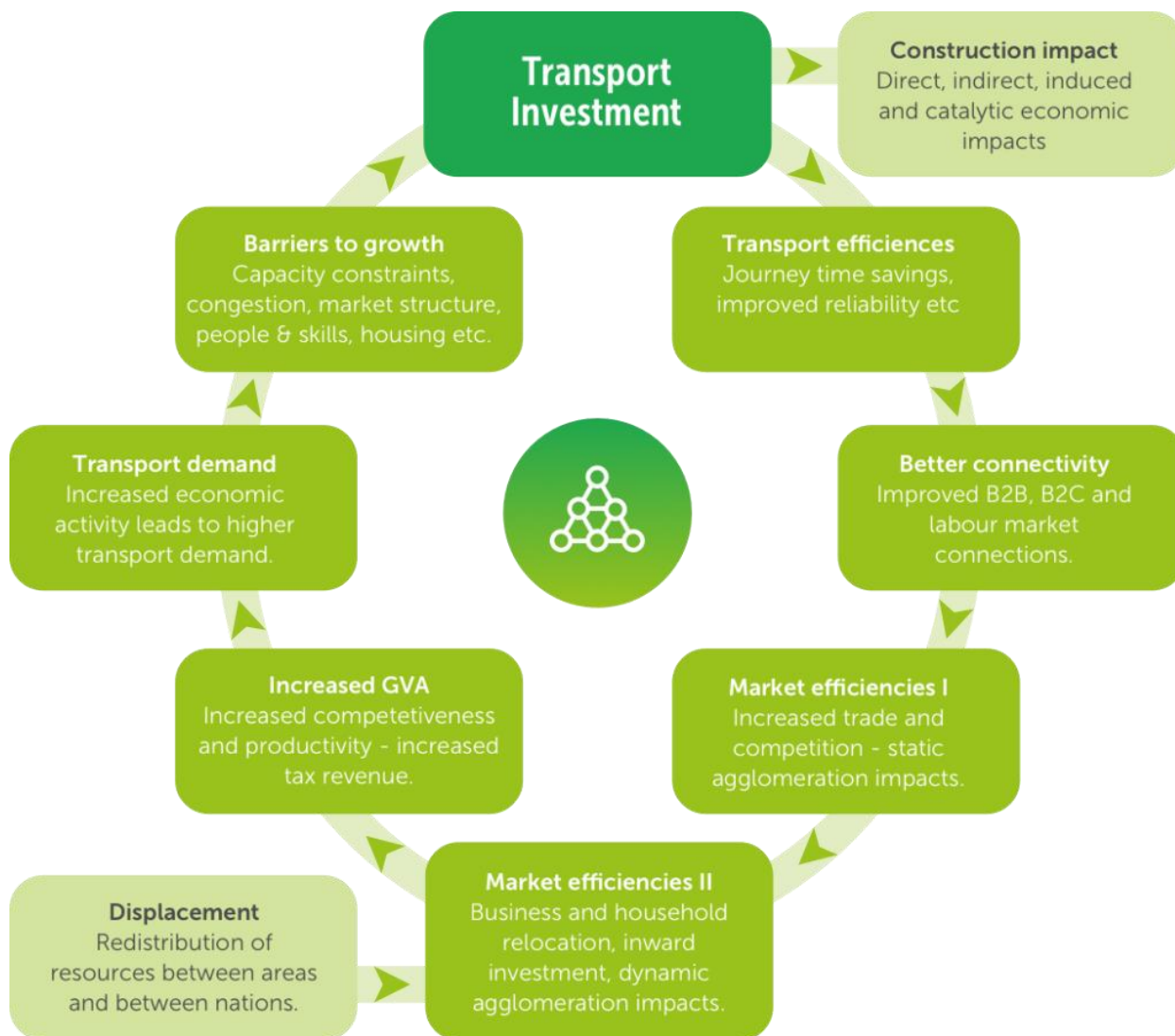
Source: Greener Transport Solutions: Transport and the economy

2.2.1.4   The RTP has a key role in supporting the South West Wales economy, through helping to guide development relating its supporting infrastructure.

2.2.1.5   Welsh Government's priorities for the visitor economy[2] seek to promote improved transport links by air, sea, road and rail. This could be supported by the SWW RTP.

2.2.2   Baseline conditions and trends

2.2.2.1   The economy of Wales is closely aligned with that of the rest of the UK. However, for a long time, economic output has been lower in Wales compared with other areas. In 2022, total GVA in Wales

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[2] Welsh Government (2020) Welcome to Wales: priorities for the visitor economy 2020 to 2025. Available at; https://www.gov.wales/welcome-wales-priorities-visitor-economy-2020-2025 [Accessed: 27.08.24]

was £74.5 billion, up 9.5% on 2021 and an increase of 9.6% on 2019. Both the increases for Wales and for the UK from 2021 were the largest since records began and were mainly the result of the recovery from the COVID-19 pandemic. GVA per head in Wales in 2022 was £23,804, up 8.6% on 2021.

2.2.2.2 GVA per head in Wales in 2022 was 72.1% of the UK figure (excluding extra-regio), the second lowest of the UK countries and English regions[3]. This is broadly similar to previous years. In the South West Wales region in 2022, the highest GVA was in Swansea at £23,931 per head, then Pembrokeshire at £22,844 per head, followed by Carmarthenshire at £20,215, and lastly Neath Port Talbot at £19,556.

2.2.2.3 Employment density across South West Wales is primarily <5ha, due to the rural nature of Pembrokeshire and Carmarthenshire. The highest employment density is within Swansea (see Figure B-2).

Figure B-2: South West Wales Employment Density/ Hectares – 2021 Census
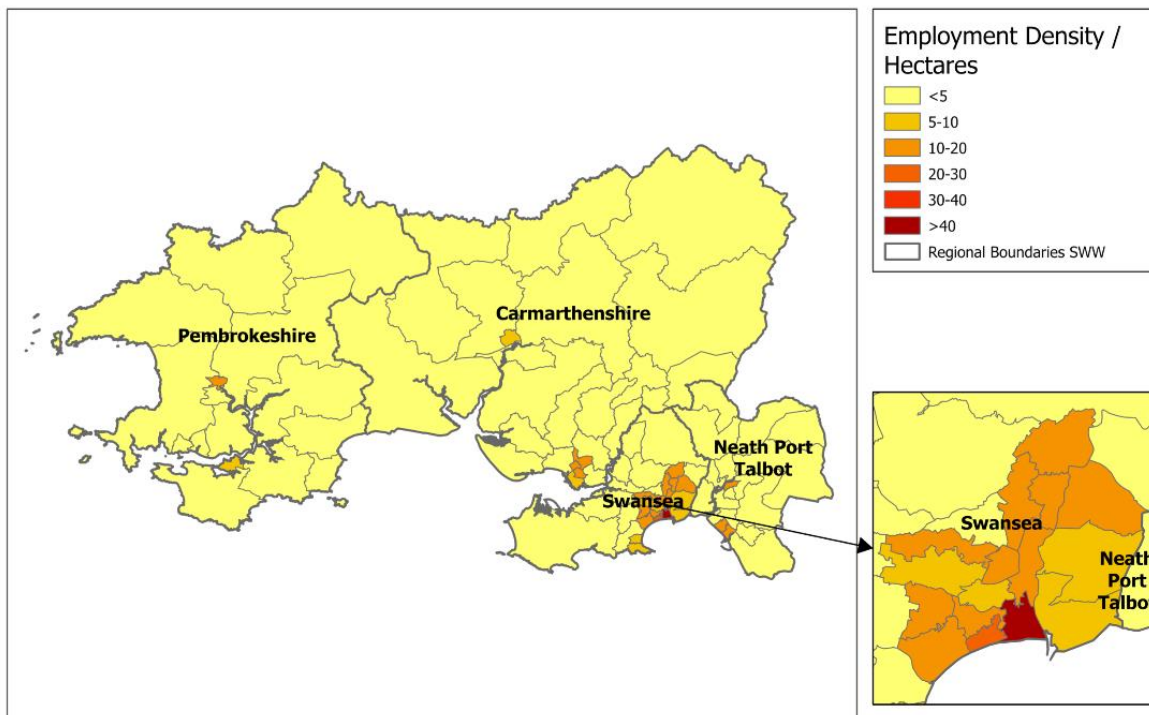
Rural economy

2.2.2.4 South West Wales is largely rural in nature, with 56% of the land being made up of 'enclosed farmland' and a further 17% woodland. The sectors managing this land are agriculture, forestry and fisheries which support livelihoods and communities and importantly also sustain the natural

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[3] Welsh Government (2024) Regional gross domestic product: 1988 to 2022. Available at: https://www.gov.wales/regional-gross-domestic-product-1998-2022 [Accessed: 28.08.24]

resources we rely on[4].Agriculture presents a notable opportunity for development of high quality produce and brands in Pembrokeshire[5].

Tourism

2.2.2.5   The area of South West Wales is characterised by large swathes of regular and irregular landscapes. The extensive coastal environment of South West Wales ranges from sandy beaches, dune systems, estuaries, rias and saltmarsh to high cliffs and small rocky coves, each with its own particular ecosystem[6]. South West Wales had 22% of tourist visits of the whole of Wales in 2022, and 23% of all tourist spending[7]. In Pembrokeshire over 20% of employment was in tourism industries, the highest of all local authorities[8].

2.2.2.6   Over the period of 2017-2019, South West Wales received an average of 1.94 million overnight domestic GB trips per year. During this period these visitors spent an annual average of £383 million. South West Wales received a fifth (20%) of all overnight domestic GB trips to Wales, and 21% of the related expenditure.

2.2.2.7   Although volume of overnight domestic GB trips and related expenditure increased from 2016-2018, average spend per overnight trip to South West Wales fell slightly from £201 in 2016-2018 to £198 in 2017-2019. Though this region had the highest spend per overnight domestic GB trip of all regions in Wales at £198. In comparison, the overall Wales average for the same period was £184[9].

2.2.2.8   The National Heritage Fund sets out the following from 'The Impact of heritage tourism for the UK economy'[10], which is the second follow-up to Investing in Success[11], Heritage Fund's original report on heritage tourism, published in partnership with VisitBritain. The three reports analyse the impact of the heritage-based visitor economy and highlight the importance of continued investment from leisure, culture and heritage budgets in supporting UK tourism.

- Wales' heritage makes a £1bn GVA contribution to UK tourism economy (Cultural, historic and natural heritage attractions refer to museums, theatres, historic houses, historic parks or natural landscapes such as wetlands and national parks).
- Heritage tourism supports over 24,000 jobs in Wales.
- Wales' cultural and heritage attractions receive more than 10m visitors per year.
- Heritage tourism more important as economic driver in Wales than the UK as a whole.

[4] Natural resources Wales (2024) South West Wales Area Statement: Ensuring sustainable land management. Available at: https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-west-wales-area-statement/ensuring-sustainable-land-management/?lang=en [Accessed 03.09.24]

[5] Pembrokeshire County Council (2015) Economic Profile of Pembrokeshire. Available at: https://www.bing.com/ck/a?!&&p=5480be3c12f156fbJmltdHM9MTcyNTMyMTYwMCZpZ3VpZD0zMzM0NzExYy01NWI3LTZhOGEtMDA2Zi02NTc3NTRkNDZiZWMmaW5zaWQ9NTIwMQ&ptn=3&ver=2&hsh=3&fclid=3334711c-55b7-6a8a-006f-657754d46bec&psq=rural+economy+in+pembrokeshire&u=a1aHR0cHM6Ly93d3cucGVtYnJva2VzaGlyZS5nb3YudWsvJqdmlldy5hc3A_b2JqZWN0X2lkPTQwOTY&ntb=1 [Accessed: 03.09.24]

[6] Natural Resources Wales (2022) South West Area Statement: Historic and natural environment. Available at: https://www.dyfedarchaeology.org.uk/wp/wp-content/uploads/southwestareastatement.pdf [Accessed: 28.08.24]

[7] BMG (2022) Domestic GB Tourism Statistics: Wales Tourism Day Visits – Annual Report 2022. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2024-06/domestic-gb-tourism-statistics-wales-tourism-day-visits-annual-report-2022.pdf [Accessed: 03.09.24]

[8] Welsh Government (2022) Wales Visitor Economy Profile: 2021. Available at: https://www.gov.wales/wales-visitor-economy-profile-2021-html [Accessed: 03.09.24]

[9] Welsh Government (2021) Tourism Profile – South West Wales 2017-2019 Summary. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2021-03/tourism-profile-south-west-wales-2017-2019-summary.pdf [Accessed: 03.09.24]

[10] Heritage Fund. Available at: https://www.heritagefund.org.uk/news/new-figures-reveal-impact-wales-heritage-uk-tourism-economy [Accessed: 19.08.24]

[11] Heritage Fund (2010) Investing in Success. Available at: https://www.heritagefund.org.uk/sites/default/files/media/about_us/hlf_tourism_impact_single.pdf [Accessed: 19.08.24]

2.2.2.9   With its rich natural and cultural assets, tourism is also a significant and growing part of the national economy. South West Wales was the main destination for 20% of trips. In 2022, there were 1.77 million trips to South West Wales[12].

2.2.2.10   The following main points were concluded within the Domestic GB Tourism Statistics (Day trips to Wales): October to December 2023 report[13]. Between October and December 2023, Great Britain (GB) residents took 40.31 million leisure day trips lasting 3 hours or more in Wales with £1.51 billion spent during these trips.

- 40% of leisure day trips taken in Wales were tourism day trips, with 16.00 million trips taken from October to December 2023, with an associated spend of £665 million.
- From January to December 2023, GB residents took 167.77 million leisure day trips lasting 3 hours or more in Wales with £5.43 billion spent during these trips.

2.2.2.11   The report also concluded that visiting friends or relatives was the most frequent main activity undertaken on tourism day trips in Great Britain and Wales (see Figure B-3).

Figure B-3: Proportion of tourism day trips in Great Britain and \Wales by main activity undertaken, January to December 2023
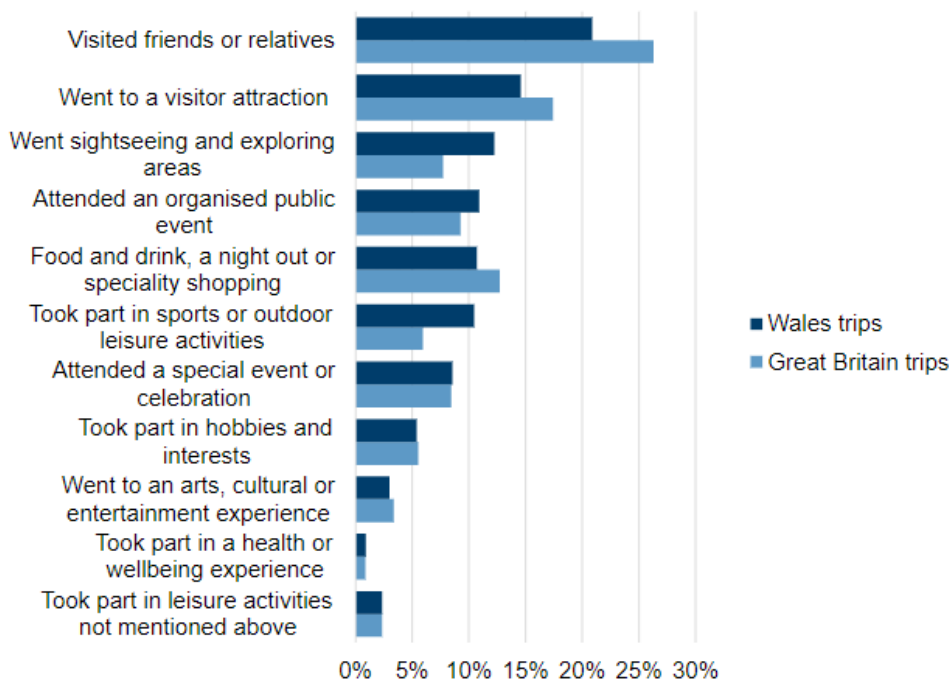
Third sector

2.2.2.12   The third sector, as defined by the Wales Council for Voluntary Action (WCVA), is a very diverse range of organisations, including voluntary organisations and social enterprises, which share a set of values and characteristics. In 2022, the charity/voluntary sector accounted for 15.5% of employment in South West Wales, with around 41,842 people employed in charity/ voluntary sector organisations (see Figure B-4)[14].

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[12] Welsh Government (2023) Domestic GB tourism statistics (overnight trips in Wales): 2022 Available at: https://www.gov.wales/domestic-gb-tourism-statistics-overnight-trips-wales-2022-html [Accessed 03.09.24]
[13] Welsh Government (2024) Domestic GB Tourism Statistics (day trips in Wales): October to December 2023. Available at: https://www.gov.wales/domestic-gb-tourism-statistics-day-trips-wales-october-december-2023-html [Accessed: 20.08.24]
[14] Wales Council for Voluntary Action (2024) The Voluntary Sector in Wales. Available at: https://wcva.cymru/the-voluntary-sector-in-wales/ [Accessed: 19.08.24]

Figure B-4: Number of workers employed in the voluntary sector in South West Wales by year

Number of workers employed in the voluntary sector in South West Wales by year

Micro-businesses

2.2.2.13 In 2023, there were an estimated there were an estimated 248,000 enterprises active in Wales, employing an estimated 1.2 million people. Small and medium sized enterprises (SMEs) in Wales accounted for 62.3% of employment and 43.4% of turnover, with large enterprises accounting for the remainder. The majority of active enterprises were SMEs (0-249 employees), accounting for 99.3% of total enterprises in Wales in 2023. Micro enterprises (0-9 employees) accounted for 94.6% of the total enterprises in Wales[15].

Economic Activity

2.2.2.14 The 2010, the Welsh Government publication, Economic Renewal: a new direction[16], identified two important factors responsible for Wales weaker economic position compared to the rest of the UK. These are a low employment rate and low average wages (reflecting low average productivity). In November 2021, the employment rate in Wales was 73.8% compared to 75.4% in the UK[17]. As of June 2024, the employment rate in Wales was 68.9%, compared to 74.5% in the UK[18]. This is a decrease from November 2021 for both Wales and the UK.

2.2.2.15   The employment rate for people aged 16 to 64 in Wales was 73.5% in the year ending March 2024, up 0.5 percentage points on the previous year. The UK rate was 75.4%, up 0.1 percentage points over the year[19]. In 2024, employment in Swansea has decreased compared with the previous year. Swansea's employment rate was lower across Wales as whole in the year ending December 2023[20].

[15] Welsh Government (2023) Size Analysis of Active Businesses in Wales, 2023. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2023-12/size-analysis-of-active-businesses-in-wales-2023-165.pdf [Accessed: 20.08.24]

[16] Welsh Government (2010) Economic Renewal: a new direction. Available at: https://www.bridgend.gov.uk/media/2061/sd121.pdf [Accessed: 30.08.24]

[17] Welsh Government (2021) Labour market overview: November 2021. Available at: https://gov.wales/labour-market-overview-november-2021 [Accessed: 30.08.24]

[18] Welsh Government (2024) Labour Market Overview: August 2024. Available at: https://www.gov.wales/labour-market-overview-august-2024 [Accessed: 30.08.24]

[19] Welsh Government (2024) Labour mark statistics (Annual Population Survey): April 2023 to March 2024. Available at: https://www.gov.wales/labour-market-statistics-annual-population-survey-april-2023-march-2024-html. [Accessed 03.09.24]

[20] Office for National Statistics (2024) Employment, unemployment and economic inactivity in Swansea. Available at: https://www.ons.gov.uk/visualisations/labourmarketlocal/W06000011/ [Accessed 03.09.24]

2.2.2.16 According to the Welsh Index of Multiple Deprivation (WIMD)[21] 2019 employment domain[22] (see Figure B-5), the highest levels of employment deprivation were in the South Wales valleys and in some North Wales coastal towns. The employment rate for people aged 16 to 64 in Wales was 74.1% in the year ending December 2023, up 0.7 on the previous year. Neath Port Talbot experienced one of the largest increases in employment rates over the year (up 4.3% to 73.8%). The employment rate in Mid and South West Wales was 73.3% which was unchanged over the year[23].

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[21] The WIMD ranks each of the 1909 Lower Super Output Areas (LSOAs) in Wales in terms of the level of deprivation that LSOA exhibits for a given domain. Those ranked in the bottom 191 LSOAs are, therefore, in the 10% most deprived nationally.
[22] Welsh Government (2019) Welsh Index of Multiple Deprivation (WIMD) 2019 Results report. Available at: https://gov.wales/sites/default/files/statistics-and-research/2020-02/welsh-index-multiple-deprivation-2019-results-report.pdf [Accessed: 19.08.24]
[23] Welsh Government (2024) Labour market statistics (Annual Population Survey): 2023. Available at: https://www.gov.wales/sites/default/files/pdf-versions/2024/6/3/1719407202/labour-market-statistics-annual-population-survey-2023.pdf [Accessed: 19.08.24]

Figure B-5: WIMD 2019 Map for Wales, Employment Domain

Welsh Index of Multiple Deprivation 2019
Employment Domain

by Lower Level Super Output Areas

Rank	Most Deprived	
1 - 191		10% most deprived
192 - 382		10-20% most deprived
383 - 573		20-30% most deprived
574 - 955		30-50% most deprived
956 - 1909		50% least deprived
	Least Deprived	

Local Authority Boundary ——

© Crown Copyright and database right 2019. Ordnance Survey 100021874
Cartographics ♦ Welsh Government ♦ ML/45/19.20
November 2019
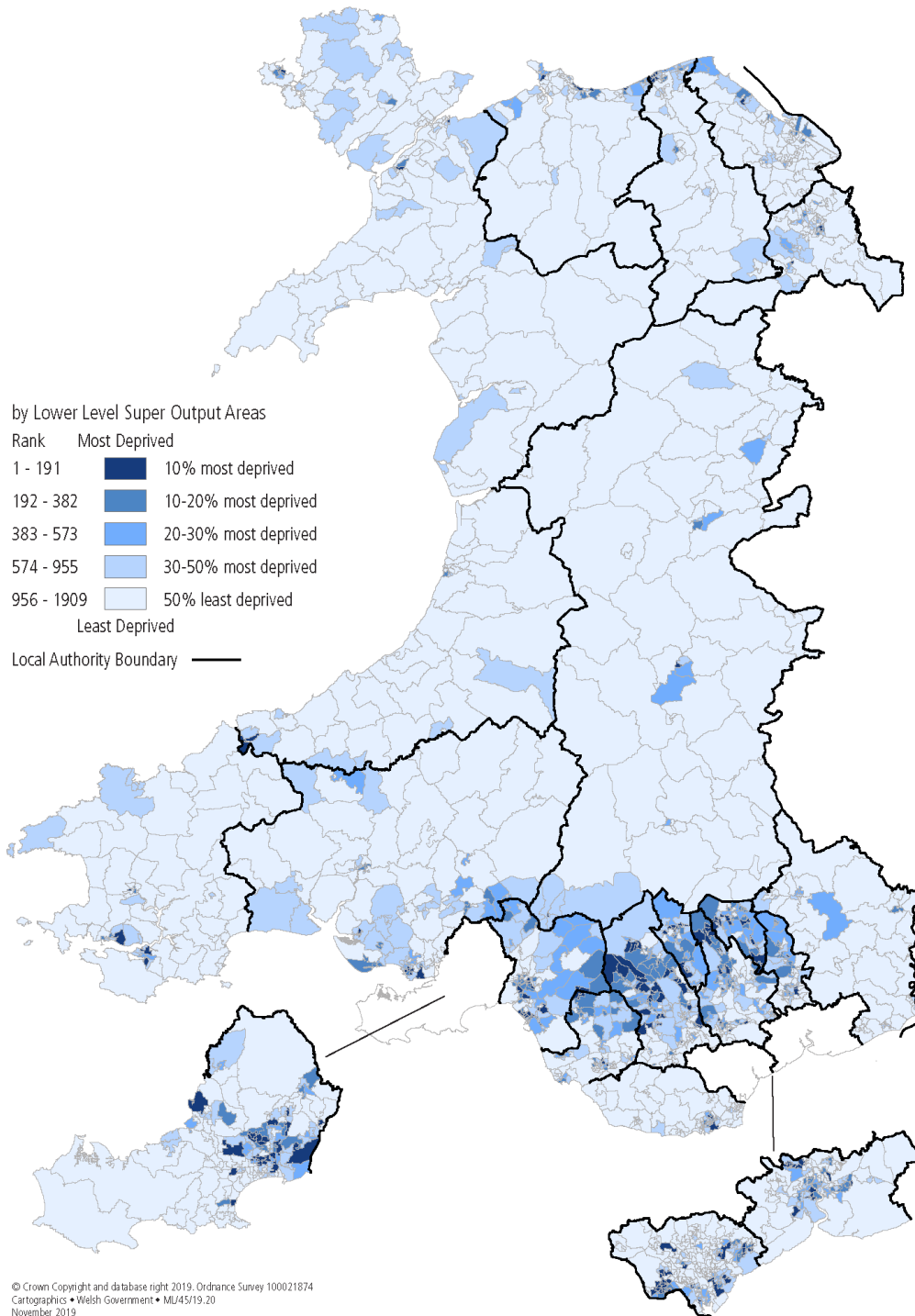
Source: WIMD 2019

2.2.2.17   Workplace employment data shows that in 2018, approximately 311,400 people worked in South West Wales, nearly 40 per cent of which were based in Swansea. The average level of employment across the region's four local authorities was approximately 77,900 persons, while this is the highest

level among the four regions, it is positively skewed because of the high proportion of employment in Swansea[24].

2.2.2.18 Prices in Wales have fallen in 2023, as rising mortgage rates temper demand. Affordability in Wales is less stretched than elsewhere, meaning the impact of rising mortgage rates is less severe. Forecast price growth of 21.4% in Wales in the next five years is the strongest of any part of the UK (Figures B-6 and B-7)[25].

Figure B-6: Average price growth (year to July 2023)
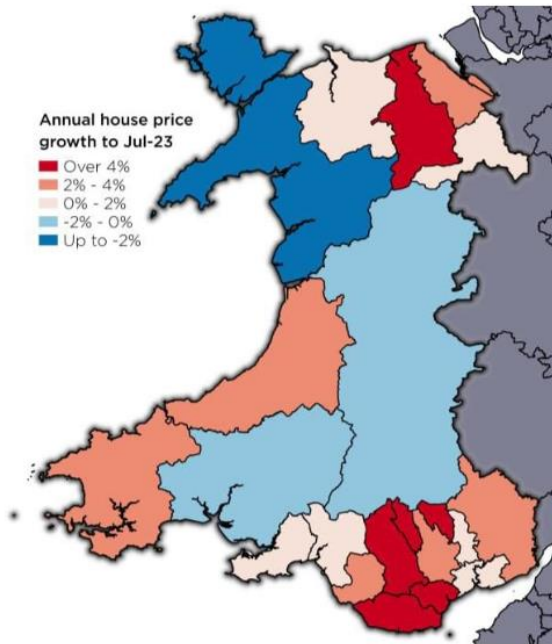
Source: HM Land Registry (six-month smoothed)

Figure B-7: Employment rate, economic regions, year ending December 2007 to December 2023
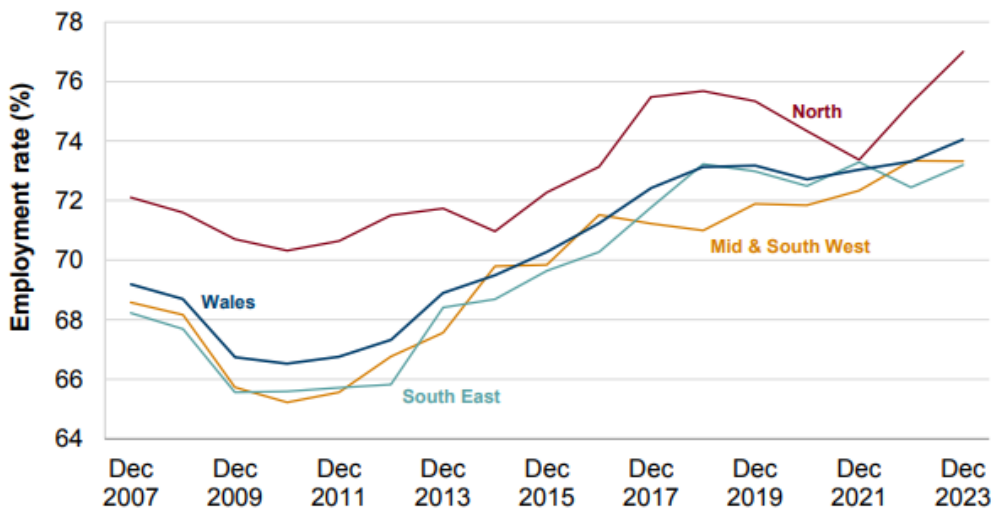
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[24] Welsh Government (2020) Summary statistics for South West Wales region. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2020-05/summary-statistics-south-west-wales-region-2020-958.pdf [Accessed: 21.08.24]
[25] Savills (2023) Welsh Housing Market and Supply Update – November 2023. Available at: https://www.savills.com/research_articles/255800/354555-0 [Accessed: 03.09.24]

2.2.2.19 The percentage of people in employment is one of the national wellbeing indicators. A national milestone has been set for this national indicator which is to eradicate the gap between the employment rate in Wales and the UK by 2050, with a focus on fair work and raising labour market participation of under-represented groups. The employment rate in Wales has gradually increased since 2011 and the gap between the employment rate in Wales and the UK has gradually closed to 1.7 percentage points in the year ending December 2023, a decrease of 0.5 percentage points compared to the gap a year before[26].

2.2.2.20 The economic inactivity rate in Mid and South West Wales in the year end December 2023 was 20.4%, a decrease of 0.2 percentage points over the year[27]. Economic inactivity in Pembrokeshire in 2024 was 24.7%, which has increased from the previous year[28]. Economic inactivity in Carmarthenshire in 2024 was 23.2%, which has decreased from the previous year[29]. Economic inactivity in Swansea in 2024 was 24.2%, which has increased from the previous year[30]. Economic inactivity in Neath Port Talbot in 2024 was 23.4%, which has decreased from the previous year[31].

Earnings

2.2.2.21 The average (median) gross weekly earning for full-time adults working in Wales was £633.7 in April 2023. This was 93.0% of the average for the UK (£681.7). Median gross weekly earnings in Wales were the ninth highest amongst the 12 UK countries and English regions[32].

Job Satisfaction

2.2.2.22 The CIPD Good Work Index 2024 report found that job satisfaction in Wales is high in 2024 – over two-thirds of employees are satisfied with their job. Pay satisfaction also shows some promising improvements in 2024, as nearly half of respondents feel their pay reflects their achievements and responsibilities. Flexibility and work–life balance is especially positive in Wales this year, as over three-quarters of respondents find it easy to take time off during work hours[33].

Distance travelled to work

2.2.2.23 During 2021, the percentage of people aged 16 years and over in employment worked mainly at or from home in Swansea was 25.3%, in Neath Port Talbot 21.1%, in Carmarthenshire 23.5% and Pembrokeshire 23.1%. In England and Wales, of those travelling to a workplace or depot, 9.8 million people (35.4% of usual residents aged 16 years and over in employment) travelled short distances to work (less than 10 kilometres). Looking in more detail within this group:

- 3.1 million people travelled less than 2 kilometres (11.0% of usual residents aged 16 years and over in employment)
- 3.5 million people travelled at least 2 kilometres to less than 5 kilometres (12.6%)

[26] Welsh Government (2024) Labour market statistics (Annual Population Survey): April 2023 to March 2024. Available at: https://www.gov.wales/labour-market-statistics-annual-population-survey-april-2023-march-2024-html [Accessed: 03.09.24]
[27] Welsh Government (2024) Labour market statistics (Annual Population Survey): 2023. Available at: https://www.gov.wales/labour-market-statistics-annual-population-survey-2023-html#:~:text=The%20economic%20inactivity%20rate%20in,differences%20calculated%20using%20unrounded%20figures [Accessed: 03.09.24]
[28] ONS (2024) Employment, unemployment and economic inactivity in Pembrokeshire. Available at: https://www.ons.gov.uk/visualisations/labourmarketlocal/W06000009/ [Accessed: 03.09.24]
[29] ONS (2024) Employment, unemployment and economic inactivity in Carmarthenshire. Available at: https://www.ons.gov.uk/visualisations/labourmarketlocal/W06000010/ [Accessed: 03.09.24]
[30] ONS (2024) Employment, unemployment and economic inactivity in Swansea. Available at: https://www.ons.gov.uk/visualisations/labourmarketlocal/W06000011/ [Accessed: 03.09.24]
[31] ONS (2024) Employment, unemployment and economic inactivity in Neath Port Talbot. Available at: https://www.ons.gov.uk/visualisations/labourmarketlocal/W06000012/ [Accessed: 03.09.24]
[32] Welsh Government (2024) Annual survey of hours and earnings: 2023. Available at: https://www.gov.wales/annual-survey-hours-and-earnings-2023 [Accessed: 19.08.24]
[33] CIPD (2024) Good Work Index 2024. Available at: https://www.cipd.org/globalassets/media/knowledge/knowledge-hub/reports/2024-pdfs/8625-good-work-index-wales-2024-report-web.pdf [Accessed: 19.08.24]

- 3.3 million people travelled at least 5 kilometres to less than 10 kilometres (11.8%)[34]

2.2.2.24 In 2018, as a whole, the net change in workers across the region was -5,700, indicating that more people commute out of the region than into the region (see Figure B-8)[35].

Figure B-8: Change in local authority populations in South West Wales due to people commuting in and out for work, 2018
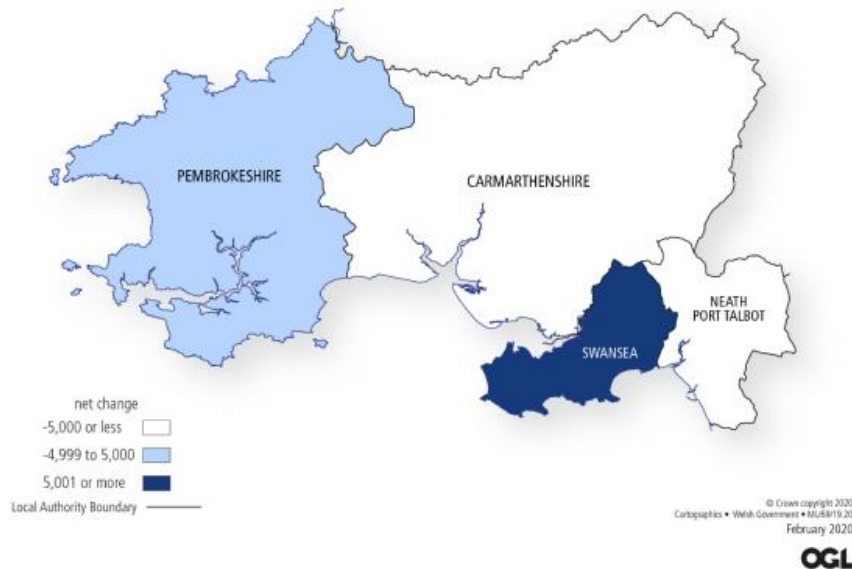
Source: Annual Population Survey, Office for National Statistics

2.2.2.25 The 2011 Census data shows that, on average, working residents aged 16-74 in all local authorities in the region, except in Neath Port Talbot and Swansea, had longer distances to commute to work than the Wales average. Pembrokeshire residents had the longest commutes to work in terms of distance.

2.2.2.26 Of residents in Wales that were over 16 and in employment and stated that their main place of work was a workplace or depot, the most common distance travelled was between 5 and 10 kilometres, accounting for 21.1% of those who travel to work (see Figure B-9)[36].

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[34] Office for National Statistics (2022) Travel to work, England and Wales: Census 2021. Available at: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/traveltoworkenglandandwales/census2021 [Accessed: 21.08.24]

[35] Welsh Government (2020) Summary statistics for South West Wales region. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2020-05/summary-statistics-south-west-wales-region-2020-958.pdf [Accessed: 21.08.24]

[36] Welsh Government (2022) Labour market and travel to work in Wales (Census 2021). Available at: https://www.gov.wales/labour-market-and-travel-work-wales-census-2021-html [Accessed: 30.08.24]

Figure B-9: Distance travelled to work by usual residents ages 16 and over in Wales, 2021
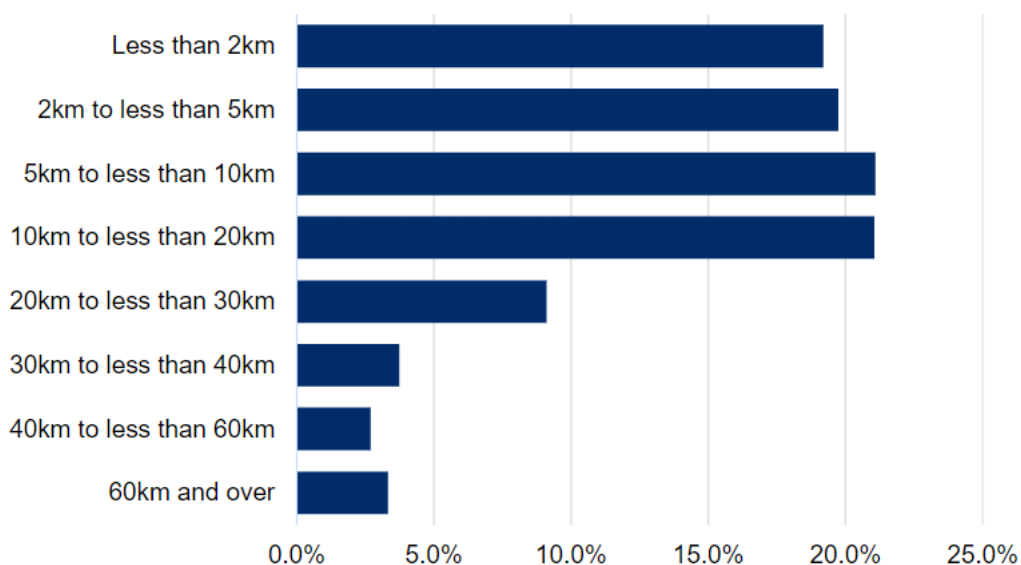
Source: 2021 Census

2.2.2.27 During 2022-23, 77% of 16 to 24 year olds travel to the same workplace every day compared with 59% of 45 to 64 year olds. 16 to 24 year olds are less likely to work remotely than older age groups, 16% compared with 37% for people aged 25 to 44. 34% of people in work say they work remotely for some or all of their working hours. Of those who do not usually work remotely, 21% say that it would be possible to do their job remotely[37].

Journey to work by mode

2.2.2.28 The 2021 Census states that in Wales, out of all usual residents aged 16 years and over in employment[38]:

- 772,600 people travelled to work by driving a car or van (56.5% of all usual residents aged 16 years and over in employment)
- 66,000 travelled as passengers in a car or van (4.8%)

2.2.2.29 The estimated percentage of people who drove a car or van to work was greater in Wales than in England (44.5%, 11.8 million). Figure B-10 shows the other than driving a car or van the largest category is on foot, accounting for 7.1% of travel to work.

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[37] Welsh Government (2023) National Survey for Wales headline results: April 2022 to March 2023. Available at: https://www.gov.wales/national-survey-wales-headline-results-april-2022-march-2023-html#126289 [Accessed: 19.08.24]
[38] Welsh Government (2022) Labour market and travel to work in Wales (Census 2021). Available at: https://www.gov.wales/labour-market-and-travel-work-wales-census-2021-html [Accessed: 30.08.24]

Figure B-10: Method of travel to work other than driving a car or van for usual residents aged 16 and over in Wales, 2021
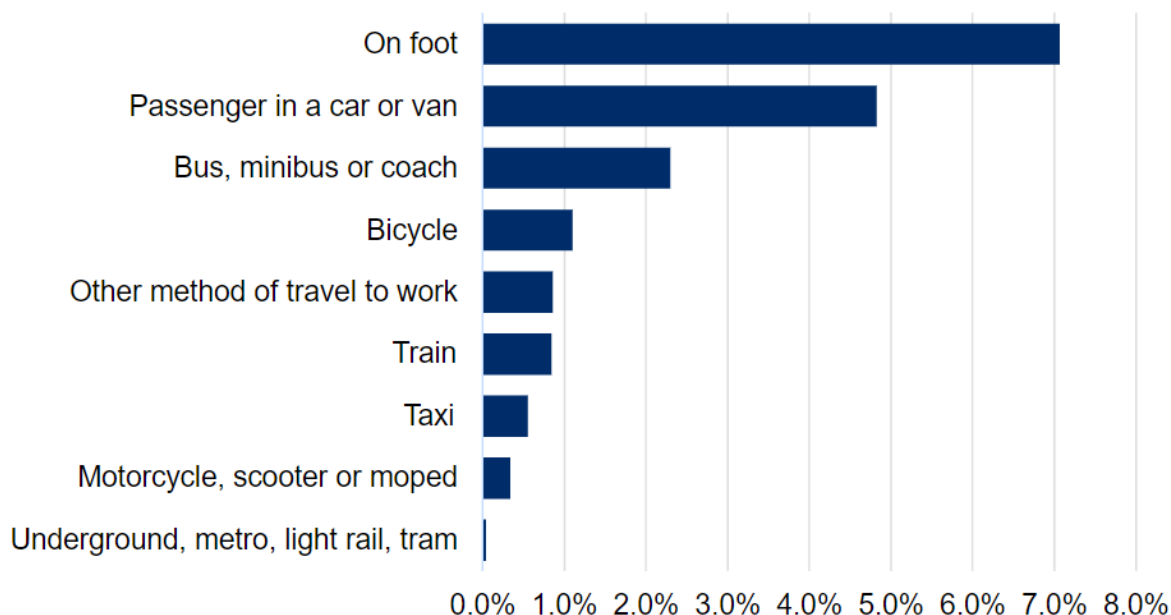
Source: Census 2021

Car Ownership

2.2.2.30 Wales continues to have the highest proportion of people travelling to work by car (approximately 75-80%) when compared to the different regions of England or Scotland. Most personal trips in Wales are relatively short distance, averaging 8 miles. There is variation between levels of active travel in urban and rural locations. 70% of people in urban areas walked for more than 10 minutes as a means of transport at least once a month, compared with 56% of people in rural areas.

2.2.2.31 Private car remains the dominant mode of travel and accounts for the overwhelming majority of journeys in Wales. When combining data from 2011 and 2012, private cars account for 69% of all trips, and 84% of distance covered in a year[39].

2.2.2.32 The 2021 Census shows car ownership in South West Wales for one car or van in a household. The 2021 Census shows the percentage of three cars or vans in a household was 13.1% in Pembrokeshire, 9.5% in Neath Port Talbot, 9.2% in Swansea and 13.1% in Carmarthenshire[40] (Figure B-11).

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[39] Welsh Government (2021) A New Wales Transport Strategy Consultation Draft- Supporting Information Transport data and trends. Available at: https://www.gov.wales/sites/default/files/consultations/2020-11/supporting-information-transport-data-and-trends.pdf [Accessed 03.09.24]
[40] Office for National Statistics (2021) Census 2021. Available at:https://www.ons.gov.uk/census/maps/choropleth/housing/number-of-cars-or-vans/number-of-cars-5a/3-or-more-cars-or-vans-in-household [Accessed 03.09.24]

Figure B-11: Map of household with one car or van

England and Wales
1 car or van in household

| 19.4% | 30.5% | 38.6% | 41.3% | 43.7% | 51.7% |
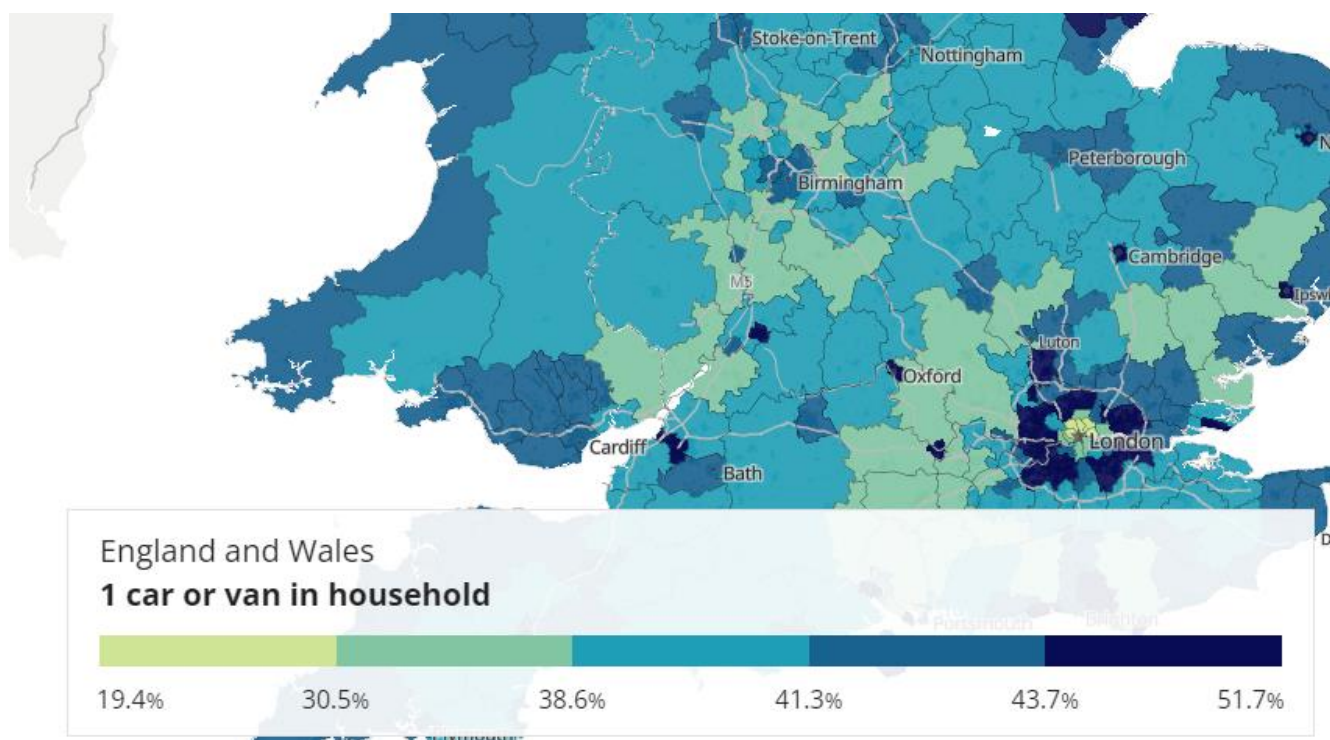
Broadband

2.2.2.33 Ofcom reported in December 2023 that access to full-fibre networks continues to grow in Wales. Full fibre is now available to 55% per 798,000 residential premises, which is slightly below the UK average of 57%. There is considerable variation in full fibre take-up across the Local Authorities in Wales. 4G geographic coverage from all four operators has remained stable in Wales at 62%. There continues to be a high level of 4G outdoor premises coverage in Wales with 94% of premises having outdoor 4G coverage from all four operators, compared with 98% across the UK. The deployment of superfast and full-fibre broadband is generally more difficult and costly in rural areas than in larger towns and cities. Swansea has superfast coverage 99%, Carmarthenshire 91%, Pembrokeshire 93% and Neath Port Talbot 98%[41].

Access to Services

2.2.2.34 The WIMD 2019[42] sets out deprivation in relation to access to services. The access to services domain measures travel times to a range of services as a proxy for wider physical access to services. For WIMD 2019, the domain also considers access to digital services, through an indicator on the availability of superfast broadband. The domain measures include access to the following services:

- Food shop
- General Practitioner (GP) Surgery
- Post Office
- % Unavailability of broadband at 30Mb/s
- Primary School

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[41] Ofcom (2023) Connected Nations, Wales Report 2023. Available at:
https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/multi-sector/infrastructure-research/connected-nations-2023/connected-nations-2023-wales/?v=330645 [Accessed: 19.08.24]
[42] Welsh Government (2019) Welsh Index of Multiple Deprivation (WIMD) 2019 Results report. Available at:
https://gov.wales/sites/default/files/statistics-and-research/2020-02/welsh-index-multiple-deprivation-2019-results-report.pdf [Accessed: 19.08.24]

- Public Library
- Sports Facility
- Secondary School
- Petrol Station
- Pharmacy

2.2.2.35 Figure B-12 presents the overall scores across Wales. In the WIMD 2019 access to services domain, high deprivation was widespread across rural areas of Wales. There were also some deprived pockets near large urban areas. Neath Port Talbot had no areas in the most deprived 10%. For the access to services domain, the most deprived small area in Wales was Cynwyl Gaeo, Carmarthenshire, the same as for WIMD 2014. Six of the 10 most deprived areas in WIMD 2019 were also in the 10 most deprived areas in WIMD 2014. The overall patterns of access to services deprivation in WIMD 2019 are similar to those for WIMD 2014. However, there have been notable changes to relative ranks at the least deprived end. This reflects the significant improvements in the travel time calculations, as well as possible changes to service locations, public transport and road networks since 2014, and the inclusion of the new access to digital services indicator.

Welsh Index of Multiple Deprivation 2019
Access to Services Domain

by Lower Level Super Output Areas

Rank	Most Deprived	
1 - 191		10% most deprived
192 - 382		10-20% most deprived
383 - 573		20-30% most deprived
574 - 955		30-50% most deprived
956 - 1909		50% least deprived
	Least Deprived	

Local Authority Boundary ————

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Cartographics • Welsh Government • ML/45/19.20
November 2019

Source: WIMD 2019

2.2.2.36 Table B-1 shows, for the WIMD 2019 overall Index, the percentage of small areas (LSOAs) in each South West Wales local authority which were in the most deprived 10%, 20%, 30% and 50% areas in Wales[43].

Table B-1: WIMD overall index in South West Wales

Local Authority	Number of LSOAs in local authority	% LSOAs in most-deprived 10% ranks 1-191	% LSOAs in most-deprived 20% ranks 1-382	% LSOAs in most-deprived 30% ranks 1-573	% LSOAs in most-deprived 50% ranks 1-955
Pembrokeshire	71	5.6	11.3	15.5	42.3
Carmarthenshire	112	4.5	10.7	26.8	54.5
Swansea	148	11.5	23.6	31.1	45.9
Neath Port Talbot	91	15.4	33.0	45.1	69.2

2.3 Education in Wales

2.3.1 Relevance to the SWW RTP

2.3.1.1 Education is a fundamental factor in developing people's skills, both for future employment and for life in general. Improvements in educational attainment are directly linked to increased incomes, employment and overall economic growth. In particular, education and training to meet the skill sets required to grow the economy are of greatest importance. Chapter 4 of this appendix sets out further specific information in relation to the links between transport and young people, including in relation to accessing educational opportunities.

2.3.1.2 The RTP has a key role in ensuring that everyone can access education and training opportunities and, in doing so, support educational development and a healthy economy.

2.3.2 Baseline conditions and trends

Education/ Training

2.3.2.1 The Welsh Government publishes data on the learning activities and labour market status of young people (aged 16 to 24) in Wales. The data series for 2022 further focuses on the proportion of young people who are not in education, employment or training (NEET) in Wales. In terms of 16-18 year olds, around 13.3% were NEET which was a decrease from the previous year of 14.2% NEET. In terms of 19-24 year olds, in 2022 around 14.6% were NEET which was a decrease from 17.3% in 2021. In 2022, 15.5% of 16 to 18 considered NEET were females compared to 11.2% of males. For 19-24 year olds, 11.2% of those NEET were females compared to 17.6% of males[44].

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[43] Welsh Government (2019). Welsh Index of Multiple Deprivation (WIMD) 2019 Results report. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2019-11/welsh-index-multiple-deprivation-2019-results-report-024.pdf [Accessed 03.09.24]
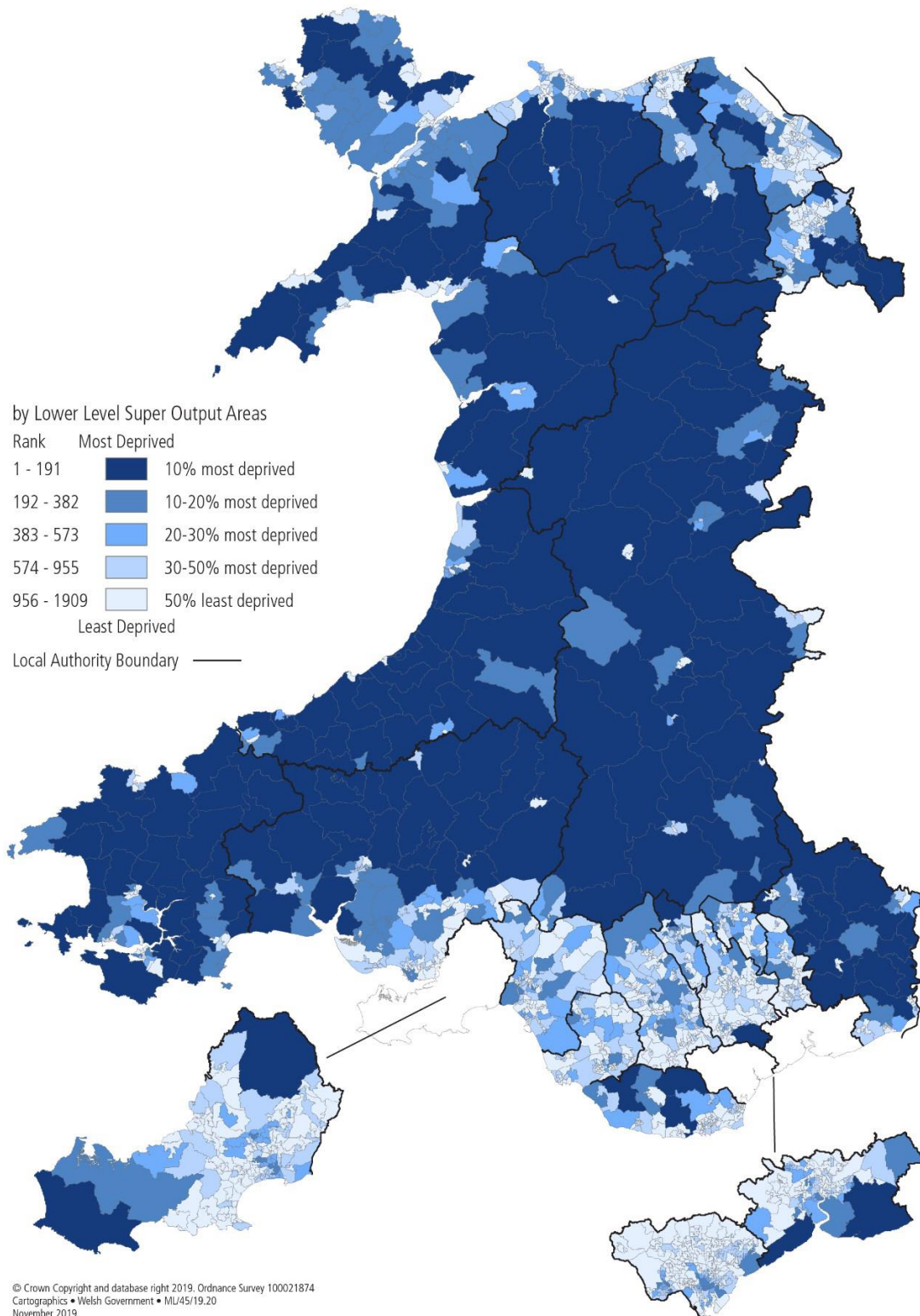[44] Welsh Government (2023) Estimated 16-24 year olds not in education, training or employment by economic activity and age groups. Available at: https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Participation-of-Adults-and-Young-People/estimated1624neet-by-economicactivity-agegroup [Accessed: 21.08.24]

2.3.2.2   In terms of 19-24 year olds, during 2022 29.5% were in full-time education and 4.1% were in part-time education. A higher proportion of females (10.9%) were in full-time education compared with 9.1% of males aged 19-24 in 2022[45].

2.3.2.3   In 2023, Qualification levels in Wales were lower than the UK as a whole. An estimated 7.9% of working age adults in Wales reported having no qualifications in 2023. A decrease of 0.4 percentage points compared to 2022. 67.4% held at least level 3 qualifications and 45.0% held at least level 4 qualifications. Females were more likely than males to be qualified to at least level 4 and were less likely to have no qualifications. Of all working aged adults, the highest proportion with qualifications were in the 25 to 34 age group in 2023[46]. Table B-2 shows the highest qualification levels of working age adults across Wales.

2.3.2.4   There are worse post-16 educational outcomes in Wales, with a higher share of young people not in education, employment or training than in the rest of the UK (11% compared with 5–9%), lower levels of participation in higher education (particularly amongst boys) and lower levels of employment and earnings for those from disadvantaged backgrounds[47].

Table B-2: Highest qualification levels of working age adults by regions of Wales and qualification (Year End December 2023)

Area	No qualifications	Qualified to below level 2	Qualified to level 2 or above	Qualified to NQF level 3 or above	Qualified to NQF level 4 or above
Wales	7.9%	4.7%	87.4%	67.4%	45.0%
North Wales	8.0%	5.7%	86.3%	65.1%	43.8%
Mid Wales	4.5%	3.2%	92.2%	71.4%	45.7%
South West Wales	8.0%	4.1%	87.9%	69.4%	45.0%
South East Wales	8.3%	4.7%	87.0%	66.9%	45.5%

Source: Stats Wales

2.3.2.5   The distribution of LSOAs and their relative deprivation in the education domain illustrates regional variation in educational attainment and access to education. This is shown in Figure B-13 below. The South Wales valleys are the most educationally deprived area of Wales. There are also parts of the urban areas such as Swansea that are suffering from education deprivation.

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[45] Welsh Government (2022) StatsWales: Participation of 16-30 year olds in education by mode, age and year. Available at: https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Participation-of-Adults-and-Young-People/participationof1630yearoldsineducation-by-mode-age-year [Accessed: 21.08.24]
[46] Welsh Government (2024) Levels of highest qualification held by working age adults: 2023. Available at: https://www.gov.wales/levels-highest-qualification-held-working-age-adults-2023-html [Accessed: 21.08.24]
[47] The Institute for Fiscal Studies (2024) Major challenges for education in Wales. Available at: https://ifs.org.uk/sites/default/files/2024-03/Major-challenges-for-education-in-Wales-IFS-REPORT_0.pdf [Accessed: 21.08.24]

Welsh Index of Multiple Deprivation 2019
Education Domain

by Lower Level Super Output Areas

Rank	Most Deprived	
1 - 191		10% most deprived
192 - 382		10-20% most deprived
383 - 573		20-30% most deprived
574 - 955		30-50% most deprived
956 - 1909		50% least deprived
	Least Deprived	

Local Authority Boundary ——————

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Cartographics • Welsh Government • MU45/19.20
November 2019
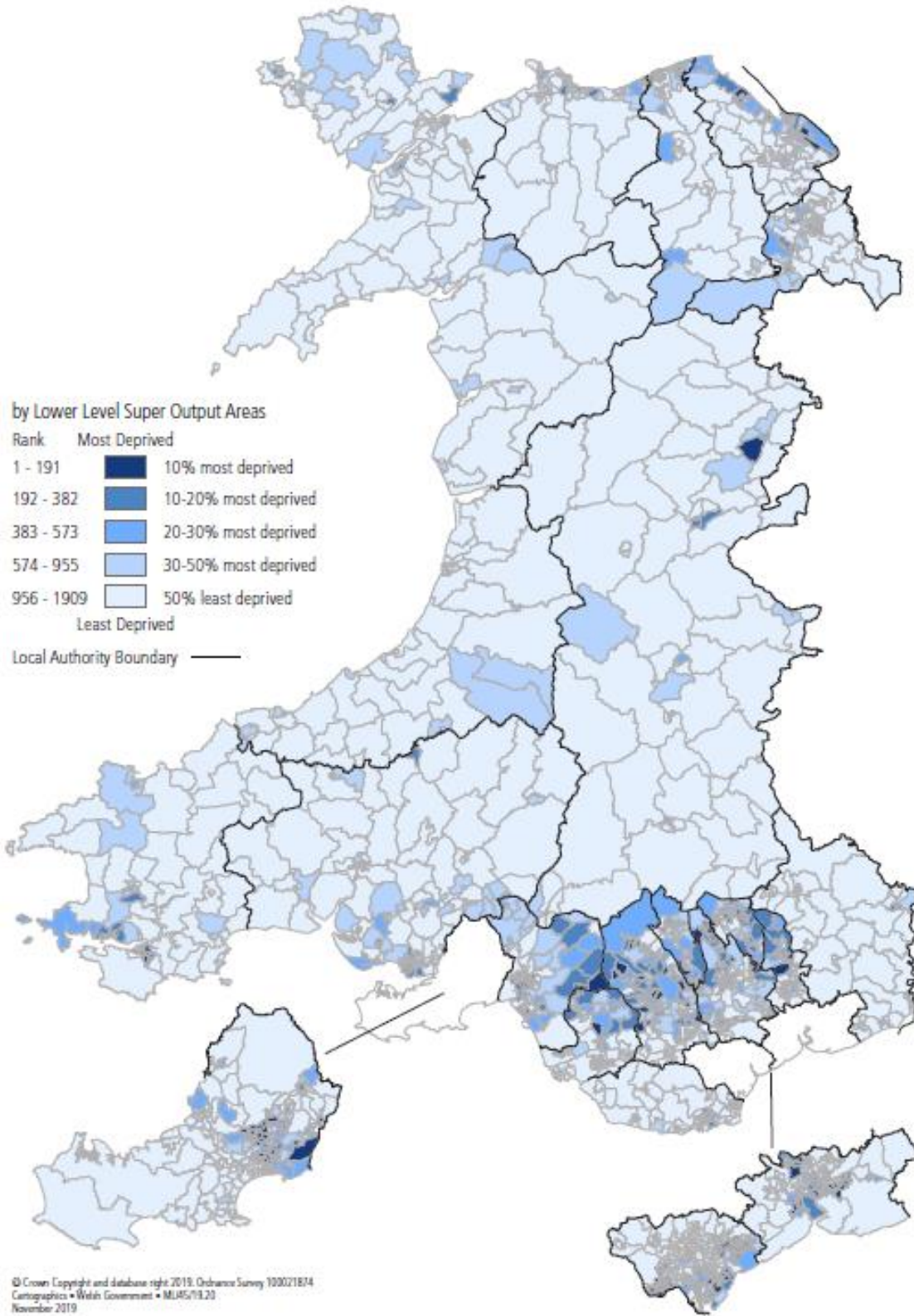
Source: WIMD 2019

Travel to School

2.3.2.6   National Survey for Wales 2021-22 results indicate that 47% of school children walk to school compared with 33% of secondary school children (see Figure B-14). The mode of travel to school varies depending on whether the child lives in an urban or rural area. 51% of primary school children living in urban areas walk to school compared with 39% who live in rural areas (see Figure B-15). This difference was more marked in secondary school commutes, where 45% of children in urban areas walk to school compared with 12% of children who live in rural areas[48].

Figure B-14: Model of travel, by school type
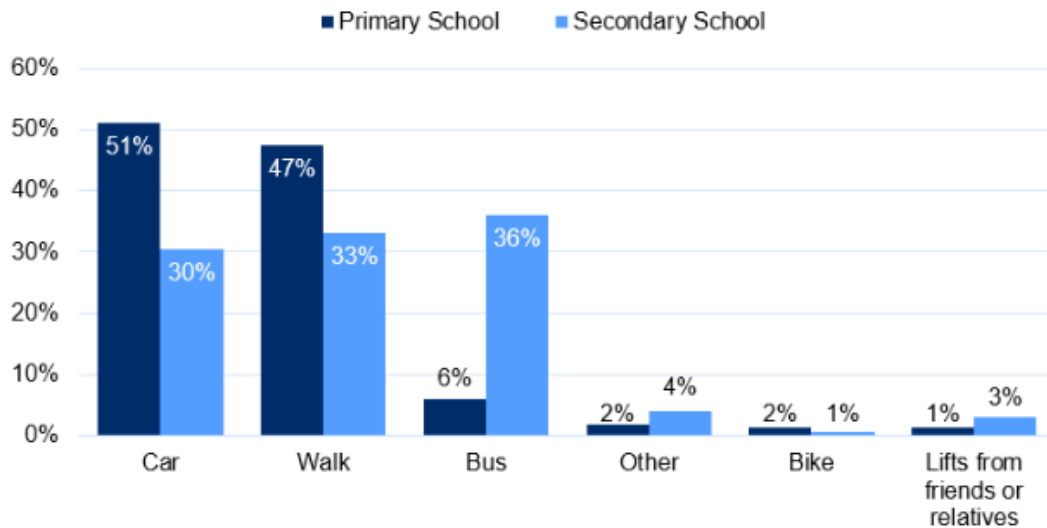
Source: National Survey for Wales 2021-22

Figure B-15: Mode of travel to/from Secondary school by urban/rural classification (a)
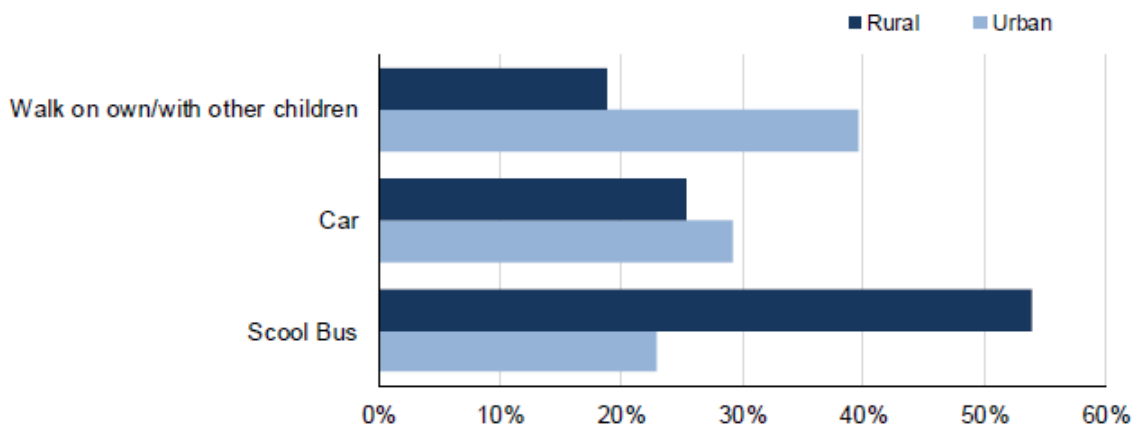
(a) Totals may not sum to 100% as multiple modes of transport can be selected

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[48] Welsh Government (2022) National Survey for Wales headline results: April 2021 to March 2022. Available at: https://www.gov.wales/national-survey-wales-headline-results-april-2021-march-2022-html [Accessed: 21.08.24]

2.3.3 Data gaps

- Data relating to the barriers to walking to school in Wales.
- Data relating to the modal split of transport journeys within Wales.
- For all data collected, there may be gendered differences that are not reflected in the sources they were collected from.
- GVA in South West Wales by industry
- Micro-businesses in South West Wales
- Earnings in South West Wales
- Job satisfaction in South West Wales
- Distance travelled to work in South West Wales
- Method of travel to work in South West Wales
- Qualification levels in South West Wales
- Travel to school in South West Wales

2.4 Key Issues relevant to the RTP and opportunities to address them

2.4.1 Issues

2.4.1.1 The economy of Wales is closely aligned with that of the rest of the UK. There has been a move towards service sector employment and a decline in heavy industry; Wales still has a diverse manufacturing sector.

2.4.1.2 There are regional differences in economic inactivity with decreases in Carmarthenshire and Neath Port Talbot whereas Pembrokeshire and Swansea had experienced increases.

2.4.1.3 In 2023, Qualification levels in Wales were lower than the UK as a whole.

2.4.1.4 The younger demographic is much less likely to work from home than older age groups.

2.4.1.5 Wales is anticipated to experience the greatest house price growth within the next five years compared to the rest of the UK.

2.4.1.6 The largely rural nature of South West Wales results in relatively small urban areas, which would otherwise be more strongly associated with agglomeration effects, influences relatively poor economic performance.

2.4.2 Opportunities

2.4.2.1 The RTP provides an opportunity for the economy to be guided towards a more sustainable future. This can be through the promotion of sustainable travel infrastructure and improvement of access to employment centres. It can also provide a framework that is more responsive to the needs of the economy and able to support new, emerging sectors and support transition of existing ones through the creation and enhancement of networks. Furthermore, it can also help to guide the creation of an environment that is attractive to inward investment and encourages sustainable access to jobs. Similarly, the RTP may facilitate improvements in access to education and health facilities.

2.4.2.2 The RTP could seek to help address issues related to poverty and inequality through access to better education, better connectivity between communities and access to jobs and the job market.

2.4.2.3   RTP could promote the use of active travel to encourage the older demographic to commute to work. Additionally, this could help maintain the increase in economic inactivity rates in Carmarthenshire and Neath Port Talbot if jobs are more accessible via transport links while simultaneously reducing the increase in Swansea and Pembrokeshire.

2.4.2.4   There is an opportunity to promote the use of active travel to primary and secondary schools through walk to school schemes. This could be adapted and extended to encourage adults to use active transport methods for travel to work and training.

2.4.2.5   The RTP presents an opportunity to improve sustainable and public transport methods to tourist locations, to facilitate increases in tourism numbers.

2.4.2.6   There is an opportunity for the RTP to reduce congestion through promoting active travel and public transport through re-allocation of road space and integrated sustainable travel modes.

3 Well-Being Goal: A Resilient Wales

3.1.1.1   This section provides baseline data relating to the following well-being goal:

"A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change)".

3.1.1.2   The data relates primarily to:

- Air Quality;
- Biodiversity, Flora and Fauna;
- Climate and Flood Risk;
- Geology and Soils;
- Water Environment; and
- Minerals and Waste.

3.2 Air Quality

3.2.1   Relevance to the SWW RTP

3.2.1.1   Clean air is important for both human health and the health of the natural environment. Poor air quality is the largest environmental risk to public health in the UK, as long-term exposure to air pollution can cause chronic conditions such as cardiovascular and respiratory diseases as well as lung cancer, leading to reduced life expectancy[49]. It is estimated that the life expectancy of every person in the UK is reduced by an average of 7-8 months due to air pollution[50]. Air pollution can directly affect vegetation (e.g. through exposure to sulphur dioxide or high levels of ozone), or indirectly affect the wider environment through pollutant deposition. Deposition of pollutants can adversely affect the acid and nutrient status of soils and waters, which, in turn, can affect habitat integrity and the fauna and flora they support. The introduction of environmental protection legislation has led to significant changes in the way air quality is managed and controlled, although the planning system also has a large role to play.

3.2.1.2   Transport is the biggest source of air and noise pollution in the UK. The RTP can influence air quality and noise pollution through ensuring decisions are based on the principle of reducing emissions through the transition to implementing the sustainable transport hierarchy.

3.2.2   Baseline conditions and trends

3.2.2.1   Air pollution is a local, national and international problem caused by the emission of pollutants. In Wales, air quality is generally very good, largely due to its predominantly rural nature and historic decline in heavy industry which has resulted in a reduction in emissions of some pollutants, such as particulate matter (PM) and Nitrogen Dioxide (NO_2). However, there are some parts of the country that experience highly elevated levels of localised pollution, notably due to road traffic. Targets for

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[49] Public Health England (2018) Health matters: air pollution. Available at: https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution [Accessed: 20.08.24]

[50] Defra (2011) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume 1. Available at: https://www.gov.uk/government/publications/the-air-quality-strategy-for-england-scotland-wales-and-northern-ireland-volume-1 [Accessed: 20.08.24]

NO$_2$, PM, nickel and polycyclic aromatic hydrocarbons are still being breached in certain parts of Wales thereby posing a threat to human health and the natural environment[51].

3.2.2.2   There are currently 44 designated Air Quality Management Areas (AQMAs) in Wales[52]. There are three AQMAs in Carmarthenshire, one in Neath Port Talbot, two in Pembrokeshire and one in Swansea (see Figure B-16). Nine designated AQMAs have been revoked in Wales, with the last AQMA being revoked in 2021 in the Vale of Glamorgan.

Figure B-16: AQMAs in South West Wales
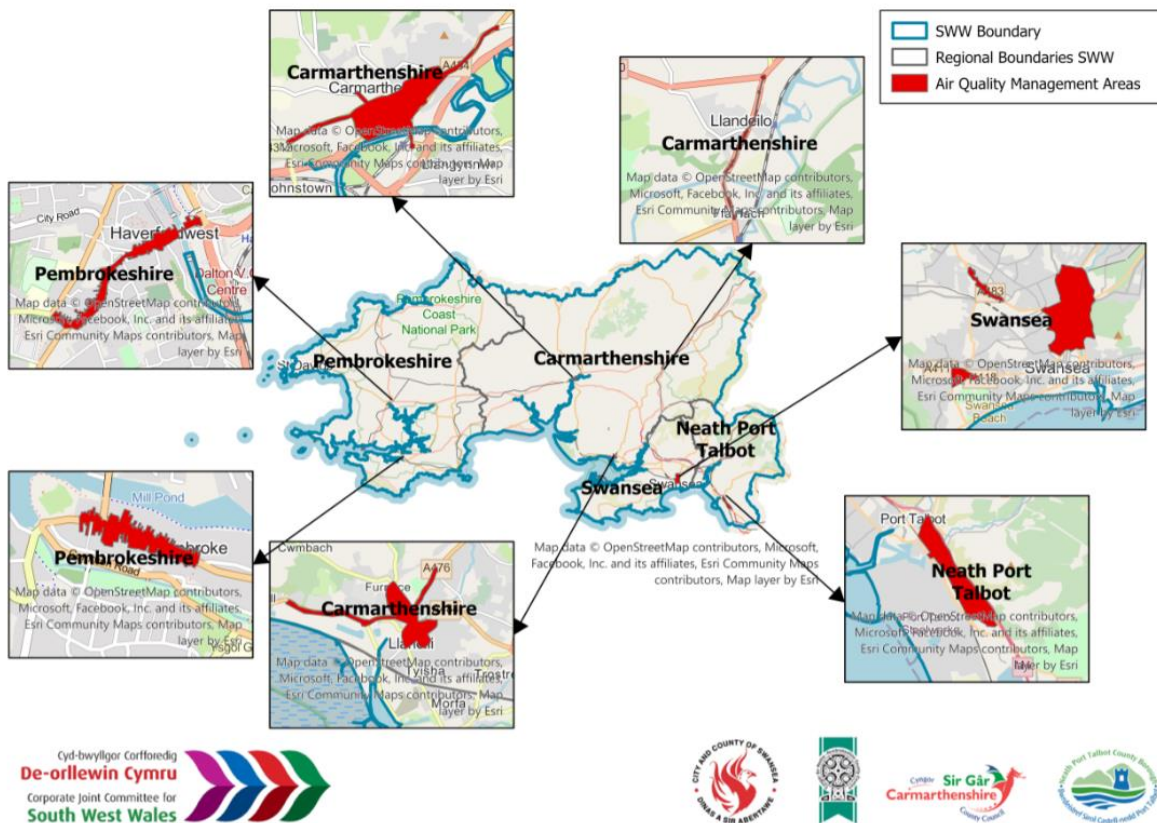
3.2.2.3   Road transport accounts for nearly a third of all NO$_2$ emissions in the UK and transport is the biggest source of air pollution in the UK (see Figure B-17). The major contributor to NO$_x$ emissions in the UK is road transport, which is the sector that has also recorded the biggest decrease in emissions since 1990.

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[51] Natural Resource Wales (2022) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 23.08.24]
[52] Welsh Government (2021) Air Quality in Wales: Air Quality Management Areas. Available at: https://airquality.gov.wales/laqm/air-quality-management-areas [Accessed: 30.08.24]

Figure B-17: UK annual emissions of nitrogen oxides by 2019 major emissions sources: 1990, 2005, 2018 and 2019

Source: Ricardo Energy & Environment
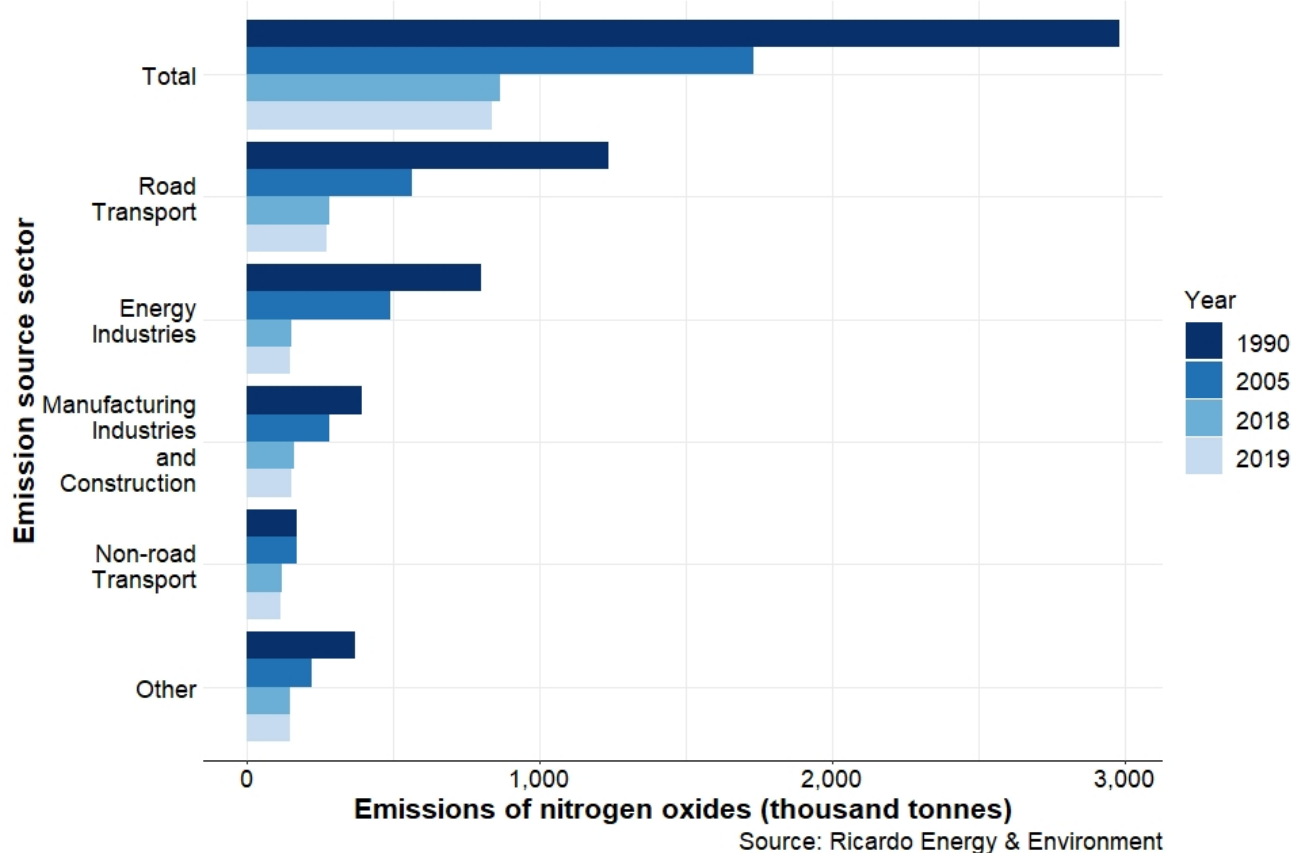
3.2.2.4 Ammonia also remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter, including the formation of ultra-fine particulates ($PM_{2.5}$), which can have a more serious impact on human health than larger PM_{10}. Indeed, 88% of sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits, including 61% of ancient semi-natural woodland in Wales experiencing ammonia concentrations above the Critical Level for lichen- and moss-rich ecosystems. Similar exceedances occur in bogs, heathlands and acid grasslands[53]. This can lead to direct toxicity in the ecosystems and changes in species assemblages. Ammonia can arise, principally from the freight sector, as a result of ammonia slippage from Selective Catalytic Reduction, designed to reduce releases of nitrous oxides.

3.2.2.5 Wales has some of the worst air quality in the UK, which is surprising given its low population density and relatively small cities. A report in 2018 found that Cardiff and Neath Port Talbot both have higher PM_{10} levels than either Birmingham or Manchester. There are also five sites on motorway trunk roads (where NO_2 concentrations are above the limit level) that have had speed limits introduced in June 2018 in order to improve the air quality[54].

3.2.2.6 Figure B-18 shows the trends in ambient air pollution from 1990 to 2022[55]. Whilst there were no instances in 2020 of EU PM_{10} air quality limits being reached; NO_2 limits were exceeded at two sites.

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[53] Natural Resource Wales (2022) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 23.08.24]

[54] Welsh Government (2019) Tackling roadside nitrogen dioxide concentration in Wales. Available at: https://gov.wales/sites/default/files/publications/2019-10/interim-data-on-no2-concentrations-for-the-motorway-and-trunk-road.pdf [Accessed: 30.08.24]

[55] Welsh Government (2020) Air Quality in Wales 2020. Available at: https://airquality.gov.wales/sites/default/files/documents/2021-10/AQ-Wales-2020_English_Final.pdf [Accessed: 30.08.24]

NO_2 and is the catalyst for the designation of all (except one) Air Quality Management Areas (AQMAs) in Wales. Road transport accounts for nearly a third of all NO_2 emissions in the UK.

Figure B-18: Ambient Air Pollutant Trends in Wales 1990-2022
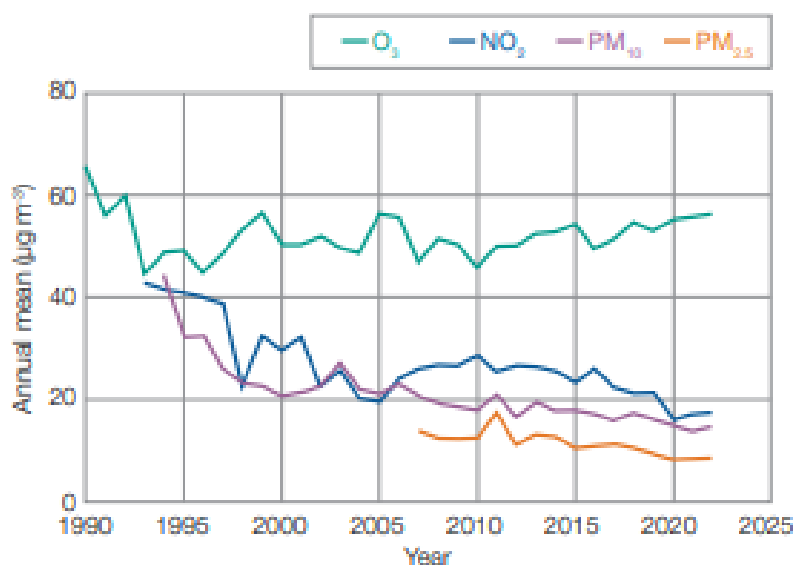
(Source: Air Quality in Wales 2022/23)

3.2.2.7   In 2022, ambient concentrations of PM_{10} were 'moderate' on 40 days, 'high' on 8 days and 'very high' on 1 days (as defined by the Daily Air Quality Index bandings). Overall, pollution levels in Wales were low for 284 days, moderate for 66 days, high for 14 days and very high for 1 days. Therefore, 78% of the time, pollution levels were low across the whole of Wales.

3.2.2.8   Several national air quality monitoring networks operate across Wales. These networks are used to ensure regulatory requirements are met and to provide information for air quality researchers, the medical community and members of the public[56].

3.2.2.9   A screening has taken place for Environment (Air Quality and Soundscapes) (Wales) Bill in 2023. This bill aims to improve air quality and reduce the impacts of air pollution on human health, biodiversity, the natural environment and our economy. This is aimed at a Wales-wide level, at a local and regional level and throughout society[57].

3.2.2.10 While ozone is not emitted directly from vehicles, the compound is formed in the atmosphere through reactions involving vehicle emissions, including hydrocarbons and nitrous oxides, and sunlight. The rate at which the reactions proceed is related to both temperature and intensity of the sunlight.

Data gaps

- Do the poor air quality hot spots have any relation to areas of economic disparity?
- The individual transport mode contributions to air quality as opposed to road transport.
- Ambient air pollution data for South West Wales.

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[56] Welsh Government (2022) Air Quality in Wales 2022/23. Available at: https://www.airquality.gov.wales/sites/default/files/documents/2023-11/AQ-Wales-2022-English_Final.pdf [Accessed: 23.08.24]
[57] Available at: https://www.gov.wales/sites/default/files/publications/2023-03/environment-air-quality-and-soundscapes-wales-bill-health-impact-assessment.pdf [Accessed: 23.08.24]

3.3 Noise

3.3.1   Relevance to the RTP

3.3.1.1   Noise pollution can have a damaging effect on people's health and the environment, from disrupting protected habitats to causing hearing loss and tinnitus. Transport is responsible for a lot of noise pollution in the UK. The RTP must plan transport networks to avoid areas sensitive to noise pollution. It must also seek to implement measures that will seek to reduce traffic overall, leading to a reduction in overall noise pollution and reduction in pressure on tranquil environments.

3.3.2   Baseline Conditions and trends

3.3.2.1   Noise pollution from railways takes place in Swansea and Neath Port Talbot[58]. Figure B-19 shows the noise from railways in 2019.

Figure B-19: Noise from railways in South West Wales
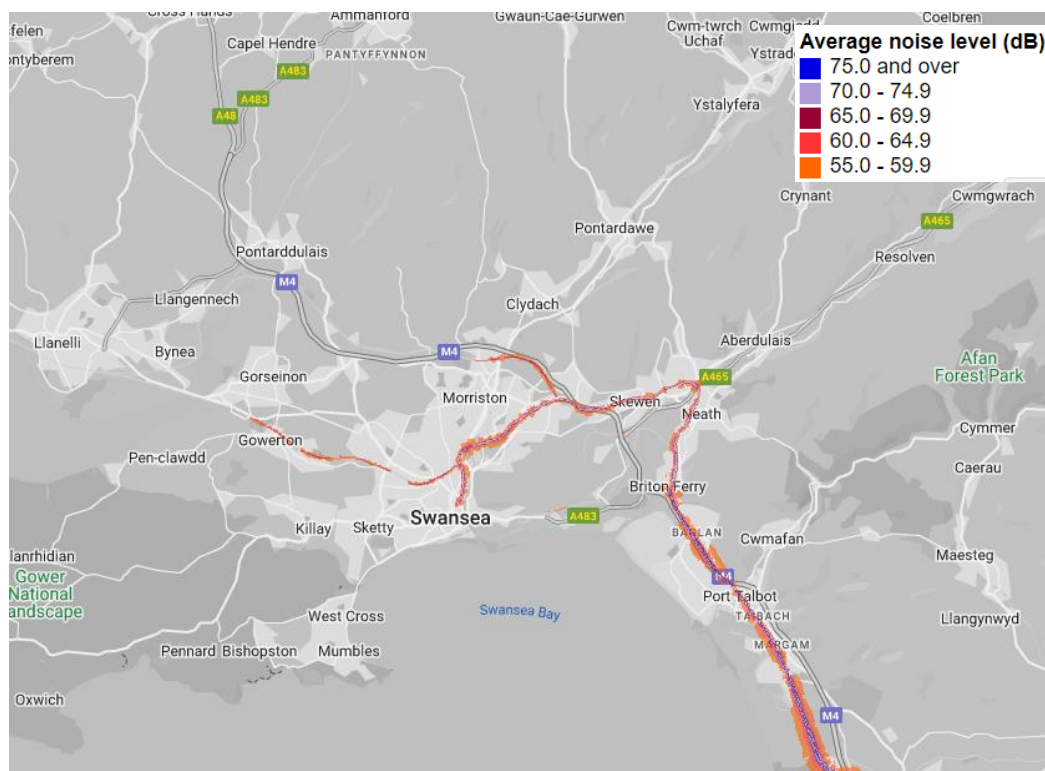
Source: Extrium

3.3.2.2   Figure B-20 highlights that road noise emitted from roads is focused around the M4 particularly in Carmarthenshire and Swansea and adjoining 'A' roads.

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[58] Extrium (2019) Wales Noise Viewer – Rail. Available at: http://extrium.co.uk/walesnoiseviewer.html [Accessed: 06.08.24]

Figure B-20: Noise from road in Wales
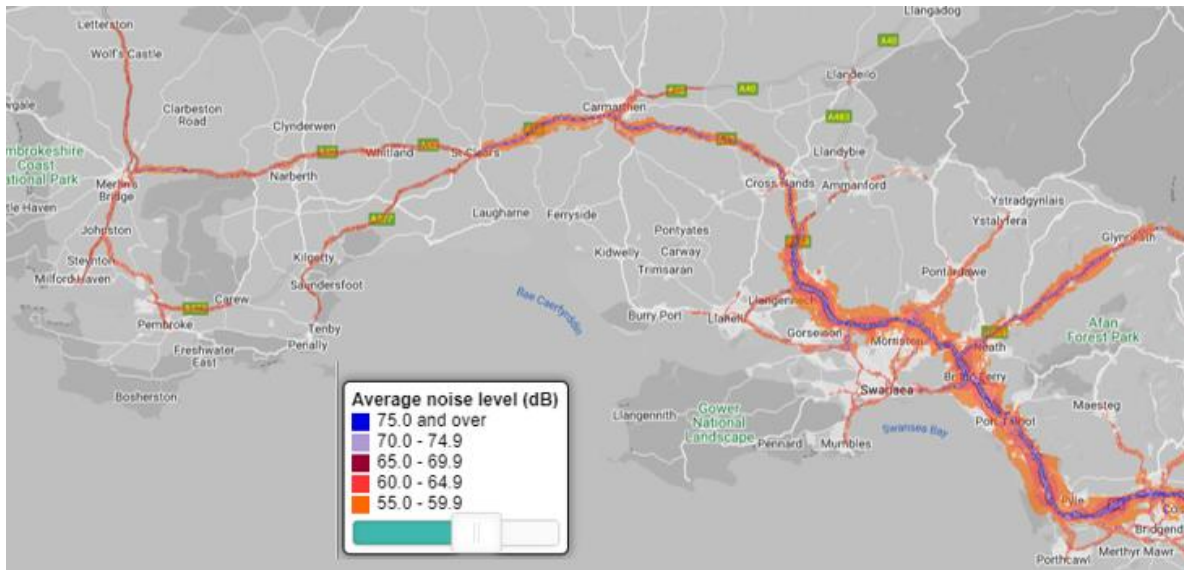
Source: Extrium

3.3.2.3   The Welsh government has received many complaints about transport noise[59]. The Noise and Soundscape Plan for Wales considers how the sound produced by the transport system is changing as more electric transport modes are being developed. These electric modes significantly reduce noise pollution. In September 2023, Welsh Government reduced the default speed limit on roads in built-up areas of Wales from 30 miles per hour to 20 miles per hour, which also decreases audible pollution.

3.3.2.4   The Welsh Government has tackled road noise in various locations across the Welsh Strategic Road Network. The Welsh Government is also undertaking trials to reduce road noise on concrete carriageways through the use of Cold Applied Ultra Thin Surfacing (CAUTS) as a surface overlay and Stress Absorbing Membrane Interla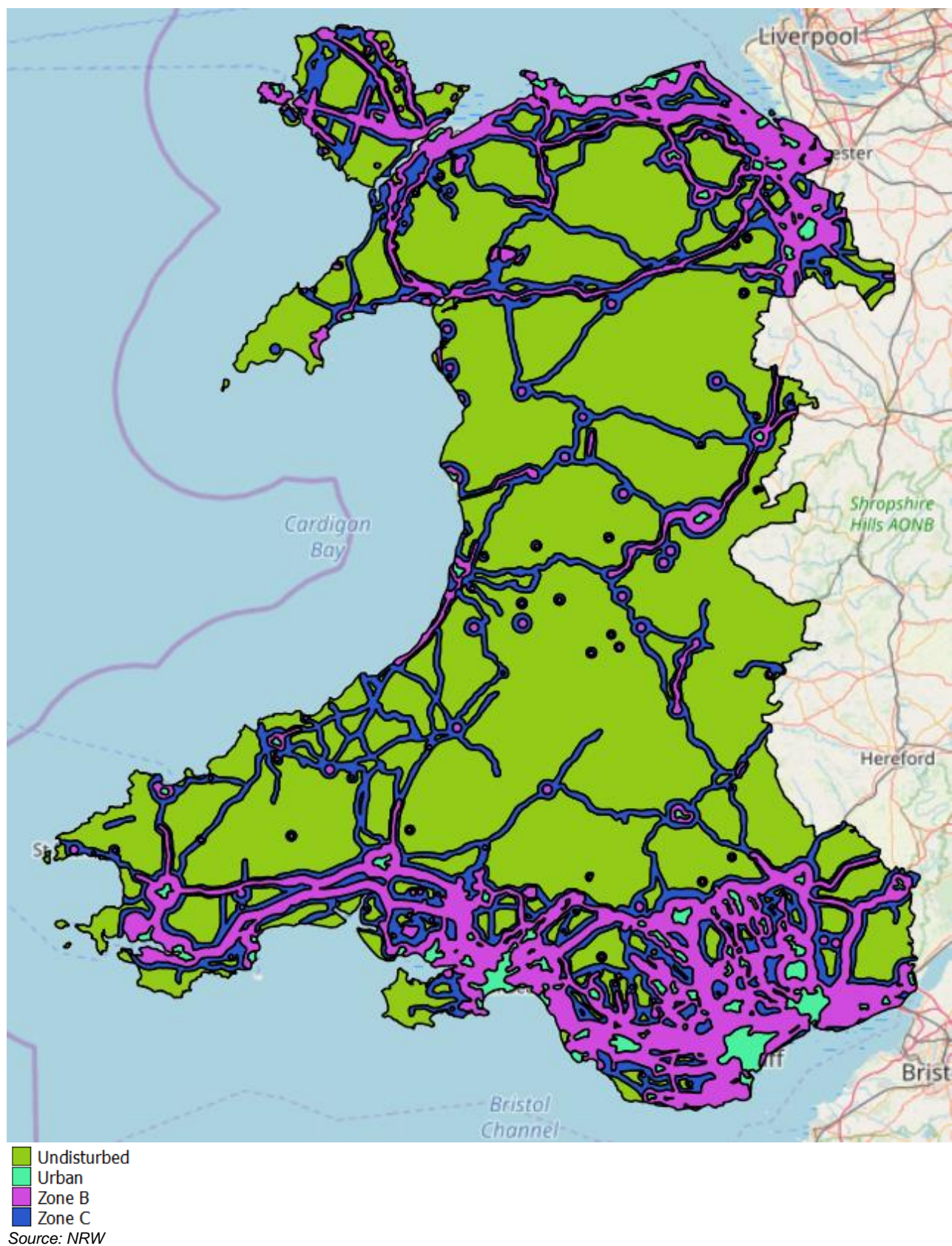yer (SAMI) across concrete joints. It has been established that concrete carriageways generate the highest levels of traffic noise on the Strategic Road Network and therefore these sites were prioritised for mitigation over the last five years.

3.3.2.5   The Welsh Government intends to use the new noise maps to identify priority areas where noise mitigation may be required between 2023 and 2028. Priority areas will be determined based on modelled noise levels, population affected and perception of noise. Often the areas most affected by noise are located near sections of poor road surfacing and bridge joints, therefore mitigation will likely align with ongoing and planned maintenance regimes.

3.3.2.6   It should be noted that noise is now considered a form of air pollution and as such is covered by Welsh Government's Clean Air Plan[60].

3.3.2.7   In Wales there is an official designation for areas of tranquillity, the study for which was carried out in 2009, these different areas are mapped out below in Figure B-21[61].

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[59] Welsh Government (2023) Noise and Soundscape Plan for Wales 2023 - 2028. Available at: https://www.gov.wales/sites/default/files/publications/2023-11/noise-and-soundscape-plan-for-wales-2023-2028.pdf [Accessed: 03.09.24]
[60] Welsh Government (2023) The Clean Air Plan for Wales: Healthy Air, healthy Wales. Available at: https://gov.wales/clean-air-plan-wales-healthy-air-healthy-wales [Accessed: 23.08.24]
[61] NRW (2009) Tranquil Areas Wales. Available at: http://lle.gov.wales/catalogue/item/TranquilAreasWales [Accessed: 23.08.24]

Figure B-21: Map of Tranquil areas Wales 2009

Undisturbed
Urban
Zone B
Zone C

Source: NRW

3.3.3   Data gaps

- Noise pollution from transportation in South West Wales
- Up-to-date data and detail relating to tranquil areas across South West Wales

3.4 Biodiversity, Flora and Fauna

3.4.1   Relevance to the RTP

3.4.1.1   Biodiversity refers to the variety of all living organisms. It can be seen at several levels, in terms of the diversity within species, the diversity between different species, and the diversity of different ecosystems (i.e., the environments within which species live). High levels of diversity ensure habitats and species are more robust and able to cope with changes in the environment, both in terms of natural fluctuations and those caused by human activity, therefore supporting their long-term survival.

3.4.1.2   Ensuring the protection of biodiversity, including important marine and terrestrial habitats, species and protected sites, as well as biodiversity in general (including non-designated sites) and its resulting benefits in terms of ecosystems services, in turn, will have benefits to an improved economic and social health of an area. Therefore, conserving biodiversity not only fulfils our global responsibility but will improve the quality of life for Wales's residents and help maintain its attraction as a place to live and visit.

3.4.1.3   The RTP can influence biodiversity through helping to guide decisions through the planning of transport infrastructure to ensure features of ecological importance, as well as their connectivity and the ecosystems services they provide, are protected and enhanced. The RTP has the potential to make a contribution to local biodiversity targets, particularly for those habitats and species that occur commonly on the Welsh trunk road and motorway network.

3.4.1.4   Increasingly, the soft estate is being acknowledged as holding areas of value for biodiversity. This can be because of the presence of remnants of original habitats, the often low ecological value of adjacent land, its value as a wildlife corridor and in some cases, as a result of the management applied. Road verges can be of particular value if they comprise intrinsically valuable habitat that also adjoins larger areas of the same habitat type, such as Sites of Special Scientific Interest or local wildlife sites.

3.4.1.5   The RSPB[62] has provided guidance on the potential impacts to be considered in transport (particularly road) schemes. These include:

Habitat loss effects

- Permanent habitat loss on site
- Temporary habitat loss on site e.g. land taken up by construction equipment/temporary roads
- Physical removal of soils and vegetation

Habitat fragmentation effects

- Reduced habitat connectivity in the landscape – can disrupt the established relationships between different habitats or patches of the same habitat e.g. routes linking sleeping or roosting areas to feeding grounds or migration routes may be physically interrupted
- Barrier effects on species – can affect the movement of wildlife: population viability may be affected if populations of a scarce species are separated especially if they have poor dispersal activities
- Increased mortality due to wildlife casualties
- Edge effects – if vegetation is removed the new linear gap creates a new microclimate and a change in physical conditions which can extend varying distances from the road edge. This newly created habitat may provide habitat for edge species and facilitate dispersal for some species.

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[62] H. Byron (2000) Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes.

- Reduced patch size - may reduce populations of key plant species, which in turn may affect the abundance of insects including butterflies they support.
- These require a minimum area to sustain viable populations and may in turn affect other species e.g. predatory birds. Also small patch size may not be able to support the range of habitat structure needed to sustain a range of different species.

Changes in habitat quality and other indirect impacts

Changes to natural processes

- Groundwater regimes - changes in the groundwater regime may adversely affect habitats dependent on the water table e.g., marsh, fen and bog.
- Depending on the geology, lowering the water table can impact habitats a considerable distance from the development.
- Stream/river flows - Increases or reductions in natural rates of flow e.g., flash flooding from hard surfaces may affect aquatic ecosystems.
- Accumulation of construction spoil can alter flow, volume and composition of water. These increased solids increase turbidity which can cause abrasion damage and gill blockage in fish and lead to the disappearance of filter feeding invertebrates.
- Flooding regimes.
- Soil leaching and changes in soil structure.
- Soil erosion patterns.

Water pollution

3.4.1.6   Water pollution from accidental spillages, de-icing chemicals, runoff, and road spray can lead to adverse changes in aquatic biodiversity as can changes in sediment and solid loads in watercourses.

Soil pollution

3.4.1.7   Road spray, vehicle emissions and dust and other particulates (including aggregate and sealant materials used in road construction) can be deposited directly on the land or by polluted precipitation and by polluted

3.4.1.8   groundwater. These can change soil pH and structure. Soil conditions can also greatly alter the effective toxicity of pollutants.

Air pollution

3.4.1.9   Emissions of lead, zinc, nitrogen, de-icing materials and particulates such as dust can affect biodiversity.

Changes to microclimate

3.4.1.10   Light and radiation emissions may alter the microclimate. These microclimatic changes may be sufficiently great to alter the performance of some species of plants and animals.

Windfunnelling

3.4.1.11   Where woodlands are bisected interior trees become exposed and liable to wind-blow effects leading to changes in the new marginal vegetation. Cuttings can have an additional windfunnelling 'jet' effect increasing windblow and evaporation that may result in a water supply shortfall which may lead to changes in species composition.

Disturbance

3.4.1.12 Fauna can be disturbed by noise, lighting and vibrations from traffic and by road lighting.

Reduced visibility

3.4.1.13 Road structures e.g. bridges and viaducts may cause problems for certain birds/mammals by reducing visibility

Introduction of exotics

3.4.1.14 The edge habitat or ecotone and traffic on the road may facilitate dispersal for some species. This may result in dispersal and establishment of alien and invasive species or pest species that may have secondary effects on biological communities.

3.4.1.15 Changes to habitat management e.g. frequency of verge cutting.

Public pressure

3.4.1.16 Surrounding habitats may be placed under increasing public pressure, because of access, leading to effects including the disturbance of animals, and physical destruction of ground flora. Also, litter may accumulate along road

Offsite habitat losses and changes in habitat quality

3.4.1.17 In relation to the obtaining and disposal of materials e.g., mining for aggregates for road building.

Cumulative effects

3.4.1.18 Even relatively minor habitat loss, fragmentation and indirect impacts of an individual road project can, when added to other past, present and reasonably foreseeable future impacts of other projects and activities, contribute to significant impacts in an area. All relevant types of future projects and activities should be considered (i.e. not just other road projects) including induced development.

Positive effects

- Habitat enhancement
- Improved habitat management
- New structures e.g. bridges and tunnels may provide habitats for some species e.g. bats
- Habitat creation

3.4.2   Baseline conditions and trends

3.4.2.1 The land area of Wales covers 2,078,224 ha. The Welsh marine area extends out to 12 nautical miles, covering just under 15,000 km^2 or 41% of the territory of Wales. South West Wales has a huge variety of habitats and they support many species of international importance. SWW contains many internationally, nationally and locally important sites (see Figure B-22)[63].

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[63] Natural Resource Wales (2024) Reversing the decline of, and enhancing, biodiversity. Available at: https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-west-wales-area-statement/reversing-the-decline-of-and-enhancing-biodiversity/?lang=en [Accessed: 30.08.24]

Figure B-22: Special Areas of Conservation (SAC) feature condition (most recent assessment) for SACs that fall either wholly or partially within South West Wales

Feature condition (most recent assessment)

Terrestrial ■ Marine ■ Freshwater
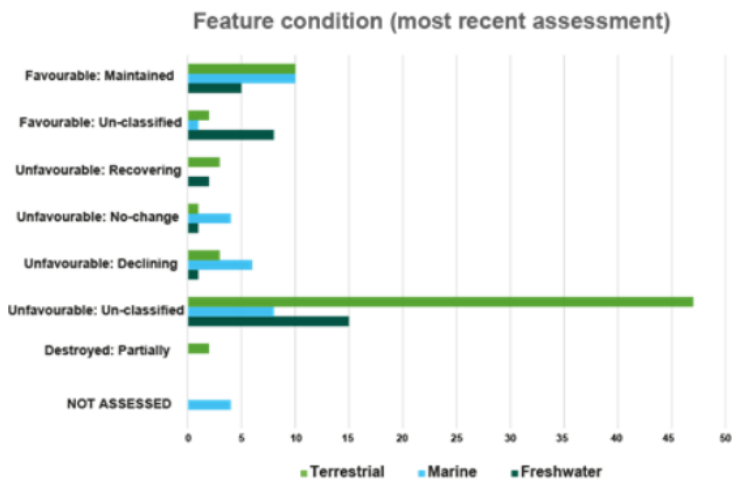
3.4.2.2   South West Wales has a large number of Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific (Interest (SSSI).

3.4.2.3   Wales has a diverse landscape and biodiversity shaped by human activity over many centuries. The number of terrestrial species in Britain is estimated at 59,000 with a further 8,500 marine species and the total number of species in Wales is likely to exceed 50,000[64]. There are 21 Special Protection Areas (SPAs) for internationally important populations of birds and 95 Special Areas of Conservation (SACs) for other threatened species and natural habitats[65]. There are 1,078 Sites of Special Scientific Interest (SSSI) in Wales, covering over 12% of the nation's land area. Many of the same species are also found on sites that qualify for their habitat (see Figure B-23).

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[64] Wales Biodiversity Partnership (2024) Species Information. Available at: https://www.biodiversitywales.org.uk/Species-in-Wales [Accessed 03.09.2024]

[65] Natural Resource Wales (2020) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 04.09.24]

Figure B-23: Map of SSSI in South West Wales

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri
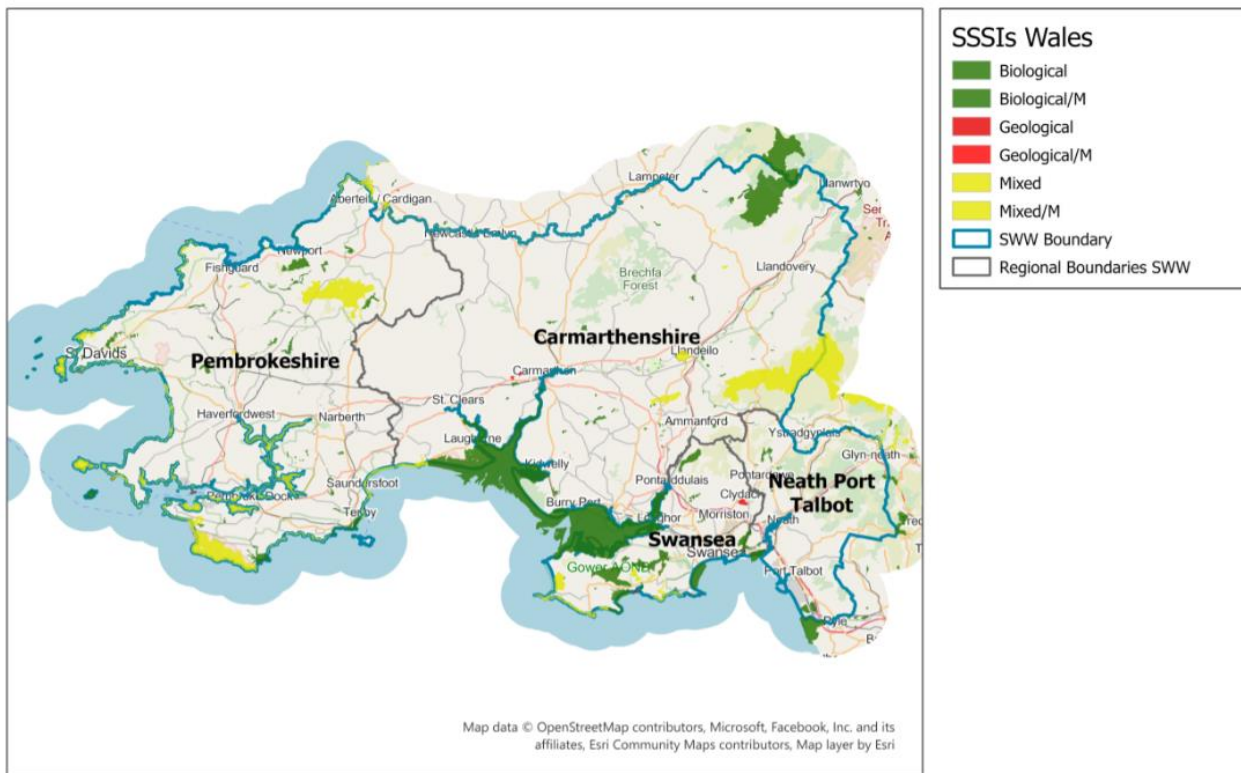
Species

3.4.2.4   The 2019 Joint Nature Conservation Committee (JNCC) Habitats Directive Report found that 46% of listed species were in favourable conservation status at the UK level[66]. The figure is the same for species occurring in Wales. In Wales, 44% of species are reported as stable, while 17% are shown to be deteriorating. Following global trends, Wales continues to face biodiversity loss, with one in six species that have been assessed in Wales at risk of extinction[67].

3.4.2.5   In Wales, the interim Section 7 list of the Environment (Wales) Act[68] has 557 species and 55 habitats of principle importance. These were originally selected for the Section 42 list of the Natural Environment and Rural Communities Act 2006[69] for prioritised action from the UK Biodiversity Action Plan using criteria based on the level of threat they face, the level of responsibility in Wales for their populations and whether remedial action could be taken to improve their status. The list includes species as diverse as slow-worm (*Anguis fragilis*), hornet robber fly (*Asilus crabroniformis*) and long-snouted seahorse (*Hippocampus guttulatus*).

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[66] JNCC (2019) Article 17 Habitats Directive Report 2019. Available at: https://jncc.gov.uk/our-work/article-17-habitats-directive-report-2019/ [Accessed: 03.09.24]

[67] Natural Resource Wales (2020) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 03.09.24]

[68] Environment (Wales) Act 2016. Available at: https://www.legislation.gov.uk/anaw/2016/3/contents/enacted [Accessed: 30.08.24]

[69] Natural Environment and Rural Communities Act 2006. Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents [Accessed: 30.08.24]

3.4.2.6 Climate change impacts such as acidification, sea temperature rises and extreme weather events have the potential to affect marine species through a number of factors including prey population dynamics, reproduction and distribution.

3.4.2.7 Neath Port Talbot contains rare species such as Deptford Pink and shrill carder bee and fen raft spider[70]. The County Borough has five Local Nature Reserves, one of them is Bryn Tip. This site has been restored to natural habitat and is home to many rare and protected species. The County Borough contains Wales' only population of the blue ground beetle, a strong meta-population of marsh fritillary and is one of the most important breeding strongholds for honey buzzard in Wales.

3.4.2.8 Swansea region contains a wealth of habitats supports a huge diversity of species, and 41% of species identified as being of importance for biodiversity conservation in Wales have been recorded in Swansea in the last 20 years[71].

3.4.2.9 There are 44 priority species in Carmarthenshire[72]. The species considered by Welsh Government to be of key significance to maintain and enhance biodiversity in the county are Water Vole, Barbastelle bat, European hedgehog, Brown hare, otter, Pine marten, Harvest mouse, dormouse, polecat, noctule bat, soprano pipistrelle bat, brown long-eared bat, greater and lesser horseshoe bat, red squirrel and common pipistrelle bat.

3.4.2.10 Pembrokeshire is internationally and nationally renowned for its biodiversity. Many of the coastal, marine, heathland and woodland habitats support species for which the county is one of only a handful of sites in the UK, or Europe. Overall, about 6% of the total land area is within SSSI. Approximately a third of the county is designated as National Park. Biodiversity in Pembrokeshire is affected by many human-influenced and natural factors which are often interconnected and reinforce each other. In Pembrokeshire, the conservation of the three-lobed water crowfoot is a major international responsibility for Wales. Over half the areas in Wales which support the three-lobed water crowfoot are found in Pembrokeshire, this represents 26% of the total UK sites. They are concentrated around St.Davids and Marloes Peninsula. There are also some more isolated populations found on Ramsey, Skomer and Skokholm islands and inland on some Common Land sites. Pembrokeshire is also home to at least 15 of Britain's 17 resident species of bat. The county's speciality includes greater and lesser horseshoe bats, two of Europe's rarest species and Barbastelle bats. There are also several species of birds associated with farmland in Pembrokeshire[73].

Habitats

3.4.2.11 The land-cover of Wales can be divided broadly into semi-natural habitats and modified land-cover types. Semi-natural habitats retain many of their characteristic species. Modified land-cover types include the built environment as well as land where ecological processes and species composition have been hugely altered, for example, improved grassland, arable land and conifer plantations. The representation of semi-natural habitat varies significantly across Wales. The Welsh lowlands are highly modified as shown in Figure B-24. Approximately 31% of Wales is considered to be semi-natural habitat. At least 40% of Welsh habitats are spread out in such small patches that this implies low resilience, with very few habitats reported as being in good condition. In Wales connectivity is at

[70] Wales Biodiversity Partnership (2024) Nature in Neath Port Talbot. Available at: https://www.biodiversitywales.org.uk/Neath-Port-Talbot [Accessed: 30.08.24]
[71] Wales Biodiversity Partnership (2024) Nature in Swansea. Available at: https://www.biodiversitywales.org.uk/Swansea https://www.biodiversitywales.org.uk/Neath-Port-Talbot[Accessed: 30.08.24]
[72] Nature Partnership (no date) Carmarthenshire Nature Recovery Plan – Mammals. Available at: https://www.carmarthenshire.gov.wales/media/1216549/mammals-priority-species-in-carms.pdf [Accessed: 30.08.24]
[73] Pembrokeshire Biodiversity Partnership (2011) State Of Wildlife In Pembrokeshire. Available at: https://www.pembrokeshirecoast.wales/wp-content/uploads/2019/06/State-of-wildlife-report-Eng_reduc-1.pdf [Accessed: 30.08.24]

its lowest in lowland habitats where the landscape has been simplified by the loss of semi-natural habitats and intensively managed land dominates[74].

Figure B-24: Summary of the representation of semi-natural habitats and modified land-cover types in Wales

Source: Blackstock et al, 2010
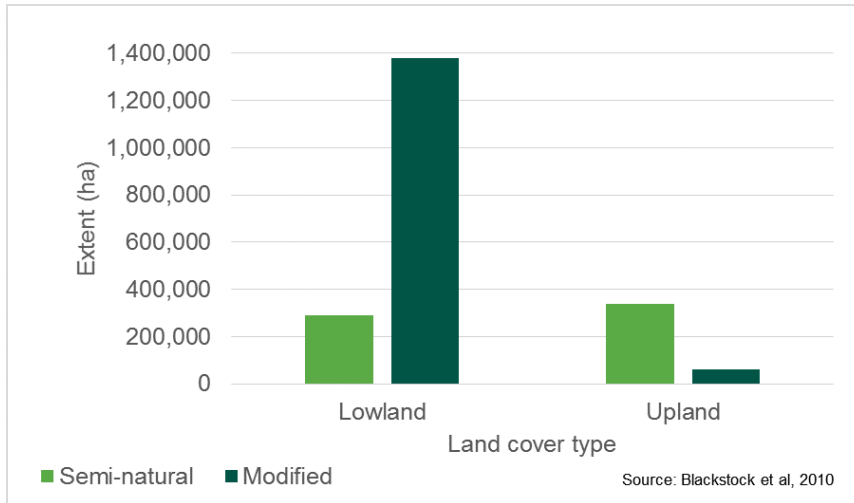
3.4.2.12 The extent, condition and trends of terrestrial species in Wales are influenced primarily by habitat management and by climate change. Habitat management directly influences plant community composition, amounts of bare substrate, shading and vegetation structure. Shading due to scrub encroachment, following changes in grazing regime, can be as damaging for butterflies and many other species groups as overgrazing or agricultural improvement. These effects are compounded by direct habitat loss which leads to fragmentation of suitable habitat types or conditions and the increasing influence of nutrient enrichment which leads to changes in plant communities and patterns of growth. As above, climate change is also a significant threat to both habitats and the species they support.

3.4.2.13 Pembrokeshire supports 36% of the total lowland heathland in Wales of which two thirds is found within Sites of Special Scientific Interest (SSSI). Some lowland heathland is being lost to scrub encroachment in Pembrokeshire as a result of neglect[75].

3.4.2.14 Heathland and Moorland provides habitats for almost one fifth of Neath Port Talbot's (NPT) Priority Species, but only a small proportion of it is in good condition[76]. The upland landscape of NPT has changed significantly over the last 70 years. Much of the moorland and heath that was once extensive there has been planted with conifers and other parts have been converted to improved grazing land. However, some significant areas of moorland remain, particularly in the northern sector of the county, e.g. Gwrhyd, Sarn Helen.

3.4.2.15 Swansea is broadly divided into four physical areas: the open moorlands of the Lliw uplands in the North; the rural Gower Peninsula in the west, containing a number of rural villages coasts and the Gower National Landscape (previously known as an Area of Outstanding Natural Beauty (AONB)), a

[74] Natural Resource Wales (2022) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 23.08.24]
[75] Pembrokeshire Council (2011) State of Wildlife in Pembrokeshire: A Study on the current state of flora and fauna in Pembrokeshire. Available at: https://www.pembrokeshirecoast.wales/wp-content/uploads/2019/06/State-of-wildlife-report-Eng_reduc-1.pdf. [Accessed 03.09.24]
[76] NPT Local Nature Partnership (2024) Heathland and Moorland. Available at: https://www.naturenpt.cymru/heathlandandmoorland [Accessed: 30.08.24]

suburban area and the coastal strip around Swansea Bay. Approximately 69.5% of the county's land area is rural and 30.5% urban[77].

3.4.2.16 Agriculture in Carmarthenshire dominates the rural landscape. According to Agricultural Land Classification, 203,700 ha of land within Carmarthenshire is classified as agricultural land with the majority classified as grade 3a and 3 with a small tranche of grade 2 land in the south-east of the county[78].

Habitats of Principal Importance

3.4.2.17 In Wales, the interim Section 7 list has 55 habitats of principal importance, which were originally selected for the Section 42 list of the Natural Environment and Rural Communities Act 2006. These habitats cover terrestrial, freshwater and marine. They include blanket bog, ponds and seagrass beds and were selected for prioritised action from the UK Biodiversity Action Plan (BAP) using criteria based on the level of threat they face, their relative importance as habitat in Wales and whether remedial action will be able to improve their status. Terrestrial habitats of principle importance extend over a total area of 387,300 ha. The most extensive of these in Wales (each with a resource of greater than 30,000 ha) include upland heathland, blanket bog, upland oak woodland, purple moor-grass and rush pasture, lowland dry acid grassland and coastal and floodplain grazing marsh. However, some key habitats of conservation importance are scarce, small in extent and highly vulnerable. Marine Intertidal BAP habitats extend over 15,000 ha. The most extensive intertidal BAP habitat, mudflats, covers over 14,000 ha and is found all around the coast of Wales.

3.4.2.18 South West Wales is predominantly rural in nature and dominated by agriculture with some areas of forestry[79]. The South West Wales Place coastline is covered by the 'South Wales' and 'West of Wales' Shoreline Management Plans. The South West Wales Place has a coastline that runs from Margam in the East to Cardigan in the North West. The rugged coastline and long sandy beaches of the Gower Peninsula and Pembrokeshire coast attract many visitors each year making tourism very important for the local economy.

Ancient Woodland

3.4.2.19 The area of Ancient Woodland in Ancient Wood Inventory (AWI) 2011[80] is 33,000ha (53 percent) greater than in AWI 2004. Largely, the revised figure consists of Ancient Semi-Natural Woodland (ASNW) in private ownership (29,000ha). 5,000 ha more Ancient Woodland has been identified on the Welsh Government Woodland Estate managed by Natural Resources Wales, compared with the AWI 2004. The AWI shows that South Wales Valleys and South Powys are the most populous ancient woodland areas. Most of these woodland resources are designated Plantations on Ancient Woodland Sites.

European and UK Protected Sites

3.4.2.20 European protected sites are designated either as exemplars of listed habitat and species types or specifically to conserve wild birds that are listed as rare and vulnerable. The protection of these sites makes a significant contribution to conserving the habitats and wildlife species that live there. Protected sites also exist in the marine environment, and work continues to ensure these sites contribute to an ecologically coherent network of marine protected areas in UK seas.

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[77] Swansea Council (2022) Geography. Available at: https://www.swansea.gov.uk/geography [Accessed: 30.08.24]
[78] Carmarthenshire County Council (2023) Carmarthenshire – Second Deposit LDP. Available at: https://carmarthenshire.oc2.uk/document/14/6061 [Accessed: 30.08.24]
[79] Natural Resource Wales (no date) Natural Resources Wales Flood Risk Management Plan: South West Wales Place. Available at: https://naturalresources.wales/media/10hnbnjj/frmp-cycle-2-place-section-south-west.pdf [Accessed: 30.08.24]
[80] NRW (2023) Ancient Woodland Inventory. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/ancient-woodland-inventory/?lang=en [Accessed: 23.08.24]

Special Protection Areas (SPA)

3.4.2.21 SPAs are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species[81].

3.4.2.22 The following SPAs are found within South West Wales: Carmarthen Bay; Elenydd Mallaen; Skomer; Skokholm and the seas of Pembrokeshire; Castlemartin Coast; Grassholm; Ramsey and St David's Peninsula Coast; Burry Inlet; and Mallaen[82].

Special Areas of Conservation (SAC)

3.4.2.23 A Special Area of Conservation (or SAC) is a site designated under the Habitats Directive. These sites, together with SPAs, are called Natura 2000 sites and they are internationally important for threatened habitats and species[83].

3.4.2.24 The following SACs are found in Carmarthenshire[84]:

- Afon Teifi
- Afon Tywi
- Afonydd Cleddau
- Carmarthen Bay and Estuaries
- Carmarthen Bay Dunes
- Cwm Doethie - Mynydd Mallaen
- Caeau Mynydd Mawr
- Cernydd Carmel

Ramsar Sites

3.4.2.25 The Ramsar Sites in Wales include wetlands that are considered to of international importance under the Ramsar Convention[85]. Wales currently has 10 Ramsar Sites including The Dee Estuary, Llyn Idwal, Llyn Tegid and Corsydd Mon a Llyn in the north, Cors Caron, Cors Fochno and Midland Meres and Mosses in Mid Wales/Midlands and Burry Inlet, Crymlyn Bog and Severn Estuary in the south.

3.4.2.26 Swansea contains two Ramsar sites[86], and Carmarthenshire contains one Ramsar site[87].

Sites of Special Scientific Interest (SSSI)

3.4.2.27 SSSIs are the most important sites for Wales' natural heritage. They help conserve and protect the best of the nation's wildlife, geological and physiographical heritage for the benefit of present and future generations. SSSIs in Wales include coastline, freshwater, upland and lowland sites and range from small fens or sand dunes to woodlands and vast reaches of mountain[88]. They contain

81 JNCC (2023) Special Protection Areas – overview. Available at: https://jncc.gov.uk/our-work/special-protection-areas-overview/ [Accessed: 23.08.24]
82 NRW (2024) Find protected areas of land and sea. Available at: https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en [Accessed: 02.09.24]
83 JNCC (2023) Special Areas of Conservation – overview. Available at: https://jncc.gov.uk/our-work/special-areas-of-conservation-overview/ [Accessed: 23.08.24]
85 JNCC (2022) Designated and Proposed Ramsar Sites in the UK, and the UK's Overseas Territories & Crown Dependencies. Available at: https://jncc.gov.uk/our-work/ramsar-sites/#wales [Accessed: 23.08.24]
86 Swansea Council 2024) Protected sites in Swansea. Available at: https://www.swansea.gov.uk/article/24950/Protected-sites-in-Swansea#:~:text=In%20Swansea%20we%20have%2036,Swansea%20we%20have%20two%20SPAs. [Accessed; 03.09.24]
87 Carmarthenshire County Council (2024) Protected sites. Available at: https://www.carmarthenshire.gov.wales/home/council-services/planning/biodiversity/protected-sites/ [Accessed: 03.09.24]
88 DataMapWales (2024) Sites of Special Scientific Interest (SSSI). Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_SSSI [Accessed: 03.09.24]

important types of land, plants and wildlife. Geological sites range from quarries to rocky outcrops and massive sea-cliffs.

3.4.2.28   Swansea region contains 36 Sites of Special Scientific Interest, covering approximately 21% of Swansea's land area[89]. Neath Port Talbot contains over 21 SSSIs[90]. Carmarthenshire contains 89 SSSIs which cover approximately 15,300ha[91].

National Nature Reserves

3.4.2.29   There are a total of 76 National Nature Reserves (NNRs) in Wales which tend to occupy the coastal areas of the country[92]. There is a strong presence of nature reserves in the coastal areas of Wales. The highest concentration is to the east of the Llyn Peninsula. Swansea has four NNRs[93].

Marine Conservation Zones (MCZ)

3.4.2.30   The marine environment of Wales includes 2,740 km of coastline. The marine ecosystems in Wales form part of two wider biogeographic regions: the Irish Sea, and the Western Channel and Celtic Sea. There is a high diversity of habitats and species including sediment and biogenic habitats, sessile and highly mobile species. A proportion of marine habitats are surveyed and mapped, but for some areas our understanding only comes from modelling.

3.4.2.31   In 2014, the first MCZ in Welsh waters was established[94]. Skomer MCZ is situated around the island of Skomer and the Marloes Peninsula in Pembrokeshire, South West Wales. This is presented in Figure B-25 below.

[89] Swansea Council (2024) Protected sites in Swansea. Available at: https://www.swansea.gov.uk/article/24950/Protected-sites-in-Swansea#:~:text=In%20Swansea%20we%20have%2036,Swansea%20we%20have%20two%20SPAs [Accessed: 02.09.24]

[90] Wales Biodiversity Partnership (2024) Nature in Neath Port Talbot. Available at: https://www.biodiversitywales.org.uk/Neath-Port-Talbot [Accessed: 03.09.24]

[91] Carmarthenshire County Council (2024) Protected sites. Available at: https://www.carmarthenshire.gov.wales/home/council-services/planning/biodiversity/protected-sites/ [Accessed: 03.09.24]

[92] NRW (2018) National Nature Reserves. Available at: https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/national-nature-reserves/?lang=en [Accessed: 01.12.21]

[93] Swansea Council (2024) Protected sites in Swansea. Available at: https://www.swansea.gov.uk/article/24950/Protected-sites-in-Swansea#:~:text=In%20Swansea%20we%20have%2036,Swansea%20we%20have%20two%20SPAs [Accessed: 03.09.24]

[94] NRW (2022) Marine Conservation Zones. Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_MNR [Accessed: 02.09.24]

Figure B-25: Skomer Marine Conservation Zone

3.4.2.32 Marine Conservation is especially important in Pembrokeshire because the marine and coastal environment underpin the local economy. An important conservation designation in Pembrokeshire is the Pembrokeshire Marine SAC[95]. Wales has an extensive MPA network for marine habitats (see Figure B-26).

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[95] Pembrokeshire Marine Special Area of Conservation (2024) Marine conservation in Pembrokeshire. Available at: https://www.pembrokeshiremarinesac.org.uk/marine-conservation-in-pembrokeshire/ [Accessed: 02.09.24]

Figure B-26: Marine habitat SACs by regional sea

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Ordnance Survey licence number 100019741
Data Source Natural Resources Wales, 2020
March 2020

Legend

Regional Sea
- Irish Sea
- Western Channel & Celtic Sea
- Welsh marine area

SAC Name
- Bae Cemlyn / Cemlyn Bay
- Cardigan Bay / Bae Ceredigion
- Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd
- Croker Carbonate Slabs
- Dee Estuary / Aber
- Glannau Mon: Cors heli / Anglesey Coast: Saltmarsh
- Kenfig / Cynffig
- Limestone Coast of South West Wales / Arfordir Calchfaen De Orllewin Cymru
- Pembrokeshire Marine / Sir Benfro Forol
- Pen Llŷn a'r Sarnau / Lleyn Peninsula and the Sarnau
- Severn Estuary / Môr Hafren
- Y Fenai a Bae Conwy / Menai Strait and Conwy Bay

3.4.2.33 The Environmental and Rural Affairs Monitoring & Modelling Programme (ERAMMP) has accumulated and carried out many surveys of the habitats of Wales that is used to inform SoNaRR reports, they include both areas where the habitats excel and areas that need improvement[96]. These areas that need improvement should be considered in the RTP:

- 20% of vegetation plots in Wales are on neutral grassland, but only <1% are on semi-natural neutral grassland.
- Topsoil carbon declined in the uplands since 2007. This includes acid grassland.
- 74-90% of farmed grassland fields contain no trees.
- Recent topsoil carbon declines in the uplands include Mountain, Moor and Heath.

3.4.3   Data gaps

- Number of internationally designated sites in Neath Port Talbot, Pembrokeshire and Swansea
- Number of SSSIs in Pembrokeshire
- Number of NNRs in Pembrokeshire, Carmarthenshire and Neath Port Talbot

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[96] UK Centre for Ecology & Hydrology (2020) ERAMMP Report-30: Analysis of National Monitoring Data in Wales for the State of Natural Resources Report 2020. Available at: https://erammp.wales/sites/default/files/2023-09/30-ERAMMP-Rpt-30-GMEP-re-analysis-for-SoNaRR2020-v1.0.pdf [Accessed: 02.09.24]

3.5 Climate Change Adaptation and Flood Risk

3.5.1 Relevance to the RTP

3.5.1.1 Measurements indicate that over the past century air and ocean temperatures have increased, rates of ice melt in valley glaciers and ice caps have accelerated and sea levels have risen. However, the extent of future warming and both the nature and geographical distribution of its impacts are the subject of much greater uncertainty. Scientists predict that climate change will result in increased sea-levels, increased average annual temperatures, warmer wetter winters, hotter drier summers and an increase in extreme weather events. These factors have significant implications for both our human and natural environment.

3.5.1.2 The implications of climate change for the RTP are related to the need to arrest the causes of climate change, and to adapt to future conditions. Flooding is a key area in which the effects of climate change are felt locally.

3.5.2 Baseline conditions and trends

3.5.2.1 Flooding is a key area in which the effects of climate change are felt locally. Flood risk is a significant issue in Wales including coastal, fluvial and surface water flooding.

3.5.2.2 There are areas within South West Wales which are at high risk flood risk from both rivers and seas[97]. Across South West Wales, there are 19,944 properties at risk from flooding from rivers and 7,679 properties at risk of flooding from the sea[98]. This equates to over 56,000 people at risk of flooding from rivers and nearly 20,000 people at risk of flooding from the sea.

3.5.2.3 Through the Preliminary Flood Risk Assessment stage associated with this FRMP communities were identified as "Flood Risk Areas". The assessment undertaken to identify Flood Risk Areas across Wales was done using the undefended status of communities to create a platform for comparison.

3.5.2.4 Figure B-27 shows the communities across South West Wales that are at risk of flooding from rivers or the sea as identified by the CaRR and where action is planned to manage the risk of flooding.

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[97] Natural Resources Wales (2024) Flood and Coastal Erosion Risk Maps. Available at: https://flood-risk-maps.naturalresources.wales/?locale=en [Accessed: 02.09.24]
[98] Natural Resources Wales (no date) Flood Risk Management Plan: South West Wales Place. Available at: https://naturalresources.wales/media/10hnbnjj/frmp-cycle-2-place-section-south-west.pdf [Accessed: 02.09.24]

Figure B-27: Communities in South West Wales that are most at risk of flooding from rivers or the sea

3.5.2.5   Across South West Wales, there are 9,944 properties at risk of flooding from rivers and 7,679
           properties at risk of flooding from the sea. This equates to over 56,000 people at risk of flooding
           from rivers and nearly 20,000 people at risk of flooding from the sea.

3.5.2.6   The network of sea flood defences across the South West Wales Place help to reduce the risk to
           over 3,000 properties (residential and non-residential) in the 1 in 30 year scenario (3.3% annual
           exceedance probability) and over 1,500 properties in the 1 in 200 year scenario (2% annual
           exceedance probability). Further to this, the network of river flood defences help to reduce the risk to
           nearly 3,000 properties (residential and non-residential) in the 1 in 30 year scenario (3.3% annual
           exceedance probability) and over 4,500 properties in the 1 in 100 year scenario (1% annual
           exceedance probability). These properties are not removed from risk entirely by flood defences
           because flood defences do not completely stop the chance of flooding as they can be overtopped or
           fail, but the risk is significantly reduced[99].

3.5.2.7   Climate projections indicate that we will see an increase in the frequency and intensity of extreme
           weather events, including storm events in the summer and prolonged wet periods during the winter
           period. This will increase peak flows in our rivers, which is expected to increase the risk of flash
           flooding events. Such flooding is very difficult to forecast and predict and can be very challenging to
           manage

3.5.2.8   Flood risk and the need to manage and adapt to it is a very significant issue for Wales in the future
           as the risks brought about by climate change are anticipated to exacerbate flooding issues in the
           future. The most recent information for Wales from the UK Climate Projections (UKCP18)[100]
           forecasts that by the 2070s there will be an increase in winter mean precipitation of 19% under a low
           emission scenario, and 29% wetter under a high emission scenario. For summer rainfall change, it is
           predicted to get 39% drier under a low emission scenario and 56% drier under a high emission
           scenario. The combination of warmer summers and more intense rainfall may lead to an increased
           incidence of storm conditions and flash flooding. Severe weather events, including storms and
           flooding, took account for 6% of all rail delays in Wales in 2021[101].

3.5.2.9   Throughout the South West Wales, there is 22km of rail track and 240km of road at risk of flooding
           from the sea[102]. In addition, there is 53km of rail track and 600km of road (major and minor) at risk of
           flooding from rivers. This accounts for over 30% of all rail track across Wales that is at risk of
           flooding from rivers.

3.5.2.10   There is just under 400km^2 of agricultural land that is at risk of flooding from the sea across Wales.
           In South West Wales, there is 85km^2 at risk of flooding from the sea which is 21% of the overall
           Wales total. In addition, Wales has over 800km^2 of agricultural land that is at risk of river flooding.
           18% of the overall total of agricultural land that is at risk of flooding from rivers is in the South West
           Wales.

3.5.2.11   There are a number of protected sites at risk of flooding across the South West Wales. Table B-3
           below provides information on the scale of sites at risk in Wales, as well as the relevant the
           proportion of risk present in South West Wales.

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[99] Natural Resources Wales (2024). Natural Resources Wales Flood Risk Management Plan: South West Wales Place. Available at:
https://naturalresources.wales/media/10hnbnjj/frmp-cycle-2-place-section-south-west.pdf. [Accessed 03.09.2024]
[100] Met Office (2021) UKCP18 key results. Available at: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/key-results
[Accessed: 02.09.24]
[101] Welsh Government (2021) Llwybr Newydd A New Wales Transport Strategy Consultation Draft Supporting information Transport data
and trends. Available at: https://gov.wales/sites/default/files/consultations/2020-11/supporting-information-transport-data-and-trends.pdf
[Accessed: 02.09.24]
[102] Natural Resources Wales (no date) Flood Risk Management Plan: South West Wales Place. Available at:
https://naturalresources.wales/media/10hnbnjj/frmp-cycle-2-place-section-south-west.pdf [Accessed: 02.09.24]

Table B-3: The numbers of National important designated sites that are at risk of flooding from rivers and the sea in South West Wales

Designation	Sea flooding – total area at risk in Wales (km²)	Sea flooding – total area at risk in SW (km²)	Sea flooding - % of Wales total at risk in SW	River flooding – total area at risk in Wales (km²)	River flooding – total area at risk in SW (km²)	River flooding - % of Wales total at risk in SW
RAMSAR	204	57	28	23	2	9
Special Areas of Conservation (SACs)	385	152	40	113	32	28
Special Protection Areas (SPAs)	240	59	25	21	2	8
Sites of Special Scientific Interest (SSSI)	513	165	32	180	34	19
Scheduled Ancient Monuments (SAMs)	1	0.2	12	1	0.2	12

3.5.2.12   By 2120, five communities in South West Wales that are projected to experience the biggest change in danger from the risk of flooding from the sea, including Neath Port Talbot and Swansea.

3.5.2.13   Flooding is not only a pressure on communities and built structures but also causes impacts on the environment, as seen in the 2013-14 winter storms. These storms caused £8.1 million of damage to flood defence structures across Wales, in addition to the financial costs associated with the approximately 300 properties that were flooded. The work by NRW, Lead Local Flood Authorities, Internal Drainage Boards and Water and Sewerage companies has sought manage flooding and coastal erosion. In the winter storms of 2013/14, it is estimated that approximately 75,000 properties and 34,000 hectares of agricultural land was protected from flooding. It is estimated that £2.96 billion of damage to properties was avoided as a result of protection from defences.[103]

3.5.2.14   Additionally, a range of measures may be put in place to protect urban and rural areas from flood risk. The National Strategy for Flood and Coastal Erosion Risk Management[104] emphasises the use of green and green-grey infrastructure to minimise flood risk, including introducing SuDS and natural flood management.

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[103] Environment Agency (2016). Delivering benefits through evidence: The costs and impacts of the winter 2013 and 2024 floods. Available at:
https://assets.publishing.service.gov.uk/media/603549118fa8f5480a5386be/The_costs_and_impacts_of_the_winter_2013_to_2014_floods_-_report.pdf [Accessed 03.09.24]
[104] Welsh Government (2020) The National Strategy for Flood and Coastal Erosion Risk Management in Wales. Available at:
https://gov.wales/sites/default/files/publications/2021-03/the-national-strategy-for-flood-and-coastal-erosion-risk-management-in-wales.pdf [Accessed 02.09.24]

3.5.2.15 The trends in hydrological processes, which include sea-level rise and increased storminess, are likely to increase the likelihood and consequences of coastal flooding and erosion. Since the release of the first National Strategy in 2011, the Welsh Government has invested over £600 million in Flood and Coastal Erosion Risk Management. Given there are approximately 245,118 properties are currently still at risk, Wales is set to invest over £350 million in flood and coastal erosion risk management activities by 2021[105].

3.5.3   Data gaps

- Data gaps relating to transport links and routes, including active travel routes, affected by flooding.
- Data gaps relating to transport structures affected by scour.
- Data gaps relating to the demographics of households most likely to be affected by flooding.
- Data gaps relating to the risks to transport infrastructure associated with extreme heat

3.6 Geology and Soils

3.6.1   Relevance to the RTP

3.6.1.1 In the future, geological hazards may change as a response to climate change. For example, coastal erosion, landslides and pollution from former mine sites may increase as a result of increased rainfall and flooding events. The relevance of this should be considered within the RTP. Further, the loss and compaction of soils and geodiversity, where they are of importance, could be a significant issue when planning for new transport infrastructure within the RTP. Finally, the topography of South West Wales should also be considered when planning new infrastructure, in order to ensure that schemes are deliverable.
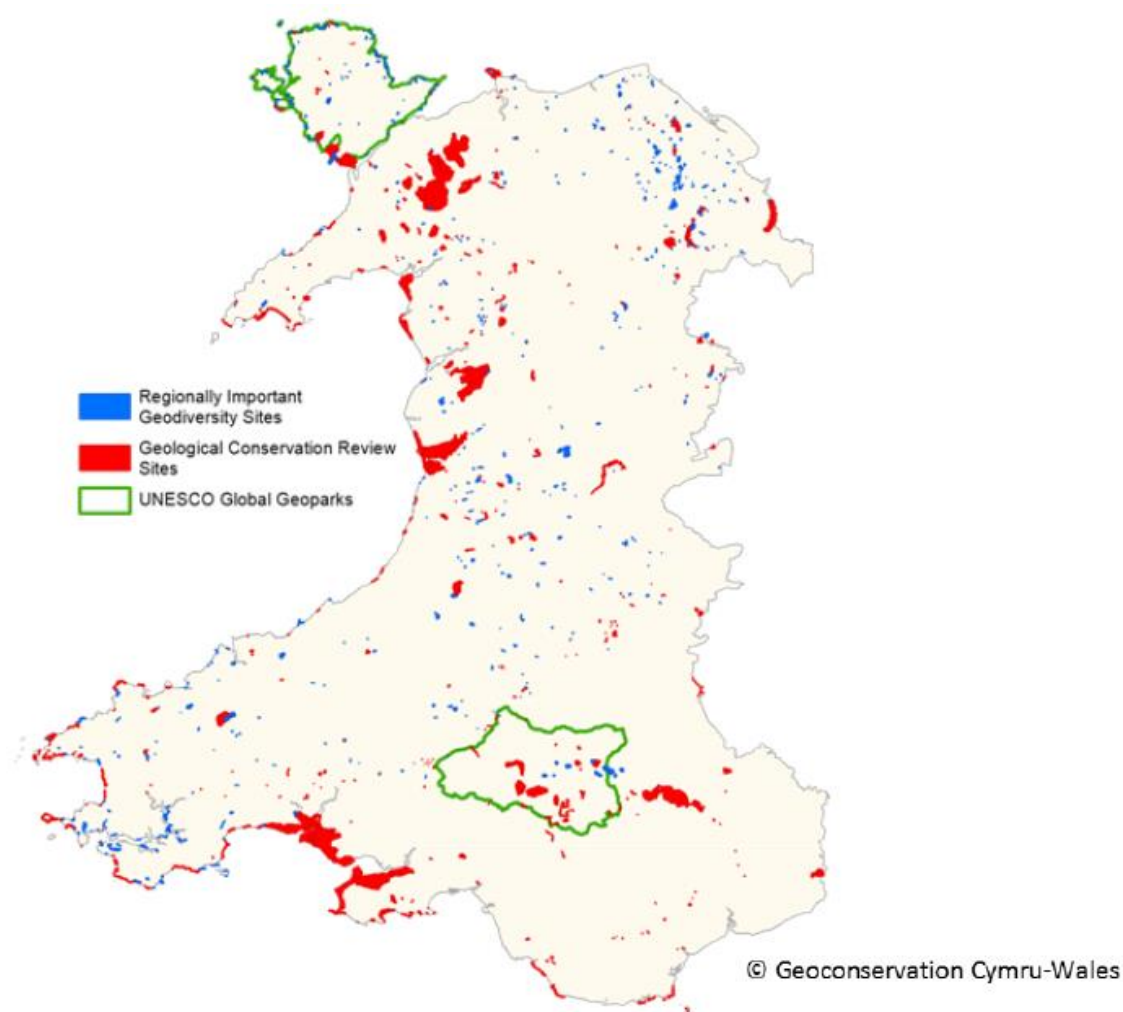
3.6.2   Baseline conditions and trends

3.6.2.1 South West Wales's geodiversity is significant. Geodiversity provides many of Wales's natural resources, strongly influences the landscape, biodiversity and culture, and is internationally important for geoscience research. Of the over 1,000 SSSIs in Wales, 300 of these contain some 500 geological features covering 48,815 ha and 93% of these features are in favourable condition. These may be working or disused quarries, mine spoil, road or rail cuttings, soft or hard coastal cliffs, active landforms such as sand dune systems or meandering rivers, or fixed landforms such as glacial cwms or drumlins. Figure B-28 illustrates the distribution of geological SSSIs and Regionally Important Geodiversity Sites (RIGS). RIGS in Wales cover some 20,000 ha and each was selected to supplement the SSSI network, but also include areas of educational, aesthetic and historical interest. Other areas of Wales, such as the Wales Coast Path, National Parks and National Landscapes, are underpinned by geodiversity and promote the varied landscape that attracts millions of tourists and contributes significantly to the Welsh economy[106].

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[105] Welsh Government (2019) Wales and the Sustainable Development Goals. Available at: https://www.futuregenerations.wales/wp-content/uploads/2019/07/Wales-_-SDGs-_-VNR-_-Supplementary-Report-for-Wales-_-Version-10.1-Final-w-cover-ENG.pdf [Accessed 02.09.24]

[106] Natural Resources Wales (2016) The State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Annex Technical Annex for Chapter 3. Available at: https://cdn.cyfoethnaturiol.cymru/media/684352/annex-chapter-3-final-for-publication.pdf [Accessed 02.09.24]

Figure B-28:Welsh Geodiversity Sites

Source: SoNaRR, 2016

3.6.2.2 South West Wales has a very varied geology but is predominantly comprised of Coal Measure Formations and Ashgill Rocks. Across Pembrokeshire the geology is largely mudstone, sandstone and siltstone although in north Pembrokeshire the dominant geology is older igneous and metamorphic rocks, with some superficial deposits of glacial sand and gravel. There are some areas in the south of Pembrokeshire which are comprised of Pennine Lower Coal Measures and South Wales Lower Coal Measures Formations (Broad Haven to Saundersfoot), and some small areas near to the coastline (Pembroke to Tenby, and Bosherston) which are made up of Limestone[107].

3.6.2.3 The topography varies from low lying relatively flat, coastal areas in the south to steep valleys in the north of Pembrokeshire, Carmarthenshire and Swansea. Neath Port Talbot has high elevations throughout the county reaching over 550mAOD within Afan Forest Park in the east. Carmarthenshire has the highest topography with over 745mAOD within the Brecon Beacons to the east of the county.

3.6.2.4 The soils of best quality and most productive agricultural land are a scarce and finite resource in Wales accounting for less than 7% of land area (see Figure B-29). Soil quality has deteriorated over time across all habitats apart from woodlands where there has been some improvement.

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[107] JBA Consulting (2022) South West Wales – Stage 1 Strategic Flood Consequence Assessment. Available at: https://www.carmarthenshire.gov.wales/media/1231250/1-hri-jbau-xx-xx-rp-hm-0002-a1-c01-stage_1_sfca.pdf [Accessed: 02.09.24]

Figure B-29: Predictive Agricultural Land Classification (ALC) Map

Predictive Agricultural Land Classification (ALC) Map 2

- Grade 1
- Grade 2
- Grade 3a
- Grade 3b
- Grade 4
- Grade 5
- Non Agricultural
- Urban
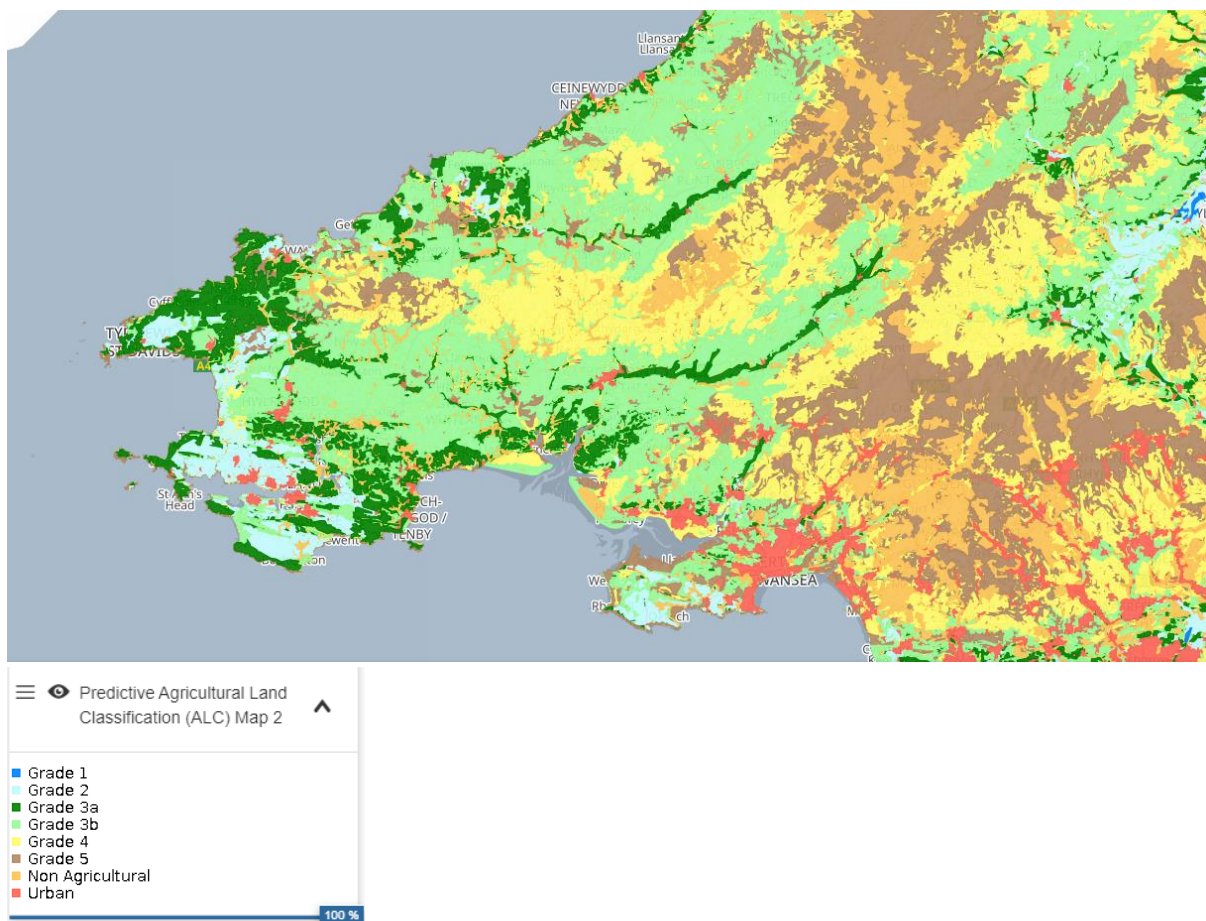
Source: DataMapWales

3.6.2.5   South West Wales is predominantly rural, with 56% of the land being made up of 'enclosed farmland' and a further 17% woodland. Many areas of land in South West Wales are described as riparian zones. These areas filter pollutants such as nutrients and sediment, and bankside vegetation helps to reduce erosion. By bringing nature back to urban streams and rivers and protecting rural streams from trampling from livestock, this can help improve water quality and increase biodiversity[108]. https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-west-wales-area-statement/ensuring-sustainable-land-management/?lang=en

3.6.2.6   Whilst the severity and spatial extent of soil erosion has not been directly quantified in Wales, around 10-15% of grassland fields in England and Wales are thought to be affected by severe soil compaction and 50-60% are in moderate condition. However, on a national level, soils do not appear to show evidence of widespread compaction[109].

3.6.2.7   Remediation has been completed at 97 of the 111 Contaminated Land sites identified in Wales, but around 9,330 potentially contaminated sites have yet to be investigated, 414 of which are considered to be high priority.

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[108] NRW (2024) Ensuring sustainable land management. Available at: https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-west-wales-area-statement/ensuring-sustainable-land-management/?lang=en [Accessed: 02.09.24]
[109] Natural Resource Wales (2020) State of Natural Resources Report (SoNaRR) for Wales 2020. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/sonarr2020-structure-and-contents/?lang=en [Accessed: 02.09.24]

3.6.2.8   Welsh soils contain 410 million tonnes of carbon. The carbon density of Wales on the whole, is relatively high with the densest areas mainly being upland parts of the country. Again, this reflects the country's upland nature and large quantities of peaty soils. Figure B-30 shows the carbon density of Wales at a depth of 0-100cm. Topsoil carbon concentrations are generally stable and there is ongoing recovery from soil acidification.

Figure B-30: Distribution of soil carbon in Wales, shown as carbon density (t/ha) depth 0-100 cm
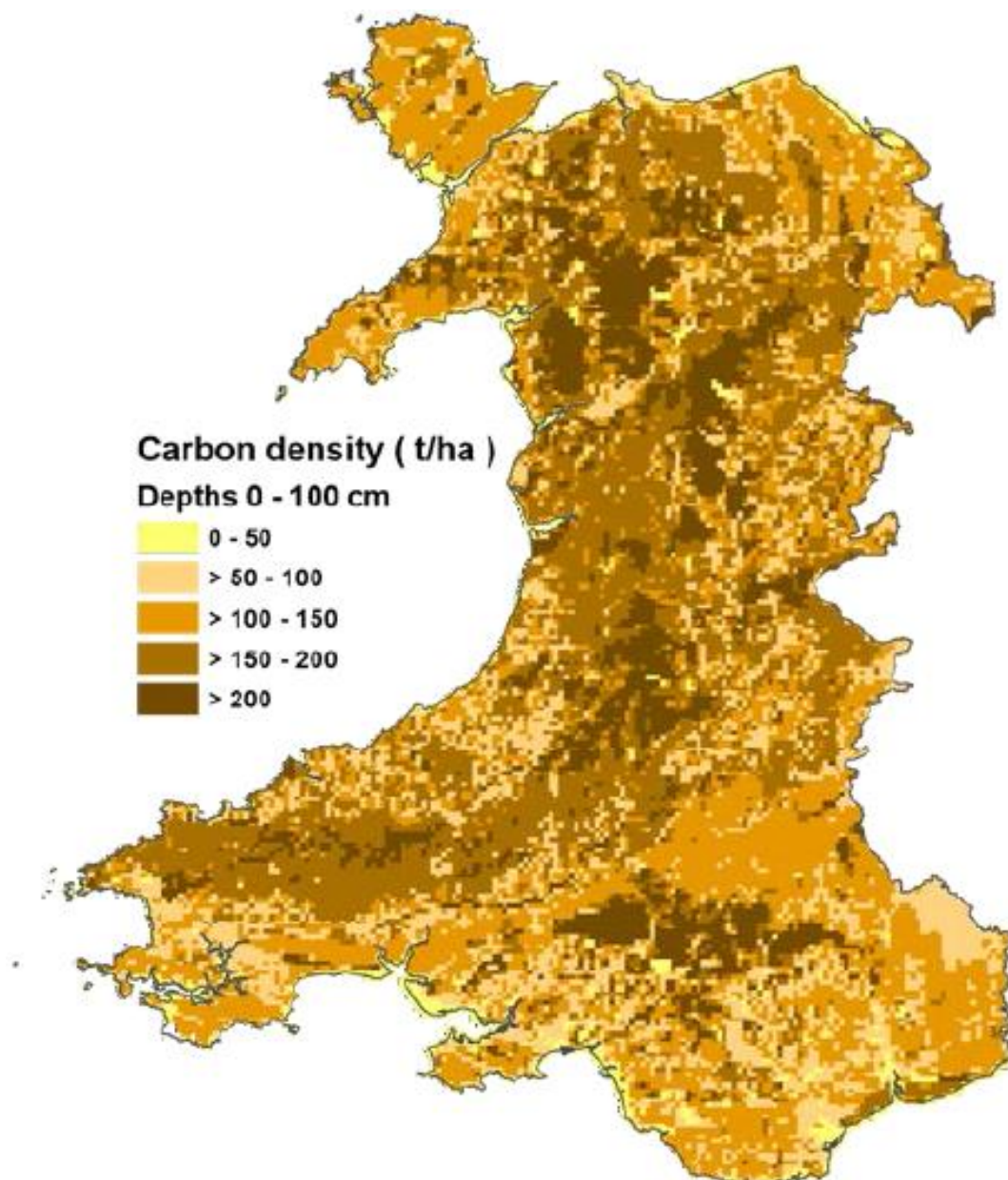
Source: SoNaRR, 2016

3.6.3   Data gaps

- Specific data for South West Wales relating to agricultural land classifications
- Specific data for South West Wales relating to carbon storage in soils
- Specific data for South West Wales relating to regionally important geological sites.
- Specific data for South West Wales relating to land contamination.
- Geological hazards for South West Wales

3.7 Water Environment

3.7.1 Relevance to the RTP

3.7.1.1 Water is central to life. Wales relies on considerable quantities of water to produce resources, transport goods, provide recreational benefits, as a drinking resource and to grow food. The quality and quantity of water is therefore vitally important. It is also important to note that a lack of local water availability can be a limitation to infrastructure and construction. Climate change is anticipated to potentially affect water quality in Wales via a number of pathways as a result of increased rainfall and flooding, extreme weather causing storm surges, higher temperatures and low flows, sea level rise and coastal erosion.

3.7.1.2 The RTP could help manage the water environment through helping to guide decisions relating to development of transport infrastructure that could harm water quality or put pressure on water resources.

3.7.2 Baseline conditions and trends

3.7.2.1 The water features map of Wales in Figure B-37 was produced under the requirements of the Water Framework Directive. The map shows the river catchments and other water features in Wales. Waterbody quality across Wales tend to range from a good to poor classification but are very rarely classed as bad. In particular, the river catchments in the south and Cardigan Bay are classed as moderate or good. The Water Framework Directive[110] required the UK to achieve 'good' status of all water bodies (including rivers, streams, lakes, estuaries, coastal waters and groundwater)[111].

3.7.2.2 In many Welsh rivers, flows are particularly vulnerable to climate change because they tend to rise and fall quickly in response to rainfall. Increased flows during winter may also increase pressure upon sewerage and drainage systems and diffuse pollution. A recent Inquiry was conducted by the Climate Change, Environment and Infrastructure Committee (2022)[112] to respond to concerns *"about the frequency of sewage discharges from storm overflows, (and) the adverse impact of discharges on the environment and public health"* and concluded that spills are at an "unacceptable level". The Inquiry Report acknowledges that increased rainfall as a result of climate change is a significant contributor to rising sewage discharges, which have increased in significantly since 2016 (See Table B-4)[113].

Table B-4: Sewerage discharges in Wales 2016-2020

	2020	2019	2018	2017	2016
No. of spills recorded by Event Duration Monitors	105,751	73,517	48,499	29,878	14,485
No. of storm overflows with Event Duration Monitors installed	2,041	1,665	1,359	983	545

Source: Climate Change, Environment, and Infrastructure Committee 2022

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[111] Environment Agency (2023) Water Framework Directive assessment: estuarine and coastal waters. Available at: https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters [Accessed: 02.09.24]
[112] Welsh Parliament (2022). Report on storm overflows in Wales. Available at: https://senedd.wales/media/v4apg5wb/cr-ld15015-e.pdf [Accessed 03.09.24]

3.7.2.3   All 105 bathing waters in Wales met the bathing water quality standard in 2021, however incidents of pollution continue to occur and have implications for health and local economies reliant on tourism. Whilst overall, drinking water in Wales is of an excellent standard, the Drinking Water Inspectorate (2022) identifies that climate change impacts such as drought and floods increase the risk of algae, metals, pesticide run-off and "other substances of concern" affecting water[114].

3.7.2.4   Because of the topography of Wales, Welsh Water has a high number of "water resource zones" (see Figure B-31). The 24 water resource zones represent a fifth of the total for England and Wales. Welsh Water has identified that three out of its 24 "water resource zones" are not resilient to droughts, with one of these being Pembrokeshire[115].

Figure B-31: Welsh Water's Water Resource Zone

3.7.2.5   Under the Water Framework Directive, a management plan is required for each River Basin District. Wales. NRW produces two River Basin Management Plans (RBMP) for Wales, one for the Western Wales catchment and the other for the Dee River Basin District. Additionally, the Environment Agency produce the RBMP for the Severn. The plans are updated in 6-yearly cycles and contain information on the status of the waterbodies and a summary of the programme of measures required to achieve statutory objectives to maintain and enhance the quality of the water environment. Catchment Abstraction Management Strategies are developed at a catchment level to manage permitting and abstraction rates to ensure sustainable water levels.

3.7.2.6   South West Wales falls under the Western Wales River Basin District (see Figure B-32). In July 2022, NRW produced the Western Wales River Basin Management Plan 2021-2027[116]. The Western Wales RBD covers an area of 16,653 km^2. The RBD is primarily rural, with land mainly used for agriculture and forestry. The lakes, rivers, estuarine and coastal waters of the district are renowned for their fishing. Around 70% of the District's coastline is designated in UK law for its

[114] World Health Organization (no date) D5.5 Water Supply and Quality. Available at: https://phwwhocc.co.uk/wp-content/uploads/2023/07/D5.5-Water-Supply-and-Quality-Eng-final.pdf [Accessed: 02.09.24]
[115] Welsh Water (2020) Final Drought Plan 2020. Available at: https://www.dwrcymru.com/en/our-services/water/water-resources/final-drought-plan-2020 [Accessed: 02.09.24]
[116] Natural Resources Wales (2022) Western Wales River Basin Management Plan 2021 – 2027 Summary. Available at: https://naturalresourceswales.gov.uk/media/695227/western-wales-rbmp-2021_2027-summary.pdf [Accessed: 02.09.24]

environmental quality, including many world class bathing beaches and internationally important conservation sites. All groundwater in this RBD forms part of a Drinking Water Protected Area (DrWPA).

Figure B-32: Western Wales Basin District
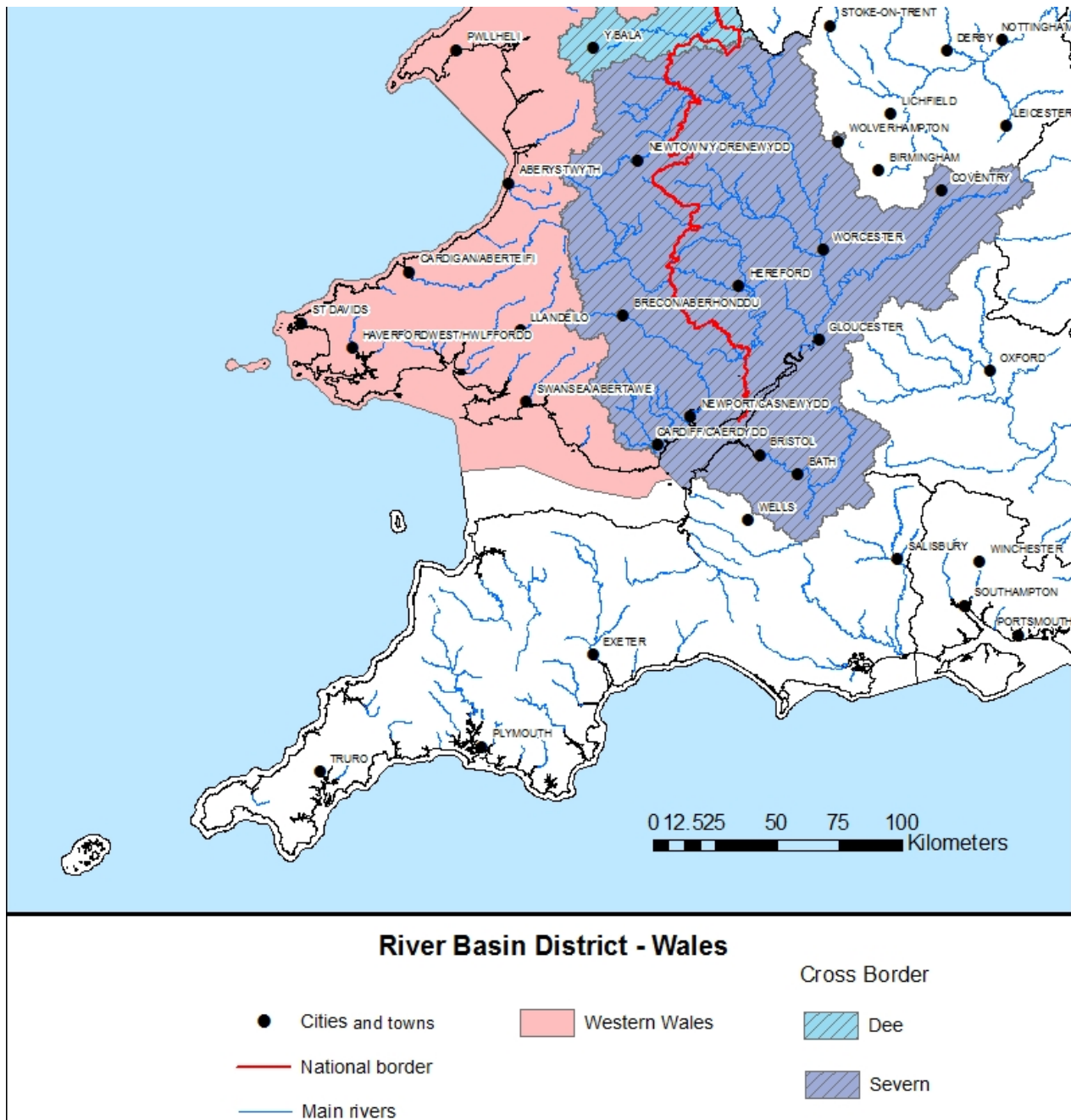
Source: Natural Resource Wales

3.7.2.7   Since the updated RBMP was published in 2015, NRW has continued to improve their understanding of the pressures on the water environment. In 2015 40% of water bodies achieved good or better overall status. The most recent classification shows that this has improved to 42% (see Figure B-33).

Figure B-33: Water Framework Directive river catchments symbolised by classification in 2015 and 2018

OverallStatus
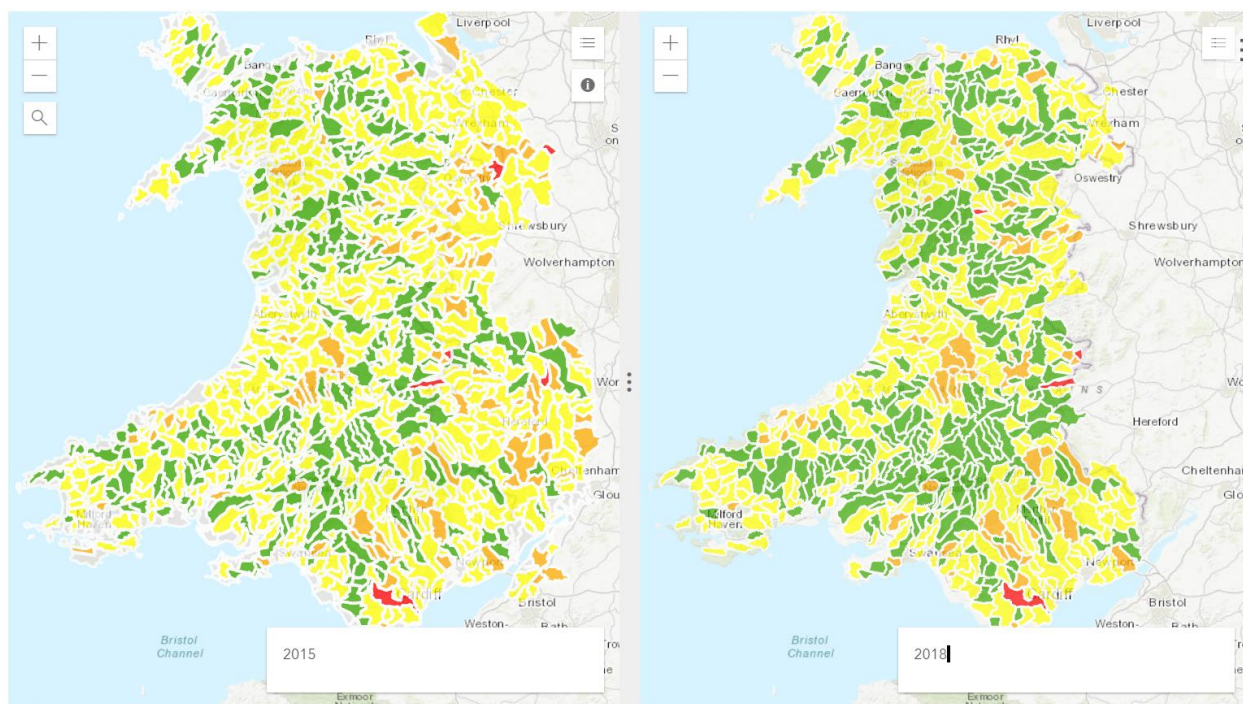
- Not Assessed
- Bad
- Good
- Moderate
- Poor

Source: Water Watch Wales

3.7.2.8   Groundwater provides a third of the drinking water in England and Wales, and it also maintains the flow in many of our rivers. All of Wales is classified as groundwater inner source protection zone. The zone is defined as the 50-day travel time from any point below the water table to the source. These areas apply at and below the water table. The criteria are set to protect against transmission of toxic chemicals and water-borne disease.

3.7.2.9   In Wales, the EC Nitrates Directive[117] was brought into law through the Nitrate Pollution Prevention (Wales) Regulations 2013[118]. A Nitrate Vulnerable Zone (NVZ) is an area of land draining into ground or surface waters that are currently high in nitrate; or may become so if appropriate actions are not taken. In 2014, around 2.3% of Wales was within an NVZ[119].

3.7.2.10   The Nitrate Pollution Prevention (Wales) Regulations (2013) have been revoked and replaced by the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021. Measures to protect

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[117] Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01991L0676-20081211&from=EN [Accessed: 02.09.24]
[118] The Nitrate Pollution Prevention (Wales) Regulations 2013. Available at: https://www.legislation.gov.uk/wsi/2013/2506/contents/made [Accessed: 02.09.24]
[119] Welsh Government (2014) Nitrate vulnerable zones. Available at: https://www.gov.wales/sites/default/files/publications/2021-03/cross-compliance-nitrate-vulnerable-zones-smr-1.pdf [Accessed: 02.09.24]

the environment from pollution by nitrates from agricultural sources will now apply to the majority of holdings in Wales after the transition periods (these apply to holdings not previously in a Nitrate Vulnerable Zone). Nitrate Vulnerable Zones in Wales previously included on the Protected Area Register have been removed[120].

3.7.2.11 In January 2021 NRW published an evidence report, Compliance Assessment of Welsh River SACs against Phosphorous Targets[121]. The evidence review shows that overall, phosphorus breaches in the Afonydd Cleddau and lower Afon Teifi SACs against the revised tightened targets set. However, the Afon Tywi passed the targets.

3.7.3 Data gaps

- Sewage discharge in South West Wales
- Up-to-date water body status
- NVZs in South West Wales
- Data gaps in relation to future water scarcity.

3.8 Minerals and Waste

3.8.1 Relevance to the RTP

3.8.1.1 As described above, Wales's diverse geology provides important mineral resources which underpins the country's construction and energy industries and is therefore an important aspect of the economy. Waste can also be viewed as a resource, both in terms of recycling and re-use for other purposes or as a source of energy. The future of transport in Wales will interact with this through both Waste creation, pathways for minerals and waste and use of waste and minerals in development of transport infrastructure. The sustainable use of these minerals and waste resources could be delivered through the decision making and choice of projects and programmes within the RTP.

3.8.2 Baseline conditions and trends

3.8.2.1 Following a long history, metal mining has ceased and there is only localised coal mining and slate quarrying in Wales. The aggregates industry is now the main mineral extraction industry in Wales, including marine and terrestrially derived aggregates. In 2014, the largest extraction of minerals in tonnes was limestone and dolomite (see Table B-5)[122].

Table B-5: Mineral Production in Wales for 2014

Mineral	Thousand Tonnes Extracted
Coal (deep-mining)	91
Coal (opencast)	2,343
Igneous Rock	1,905

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[120] Natural Resources Wales (2022) Western Wales River Basin Management Plan 2021 – 2027 Summary. Available at: https://naturalresourceswales.gov.uk/media/695227/western-wales-rbmp-2021_2027-summary.pdf [Accessed: 02.09.24]
[121] Natural Resources Wales (2022) Compliance Assessment of Welsh River SACs Against Phosphorus Targets. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/water-reports/compliance-assessment-of-welsh-river-sacs-against-phosphorus-targets/?lang=en [Accessed: 02.09.24]
[122] Natural Resources Wales (2016) State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Technical Report. Chapter 3. Summary of extent, condition and trends of natural resources and ecosystems in Wales. Available at: https://naturalresources.wales/media/681127/chapter-3-state-and-trends-final-for-publication.pdf [Accessed 02.09.24]

Mineral	Thousand Tonnes Extracted
Limestone and Dolomite	8,934
Sand and gravel (land)	673
Sand and gravel (marine)	632
Sandstone	2,774
Total	**17,352**

3.8.2.2   The sales of aggregates in Wales was published in the South Wales Regional Aggregates Working Party Annual Report for 2021[123], and is shown in Figure B-34.

Figure B-34: Primary Aggregate Sale 2012 - 2021
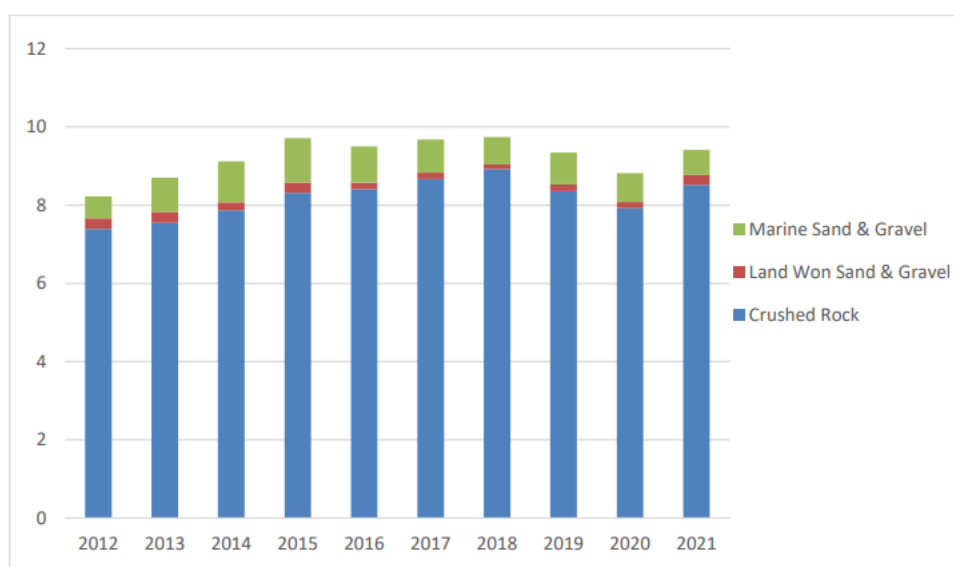
Source: South Wales Regional Aggregates Working Party

3.8.2.3   Planning Policy Wales (PPW) Ed.12 (February 2024) (paragraph 5.14.10) states that *"Ensuring the sustainable supply of minerals is a strategic issue which plays a fundamental underpinning role in supporting non-minerals development."*

3.8.2.4   A Regional Technical Position Statement was prepared in November 2023 for the South West Wales Sub-Region in respect of land won sand and gravel (see Table B-6).

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[123] South Wales Regional Aggregates Working Party (2024) Annual Report For 2021. Available at: http://www.swrawp-wales.org.uk/Html/SWRAWP_Annual_Report_2021_Final.pdf [Accessed 02.09.24]

Table B-6: Calculation of allocations required for land-won sand and gravel aggregates – South West Wales sub region

Local Planning Authority	New Annualised Apportionment for sand and gravel (mt)	Total Apportionment Required over 22 years.	Existing permitted reserves at end of 2016 in mt	Minimum Allocation needed to meet Required Provision (mt)	Additional reserves at Dormant sites, 2016 (mt)
Ceredigion	0.188	4.136	0.510	3.626	0
Pembrokeshire	0.000	0.000	0.000	0.000	0
Pembrokeshire Coast National Park	0.118	2.600	2.600	0.000	0
Carmarthenshire	0.003	0.058	0.100	See note below	0.35

3.8.2.5   Carmarthenshire is the only Local Planning Authority (LPA) in Wales that currently has a surplus of existing permitted reserves of sand and gravel. The remaining LPAs have neither a surplus nor deficit for sand and gravel provision but, in most cases, this is simply because they currently have no production and no apportionment. An exception to this is the Pembrokeshire Coast National Park which (as a consequence of ensuring that it's apportionment will not exceed the current landbank) has just sufficient reserves to cover the 22-year period required. In future years, the requirement which has fallen on the National Park will need to be supplied by other adjoining areas[124].

3.8.2.6   Towards Zero Waste 2010–2050[125] aims for Wales to become a a high recycling nation by 2025 and a zero-waste nation by 2050. The 2015 Progress Report[126] identifies the following key statistics and trends:

- Wales leads the UK in recycling municipal waste by a significant margin, achieving 54.3% in 2013/14.
- Wales has reduced waste sent to landfill at permitted sites by 37% between 2010 and 2013.
- Since 2009-10, Wales has made progress in reducing household waste arisings by an average of 1.8% per year, and the recycling rate of local authority collected waste has improved by 13.8%.
- Wales met the EU target 2020 for biodegradable waste collected by local authorities and others sent to landfill eight years early.
- Wales has also reduced the greenhouse gas emissions from waste by 4.7% per year since 2007, exceeding the target reduction of 3% per year set in the Climate Change Strategy.

3.8.2.7   Table B-7 shows the total amount of waste per sector that was not recycled, re-used or composted as a percentage of overall municipal waste production[127]. This shows a steady decrease in the amount of waste sent to landfill until 2021, which saw a sharp increase.

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[124] Statement Of Sub-Regional Collaboration South West Wales Sub-Region (2023) Regional Technical Statement For The North Wales And South Wales Regional Aggregate Working Parties- 2nd Review. Available at: https://www.carmarthenshire.gov.wales/media/5wamkk4n/ssrc-position-statement-sw-wales-sub-region-final-eng.pdf [Accessed: 02.09.24]
[125] Government (2010) Towards zero waste: our waste strategy. Available at: https://gov.wales/towards-zero-waste-our-waste-strategy [Accessed: 02.09.24]
[126] Welsh Government (2015) Towards Zero Waste 2010–2050 Progress Report July 2015. Available at: https://gov.wales/sites/default/files/publications/2019-05/towards-zero-waste-progress-report-july-2015.pdf [Accessed: 02.09.24]
[127] DEFRA (2023) ENV23 UK statistics on waste data. Available at: https://www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management [Accessed: 02.09.24]

Table B-7: Amount of Municipal Waste and Biodegradable Municipal Waste sent to Landfill

Year	Municipal waste sent to landfill (thousand tonnes)	Biodegradable municipal waste sent to landfill (thousand tonnes)
2017	678	311
2018	574	285
2019	507	250
2020	452	221
2021	599	296

3.8.2.8   Between 2022-2023 annual reuse/ recycling/ composting rates (statutory target) in South West Wales were as follows; Pembrokeshire 71.6%, Carmarthenshire 65.4%, Swansea 71.8% and Neath Port Talbot 64.8%[128].

3.8.2.9   In Wales, for waste disposed to landfill in the period April 2023 to March 2024[129]:

- There were 1,054 thousand tonnes of authorised disposals. This is a decrease of 14% when compared with April 2022 to March 2023.
- These disposals resulted in £29.6 million tax due. This is 30% lower than the tax due for April 2022 to March 2023. Possible reasons for this trend include:
  - effects of environmental policy in encouraging less harmful methods of waste management such as recycling and incineration
  - variability in the volume of disposals at particular sites where the landfill cells are full or nearly full, and some landfill sites nearing end-of-life
- Fine material accounted for 41% of the weight of waste disposed at the lower rate of tax.
- The 5 landfill site operators paying the most tax accounted for 88% of the total tax due.

3.8.2.10   The Natural Resource Policy (NRP)[130] puts an emphasis on taking a place-based approach and delivering nature-based solutions. There is an emphasis within the document of using a solid baseline to understand how to sustainably plan for the future.

3.8.2.11   The four policy themes, drawn from the NRP, were:

1. Marine and Freshwater Water Quality

2. Natural Flood Management

3. Woodland Planting (for various objectives)

4. Urban and Peri-Urban Green Infrastructure

3.8.3   Data gaps

- Data gap relating to how recycled materials are used in the transport industry as a percentage of total materials used across Wales.
- Data gaps relating to the transportation and management of waste and minerals across Wales.

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[128] StatWales (2023) Annual reuse/recycling/composting rates by local authority. Available at: https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste/annualreuserecyclingcompostingrates-by-localauthority-year [Accessed: 06.08.24]
[129] Welsh Government (2024) Landfill Disposals Tax statistics: January to March 2024. Available at: https://www.gov.wales/landfill-disposals-tax-statistics-january-march-2024-html [Accessed: 06.08.24]
[130] Welsh Government (2018) Natural resources policy. Availabel at: https://gov.wales/natural-resources-policy [Accessed: 02.09.24]

- Up to date mineral production data across Wales
- Mineral production in South West Wales

3.9 Key Issues relevant to the RTP and opportunities for it to address them

3.9.1 Issues

Air Quality

3.9.1.1   Air quality in South West Wales is generally very good, reflective of its largely rural nature and high-quality natural environment. However, there are seven AQMAs in South West Wales and targets are being breached for a number of key pollutants which pose a risk to human health and the natural environment so the transport plan must take this into account.

3.9.1.2   90% of semi-natural nitrogen sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits.

3.9.1.3   Ammonia remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter, including the formation of ultra-fine particulates ($PM_{2.5}$), which can have a more serious impact on human health and ecosystems than the larger PM_{10}s.

3.9.1.4   Road transport accounts for nearly a third of all NO_2 emissions in the UK and transport is the biggest source of air pollution in the UK.

Noise Pollution

3.9.1.5   Noise from railways and main roads in SWW remain high. It is unclear how changes to transport modes, such as electrification, will affect noise pollution from transport sources.

Biodiversity, Flora and Fauna and Ecosystem Resilience

3.9.1.6   South West Wales has a rich and varied natural environment including a wide representation of important habitats and species. However, the condition of species features in European designated sites in Wales and the condition of priority habitats in Wales remains mostly unfavourable, the transport plan must do its best to not impede on the habitats via habitat fragmentation or indirect effects such as nitrogen deposition, wildlife fatalities or noise disturbance.

3.9.1.7   Terrestrial and marine biodiversity is under threat from transport infrastructure, pollution and climate change, all of which are effects that come from the transport network.

3.9.1.8   Changes in habitat quality coming from changes to the groundwater regime, changes in natural rates of flow from hard surfaces increasing surface water flooding.

3.9.1.9   Disturbance to fauna from noise, lighting and vibrations from traffic and road lighting.

3.9.1.10   Road structures may cause problems for certain birds/mammals by reducing visibility.

3.9.1.11   The edge habitat or ecotone and traffic on the road may facilitate dispersal for some species. This may result in dispersal and establishment of alien and invasive species or pest species that may have secondary effects on biological communities.

3.9.1.12 Surrounding habitats may be placed under increasing public pressure, because of access, leading to effects including the disturbance of animals, and physical destruction of ground flora. Also, litter may accumulate along road.

3.9.1.13 Off-site habitat losses and changes in habitat quality in relation to the obtaining and disposal of materials e.g. mining for aggregates for road building.

3.9.1.14 Even relatively minor habitat loss, fragmentation and indirect impacts of an individual road project can, when added to other past, present and reasonably foreseeable future impacts of other projects and activities, contribute to significant impacts in an area. All relevant types of future projects and activities should be considered (i.e. not just other road projects) including induced development.

Climate, Flood Risk and Coastal Erosion

3.9.1.15 The effects of climate change are increasing and adaptation and resilience to its effects is an increasing necessity. Notably, flood risk is a significant issue in South West Wales including coastal, fluvial and surface water flooding that may affect transport infrastructure. This is exacerbated by an increase in extreme weather events and this means that properties and businesses are increasingly becoming at risk. Disruption can disproportionately impact communities with fewer and less resilient transport options.

3.9.1.16 Climate change will impact on South West Wales in ways other than just flooding, such as more extreme weather events, an increase in storminess, higher maximum and minimum temperatures, more severe droughts and exacerbated rates of coastal erosion. Climate change will also affect habitats and species throughout South West Wales.

3.9.1.17 Issues such as potholes are caused by surface cracks due to warm weather and rain are everyday hazards experienced by road users and cyclists.

Geology and Soils

3.9.1.18 In the future, geological hazards may change as a response to climate change. For example, coastal erosion, landslides and pollution from former mine sites. This poses significant risks to the transport system.

3.9.1.19 The soils of best quality and most productive agricultural land are a scarce and finite resource in Wales and soil quality has deteriorated over time across all habitats. This is important for biodiversity, landscape character, tourism, agricultural productivity and climate change resilience. Topsoil, in particular peaty soils in Wales are a major carbon sink which needs protection. All of this must be taken into account when planning the location of future transport infrastructure.

Water Environment

3.9.1.20 The quality of Wales's water bodies is still not up to Water Framework Directive requirements with only 40% being of good ecological status in 2020. Transport activities can be a big contributor to poor water quality.

3.9.1.21 In many Welsh rivers, flows are particularly vulnerable to climate change because they tend to rise and fall quickly in response to rainfall. Increased surface water flows during winter, resulting from increased precipitation from climate change, may increase pressure upon sewerage and drainage systems and diffuse pollution.

3.9.1.22 Whilst Wales is perceived to be water-rich, it is already facing challenges in terms of supply and water resources can become relatively scarce during prolonged warm, dry weather.

3.9.1.23 Run off from roads and spillages on roads and during construction can all lead to pollution in surface waters, ground waters and marine environments (around ports).

Minerals and Waste

3.9.1.24 Minerals safeguarding can sometimes also conflict with other forms of development e.g. transport infrastructure.

3.9.1.25 There may be high material requirements for construction of transport infrastructure putting further strain on the limited resources.

3.9.2 Opportunities

Air Quality

3.9.2.1 The transport system is a significant contributor to air pollution at present, an opportunity to reduce this negative effect on air quality could be affected by helping to minimise pollution from transport through minimising the distance travelled and encouraging more sustainable modes of transport. Sustainable design and landscaping policies could help to provide opportunities for absorbing some pollutants.

3.9.2.2 Active travel routes could suffer from high air pollution, which could exacerbate health issues.

Noise Pollution

3.9.2.3 The RTP can affect noise pollution through ensuring decisions are based on the principle of reducing emissions through the transition to implementing the sustainable transport hierarchy. Sustainable design and landscaping policies could help to reduce the effect of noise and the potential impact from transport on tranquil areas.

Biodiversity, Flora and Fauna and Ecosystem Resilience

3.9.2.4 The RTP can both benefit and enhance biodiversity through guiding the location and manner in which new transport infrastructure occurs. It provides opportunities to ensure biodiversity is protected and enhanced through the transport system, not just in terms of protected sites but also in terms of biodiversity and connectivity in general. Other benefits might include improved habitat management; new structures e.g. bridges and tunnels may provide habitats for some species e.g. bats; and habitat creation. There is opportunity for the RTP to introduce additional green infrastructure as part of future transport proposals to support placemaking as well as biodiversity, flora and fauna. Reclaiming disused railways for multi-user routes could allow for wildlife management and the control of dominant species allowing for a more biodiverse environment.

Climate, Flood Risk and Coastal Erosion

3.9.2.5 The RTP has a significant role to play in terms of climate change adaption and resilience. Flooding and coastal erosion are key areas in which the effects of climate change are felt locally, and the programmes set out in the RTP could be designed to help minimise flood risk. Transport infrastructure should be designed to be resilient to erosion and other impacts of climate changes, including increased storminess and temperature extremes.

3.9.2.6 The RTP should focus on significantly reducing greenhouse gas emissions from transport, through the promotion of more sustainable transport methods such as public transport and active travel. Provision could be made within the RTP for increasing the provision of electric vehicle charging points to encourage the uptake of electric vehicles.

3.9.2.7   The RTP could encourage the monitoring the impact of weather events on existing infrastructure, capacities and strains on the wider network.

Geology and Soils

3.9.2.8   The RTP has an opportunity to guide the sustainable use of South West Wales's geology and soils in the transport system in terms of their use in the construction of transport infrastructure or utilising previously developed land and contributing to the ongoing remediation or land and soils. Aspects such as this, as well as the management or avoidance of geological hazards could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.

Water Environment

3.9.2.9   The RTP could help facilitate the development of new of transport infrastructure and transport routes in a manner that seeks to avoid pollution of water bodies. Aspects such as this could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.

Minerals and Waste

3.9.2.10 The RTP could potentially help to guide the sustainable use of such resources through its policies. Aspects such as this could be noted in the IIA for further specific projects in lower-level plans or projects, should the relevant spatial detail not be included at the high level of the RTP.

4 Well-Being Goal: A Healthier Wales and A More Equal Wales

4.1.1.1   This section provides data relating to the following well-being goal:

"A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood" and *"To deliver better public services, helping everyone who needs them, when they need them, where they need them".*

4.1.1.2   The data relates primarily to:

- Human Health;
- Well-Being; and
- Population.

4.2 Health and Well-being

4.2.1   Relevance to the RTP

4.2.1.1   In terms of equality, transport plays an important role in delivering an inclusive Wales, everyone, regardless of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation should be able to, and have the confidence to, make seamless independent and unassisted journeys across all modes of transport – from door to door and on a turn-up-and-go basis.

4.2.1.2   In many ways, health in Wales is improving; people are living longer and rates of certain types of diseases are coming down. In many parts of Wales, the health of those living in rural communities is generally good, in comparison to those in a more urban setting. However, there are factors specific to a rural environment compared to those of urban environments that can impact on health more significantly and lead to inequalities and poorer health, such as distance from public services and support; availability of transport; housing standards; and an ageing population.

4.2.2   Baseline conditions and trends

Active Travel

4.2.2.1   'Active travel' is walking or cycling as a means of transport; that is walking or cycling in order to get to a particular destination such as school, work, shops, visit friends and many other journeys. In a Statistical Bulletin on the use of active travel in Wales[131], it was found that:

- 6% of adults cycled at least once a week for active travel purposes between April 2022 and March 2023. This is up 2% on the same period between 2019 and 2020.
- 51% of adults walked at least once a week for active travel purposes (see Figure B-35). This is down 9% from the 2019 – 2020 period.
- When asked how frequently they had walked for more than 10 minutes as a means of transport in the previous three months 17% said they walked for more than 10 minutes every day, 18% stated they walked several times a week and 16% once or twice a week. A further 8% walked once or twice a month and 41% said they walked less often or never.

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[131] Welsh Government (2023) Active travel (walking and cycling): April 2022 to March 2023. Available at: https://www.gov.wales/active-travel-walking-and-cycling-april-2022-march-2023-html [Accessed: 02.09.24]

- People without a limiting long-standing illness, disability or infirmity were more likely to have cycled at least once a month compared with those with a limiting illness.
- 62% of people in urban areas walked for more than 10 minutes as a means of transport at least once a month, compared with 52% of people in rural areas (see Figure B-36).
- National Survey respondents who were in 'very good' or 'good' health were more likely to walk or cycle regularly. 19% of people in very good health and 18% of people in good health walked as a means of transport every day compared with 15% in fair health.

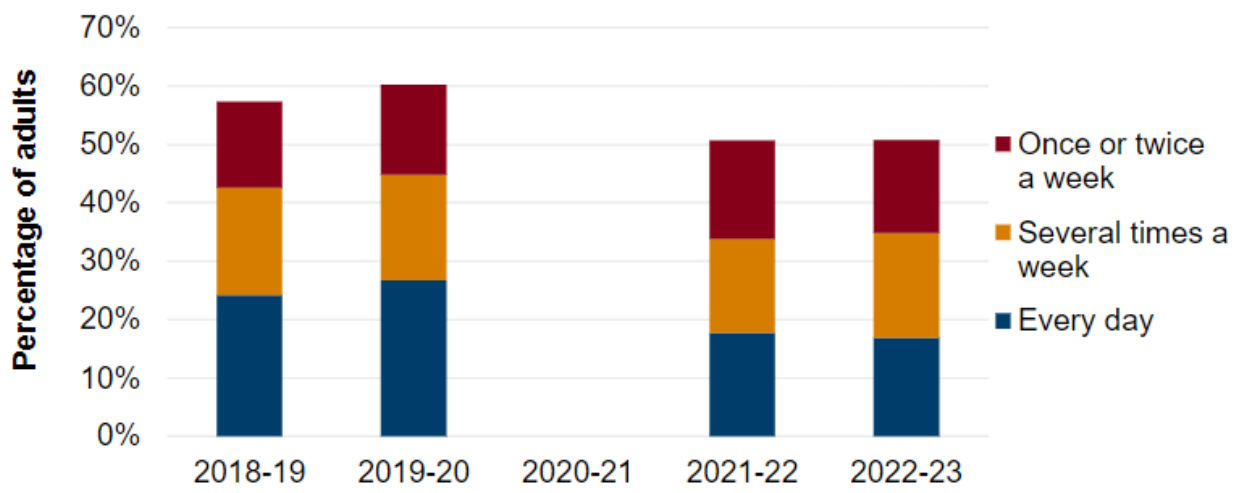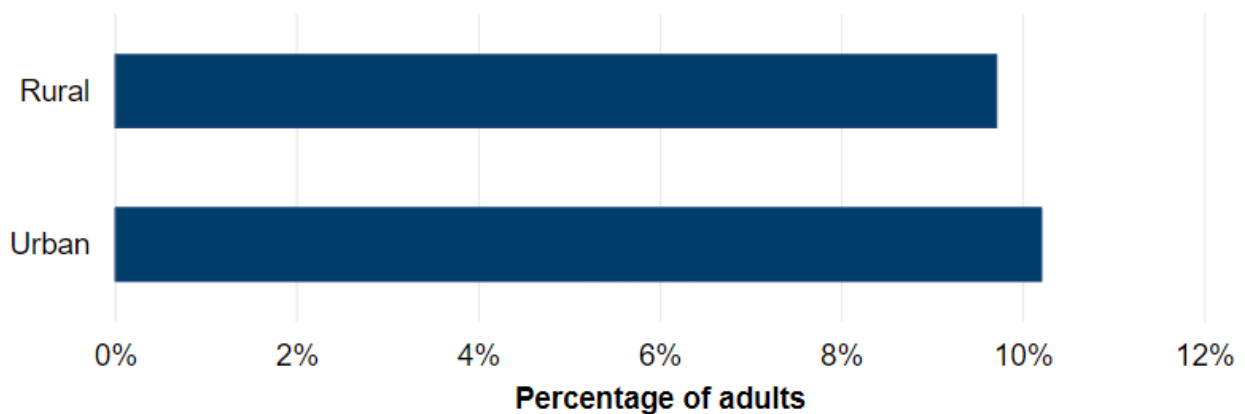**Figure B-35: Frequency of active travel by walking**

Figure B-36: Active travel (walking) by urban and rural classification

Healthy lifestyle behaviours

4.2.2.2 The National Survey for Wales[132] assessed whether Welsh respondents exhibited the following healthy lifestyle behaviours:

- Not smoking;
- Not drinking above daily guidelines in the previous week;
- Eating five or more portions of fruit and vegetables the previous day;
- Being physically active for at least 150 minutes in the previous week; and
- Maintaining a healthy weight/body mass index.

4.2.2.3 Around 8% of adults reported following less than two healthy lifestyle behaviours. Over 50% of adults reported that they had been active for at least 150 minute the previous week and 37% reported a healthy weight. Approximately 29% of adults ported that they ate at least 5 portions of fruit or vegetables the previous day. Approximately 13% of adults said they smoked and 17% reported that they drank more than the weekly guideline.

4.2.2.4 In terms of specific groups, the percentage of adults who followed fewer than two healthy lifestyles was more common in men (14%) than women (8%), and among adults aged 45-64.

4.2.2.5 The Survey established that when considering adult lifestyle by health board, the reports of 'Active less than 30 minutes a week' were 28% in Swansea, 25% in Carmarthenshire, 28% in Pembrokeshire and 29% in Neath Port Talbot. This is very similar to 31% identified across the whole of Wales.

4.2.2.6 There was no significant change in most lifestyle behaviours between 2021-22 and 2022-23, however there was an increase in use of e-cigarettes.

Percentage of people who are lonely

4.2.2.7 The National Survey for Wales asked people whether they agreed with a series of statements about their current life status, and the key findings are set out below:[133]

- In 2022 to 2023, 13% of people were lonely, consistent with 2021 to 2022 results.
- People who identified as 'White – British' were less likely to be lonely than those who identified as Black, Asian, or part of a minority ethnic group.
- People who considered themselves to be in bad health were more likely to be lonely than those in good health.
- 39% of those with a mental illness (including anxiety and depression) were lonely, while just 9% of those without such an illness were lonely.
- Users of care and social services were the most likely to agree that they often felt lonely (39% compared with 11% of those who were not users or carers).

Health facilities in Wales

4.2.2.8 There are a number of hospital facilities within Wales spread across a number of departmental requirements, the number and types of facilities are shown in Table B-8. As of 2019 there were 407

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[132] Welsh Government (2024) Adult lifestyle (National Survey for Wales): April 2022 to March 2023. Available at: https://www.gov.wales/adult-lifestyle-national-survey-wales-april-2022-march-2023 [Accessed: 02.09.24]

[133] Welsh Government (2023) Loneliness (National Survey for Wales): April 2022 to March 2023. Available at: https://www.gov.wales/loneliness-national-survey-wales-april-2022-march-2023-html [Accessed: 02.09.24]

GP Practices in Wales (nine fewer than 2018) of which 89% were for all daily core hours were open for all of core hours or within one hour of core hours (08:00 to 18:30), Monday to Friday[134].

Table B-8: Number and Type of Hospital Facilities within Wales

Hospital Facility Type		Number
Major A&E Unit		15
Minor A&E Unit		0
Minor Injuries Unit		27
Other Hospitals	Acute	2
	CHC Local Committee	3
	Clinic	19
	Community	28
	Community Hospital: Elderly Mental Infirm	3
	Day Hospital	5
	Major Acute	2
	Psychiatric: Learning Disability	2
	Psychiatric: Mental Illness	17
	Psychiatric: Mental Illness / Learning Disability	2
	Specialist Acute	3

Source: NHS Wales

Obesity in Wales

4.2.2.9   In 2022 to 2023, 61% of adults were classified as overweight, including 26% classed as obese[135].

4.2.2.10   Around one in four of Wales's four-to-five year olds start school overweight or obese, and rates of childhood obesity is worse in more deprived areas[136]. In Carmarthenshire 30.4% of children were overweight or obese in 2019[137]. The COVID-19 pandemic has meant that families across Wales lost incomes, found it more difficult to eat healthy food and saw a decline in their physical activity. This will have impacted upon their mental health, which is also strongly linked to obesity, and its long-term effects are not yet known.

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[134] Welsh Government (2020) GP Access in Wales, 2019. Available at: https://gov.wales/sites/default/files/statistics-and-research/2020-03/gp-access-2019.pdf [Accessed 02.09.24]
[135] Welsh Government (2024) Adult lifestyle (National Survey for Wales): April 2022 to March 2023. Available at: https://www.gov.wales/adult-lifestyle-national-survey-wales-april-2022-march-2023 [Accessed: 02.09.24]
[136] Welsh Government (2020) Healthy weight strategy (Healthy Weight Healthy Wales). Available at: https://gov.wales/healthy-weight-strategy-healthy-weight-healthy-wales [Accessed: 02.09.24]
[137] Carmarthenshire County Council (no date) Start Well - Help children live healthy lifestyles. Available at: https://www.carmarthenshire.gov.wales/media/1226775/well-being-objective-2-2021-2022.pdf#:~:text=Levels%20of%20childhood%20obesity%20in%20Carmarthenshire%20are%20amongst,or%20obese%2C%20the%205th%20highest%20figure%20in%20Wales [Accessed: 03.09.24]

WIMD 2019: access to services

4.2.2.11   Latest figures for the LSOAs in Wales (there are 1,909 LSOAs in total in Wales) include average travel times using private transport when access to services have been considered. The WIMD 2019 access to services domain results have demonstrated that there is a widespread deprivation across Wales and also particularly within rural areas in terms of access[138]. Furthermore, there are some deprived pockets near large urban areas.

4.2.2.12   The local authorities with the highest proportion of small areas in the most deprived 10% in Wales for access to services were Powys (50.6%) and Ceredigion (50.0%).

4.2.2.13   Neath Port Talbot had no areas in the most deprived 10%. The most deprived small area in Wales was Cynwyl Gaeo, Carmarthenshire, the same as for WIMD 2014.

Access to services and facilities

4.2.2.14   At present access to traditional hourly bus services is limited to the urban areas and interurban connections, as seen in Figure B-37. This means access to servces for residents in more rural areas is primarily limited to personal car use.

Figure B-37: Current Bus Network in South West Wales
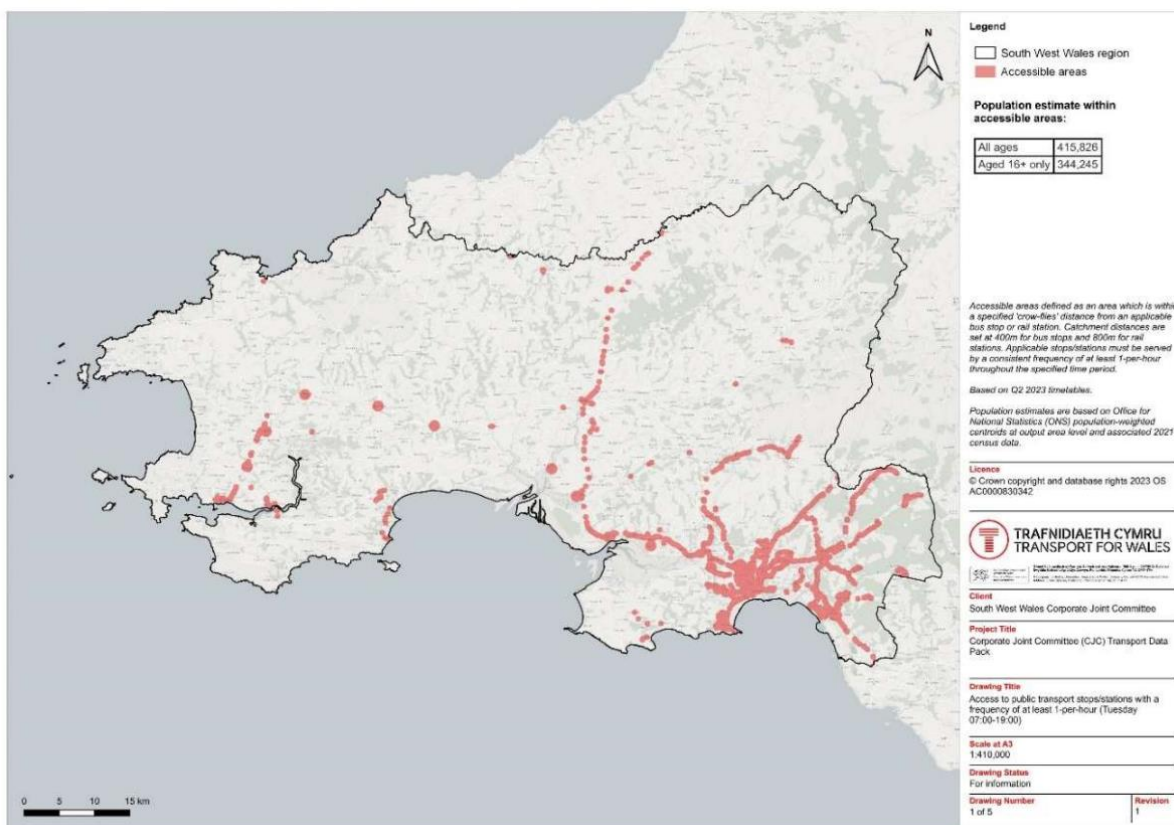
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138 Welsh Government (2020) Welsh Index of Multiple Deprivation: 2019. Available at: https://gov.wales/welsh-index-multiple-deprivation-full-index-update-ranks-2019 [Accessed: 02.09.24]

4.2.2.15 In the National Survey for Wales[139], 69% of people surveyed were satisfied that good services and facilities are available in their local area, but 3% said that there were no services or facilities in their area. 80% were satisfied with their ability to get to or access the facilities and service they needed.

4.2.2.16 Figure B-38 shows the deprivation levels of the LSOAs in Wales with regard to access to services. Patterns in health deprivation in Wales have remained largely unchanged since the 2011 WIMD[140].

[139] Welsh Government (2019) National Survey for Wales, 2018-19 Community cohesion and safety in the local area. Available at:https://gov.wales/sites/default/files/statistics-and-research/2019-11/community-cohesion-and-safety-local-national-survey-wales-april-2018-march-2019-739.pdf [Accessed: 01.12.21]
[140] Welsh Government (2020) Welsh Index of Multiple Deprivation: 2019. Available at: https://gov.wales/welsh-index-multiple-deprivation-full-index-update-ranks-2019 [Accessed: 03.09.24]

Figure B-38: Access to Services Deprivation Map for Wales

Welsh Index of Multiple Deprivation 2019
Access to Services Domain

by Lower Level Super Output Areas

Rank	Most Deprived	
1 - 191		10% most deprived
192 - 382		10-20% most deprived
383 - 573		20-30% most deprived
574 - 955		30-50% most deprived
956 - 1909		50% least deprived
	Least Deprived	

Local Authority Boundary ———

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Cartographics • Welsh Government • MU45/19.20
November 2019
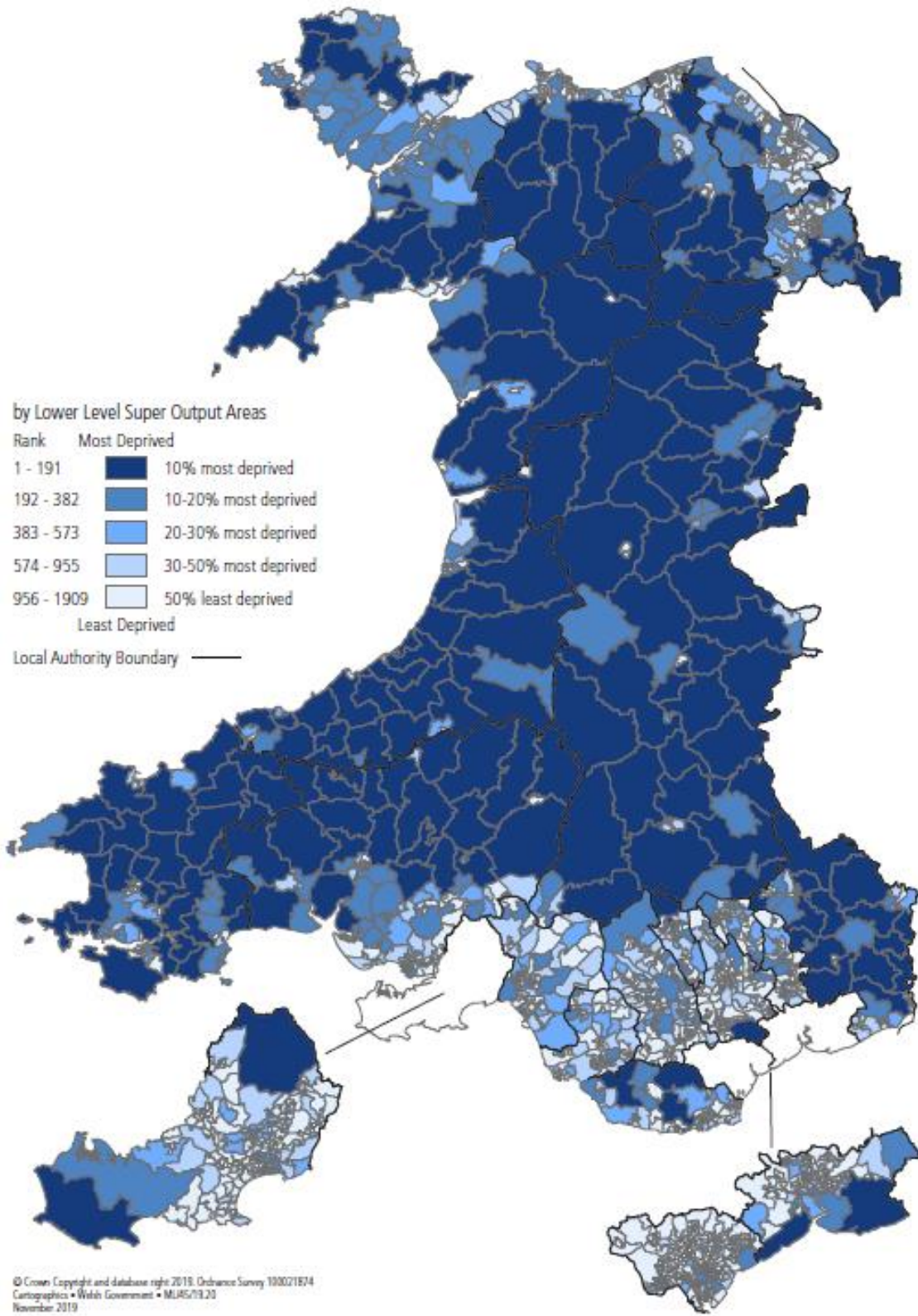
Source: WIMD 2019

WIMD 2019: Health

4.2.2.17   In 2019-2020, 71% of people in Wales reported their general health as either 'Very good' or 'Good'[141]. The concentration of low percentages of 'Good' general health recorded in 2019 corresponds with the former coal mining and heavy industrial centres of the Welsh valleys in 2019 suggesting that these former industries have had long term health implications.

4.2.2.18   Figure B-39 shows the deprivation levels of the LSOAs in Wales with regard to Health Domain.

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[141] Welsh Government (2020) National Survey for Wales: results viewer. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed 03.09.24]

Figure B-39: Health Deprivation Map for Wales

Welsh Index of Multiple Deprivation 2019
Health Domain

by Lower Level Super Output Areas

Rank	Most Deprived	
1 – 191		10% most deprived
192 – 382		10-20% most deprived
383 – 573		20-30% most deprived
574 – 955		30-50% most deprived
956 – 1909		50% least deprived
	Least Deprived	

Local Authority Boundary ——

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Cartographics • Welsh Government • MUAS/19.20
November 2019
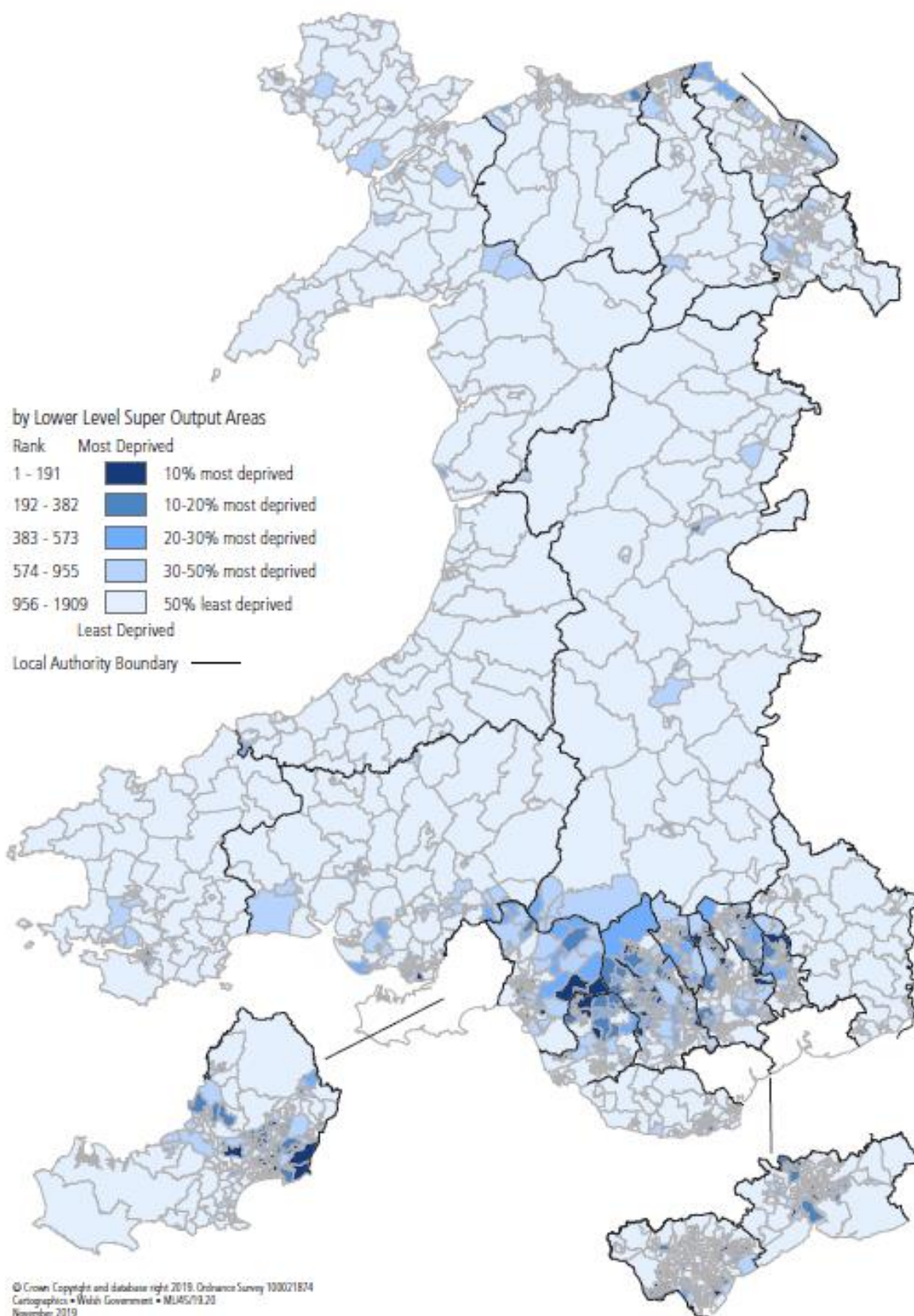
Source: WIMD 2019

4.3 Population

4.3.1 Relevance to the RTP

4.3.1.1 An equal society in South West Wales can help to ensure that public transport services are fair and accessible to all and completely inclusive. The RTP could contribute positively towards making more fair and inclusive societies.

4.3.1.2 Road transport has five main impacts on public health: air pollution, physical inactivity, road safety, noise and the isolation faced by vulnerable people due to fear of road danger, which prevents them accessing employment or educational opportunities, social networks, local amenities and services (including healthcare), adding to the risk of mental and physical ill-health.

4.3.1.3 Issues relating to women specifically can relate to a fear of crime on public transport.

4.3.1.4 Physical accessibility to transport may have an effect on disabled people accessing public transport

4.3.1.5 Chronically ill or disabled people are extremely sensitive to noise or air pollution in their local environment, with impacts ranging from sleep disturbance to hypertension.

4.3.1.6 People on low incomes (living in a deprived area is used as a proxy for a low income) and without access to a car are likely to walk further. Their lack of transport options, which may include affordability of public transport, may limit life and work opportunities. People living in deprived areas can be particularly vulnerable to road traffic incidents. This group may also have increased stress levels, a poor physical environment can be considered a barrier to active travel.

4.3.1.7 Minorities are more likely to live in a household without a car and so will be more reliant on public transport. The RTP must provide for the safety and inclusion of minorities across all modes of public transport.

4.3.1.8 Women and minority groups are more likely to travel by bus, however more investment is being put into rail as a method of public transport. The RTP must provision for a more equal Wales by placing the necessary investment in the public transport most used by these groups or removing any potential barriers to other types of transport to these groups.

4.3.1.9 Women are more likely to have diverse patterns of trip chaining, particularly when accompanying a child. They therefore tend to be more economically sensitive to the costs of public transport, particularly buses, and particularly as women tend to earn less on average than men.

Vulnerable or Priority Groups

4.3.1.10 A Health Impact Assessment (HIA) considers the effects of a project on both the health of the population affected by a project overall and the distribution of those impacts within the affected population. However, it is necessary to identify particular priority groups because changes to overall health determinants can have greater or lesser effects on population sub-groups depending on, for example, their age, health status, income and social support. The term 'Vulnerable or Priority Groups' is derived from the Healthy Urban Development Unit (HUDU) guidance[142].

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[142] NHS (2019) Rapid Health Impact Assessment Tool. Available at: https://www.healthyurbandevelopment.nhs.uk/our-services/delivering-healthy-urban-development/health-impact-assessment/#:~:text=HUDU%20is%20able%20to%20provide%20bespoke%20advice%20and,assessing%20the%20indirect%20implications%20for%20the%20wider%20community [Accessed: 04.09.24]

4.3.1.11 Vulnerable sub-groups are more likely to be susceptible to the RTP's impacts than other social groups due to various factors as explained in Table B-9. Other wider target groups including adults and professionals and the general population living in Wales may also be impacted by the RTP.

Table B-9: Vulnerable or Priority groups and health outcomes related to the RTP

Vulnerable/ Priority Group	Explanation and Health Outcomes
Younger people (children and young people, up to 18)	Children and adolescents constitute a vulnerable population group due partly to their need to be able to move around freely to and from school and recreational activities, whilst they lack the experience and judgement displayed by adults when moving around in traffic and public spaces. Hence, children and adolescents as pedestrians and cyclists are at elevated risk from danger distributed by motorised transport.
	Furthermore, children are more sensitive than adults to air pollution, noise and other environmental factors. A particularly sensitive group is children in low-income families.
	Walking, cycling and travel by bus are important modes of travel for young people.. Bus travel is important for young people to access college, leisure facilities and work. Affordability of travel is an issue for younger people.
	Children (aged 0 to 15) were the most at risk pedestrians in 2023 with a casualty rate of 32 per 100,000, followed by 16 to 24 (17 per 100,000)[143].
Women	Women are more likely to not own a car, and as a result, can find it harder to travel to shops, employment, healthcare and other services. They are more reliant on the provision of public transport. Women may also have more safety and security concerns when travelling alone and when there are more strangers in an area e.g. resulting from an influx of construction workers.
	Estimates for 2013 indicate 80% of men and 70% of women in Wales hold a full driver's licence, nearly identical to Great Britain as a whole. The National Travel Survey reports that women have different travel patterns to men and this has major implications for travel requirements. In particular women are:
	• more likely to work irregular shifts and need to commute outside normal working hours
	• more likely to be carers and to take escort trips
	• more likely to travel with luggage, bags and pushchairs
	• more likely to have a physical condition which makes it difficult to use the bus
	• are more likely than male users to say they would prefer to travel by car
	• are twice as likely as male users to say they feel unsafe using the bus at night
	The Welsh Bus Passenger Survey also reported that a substantial number of bus users who are women were also travelling with children and / or with a pushchair.
	Women are less likely to travel to work by car (80% compared to 85% of men) and more likely to travel by bus (6% compared to 3%).
	Overall distance travelled per year by all modes is greater for men than women. Men tend to make more commuting and more business trips than women and travel further for both purposes. Both men and women will benefit from schemes to improve the road network, public transport and active travel facilities.
	Women tend to be more likely to use rail transport less than buses, and less often than men. In 2016/17, the expenditure on UK public transport (2016/17) was £29.1bn. 54% of this was spent on rail, compared to 8% on 'public transport' including local buses. As of 2018, in Wales there has been a cut of 39% in funding for buses since 2010/11.
	Women are less likely to be safe, and less likely to feel safe, when using public transport,

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[143] Welsh Government (2024) Reported road casualties: 2023. Available at: https://www.gov.wales/reported-road-casualties-2023-html#147346 [Accessed: 04.09.24]

Vulnerable/ Priority Group	Explanation and Health Outcomes
	public toilets and taxis, including due to physical or verbal aggression, sexual harassment or other forms of violence.
	Women earn less on average, and use public transport more on average, than men. Women also typically have higher rates of trip chaining with diverse patterns due to carrying out a multitude of tasks, particularly when accompanying a child. Women are therefore more economically sensitive to the cost of transport and are therefore more likely to face financial constraints to mobility.
	The way women, non-binary people and men interpret accessibility in physical, cognitive, financial and emotional terms can vary greatly and define how they use transport.
Older People (65+)	Generally, the older people are, the slower their movement and reactions are and the poorer their hearing and vision can be. Therefore, older people are considered to be more sensitive as users when compared with younger and middle-aged adults. Older people can be more at risk from injury, may fear falls, and may be concerned about a lack of safe crossing points and short crossing times at safe crossing points. This can deter them from outdoor activity, especially walking, which can be critical for muscle strength and reduces the risk of falls, amongst other benefits.
	Older people can feel more vulnerable using public transport. They also often need to seek health services. Their continuing independence at home is often dependent on having availability to a range of transport mode and route options.
	Around 48% of pensioner households do not have access to a car compared to 26% of all households.
People who are disabled	This group may not be able to access many forms of transport or need special arrangements and/or support to access those. They are more likely to find it difficult to walk or travel independently and can also be disadvantaged by the cost of transport.
	Chronically ill persons, for example, people with impaired lung function, can be more adversely affected by air pollution. The same is true of hypersensitive individuals such as asthmatics. Noise can cause hypertension and cardio-vascular problems. Those who already have these conditions can be more troubled by noise than others.
	People with existing physical and mental illnesses, including sleep disturbance, anxiety and depression, can be more sensitive to even small changes to their local environment.
	Disabled people or people with a long term illness are less likely than other people to have the use of a car (six of ten do so compared to 8 out of 10 other people). Employed disabled people are nearly twice as likely not to have the use of a car as other people.
	The 2010 Welsh Bus Passenger Survey reported that 25% of respondents had a disability or long term illness. Within this group, around 12% of bus users had mobility problems and 1% used wheelchairs.
	Disabled passengers who use buses use them as intensively as other passengers.
	Some 75% of disabled bus users use a bus three or more times a week, compared to 72% of bus users without a disability. This is despite disabled users having a different pattern of bus use. Compared to non-disabled bus users, disabled people are less likely to use a bus to commute and travel to education, but more likely to us a bus for shopping, visiting friends and relatives, and for leisure. Around two-thirds of passengers reporting that they had a disability or long-term illness were entitled to free concessionary bus travel because they met either the age or disability criteria of that scheme.
	The availability of accessible information, including on-board audio and visual announcements and a high standard of customer care are key factors impacting on equality of travel opportunities.
	Rail – Passenger focus published its report on the experiences of disabled rail passengers in October 2012. Key conclusions from the report were:
	• About 5% of rail journeys are made by passengers with disabilities or long term

Vulnerable/ Priority Group	Explanation and Health Outcomes
	illness; • Half of these journeys are undertaken by people with impaired mobility; • About 1% of passengers have sensory impairment; • Passengers with disabilities tend to be older and are less likely to be in work compared to passengers in general; • 30% of journeys by disabled people are for commuting although this rises to 40% in peak time; • 78% of passenger journeys by disabled people are made alone, although disabled passengers are more likely to travel with another adult than other passengers (22% compared to 15%); • A railcard is used in 43% of journeys made by disabled passengers; Disabled travellers will benefit from schemes to secure improved quality and accessibility of bus services, including bus driver training, to provide funding to support socially necessary services and continue to provide a concessionary fares scheme for disabled people.
Those in low-income groups/ People without access to a car	People on low incomes (living in a deprived area is used as a proxy for a low income) and without access to a car are likely to walk further. Their lack of transport options, which may include affordability of public transport, may limit life and work opportunities. People living in deprived areas can be particularly vulnerable to road traffic incidents (deaths and injuries), noise and air pollution. Deprived areas are often characterised by higher traffic volumes as well as other environmental burdens such as industrial facilities.[144] This group is generally more likely to already have reduced access to health and social care as well as other services and amenities. This group may have existing increased stress levels due to the factors above. A poor physical environment can also act as a barrier to active travel, or travel in general. In addition, this group is more vulnerable to food insecurity (meaning "consistent access to adequate food is limited by a lack of money and other resources at times during the year"), which has an access dimension[145].
Ethnic minority people e.g. Asian, Black	The National Travel Survey data shows that minority ethnic adults are more likely to live in a household without access to a car compared to a white British adult, so a greater reliance on public transport may exist in parts of Wales (South East and North East) where the majority of train and bus services are provided. About 60% of the passenger activity on the Wales and Borders Franchise area is focused on the Valleys Lines and Cardiff area. The same survey also suggested that minority ethnic adults make twice as many local bus trips as white adults. The ethnic background of bus users as compiled from the 2010 Welsh Bus Passenger Survey is that 93% reported that they were white, 5% were from another ethnic background, and 2% declined to answer. In comparison, around 4% of people in Wales are from a minority ethnic group.
	Rail – Railway crimes reported by British Transport Police and published by the Office of National statistics reported that 77 racially aggravated offences on the railways were reported in the three years to 2011/2012, representing almost 13% of the reported violent offences against the person. (Source Rail transport statistics 2011/2012 published by ONS 30 October 2012).

Source: Adapted from Highways England: M4 Junctions 3 to 12 smart motorway (Arcadis Ltd, October 2015) and Atkins Limited, South Bristol Link: Environmental Statement Volume 2: Health Impact, July 2013 as well as the National Transport Finance Plan 2015 – Impact Assessments

[144] Greater London Authority, London Health Commission and London Health Observatory (2002) Rapid review of health evidence for the draft London Plan; and Jarvis, S., Towner, E. et al 1995 cited in Cave, B (2001) "Accidents" in The health of our children ed. Botting, B, London, Office of Population Censuses and Surveys, HMSO

[145] S.Tsang, MHSc, RD (1); A.M.Holt, MHSc(2); E.Azevedo, MSc, RD (1), An assessment of the barriers to accessing food among food-insecure people n Cobourg, Ontario, Chronic Diseases and Injuries in Canada, Volume 31, no.3, June 2011

4.3.2 Baseline conditions and trends

4.3.2.1 The following baseline indicators have been used to characterise existing conditions relating to goal 4 of the Well-being of Future Generations (Wales) Act 2015 for population in Wales:

Population

4.3.2.2 On Census Day, 21 March 2021, the size of the usual resident population in Wales was estimated to be 3,107,494[146]. Table B-10 shows the population on the four local authorities in the 2011 and 2021 Census'.

Table B-10: Population change between 2011 and 2021 by local authorities in Wales

Local Authority	Population in 2011 Census	Population in 2021 Census	Percentage Change
Pembrokeshire	122,439	123,400	+0.8
Carmarthenshire	183,777	187,900	+2.2
Swansea	239,023	238,500	-0.2
Neath Port Talbot	139,812	142,300	+1.8

Age Structure

4.3.2.3 In 2021, the average age in Wales was 42 years. Furthermore, there were more people than ever before in the older age groups; the proportion of the population who were aged 65 years and over was 21.3% (up from 18.4% in 2011).

4.3.2.4 Wales had a larger percentage of the population aged 65 years and over than all English regions except the South West of England. Table B-11 shows the age structure of the population of the four local authorities in South West Wales.

Table B-11: Age structure of the population, 2021, by local authority in Wales

Local Authority	Population Under 15 year (%)	Population 15 to 64 years (%)	Population 65 year and older (%)
Pembrokeshire	15.7	57.9	26.1
Carmarthenshire	16.2	59.7	24.2
Swansea	16.0	63.5	20.5
Neath Port Talbot	16.5	62.3	21.2

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[146] ONS (2022) Population and household estimates, Wales: Census 2021. Available at:
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimateswales/census2021 [Accessed: 04.09.24]

Gender

4.3.2.1   In 2021, there were 1,586,600 women (51.1% of the population) and 1,521,000 men (48.9%) in Wales. Figure B-40 shows the age and gender structure of the population in Wales in the 2011 and 2021 Census'.

Figure B-40: Age and sex of the population, 2011 to 2021 in Wales
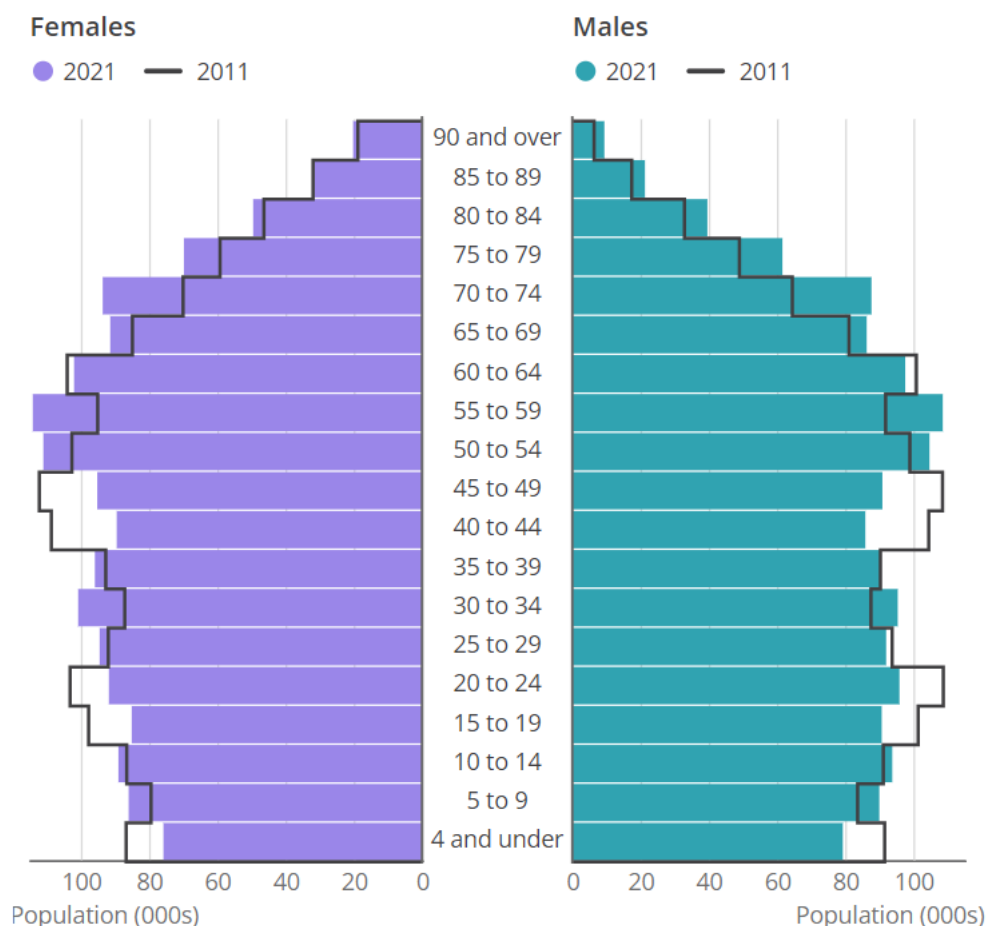
4.3.2.2   All four local authorities have a higher population of women than men according to the 2021 Census as shown in Table B-12.

**Table B-12: Population by gender and local authority in 2021**

Local Authority	Number of Men	Number of Women
Pembrokeshire	60,069	63,285
Carmarthenshire	91,681	96,215
Swansea	117,524	120,965
Port Talbot	69,879	72,412

4.3.2.3   Travel by public transport is highly gendered. In 2018 it was found that in England, a third more women than men travelled by bus and men made slightly more journeys by rail than women[147]. Overall, expenditure on UK public transport (2017/18) was £32.5bn. This includes £10.5bn on national and local roads, £2.5bn on public transport and £18bn on rail.

Net Migration Trends

4.3.2.4   In Wales, the 2021 Census found that Poland remained the most common country of birth outside the UK (24,832 people, 0.8% of all usual residents), with 124,557 usual residents (4.0%) held a non-UK passport, with the most common non-UK passport held being Polish. Figure B-41 below shows the percentage of residents in each local authority born outside of the UK.

Figure B-41: Percentage of residents born outside the UK by Local Authority
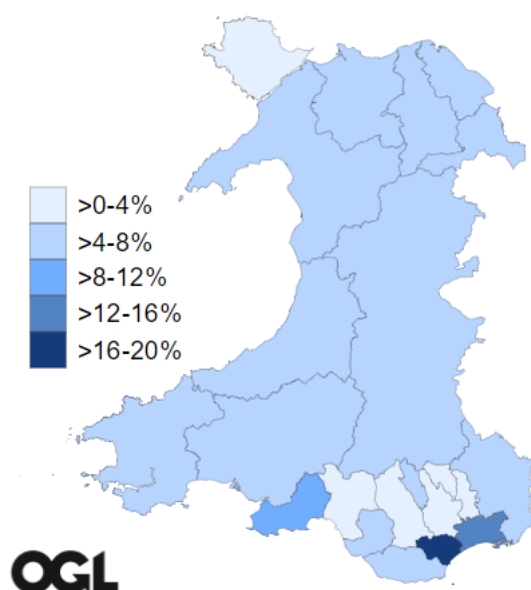
Percentage of Ethnic Groups

4.3.2.5   The ethnic make-up of the Welsh local authorities compared to national figures is shown in Table B-13 below[148].

Table B-13: Percentage of Ethnic Groups in Wales and local authorities

Area	All categories: Ethnic group	White (%)	Mixed (%)	Asian (%)	Black (%)	Other (%)
Wales	3,107,494	93.83	1.56	2.86	0.89	0.85
Carmarthenshire	187,898	97.21	0.93	1.24	0.24	0.38
Neath Port Talbot	142,290	96.64	1.11	1.58	0.37	0.3
Pembrokeshire	123,359	97.58	0.94	0.94	0.2	0.34

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[147] Women's Budget Group (2019) Public Transport and Gender. Available at: https://wbg.org.uk/wp-content/uploads/2019/10/TRANSPORT-2019-1.pdf [Accessed: 03.09.24]
[148] Welsh Government (2012) Statistical Bulletin: 2011 Census: First Results for Ethnicity, National Identity, and Religion for Wales. Available at: https://gov.wales/sites/default/files/statistics-and-research/2018-12/121217sb1262012en.pdf [Accessed: 20.08.24]

Area	All categories: Ethnic group	White (%)	Mixed (%)	Asian (%)	Black (%)	Other (%)
Swansea	238,491	91.43	1.6	4.38	1.17	1.42

Source: 2021 Census

4.3.2.6   In 2021, Neath Port Talbot, Carmarthenshire and Pembrokeshire had a higher percentage population of the white ethnic group than Wales as a whole. Swansea has the widest ranges of ethnicity, with higher percentage of those from Asian, black and other ethnicities than the whole of Wales.

Limiting long term illness or disability by local authority

4.3.2.7   According to the 2021 Census, in Wales, a smaller proportion and a smaller number of people were disabled (21.1%, 670,000), compared with 2011 (23.4%, 696,000)[149]. In Wales, Neath Port Talbot had the highest proportion of disabled people (24.6%) in 2021, but also had one of the highest in 2011 (28.2%).

4.3.2.8   Across South West Wales, the percentage of people that identified they were 'disabled under the equality act: day-to-day activities limited a lot' were 10.5% in Carmarthenshire, 9.2% in Pembrokeshire, 12.9% in Neath Port Talbot and 11.1% in Swansea.

4.3.2.9   In Wales, the 2021 Census on disability within households showed that 29.5% (397,000) of households include one disabled member, and again Neath Port Talbot was one of the local authorities with the highest proportion of two or more disabled people within a household.

4.3.2.10 In Neath Port Talbot 43.1% of household had one or more disabled people in the household, in Carmarthenshire 39.8% of households, in Pembrokeshire 37.5% of households and in Swansea 38.8% of households.

4.3.3   Data Gaps

- Childhood obesity data from Pembrokeshire, Swansea and Neath Port Talbot
- Population data for South West Wales relating to gender, where this may be non-traditional.
- Up to date South West Wales data relating to access to open space.
- Up to date data regarding the specific distribution of hospital or healthcare facilities in South West Wales.
- The health impacts of schemes such as smart motorways
- Data relating to the National Cycle Network
- Data relating to the national walking networks and Wales Coastal Path

4.4 Key Issues relevant to the RTP and opportunities for it to address them

4.4.1   Issues

4.4.1.1   Overall health statistics for Wales are improving, with life expectancy increasing and fewer people with reported poor health over the past decade. However, health gains are not distributed equally

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[149] ONS (2023) Disability, England and Wales: Census 2021. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/disabilityenglandandwales/census2021 [Accessed: 04.09.24]

across South West Wales and in particular access to services is varied, being good in more urban areas but relatively poor across much of rural areas.

4.4.1.2   Factors specific to a rural environment compared to those of urban environments that can impact on health more significantly and lead to inequalities and poorer health, such as distance from public services and support, availability of transport, and the ageing population. Access to healthcare can be limited in many parts of rural South West Wales. Public transport is important for both the sustainability and independence of rural communities.

4.4.1.3   Whilst people are living longer and the rates of some diseases is decreasing, challenges such as living environment and modern lifestyles can contribute towards increasing levels of chronic diseases such as diabetes, joint problems, heart disease and some cancers which in turn can lead to disability and increased demand on health services. In addition, poor mental health can also be an underpinning factor in a number of physical diseases and unhealthy lifestyles. Poor air quality, noise and light pollution as well as road traffic crashes can have direct effects on the physical and mental health of the population.

4.4.1.4   Increasing levels of those aged 65 and over could present pressures across South West Wales (dependent on whether healthy life expectancy i.e. the number of years you live a healthy life, continues to track overall life expectancy) e.g. provision of appropriate services for an older generation (e.g. transport).

4.4.1.5   Issues relating to young people relate to their transition from dependence to independence, as transport plays an important role at particular 'trigger points' such as the move from primary to secondary school, and the move from education to employment.

4.4.1.6   Health inequalities reflect inequalities in the distribution of health determinants, such as access to transport, education and employment opportunities.

4.4.1.7   Disabilities and/or mobility impairments can be both physical and mental barriers to using the transport network across all modes.

4.4.1.8   There is still a high risk of road casualty for younger people which must be addressed by the RTP.

4.4.1.9   There is still a large disparity between the number of drivers licenses owned by women and men, with women having much fewer, this makes it more difficult for women to have the same access to facilities and amenities as men.

4.4.1.10   Levels of noise pollution around key roads within Wales are high. Noise can have multi-ranging effects, including on landscape receptors, ecological resources and human health.

4.4.2   Opportunities

4.4.2.1   The RTP could recognise the potential for natural green spaces as places for health and recreation, connecting habitats and supporting community interaction. Improving the access to green and open spaces, including National Parks, could greatly encourage healthier lifestyles and a healthier population could enable people (including children) to achieve their potential and to make Wales a more equal society.

4.4.2.2   Protecting and enhancing green infrastructure throughout Wales is an opportunity to enhance people's access to green and open spaces. Access to a diverse range of semi-natural and natural

habitats, as well as providing space for outdoor exercise and community engagement, is fundamental to physical and mental wellbeing.

4.4.2.3   The RTP has an important contribution to make towards ensuring that human health is provisioned through improved access to health facilities, a focus on reducing air pollution emissions, road safety and the encouragement of active travel in order to improve health and well-being and reduce inequalities. (It should be noted that a lot of active travel occurs within the context of trip chaining - any travel between two anchors that is direct or has an intervening stop of 30 minutes or less).

4.4.2.4   Overall, the RTP can help to address issues surrounding the aging population through facilitating the provision of accessible transport services supported by connective infrastructure to meet local population growth needs and the needs of individual groups.

4.4.2.5   An equal Wales can enable people to reach their full potential whilst addressing social, economic, cultural and environmental inequality. The RTP could provide an opportunity to reduce isolation and encourage the development of integrated and liveable communities through provisioning the inclusivity of public transport to allow everyone to have the same level of access.

4.4.2.6   The transport system should ensure that all groups are able to access public transport and the transport network equally and without fear or prejudice.

4.4.2.7   Reducing inequality can be achieved by increasing access for the most deprived more than the least deprived or increasing access for the most deprived and keeping the least deprived constant, any other form would involve the reduction of access to either or both groups so should not be an aim of the RTP.

4.4.2.8   Health inequalities can also be addressed through policies and infrastructure to promote active travel, thereby increasing physical activity, reducing pollution and noise. Active travel measures should be focussed in areas of deprivation to reduce inequalities.

5 Well-Being Goal: A Wales of Cohesive Communities

5.1.1.1   This section provides baseline data relating to the following well-being goal:

"Attractive, viable, safe and well-connected communities".

5.1.1.2   The data relates primarily to:

- Crime and Safety

5.2 Crime and Safety

5.2.1   Relevance to the RTP

5.2.1.1   The creation of cohesive communities which are attractive, well-connected, safe and meet the needs of the population are important for Wales. The RTP has a role to play in helping to guide decisions relating to the development of space which can help to reduce crime related to transport. Further information on this topic is included in Chapter 4 relating to Health and Well-being. Other aspects relating to the connectivity of communities are included throughout this Appendix.

5.2.2   Baseline Conditions and trends

Percentage of people feeling safe at home, walking in the local area and when travelling

5.2.2.1   In 2021, in the National Survey for Wales[150], people were asked how safe they felt in a variety of situations after dark:

- 78% of people said they felt 'very' or 'fairly' safe walking alone in their local area after dark;
- 97% of people felt 'very' or 'fairly' safe at home after dark;
- 78% of people felt 'very' or 'fairly' safe on public transport after dark; and
- 97% of people felt 'very' or 'fairly' safe travelling by car after dark.

5.2.2.2   In 2022, as part of the National Survey, people were again asked how safe they felt in a variety of situations after dark:

- 75% of people said they felt 'very' or 'fairly' safe walking alone in their local area after dark;
- 95% of people felt 'very' or 'fairly' safe at home after dark;
- 76% of people felt 'very' or 'fairly' safe on public transport after dark; and
- 97% of people felt 'very' or 'fairly' safe travelling by car after dark.

5.2.2.3   In most cases, there have been some slight decreases (2-3%) in perceived safety between 2021 and 2022.

Percentage of people satisfied with local area as a place to live

5.2.2.4   In 2019, the National Survey[151] included a series of questions on the quality of the local area. These were included in the survey to help investigate the environmental dimension of well-being.

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[150] Welsh Government (2024) National Survey Results. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed 20.08.24]
[151] Welsh Government (2024) National Survey Results. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed 20.08.24]

- 72% of people were satisfied with the level of traffic noise in their local area; and
- 73% of people were satisfied with the level of air pollution in their local area.

5.2.2.5 Transport for Wales reported that in 2018-19, it was found that 15.2% of people were dissatisfied with traffic noise in their local area[152]. In 2021-22, 10.7% of people reported being bothered by traffic, business or factory noise in their local area.

5.2.2.6 In 2021-22, the National Survey found that 54% of people were very satisfied with their local area, while 34% were fairly satisfied[153]. During this same time period, 64% of people felt a sense of community. 85% of people were either very satisfied or fairly satisfied with their ability to get to local services.

5.2.2.7 Latest figures for year ending June 2021[154] show the total crime rate per 1,000 number of vehicle owning households / unweighted base households in England and Wales. Broken down in key transport related crime statistics the crime rates compared to the change from year ending June 2020 figures are as follows:

- Total Vehicle related theft – 6/1,000 (-19%)
- Theft from vehicles – 19/1,000 (-28%)
- Theft of vehicles – 2/1,000 (-37%)
- Attempts of and from vehicles – 7/1,000 (3%)
- Criminal damage to a vehicle – 28/1,000
- Bicycle theft – 17/1,000

5.2.2.8 In the year ending March 2024[155], the crime rates associated with transport-related offences recorded in England and Wales were:

- Vehicle related theft – 37/1,000 (unweighted base – number of households)
- Criminal damage to a vehicle – 20/1,000 (unweighted base – number of households)
- Bicycle theft – 18/1,000 (unweighted base – number of vehicle owners)

5.2.2.9 In the report, Family Spending in the UK: April 2019 to March 2020[156], it was found that the top spending categories in Wales are transport and recreation and culture, with households in Wales spending 15% of their total expenditure in these categories. This mirrors the statistic that 87% of households in Wales had access to a car or van in 2021[157]. Households in Wales spent an average of £35.80 a week on the operation of personal vehicles, which was 45% of total transport expenditure.

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[152] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Percentage of people regularly bothered by noise from outside the home caused by transport Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s24 [Accessed: 30.08.24]

[153] Welsh Government (2024) National Survey Results. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed 30.08.24]

[154] Office for National Statistics (2021) Crime in England and Wales: year ending Jun 2021. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingjune2021 [Accessed: 01.12.21]

[155] Office for National Statistics (2024) Crime in England and Wales: Appendix tables. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/datasets/crimeinenglandandwalesappendixtables [Accessed: 30.08.24]

[156] Office for National Statistics (2021) Family spending in the UK: April 2019 to March 2020. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/april2019tomarch2020 [Accessed: 30.08.24]

[157] Welsh Government (2024) National Survey Results. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed 30.08.24]

5.2.2.10 Data collected on family spending in the UK: April 2021 to March 2022[158], showed that households spent the highest proportion of their weekly expenditure on housing, fuel and power, and transport. In financial year ending 2022, there were weekly increases in spending on transport (£7.80 increase to £74.40), recreation and culture (£9.30 increase to £56.10), restaurants and hotels (£15.70 increase to £34.80). Despite these increases, spending in these categories remained below financial year ending 2020, prior to the coronavirus pandemic. The increase in transport expenditure was attributed to an increase in spending on the use of personal transport, such as fuel and maintenance. Expenditure on transport services, such as bus and rail, has reduced by £11.10 (46%) between financial year ending 2020 and financial year ending 2022.

5.2.2.11 Crime on the rail network in Wales in 2017-18 increased by 15.3% compared to the previous year. Prior to this, the number of offences had been relatively stable. The largest categories of recorded offences were public order (308), violence against the person (294) and theft of passenger property (199), which accounted for 59%[159].

5.2.2.12 In 2022-23, there was a total of 1,430 recorded notifiable offences on the rail network in Wales, a small (1.7%) decrease compared to 2019-20 numbers[160]. Since 2013-14, the number of offences in Wales had been relatively stable before increasing in 2017-18. The largest categories of recorded offences were Violence against the person (342), Public order crime (277) and Criminal damage/malicious mischief (251), which accounted for 60.8% of all offences. Compared to the previous year, criminal damage/malicious mischief in 2022-23 increased by 5.5%, Violence against the person decreased by 18.6% and sexual crimes increased by 17.0%.

Transport users' satisfaction

5.2.2.13 Passenger satisfaction figures were collected by the National Passenger Survey (NPS)[161], in a report called 'Overall passenger satisfaction with their journey on Arriva Trains Wales', it was found that in Autumn 2019, 8% of passengers were dissatisfied with the service, 13% were neither satisfied nor dissatisfied and 79% were satisfied with the service. Across all regional operators, 82% of passengers were satisfied with the service.

5.2.2.14 A study of Public Service Vehicles (buses and taxis) found that bus fares in Wales increased by 3.5% from 2018 to 2019[162]. In addition, bus fares in Wales increased by 3.5% in 2020 compared to 2019, higher than the UK consumer price inflation rate over the same period[163].

5.2.2.15 The National Survey[164] found that in 2022-23, 52% were either very satisfied or fairly satisfied with the frequency of bus services, while 59% were either very satisfied or fairly satisfied with the frequency of train services. In 2022-23, 56% were either very satisfied or fairly satisfied with the reliability of bus services, while 58% were either very satisfied or fairly satisfied with the reliability of train services. In 2022-23, the National Survey asked people about their main reasons for not using

[158] Office for National Statistics (2023) Family spending in the UK: April 2021 to March 2022. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/april2021tomarch2022 [Accessed: 30.08.24]
[159] Welsh Government (2019) Rail Transport, April 2017 to March 2018. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-04/rail-transport-april-2017-to-march-2018-824.pdf [Accessed: 30.08.24]
[160] Welsh Government (2024) Statistical Bulletin. Rail transport, 2022-2023. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2024-04/rail-transport-april-2022-march-2023-090.pdf [Accessed: 30.08.24]
[161] Welsh Government (2019) Overall passenger satisfaction with their journey on Arriva Trains Wales by time of survey - up to 2019 only. Available at: https://statswales.gov.wales/Catalogue/Transport/rail/rail-transport/overallpassengersatisfactionwiththeirjourneyonarrivatrainswales-by-timeofsurvey [Accessed: 13.08.24]
[162] Welsh Government (2021) Public service vehicles (buses and taxis): April 2019 to March 2020. Available at: https://gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#section-66265 [Accessed: 30.08.24]
[163] Welsh Government (2021) Public service vehicles (buses and taxis): April 2019 to March 2020. Available at: https://www.gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#section-66265 [Accessed: 30.08.24]
[164] Welsh Government (2024) National Survey for Wales: results viewer. Available at: https://www.gov.wales/national-survey-wales-results-viewer [Accessed: 30.08.24]

buses and trains more, the highest proportion of people (34%) responded 'car more convenient/easier'. The second and third most common reasons given were 'not frequent enough / runs at the wrong times for me' and 'no direct route', respectively.

5.2.2.16 Transport for Wales reports that in 2022-23, 52.4% of people were satisfied with bus services and 55.2% of people were satisfied with rail services[165]. In June 2023, 8.5% of rail stations in Wales provided step-free access to all platforms. In South West Wales, 4.8% of rail stations provided step-free access to all platforms, while this region had the highest share (i.e. 95.2%) of rail stations with some step-free access. In 2022-23, Transport for Wales reported that 67% of rail track was in good condition (i.e. track with a residual life greater than 14 years). The residual life of rail track on Core Valley Lines (track maintained by Transport for Wales) has increased by 2 percentage points since 2021 to 58% in 2023.

Road accidents by area by year and people killed or seriously injured on roads

5.2.2.17 In 2019, police forces in Wales recorded 4,330 road accidents involving personal injury[166]. These recorded accidents resulted in 5,808 casualties, an increase of 2.6% from 2018.

5.2.2.18 Within the 5,808 casualties:

- 95 people were killed, 13 fewer (12.0% lower) than in 2018.
- 1,098 people were seriously injured, 69 more (6.7% higher) than in 2018.
- 4,615 people were slightly injured, 16 fewer (0.3% lower) than 2018.

5.2.2.19 In 2020, 819 road casualties were killed or seriously injured, a decrease of 31% compared with 2019. Of these, 72 were fatal accidents, 24.2% lower than 2019. In total, 3,692 casualties were recorded, a 36% decrease compared with 2019, and of these, 2,873 were slightly injured. During 2020, motorised traffic in Wales has decreased by 23.4% compared to 2019, the largest decrease of the UK countries. It is, however, uncertain if these lower figures will increase again as the impact of the COVID-19 pandemic and associated lockdowns lessens[167].

Railway Incidents

5.2.2.20 In 2020, there were 11 railway fatalities, all of which were suicides[168]. In 2019-20 there were 1,459 notifiable offences reported on Welsh railways, a decrease of 5.9% from previous years.

5.2.2.21 In 2023, there were 12 railway fatalities, all were suicides[169]. In 2022-23, offences on Welsh railways were similar when compared to the previous year and decreased by 1.7% compared to 2019-20.

5.2.3 Data Gaps

- Data gaps relating to crime and death/injury on buses or in bus stations.
- Data gaps relating to crime and death/injury on active travel routes.
- Data gaps relating to gendered differences within the data captured.

[165] Transport for Wales (2024) Wales Transport Strategy: Monitoring Measures - Data and summaries for each of the Monitoring Framework measures. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures [Accessed: 30.08.24]

[166] Welsh Government (2020) Police recorded road accidents: 2019 (revised). Available at: https://gov.wales/police-recorded-road-accidents-2019-html [Accessed: 13.08.24]

[167] Road Safety Wales (2021) Police Recorded Road Accidents 2020. Available at: https://roadsafetywales.org.uk/statistics/2020/#:~:text=During%202020%2C%20police%20recorded%20road%20accidents%20resulted%20in,injured%2C%20down%20by%201%2C742%20%2837.7%25%29%20compared%20to%202019 [Accessed: 13.08.24]

[168] Welsh Government (2021) Rail Transport, April 2019 to March 2020. Available at: https://gov.wales/rail-transport-april-2019-march-2020 [Accessed: 30.08.24]

[169] Welsh Government (2024) Statisical Bulletin. Rail transport, 2022-2023. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2024-04/rail-transport-april-2022-march-2023-090.pdf [Accessed: 30.08.24]

- More up-to-date data related to recorded road accidents in South West Wales
- Percentage of people who feel they cannot afford to travel by public transport (data to be collected by the Wales National Travel Survey)

5.3 Key Issues relevant to the RTP and opportunities for it to address them

5.3.1 Issues

5.3.1.1 Bus fares are rising in cost at a rate higher than inflation, this could exclude some people or communities from this form of transport due to a price barrier. In 2020, local bus services fare indices for Wales and Great Britain showed that there was a 3.5% increase in Wales and a 2.6% increase in Great Britain, both higher than the inflation rate of 2.3%[170].

5.3.1.2 There has been a long-term downward trend in the number of 'killed or seriously injured' accidents on Welsh roads[171]. The number of fatal accidents has been broadly stable over the past nine years up to 2019 after falling significantly over previous decades. Despite this, more efforts should be made to improve the safety of drivers and other road users as much as possible.

5.3.1.3 Levels of noise pollution around key roads within Wales are high. Noise can have multi-ranging effects, including on landscape receptors, ecological resources and human health.

5.3.1.4 Rural isolation and loneliness can lead to mental health problems, this can be caused by a less accessible transport system reducing access to communities and local services, but also cars travelling through communities can sever communities and reinforce isolation. The percentage of people within walking distance of sustainable modes of transport is much higher in urban areas than in rural areas.

5.3.1.5 People in deprived communities may not be able to afford bicycles and may not have access to bicycle storage areas, restricting their active travel opportunities.

5.3.1.6 When people are travelling, they should be able to do so without the fear or threat of crime.

5.3.1.7 Active travel funding is available from the Welsh Government for settlements with a population over 2,000 residents. This limits new active travel infrastructure development in smaller settlements.

5.3.2 Opportunities

5.3.2.1 The RTP could support the creation of connections between and within safe and well-maintained communities through public transport opportunities and active travel opportunities including foot and cycle paths.

5.3.2.2 The RTP could also plan for reducing the need to travel; and provide opportunities to access new and existing development and services by a range of sustainable travel modes and or improvements

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[170] Welsh Government (2021) Public service vehicles (buses and taxis): April 2019 to March 2020. Available at: https://www.gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#66265 [Accessed: 30.08.24]
[171] Welsh Government (2021) Statistical First Release. Police recorded road accidents, 2020. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2021-06/police-recorded-road-accidents-2020-952.pdf [Accessed: 30.08.24]

to digital connectivity. By reducing the amount of single-occupancy car journeys, the risk to non-motorised users could be reduced and the issue of isolation be lessened.

5.3.2.3   The RTP could consider strategic transport proposals in terms of the opportunities they present to encourage regional equality as well as improving human health, landscape and nature conservation from a reduction in noise and light pollution. Transport schemes can improve road safety, which can improve actual and perceived road safety. Driver stress can also be improved by the introduction of transport schemes.

5.3.2.4   The RTP could seek to address current satisfaction levels with the frequency and reliability of bus and train services in Wales to promote well-connected and viable communities.

5.3.2.5   The RTP could seek to encourage the continued improvement in the condition of rail track in Wales.

5.3.2.6   In addition, to promote inclusivity, safety and accessibility, the RTP could also support the wider provision of step-free access in Welsh railway stations. Furthermore, data from Transport for Wales suggests that assistance services could be improved to increase independent accessibility.

6 Well-Being Goal: A Wales of Vibrant Culture and Thriving Welsh Language

6.1.1.1   This section provides baseline data relating to the following well-being goal:

"A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation".

6.1.1.2   The data relate primarily to:

- Welsh Language;
- Landscape and Townscape Character; and
- Cultural and Heritage Assets.

6.2 Welsh Language

6.2.1   Relevance to the RTP

6.2.1.1   Wales is a bilingual country, and the Welsh Language is an important component of Welsh national identity and culture. As such, the protection and promotion of Welsh Language needs to be a core element of the RTP. Cymraeg 2050[172] sets out that Welsh-medium immersion education is the principal method for ensuring that children can develop their Welsh language skills, and for creating new speakers. Cymraeg 2050 incorporates three key themes: increasing the number of Welsh speakers, increasing the use of Welsh and creating favourable conditions through infrastructure and context.

6.2.1.2   The RTP should seek to ensure that access to Welsh-Medium education facilities is specifically targeted as part of this aim, to support the strategy seeking to expand Welsh-Medium education provision. The RTP could also seek to support the aim to increase the range of services offered to Welsh speakers, and an increase in use of Welsh-language services. The RTP could also seek to 'support the socioeconomic infrastructure of Welsh-speaking communities' through its policies, helping to support the aim of '*Develop[ing] a new regional focus to economic development to help all parts of Wales to benefit from prosperity and support each area to develop its own distinctive identity*'. Within the RTP there will be opportunities to promote the Welsh language through its use in station announcements, road signs and signs within rail and bus stations.

### 6.2.2   Baseline conditions and trends

6.2.2.1   The historic decline in use of the Welsh language has been halted and has now been on a general upward trend since the early 1990s. This is, in part, due to Welsh entering the national curriculum and being a compulsory subject in schools. However, levels of fluency are still low and there are large regional variations. The February 2020 report 'The Welsh Language and the economy: a review of evidence and methods'[173] presents the findings of a review of the evidence available on the relationship between the Welsh language, and other languages relevant to the linguistic context in Wales, and the economy.

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[172] Welsh Government (2017) Cymraeg 2050: A million Welsh Speakers. Available at: https://gov.wales/sites/default/files/publications/2018-12/cymraeg-2050-welsh-language-strategy.pdf [Accessed 20.08.24]

[173] Welsh Government (2020) The Welsh language and the economy: a review of evidence and methods. Available at: https://gov.wales/sites/default/files/statistics-and-research/2020-02/the-welsh-language-and-the-economy-a-review-of-evidence-and-methods.pdf [Accessed: 20.08.24]

6.2.2.2   In the year ending March 2024, the percentage of people aged 3 and over in Wales who could understand spoken Welsh was 32.5%. This is a small decrease, i.e. 1%, from the previous year ending March 2023, when 33.5% understood spoken Welsh. The highest proportion of Welsh speakers can be found in Gwynedd and the Isle of Anglesey, and the lowest proportion is in Torfaen and Blaenau Gwent. Figure B-42 shows the fluency of Welsh people across local authorities[174].

Figure B-42: Fluency in Welsh across Local Authorities
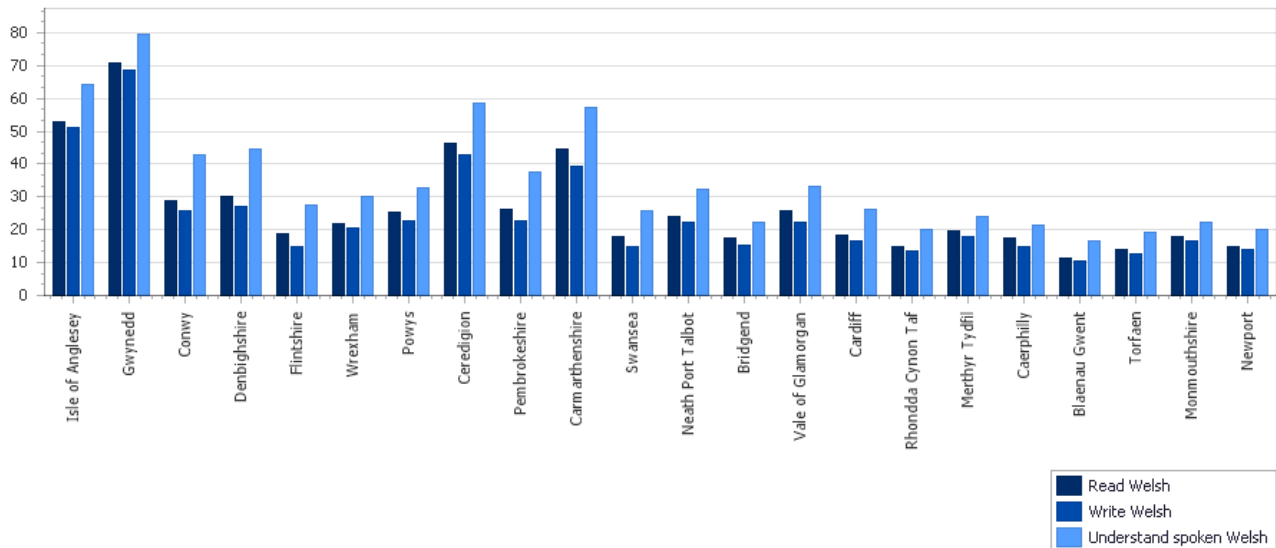
6.2.2.3   Local Government has a vital role to play in the delivery of services through the medium of Welsh, in the economic development of predominantly Welsh-speaking areas and in the strengthening of the Welsh language in daily use in the workplace and the wider community. In addition to their status as major employers and spenders, Local Authorities also influence local economic development through functions such as housing, education, regeneration and cultural activities. Some of these functions are statutory, others not[175].

Attitudes towards the Welsh Language

6.2.2.4   In the National Survey for Wales 2022-23 regarding Welsh Language[176], it was found that:

6.2.2.5   In terms of ability:

- 11% of respondents said they used Welsh Language in everyday life
- 31% reported that they were fluent in Welsh and 15% could speak a fair amount of Welsh
- 22% could read Welsh
- 19% could write Welsh

6.2.2.6   The National Survey for Wales (2017-2018)[177] gathered data on Welsh Language confidence and attitudes, that was not asked in later versions of the National Survey.

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[174] Stats Wales (2024) Annual Population Survey - Ability to read, write and understand spoken Welsh by local authority and year. Available at: https://statswales.gov.wales/Catalogue/Welsh-Language/Annual-Population-Survey-Welsh-Language/welsh-skills-by-la [Accessed 21.08.24]

[175] Working Group on the Welsh Language in Local Government Administration and Economic Development (2018) Welsh Language in Local Government Administration and Economic Development. Available at: https://gov.wales/sites/default/files/inline-documents/2018-11/written-statement-working-group-on-the-welsh-language-in-local-government-administration-and-economic-development.pdf [Accessed 20.08.24]

[176] Welsh Government (2024) National Survey for Wales: results viewer. Available at: https://www.gov.wales/national-survey-wales-results-viewer [Accessed: 30.08.24]

[177] Welsh Government (2018) Statistical Bulletin National Survey for Wales, 2017-18 Welsh Language: Confidence and attitudes. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-01/national-survey-wales-welsh-language-confidence-attitudes-2017-18.pdf [Accessed: 20.08.24]

6.2.2.7   In terms of confidence:

- 68% of Welsh speakers felt confident speaking Welsh. 72% wanted to speak it with other Welsh speakers and 36% worried they would be judged on how well they spoke it.
- Welsh speakers' fluency levels were strongly correlated with their confidence when speaking Welsh.
- 95% of fluent Welsh speakers were confident speaking Welsh; however, 21% of fluent speakers worried they'd be judged on how well they speak it.
- Women were slightly more likely than men to worry about feeling judged.

6.2.2.8   In terms of attitudes:

- 86% of people felt the language was something to be proud of.
- 68% thought more effort needed to be put into supporting the language.
- 62% of those who couldn't speak Welsh would like to be able to speak it, and 85% of those with some ability in Welsh wanted to speak it better.
- People were least likely to agree with the statement 'The Welsh language will be stronger in 10 years' time': 40% agreed with that statement. Those living in the North East of Wales were least likely to agree with this statement.

6.2.2.9   According to the 2021 census, on average 39% of people can speak Welsh in Carmarthenshire. On average 17% of people can speak Welsh in Pembrokeshire, 11% of people in Swansea and 13% in Neath Port Talbot (see Figure B-43).

Figure B-43: South West Wales percentage of people aged 3 and over able to speak Welsh by LSOA – 2021 Census
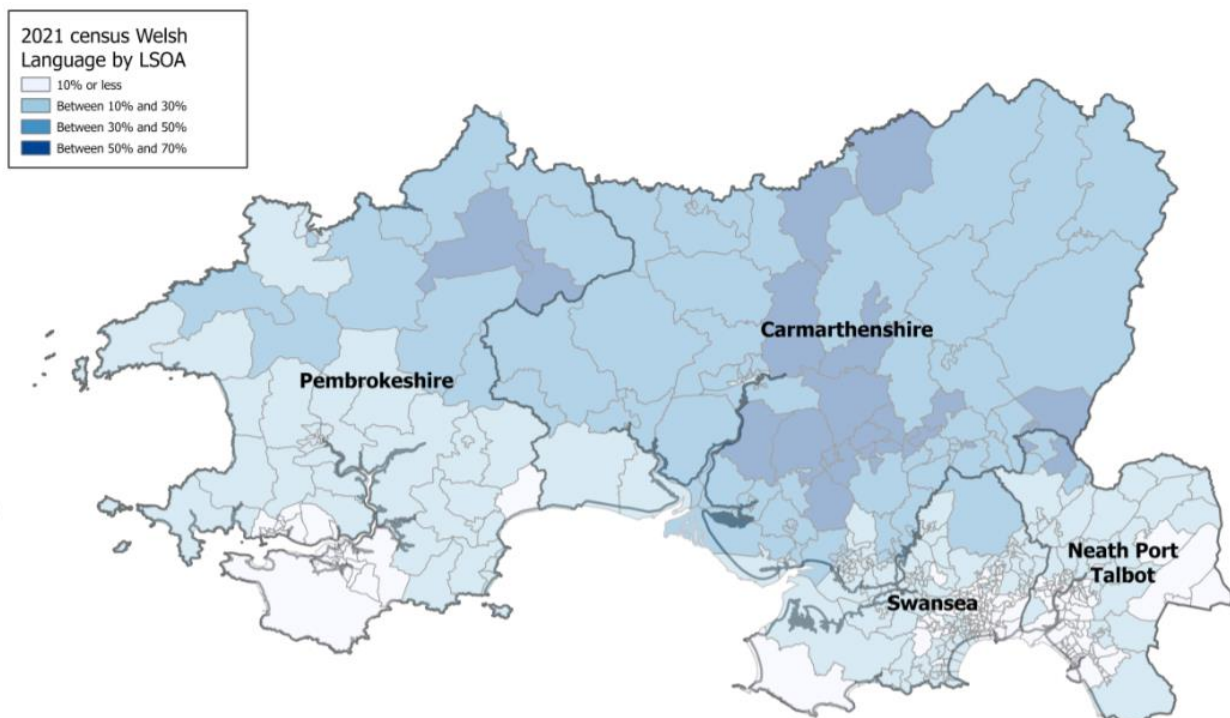
6.2.2.10 Welsh language data from the Annual Population Survey (APS)[178] shows that there has been a general increase since 2007 in the estimated number of Welsh speakers recorded by the APS. For the year ending 31st March 2024, the APS estimated that 28% of people aged three years or over were able to speak Welsh. This figure equates to around 862,700 people. The highest estimated percentages of Welsh speakers can be found in Gwynedd (76.3%) and the Isle of Anglesey (59.3%). 14.4% of people aged three years or older reported that they spoke Welsh daily, 5.4% weekly and 6.5% less often. Around 1.7% reported that they never spoke Welsh despite being able to speak it, with the remaining 72% not able to speak Welsh.

6.2.2.11 Transport for Wales intends to monitor data on the percentage of Welsh speakers using Welsh language services in the transport sector, once this data is available. Of the Welsh population, 34% reported the ability to speak the language in 2022-23[179]. In South West Wales, this was found to be 35.6% and 12.7% who used Welsh in everyday life. Data is also collected by age range and by urban-rural classification. It is noted by Transport for Wales that no data is currently available to measure the percentage of Welsh speakers using Welsh language services in the transport sector. This will be collected by the Wales National Travel survey.

6.2.2.12 The Report of the Welsh Language and Economic Development Task and Finish Group to the Minister for Economy, Science and Transport[180] sets out 27 recommendations for how economic development, and the public sector, can assist with enhancing the Welsh language. The recommendations include provisions for promoting opportunities for businesses to build on their use of the Welsh language for branding and as a marketing tool, including greater resources for innovation and opting for Welsh language capabilities. Public sector contractors and recipients of Welsh government grants should be able to demonstrate the ability to provide skills bilingually. Wales should learn from experience and good practice in other bilingual communities such as the Basque country, Quebec, and Catalunya, with analysis of the threats to the language in at-risk areas and recognising community successes. The report recommends that research should be undertaken to examine the effect of improving road and rail communications and public transport services between the strongly Welsh speaking areas and employment centres on the main transportation corridors.

6.2.3   Data Gaps

- There are no specific statistics found with regards to the satisfaction of Welsh speakers and their ability to travel using Welsh.
- A lack of recent data into attitudes towards speaking Welsh and Welsh speakers, in South West Wales.
- A lack of recent data into the confidence of Welsh speakers to speak Welsh in their daily lives in South West Wales.
- Data gaps relating to access to Welsh Language education and the role transport plays.
- The percentage of Welsh speakers using Welsh language services in the transport sector

[178] Welsh Government (2024) Welsh language data from the Annual Population Survey: April 2023 to March 2024. Available at: https://www.gov.wales/welsh-language-data-annual-population-survey-april-2023-march-2024-html#147608 [Accessed: 30.08.24]
[179] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Percentage of Welsh speakers using Welsh language services in the transport sector. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s15 [Accessed: 30.08.24]
[180] Welsh Government (2014) Report of the Welsh Language and Economic Development Task and Finish Group to the Minister for Economy, Science and Transport. Available at: https://gov.wales/sites/default/files/publications/2019-05/report-of-the-welsh-language-and-economic-development-task-and-finish-group.pdf [Accessed: 20.08.24]

6.3 Landscape and Townscape Character

6.3.1 Relevance to the RTP

6.3.1.1 Welsh landscapes reflect the extent and condition of a range of natural resources and ecosystems against the complexity of human influences and land-use decisions. Townscapes and urban character also reflect a long history of human development. Similarly, seascape information complements the landscape/townscape information and together the two types of information provide an understanding of the cultural benefits to be had from both the terrestrial and the marine environment.

6.3.1.2 These elements have been strongly shaped by human intervention and land-uses throughout history and the RTP will continue to play an important role in shaping this character through infrastructure projects and programmes. Landscape, townscape and seascape character are important in terms of Wales's strong sense of place and cultural identity with close links to the tourism industry.

6.3.1.3 Transport can have many potential impacts on landscape and townscape character, negative impacts could be new infrastructure developments reducing the visual amenity of a valued landscape by building a new road through it, or the removal of buildings or green spaces within towns for road widening schemes that may have value to the local community. A positive potential impact could be enhanced access to greenspaces and viewpoints.

6.3.1.4 Figure B-44 is from the 2014 Landscape Character Assessment (LCA Approach directly adapted from the 2002 guidance) and shows the range of factors generally considered to be part of landscape[181].

Figure B-44: The range of factors generally considered to be part of landscape

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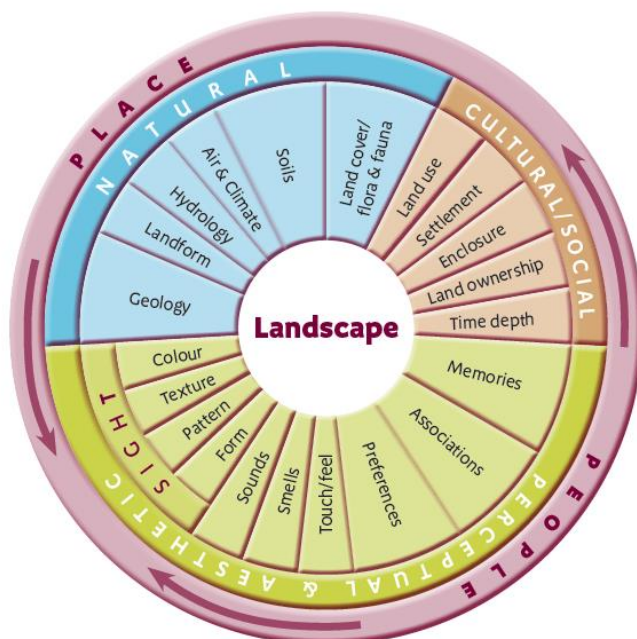
[181] Natural England (2014) An Approach to Landscape Character Assessment. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf [Accessed: 20.08.24]

6.3.2 Baseline conditions and trends

6.3.2.1 Wales has a varied and generally high-quality landscape with over 50% of the land area being nationally valued for its scenic quality and character. Many Welsh landscapes are iconic with a clear sense of place and recognisable identity. The country is predominantly rural in character with 59% of the landscape defined as Field Pattern/Mosaic and 20% is categorised as Open Land[182].

6.3.2.2 National landscape change to 2015 has been small overall, but some changes have been substantial locally. The key contributors to landscape change in the built environment include: the expansion of settlements, commercial and industrial developments, quarries and road improvements, onshore windfarms, turbines and large recreational related developments. In the rural environment examples include: the felling of conifers and replanting with broadleaves, woodland expansion and changing bracken cover. Since 2016, the main changes have been an increase in tree cover on farms, more woodland, more permanent grassland, more arable land and more grass leys, alongside a decline in rough grazing and horticulture[183].

6.3.2.3 Climate change over time is likely to have significant impacts on landscape character, local distinctiveness and quality, directly through changing land cover (migrating habitat and species ranges) and indirectly by influencing land use decisions. Landscape changes may also be evident from mitigation measures, such as renewable energy generation, water resource management and adaptation through the planned expansion of woodland. Climate change also poses a risk to landscapes from pests, pathogens and invasive species and from changes in frequency and/or magnitude of extreme weather and wildfire events.

6.3.2.4 A total of 25% of Wales is designated as either National Park or Area of Outstanding Natural Beauty.

Protected Landscapes

6.3.2.5 Within Wales there are three National Parks; Bannau Brycheiniog (previously known as Brecon Beacons), Pembrokeshire Coast and Eryri (previously known as Snowdonia). Each National Park also has local planning authority status in Wales. Combined these National Parks in Wales cover around 20% of the land area of Wales. Pembrokeshire Coast National Park lies within South West Wales, while the Bannau Brycheiniog National Park lies partially within this region, whereas Eryri National Park is located outside of this area.

Pembrokeshire Coast National Park

6.3.2.6 Pembrokeshire Coast National Park boasts some of the most spectacular scenery and diverse wildlife in Britain including internationally important nature reserves, geology and archaeology[184]. The Park was designated in 1952 and remains the only UK National Park recognised primarily for its coastline. It is one of the smallest UK National Parks; but has one of the most diverse landscapes – sandy beaches, rugged cliffs and islands, quiet wooded estuary and hill country with big sea views. The Park covers 232.5 square miles (602 sq km). At the widest point, it is about 16km, at its narrowest about 100m. Around 22,500 people live in the National Park. The area of the National Park covered by at least one designation (candidate SAC, SAC, SPA, SSSI, NNR and Local Nature

[182] Natural Resources Wales (2018) Updated All Wales LANDMAP Statistics 2017 Visual and Sensory Aspect. Available at: https://cdn.cyfoethnaturiol.cymru/media/684055/landmap-visual-and-sensory-all-wales-stats-2017.pdf?mode=pad&rnd=131625599140000000 [Accessed: 20.08.24]

[183] Natural Resources Wales (2020) The Second State of Natural Resources Report (SoNaRR2020) Assessment of the achievement of sustainable management of natural resources: Land use and soils Available at: https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf [Accessed: 20.08.24]

[184] Pembrokeshire Coats National Park Authority (2020) Pembrokeshire Coast National Park Local Development Plan 2 (end date 2031). Available at: https://www.pembrokeshirecoast.wales/planning/planning-policy/local-development-plan-2/ [Accessed: 20.08.24]

Reserve (LNR)) is 11,787.8 hectares, and therefore represents 19.2% of the total area of the National Park.

Bannau Brycheiniog National Park

6.3.2.7 The Bannau Brycheiniog National Park contains some of the most distinctive upland landforms in southern Britain[185]. The Park covers 520 square miles (1,344 square kilometres) and lies between rural Mid Wales and the industrial South Wales Valleys. It is a diverse landscape, where sweeping uplands contrast with green valleys, with dramatic waterfalls, ancient woodland, caves, forests and reservoirs. The highest point is Pen y Fan, at the centre of the National Park. Its distinctive table topped summit stands at 886m, and it is climbed by hundreds of thousands of people each year.

6.3.2.8 The National Park is also home to 33,000 people, over 9000 different plants and animals, and has a strong Welsh heritage and rich economic, social and cultural life. The largest settlement is the cathedral town of Brecon with a population of approximately 7,500. Pembrokeshire Coast National Park

6.3.2.9 There is one National Landscape in South West Wales: Gower.

Gower National Landscape

6.3.2.10 The Gower National Landscape was designated in 1956 for its classic limestone coast and the variety of its natural habitats, it was the first National Landscape designated in the UK[186]. Rich and diverse, Gower's scenery ranges from fragile dune and salt marsh in the north to the dramatic limestone cliffs along the south coast, intercut by sand beaches. Inland, the hills of Cefn Bryn and Rhossili Down dominate the landscape of traditional small fields, wooded valleys and open commons. Gower National Landscape covers an area of 188km^2. Although not part of the reason for designation, the National Landscape also has a rich archaeological and built heritage including over 80 Scheduled Ancient Monuments, nearly 130 listed buildings, and two areas recognised as Landscapes of Outstanding Historic Interest.

Quality of Landscapes

6.3.2.11 The most detailed landscape baseline in Wales reporting on landscape state, condition and trend is LANDMAP[187]. LANDMAP is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated. LANDMAP explains the physical, geological, ecological, visual, historic and cultural landscape: the summary descriptions, evaluations and management recommendations aid understanding of landscape and identify important landscape qualities and characteristics. By capturing multi-dimensional landscape information, it ensures that all aspects of the landscape can be taken into account. It is the focus for landscape monitoring in Wales, enabling the tracking of change and identifying key factors determining landscape change, condition and resilience.

6.3.2.12 Landscape Character Areas (LCAs) are identified at both a local planning authority level and at a national level, with 48 National Landscape Character Areas (NLCA) identifying regional landscapes. They offer overall landscape summaries linked to the five LANDMAP layers, key characteristics, and forces for change, and may be linked to design or sensitivity studies.

[185] Bannau Brycheiniog National Park Authority (2013) Bannau Brycheiniog National Park Authority Local Development Plan 2007-2022. Available at: https://www.beacons-npa.gov.uk/planning/draft-strategy-and-policy/brecon-beacons-national-park-local-development-plan/ [Accessed: 20.08.24]
[186] Swansea Council (2017) Gower Area of Outstanding Natural Beauty Management Plan 2017. Available at: https://www.swansea.gov.uk/gowermanagement [Accessed: 20.08.24]
[187] NRW (2024) LANDMAP - the Welsh landscape baseline. Available at: https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en [Accessed: 20.08.24]

6.3.2.13 Special Landscape Areas that identify areas of high landscape importance, often linked to LCAs, are identified by some authorities. Within Wales there are many of these landscapes designated.

Marine Character Areas

6.3.2.14 Approximately 70% of Wales's coastline is designated or registered National Landscape, National Park, Heritage Coast or Historic Landscape[188]. Seascape information complements available landscape information and together the two types of information provide an understanding of the cultural benefits to be had from the marine environment. The 29 national Marine Character Areas (MCAs)[189] and the local Seascape Character Assessments (SCA) of Pembrokeshire[190] provide comprehensive seascape information for South West Wales.

Landscapes of Historic Importance

6.3.2.15 The landscape of Wales is a vital resource for social, economic, cultural and environmental well-being. It has also been historically shaped by human activity and is rich in evidence of the past. To recognise the value of historic landscapes, and raise awareness of their importance, Cadw, in partnership with NRW and the ICOMOS UK[191] have compiled non-statutory data showing Registered of Landscapes of Outstanding and of Special Interest in Wales[192]. The Register identifies 58 landscapes of outstanding or special historic interest, which are considered to be the best examples of different types of historic landscapes in Wales. Figure 3 – Heritage Features shows the locations of historic landscapes. The Register provides information to decision makers and landscape managers, to help ensure that the historic character of the landscape is sustained, and that where change is contemplated, it is well-informed.

6.3.3 Data Gaps

- Data relating to transport within, to and from National Landscapes in Wales
- Data relating to transport to major cultural events in Wales

6.4 Dark Skies and Tranquil Areas

6.4.1 Relevance to the RTP

6.4.1.1 It is recognised that dark skies and tranquil areas can bring benefits to an area including enhancing the environment, attracting visitors and can boost the local economy. The RTP has a key role to play in helping to guide decisions through the planning of new transport networks.

6.4.2 Baseline Conditions and trends

6.4.2.1 Dark sky areas are a good indicator of very low light pollution. There are several locations in Wales that have been nationally and internationally recognised as part of a dark sky places programme. Partially located within South West Wales, the Brecon Beacons National Park has been

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[188] Welsh Government (2019) Welsh National Marine Plan. Available at: https://gov.wales/sites/default/files/publications/2019-11/welsh-national-marine-plan_5.pdf [Accessed: 20.08.24]

[189] NRW (2021) Marine Character Areas. Available at: https://naturalresources.wales/evidence-and-data/maps/marine-character-areas/?lang=en [Accessed: 20.08.24]

[190] Pembrokeshire Coast National Park Authority (2013) Pembrokeshire Coast National Park Authority Seascape Character Assessment: Supplementary Planning Guidance to the Local Development Plan 1 for the Pembrokeshire Coast National Park. Available at: https://www.pembrokeshirecoast.wales/wp-content/uploads/2020/09/Seascape-SPG-2020.pdf [Accessed: 20.08.24]

[191] International Council on Monuments and Sites UK

[192] Welsh Government and NRW (2014) The Registered Landscapes of Outstanding and of Special Interest in Wales. Available at: https://datamap.gov.wales/layers/inspire-wg:Cadw_HistoricLandscapes [Accessed: 08.08.24]

internationally recognised as Dark Sky Reserve[193]. There are no dark sky parks within South West Wales.

6.4.2.2   Additionally, within South West Wales, Gower is recognised as a dark sky community[194].

6.4.2.3   NRW has undertaken research into the dark skies of Wales, identifying that 68.1% of Wales falls into the darkest band, as defined by the study. Mid-Wales was identified as the darkest region, and 95% of the three National Parks and five National Landscapes fell within the two darkest categories. Whilst potentially influenced by the sensitivity of satellite sensors in the LED wavelengths, the amount of light emitted in cities appears to be decreasing, but the areas around cities seem to be getting brighter[195]. This is particularly evident around Cardiff and Newport.

6.4.2.4   The NRW commissioned a tranquil areas assessment in 2009, following an earlier assessment in 1997[196]. This identified 55% of Wales (11,600 km^2) as tranquil in 2009, a loss of 1500km^2 of tranquil landscapes from 1997.

6.4.2.5   The two largest Tranquil Areas on the 2009 Map are both over 1,000km^2. These areas are parts of the Berwyn Mountains, bordered by the towns of Dolgellau, Bala, Llangollen and Welshpool, and the southern part of the Cambrian Mountains, bordered by Llangurig, Rhayader, Llandovery, Lampeter and Tregaron.

6.4.2.6   Between 1997 and 2009, there was a loss of Tranquil Areas of nearly 1,500km^2 of land. This is over 6% of the total land area of Wales; and is greater than the area of the Brecon Beacons National Park.

6.4.2.7   A nationally consistent Tranquillity and Place resource has been produced by Natural Resources Wales to ensure access to dark skies information is available for planning[197].

6.4.3   Data Gaps

- Up-to-date data relating to tranquillity
- Data related to soundscapes

6.5 Historic Environment, Cultural and Heritage Assets

6.5.1   Relevance to the RTP

6.5.1.1   Cultural heritage comprises archaeological remains, intact structures and relict landscapes associated with past human activity. This section also covers cultural activities undertaken by the population. Wales has a large number of designated and non-designated cultural heritage assets reflecting its long history of human occupation. Many of these provide important tourist attractions in addition to being central to Welsh cultural identify.

[193] International Dark-Sky Association (no date) Find a Dark Sky Place. Available at: https://www.darksky.org/our-work/conservation/idsp/finder/ [Accessed: 21.08.24]
[194] Visit Wales (n.d.) Discover the Best Dark Sky Spots in Wales. Available at: https://www.visitwales.com/inspire-me/days-out/dark-sky-destinations-go-stargazing-wales-winter [Accessed 21.08.24]
[195] Green C, Manson D, Chamberlain K 2021. Tranquillity and Place – Dark Skies. NRW Report No: 514, 70pp.
[196] NRW (2009) Tranquil Areas Wales. Available at: https://datamap.gov.wales/layergroups/inspire-nrw:TranquilAreasWales [Accessed: 08.08.24]
[197] Natural Resources Wales (2022) Dark Skies and Light Pollution in Wales. Available at: https://luc.maps.arcgis.com/apps/opsdashboard/index.html#/1cd6ba8a1d7d4a62aff635cfcbaf4aec [Accessed: 21.08.24]

6.5.1.2   The RTP has a key role to play in the provisioning of access, protection and enhancement of cultural heritage through transport infrastructure projects and programmes. New development can have a range of direct and indirect effects on heritage assets which need to be avoided or mitigated. This includes effects from noise and air pollution from construction of busy traffic routes near culturally significant areas which may make them less appealing to visit or decrease their visual amenity (indirect effects), it also includes the physical removal of heritage assets as this may be required for the development of new travel infrastructure. Impacts on the historic environment can include the intensification of existing traffic or the construction of new road or rail. Increasing levels of congestion can affect historic towns, cities and the countryside, while development of new transport infrastructure can affect historic landscapes and may cause direct damage to heritage assets.

6.5.1.3   Transport infrastructure may also be an important historic asset in its own right, from prehistoric trackways and Roman roads, to medieval bridges, the development of canals and railways during the industrial revolution and the introduction of motor transport and aviation in the 20th century.

6.5.2   Baseline conditions and trends

6.5.2.1   Heritage assets in Wales are numerous. This section describes the key types of asset present.

World Heritage Sites

6.5.2.2   World Heritage Sites are regarded as being universally important and 'belonging to all the peoples of the world, irrespective of the territory on which they are located'. They are listed by UNESCO.

6.5.2.3   Wales currently has four world heritage sites, none of which are located within South West Wales[198]:

Listed Buildings

6.5.2.4   The National Assembly for Wales is required by law to compile lists of buildings of special architectural or historic interest; and listed buildings. The lists are used to help planning authorities make decisions with the interests of the historic environment clearly identified. Compilation of the lists is undertaken by Cadw. Listed buildings are classified in grades to show their relative importance. The grades are[199]:

- I - Buildings of exceptional, usually national, interest. Currently, fewer than two per cent of buildings listed in Wales qualify for this grade;
- II* - Particularly important buildings of more than special interest; and
- II - Buildings of special interest, which warrant every effort being made to preserve them.

6.5.2.5   There are over 30,000 Listed Buildings (Grade I, Grade II and Grade II*) within Wales distributed across its counties varying from medieval halls and castles to Edwardian villas. 1,632 Listed Buildings are located in Pembrokeshire, approximately 1,800 are located in Carmarthenshire, approximately 500+ are located in Swansea and 399 are located in Neath Port Talbot.

Scheduled Monuments

6.5.2.6   Cadw compile and maintain a Schedule of Monuments. The monuments included on this Schedule are of national importance and cover a diverse range of archaeological sites. Some examples may be completely buried below ground and may only be known through archaeological excavation. Others are more prominent and include the great standing ruins of well-known medieval castles and abbeys. The oldest known example in Wales is a natural cave — found to contain the earliest

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[198] Cadw (2021) World Heritage Sites in Wales. Available at: https://datamap.gov.wales/layergroups/inspire-wg:WorldHeritageSites [Accessed: 08.08.24]
[199] Cadw (2021) Listed Buildings. Available at: https://datamap.gov.wales/layers/inspire-wg:Cadw_ListedBuildings [Accessed: 08.08.24]

evidence of people in Wales — dating to a quarter of a million years ago. At the other end of the spectrum are twentieth-century military structures. Scheduled Monuments are often in a ruinous or semi-ruinous condition or take the form of earthworks[200].

6.5.2.7　Over 4,000 Scheduled Monuments have now been scheduled across Wales and the number is increasing as part of an ongoing planned policy of enhancing the Schedule. There are 236 Scheduled Monuments located in Pembrokeshire, 122 are located in Swansea, and 96 are located in Neath Port Talbot.

6.5.2.8　Scheduled Monuments in Wales are distributed throughout its counties.

Registered Historic Battlefields

6.5.2.9　The locations where historic battles took place can be significant historic assets. They often retain topographical and archaeological evidence, including war graves, which can increase understanding of these events. Cadw asked the Royal Commission on the Ancient and Historical Monuments of Wales to create an inventory, and so The Inventory of Historic Battlefields in Wales was created in 2017.

Historic Landscape

6.5.2.10　Cadw has compiled a register of landscapes of historic interest in Wales. 58 historic landscapes have been registered, which are considered to be best examples of different types of historic landscapes. The register promotes the conservation of the key characteristics of historic landscapes as those landscapes evolve.

Conservation Areas

6.5.2.11　There are over 500 conservation areas in Wales. They are designated by local planning authorities for their special architectural and historic interest[201]. Many local planning authorities have undertaken conservation area character appraisals which identify areas where enhancement through development may be desirable.

6.5.2.12　Conservation areas in Wales are distributed throughout its counties and are largely situated within urban settlements from small villages to areas within towns and cities. There are 6 Conservation Areas in Neath Port Talbot, 24 in Pembrokeshire, 28 in Carmarthenshire and 31 in Swansea.

Regional Historic Environment Record

6.5.2.13　The historic environment records (HER) contain and signpost information about historic landscapes, buildings, archaeological sites and finds. They also contain records of the investigation and management of the historic environment, including non-designated heritage assets. HER data is maintained by the four Welsh archaeological trusts — Clwyd-Powys, Dyfed, Glamorgan-Gwent and Gwynedd. Online public access to the core information contained in the HER is available through Archwilio[202].

[200] Cadw (2021) Scheduled Monuments. Available at: https://datamap.gov.wales/layers/inspire-wg:Cadw_SAM [Accessed: 08.08.24]
[201] Welsh Government (2022) Conservation Area Boundaries. Available at: https://datamap.gov.wales/layers/inspire-wg:conservation_areas [Accessed: 08.08.24]
[202] Archwilio (2024) The Historic Environment Records of Wales. Available at: https://archwilio.org.uk/wp/ [Accessed 08.08.24]

Heritage Coasts

6.5.2.14   Heritage coasts are 'defined' rather than designated, so there isn't a statutory designation process like that associated with National Parks and National Landscapes. However, they are largely located within areas that are afforded with National Park or National Landscape status[203].

6.5.2.15   Within South West Wales, there are seven heritage coasts, these are:

- Gower
- South Pembrokeshire
- Marloes and Dale
- St. Brides Bay
- St. David's Peninsula
- Dinas Head
- St. Dogmaels and Moylgrove

Historic Parks and Gardens

6.5.2.16   Wales has a rich inheritance of historic parks and gardens. They form an important and integral part of the historic and cultural fabric of the country[204]. There are 20 Historic Parks and Gardens in Pembrokeshire, 6 in Neath Port Talbot, approximately 14 in Swansea and approximately 19 in Carmarthenshire.

6.5.2.17   Cadw has undertaken a comprehensive survey of historic parks and gardens in Wales. Those thought to be of national importance are included on the Cadw / ICOMOS Register of Parks and Gardens of Special Historic Interest in Wales. The Register was compiled in order to aid the informed conservation of historic parks and gardens by owners, local planning authorities, developers, statutory bodies and all concerned with them. Through the Historic Environment (Wales) Act 2016[205] it is now statutory and has six volumes. It was completed in 2002 however, sites can be added (or subtracted) at any time. There are currently almost 400 sites on the Register.

6.5.2.18   Sites on the Register are Graded I, II* and II in the same way as listed buildings. Approximately 10% are Grade I and 23% Grade II*. Grade I sites, such as Bodnant, Powis Castle, Dynevor Park, Margam Park, Erddig, Plas Brondanw and Raglan Castle, are of international importance.

6.5.2.19   Parks and gardens on the Register range from medieval to late twentieth century. Many are multi-period, with features of different styles and periods.

Heritage at Risk

6.5.2.20   A key element of Cadw's heritage regeneration activity is action related to heritage assets in a deteriorating condition. Cadw has been working to identify the number and type of listed buildings at risk in Wales[206]. Surveys of the condition of listed buildings have been carried out in Wales for more than 15 years. 2015 data shows that the trend for buildings at risk is moving in the right direction. The number of buildings in an 'at risk' or 'vulnerable' condition has decreased since the last comparable data available (2013) and the percentage of buildings at risk has fallen from 8.92% to 8.54%. This figure is calculated using existing survey data and the most up-to-date data available

[203] NRW (2022) Heritage Coasts. Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_HERITAGE_COAST [Accessed: 08.08.24]

[204] Cadw (2021) Registered historic parks and gardens. Available at: https://cadw.gov.wales/advice-support/placemaking/legislation-guidance/registered-historic-parks-and-gardens [Accessed: 08.08.24]

[205] Historic Environment (Wales) Act 2016. Available at: https://www.legislation.gov.uk/anaw/2016/4/contents [Accessed: 08.08.24]

[206] Cadw (2021) Listed buildings at risk. Available at: https://cadw.gov.wales/advice-support/historic-assets/listed-buildings/listed-buildings-risk#section-managing-listed-buildings-at-risk [Accessed: 08.08.24]

from the 20% of the building stock which has been re-surveyed in the past year. The percentage of building at risk over time has fallen since 2013.

6.5.2.21 Over time, there have been additional buildings given listed status. The Historic Environment (Wales) Act 2016 aims to give more effective protection to listed buildings and scheduled monuments, to improve the sustainable management of the historic environment and to introduce greater transparency and accountability into decisions taken on the historic environment. These seek to preserve the cultural heritage and historic environment of Wales and in turn will provide greater financial gain for the Welsh tourism sector.

6.5.2.22 Transport for Wales reported that in October 2023, 48.2% of Scheduled Monuments on the transport estate were in stable or improving condition[207]. While 84.3% of listed buildings on the transport estate were in stable or improving condition. Between 2022 and 2023, the share of Scheduled Monuments on the transport estate that were in a stable or improving condition fell by 3.8%.

Cultural activity

6.5.2.23 According to the National Survey for Wales[208], in 2022-23, 72% of people attended or participated in arts, culture or heritage activities at least three times in the past year. During the same time period, 69% of people had visited a museum in the last 12 months and 63% of people had visited a heritage site within the past 12 months[209]. In 2018-19, 73% of people attended an arts event in the previous 12 months.

6.5.2.24 In 2022-23, 75% of people had used a public library service in the past 12 months. 8% of people visited a library at least once a month.

6.5.2.25 When people were asked why they had not attended a museum in the past 12 months in 2018, only 3% cited a lack of transport as their reason (consistent with previous years), with 6% saying "Not enough museums close to where I live". For the time period 2022-23, when people were asked why they had not visited a historic place in Wales in the past 12 months, only 4% cited a lack of transport as their reason (consistent with previous years), with 2% saying "Not enough attractions close to where I live".

6.5.2.26 When people were asked "Whether they would go to more arts events if they were nearer" in the 2018-19 survey, 25% strongly agreed and 26% agreed, 21% were neutral, 19% disagreed and only 9% strongly disagreed[210].

6.5.3   Data Gaps

- Number of Schedule Monuments in Carmarthenshire.
- The heritage value of transport infrastructure itself.

[207] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Percentage of designated historical assets on the transport estate that are in a stable or improving condition. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s27 [Accessed: 28.08.24]
[208] Stats Wales (2023) Percentage of people who attend or participate in arts culture or heritage activities three or more times a year by local authority. Available at: https://statswales.gov.wales/Catalogue/National-Survey-for-Wales/Sport-and-Recreation/percentageofpeoplewhoattendorparticipateinartcultureheritageactivities3ormoretimesayear-by-localauthority-year [Accessed: 21.08.24]
[209] Welsh Government (2023) National Survey for Wales: results viewer. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed: 21.08.24]
[210] Welsh Government (2023) National Survey for Wales: results viewer. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed: 21.08.24]

6.6 Key Issues relevant to the RTP and opportunities for it to address them

6.6.1   Issues

Welsh Language

6.6.1.1   There has been an upward trend since the 1990s in the number of people using the Welsh language, noting large regional variations; there are opportunities to increase levels of fluency.

6.6.1.2   In some cases, opportunities to use the Welsh language when utilising public transport is limited, such as due to customer service staff not speaking Welsh.

Landscape and Townscape Character

6.6.1.3   Wales is renowned for its high-quality landscapes with over 50% of the land area being nationally valued for its scenic quality and character. National Parks and Areas of Natural Beauty are internationally recognised Designated Landscapes and cover 25% of Wales. This has implications for new transport infrastructure within these areas with a key challenge for sustainable management being to enable appropriate levels of growth whilst retaining the distinctiveness of places and landscapes. This must also recognise that the natural and historic components of landscape are important to both place and the cultural value of landscape.

6.6.1.4   The loss of visual amenity and character could have impacts on local people and tourists.

6.6.1.5   Motor traffic, parking and associated impacts can blight the character of landscapes and townscape.

Historic Environment, Cultural Heritage and Assets

6.6.1.6   Wales has a wealth of historic and cultural assets which are important components of national cultural identity. Many such assets are at risk from, for example, decay, climatic factors, neglect and inappropriate development. As with other environmental factors, protecting and provisioning fair access to cultural heritage assets is a key challenge for sustainable planning of the transport system.

6.6.1.7   New development can have a range of direct and indirect effects on heritage assets which need to be avoided or mitigated. This includes effects from noise and air pollution from construction of busy traffic routes in close proximity to culturally significant areas which may make them less appealing to visit or decrease their visual amenity (indirect effects), it also includes the physical removal of heritage assets as this may be required for the development of new travel infrastructure. Effects on the historic environment can include the intensification of existing traffic or the construction of new road or rail. Increasing levels of congestion can affect historic towns, cities and the countryside, while development of new transport infrastructure can affect historic landscapes and may cause direct damage to heritage assets.

6.6.2   Opportunities

Welsh Language

6.6.2.1   The RTP has an opportunity to protect and promote the use of the Welsh language through the transport system through encouragement of its use in signposting and employees of bus and train stations.

6.6.2.2   The RTP could seek to ensure that access to Welsh-Medium education facilities is specifically targeted as part of this aim, to support the strategy seeking to expand Welsh-Medium education provision.

6.6.2.3   The RTP could also seek to support the aim to increase the range of services offered to Welsh speakers, and an increase in use of Welsh-language services.

6.6.2.4   The RTP could also seek to 'support the socioeconomic infrastructure of Welsh-speaking communities' through its policies, helping to support the aim of 'Develop[ing] a new regional focus to economic development to help all parts of Wales to benefit from prosperity and support each area to develop its own distinctive identity.' Within the RTP there will be opportunities to promote the Welsh language through its use in station announcements, road signs and signs within rail and bus stations.

Landscape and Townscape Character

6.6.2.5   The transport system has a major role to play in how future transport infrastructure development will affect landscape, townscape, and sense of place in general.

6.6.2.6   There is an opportunity for improved access to valued landscapes, townscapes and viewpoints, including by sustainable and active travel modes to reduce the impact of motor traffic.

6.6.2.7   The RTP has an opportunity to provide high quality transport connections to National Parks for both tourists/visitors and local leisure users.

6.6.2.8   There is an opportunity to incorporate dark sky-friendly lighting to new developments to support the dark sky designations and efforts to maintain these, alongside dark-sky tourism.

Historic Environment, Cultural Heritage and Assets

6.6.2.9   As with landscape, the RTP has a major role to play in the protection and enhancement of cultural heritage through guidance to the transport system. This could include the recognition that non-designated heritage assets are also an important part of the make-up of cultural identify and sense of place and that indirect effects on the setting of assets are also important considerations.

6.6.2.10 Opportunities also exist for the RTP to promote awareness of cultural heritage and encourage the enhancement of access to cultural education centres.

6.6.2.11 The RTP could seek to identify and protect transport infrastructure that may be of heritage value in its own right.

6.6.2.12 The RTP has the opportunity to contribute towards the efficient management of the transport system during major events, including sporting, leisure and recreational activities and cultural events.

7 Well-Being Goal: A Globally Responsible Wales

7.1.1.1   This section provides baseline data relating to the following well-being goal:

"A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being".

7.1.1.2   In many ways, this well-being goal relates to all of the ISA topics. However, for the purposes of presentation, the data in this section relate primarily to:

- Energy Consumption, Greenhouse Gas Emissions and Ecological Footprint

7.2 Energy Consumption, Greenhouse Gas Emissions and Ecological Footprint

7.2.1   Relevance to the RTP

7.2.1.1   Wales is a globally responsible nation, and the RTP has an important role in helping to guide planning and transport in a way that contributes positively to this. In particular energy consumption and greenhouse emissions are two things that occur locally through homes, businesses and transport but contribute to global consequences.

7.2.2   Baseline conditions and trends

Energy Generation

7.2.2.1   It is estimated that Welsh renewable electricity generation is equivalent to 59% of Wales's electricity consumption on an annual basis[211]. This represents an increase of 4 percentage points compared to 2021 levels. Electricity generation from gas in Wales has increased by nearly 40% since 2020. There has been no electricity generation from nuclear and coal in Wales since 2015 and 2019 respectively. Figure B-45 below shows electricity generation by fuel in 2017-2021 for England, Scotland, Wales and Northern Ireland.

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[211] Welsh Government (2022) Electricity Generation in Wales 2022. Available at:
https://www.gov.wales/sites/default/files/publications/2023-11/energy-generation-in-wales-2022.pdf [Accessed: 31.07.24]

Figure B-45: Electricity Generation by fuel type from 2017 to 2021 for Wales, England, Scotland and Northern Ireland
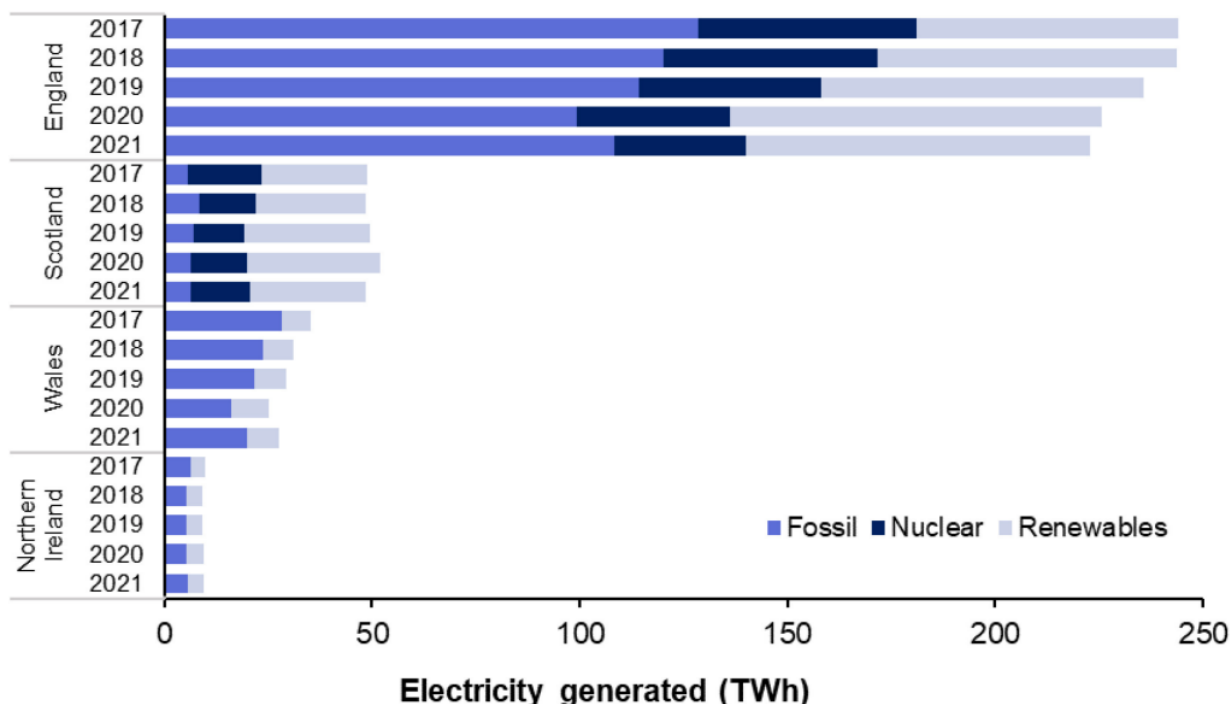
Source: BEIS (2022)[212]

7.2.2.2 Between 2000 and 2013, the percentage of electricity generated from renewable energy sources increased from less than 3% to over 10%. This was largely as a result of wind generation. The use of renewable energy could help to reduce Wales's carbon footprint over time.

7.2.2.3 Between 2016 and 2017, there was an increase from 12.3% of energy in Wales being generated by renewables to 20.0%, an increase of 7.7% in only a year[213]. In 2022, renewables represented 27% of all electricity generation in Wales and there was 3,551MW of renewable electricity capacity in Wales[214]. Renewable generation increased by 3.7%(1.4TWh) in Quarter 1 2024 to 39.2TWh with most of the increase being in onshore wind generation[215]. The renewable share of total electricity generation reached 50.9% in Quarter 1 2024, 2.2 percentage points higher than the same period last year.

7.2.2.4 In 2022, there was 798MW of renewable heat in Wales, 60% of which is from biomass projects.

Energy Consumption

7.2.2.5 Total energy use in Wales in 2017 was 86.1TWh. Total energy consumption has been falling since 2005, though more so since 2007, which coincides with the economic downturn (as of 2017). The industry and commercial sector accounts for a large proportion of this decline. While total energy use has been falling, the energy use of the transport sector has remained consistent between 2005

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[212] BEIS (2022) Electricity generation and supply in Scotland, Wales, Northern Ireland, and England, 2017 to 2021. Available at: https://assets.publishing.service.gov.uk/media/63a2dd608fa8f539108d59be/Regional_electricity_generation_and_supply_2017-21.pdf [Accessed: 31.07.24]

[213] Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2014 to 2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770766/Regional_Electricity_Generation_and_Supply.pdf [Accessed: 21.08.24]

[214] Welsh Government (2022) Energy Generation in Wales. Available at: https://www.gov.wales/sites/default/files/publications/2023-11/energy-generation-in-wales-2022.pdf [Accessed: 30.08.24]

[215] Department for Energy Security and Net Zer (2024) Energy Trends, UK, January to March 2024. Available at: https://assets.publishing.service.gov.uk/media/667c16427d26b2be17a4b3a5/Energy_Trends_June_2024.pdf [Accessed: 21.08.24]

and 2017, leading to a higher proportion of total energy use (26%). The highest use of transport energy is clustered around highly populated urban areas like Cardiff and Newport. Western coast authority areas of Wales have lower levels of transport energy use[216].

7.2.2.6   The Energy Use in Wales Second Edition report[217] states that between 2005 and 2019, total energy use in Wales reduced from a total of 109.9 TWh in 2005 to 92.8 TWh in 2019: a reduction of 16% over a 14-year period. Overall, industrial, commercial and domestic sectors have seen reductions in energy use since 2005. Transport accounts for an increasing share of the total energy use in Wales, rising from 20% in 2005 to 25% in 2019[218].

Greenhouse Gas Emissions

7.2.2.7   Total greenhouse gas emissions in Wales in 2018 amounted to $38.9MtCO_{2e}$. This translates to a 31% decrease on 1990 levels, although that figure has fluctuated over the period showing a gradual decreasing trend overall. These emission reductions are mainly due to efficiencies in energy generation and business sector heating, the use of natural gas to replace some coal and other fuels as well as abatement in some chemical industries, and variations in manufacturing output (e.g. in iron and steel, bulk chemical production).

7.2.2.8   Wales is moving in the right direction to help combat some of the most serious causes of climate change. The increase of renewable energy production is an example of this. A reduction of overall CO_2 emissions is helping Wales and the whole of the UK meet its reduction targets. However, although moving in the right direction, change needs to happen in Wales and across the UK to ensure reduction targets are met.

7.2.2.9   Figure B-46 illustrates the split of emissions between different sources in Wales between 1990 and 2019. This shows that the largest contributor remains the energy supply industry. Since 1990, the sector that has decreased its proportion of emissions the most is the business sector.

[216] Welsh Government (2018) Energy Use in Wales. Available at: https://gov.wales/energy-use-wales-2018-report [Accessed: 19.08.24]
[217] Welsh Government (2022) Energy Use in Wales Second Edition. Available at:
https://www.gov.wales/sites/default/files/publications/2022-06/energy-use-wales-report.pdf [Accessed: 06.08.24]
[218] Welsh Government (2019) Welsh Housing Conditions Survey 2017-2018: Energy Efficiency of Dwellings. Available at:
https://gov.wales/sites/default/files/statistics-and-research/2019-10/welsh-housing-conditions-survey-energy-efficiency-dwellings-april-2017-march-2018-795.pdf [Accessed: 19.08.24]

Figure B-46: Total Greenhouse Gas Emissions per Sector in Wales (ktCO2e)
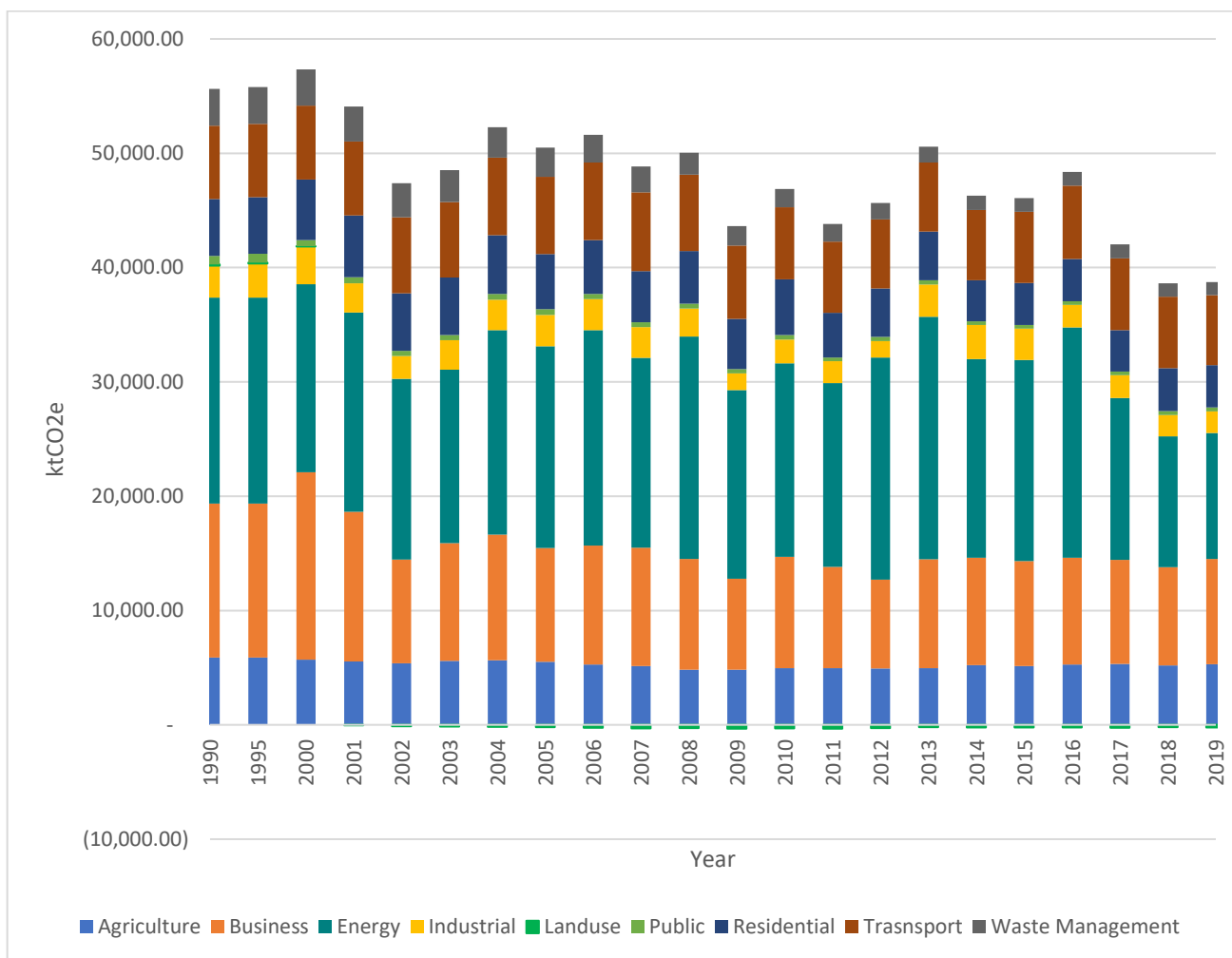
7.2.2.10 The Welsh Government reported in 2023 as part of their Wellbeing of Wales report[219], that in 2021, it was estimated that emissions released into the atmosphere directly from within Wales (known as territorial emissions) totalled 36.3 million tonnes of carbon dioxide equivalent (MtCO2e), an increase of 7% compared to 2020. Most of the increase in 2021 is due to increases in emissions from power stations, iron and steel production, and road transport, consistent with greater activity in these sectors following the COVID-19 pandemic. Despite this increase in 2021, estimated Welsh emissions remain 6% below the 2019 pre-pandemic level.

7.2.2.11 The largest source of estimated emissions comes from the energy supply sector, which produces 26% of all greenhouse gas emissions in Wales. This sector is dominated by emissions from gas power stations. The business sector is the second largest source making up 24% of Welsh emissions. This sector is dominated by the combustion of fossil fuels in industrial production, primarily from iron and steel production.

Changes in traffic volume

7.2.2.12 To 2019, road traffic volume in Wales increased by 1.5% on the previous year, reflecting the highest total volume of motorised traffic on record at 32.1 billion vehicle kilometres, or 10,186 km per person.

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[219] Welsh Government (2023) Wellbeing of Wales, 2023. Available at: https://www.gov.wales/sites/default/files/pdf-versions/2023/9/4/1695889848/wellbeing-wales-2023.pdf [Accessed: 30.08.24]

Change in greenhouse gas emissions from the transport sector

7.2.2.13 According to the National Atmospheric Emissions Inventory, there is a declining rate of CO_2 emissions from the transport sector in Wales[220]. Figure B-47 sets out the total CO_2 emissions from the domestic transport sector in Wales up to 2019.

Figure B-47: Total CO_2 emissions from the transport sector in Wales (kT)
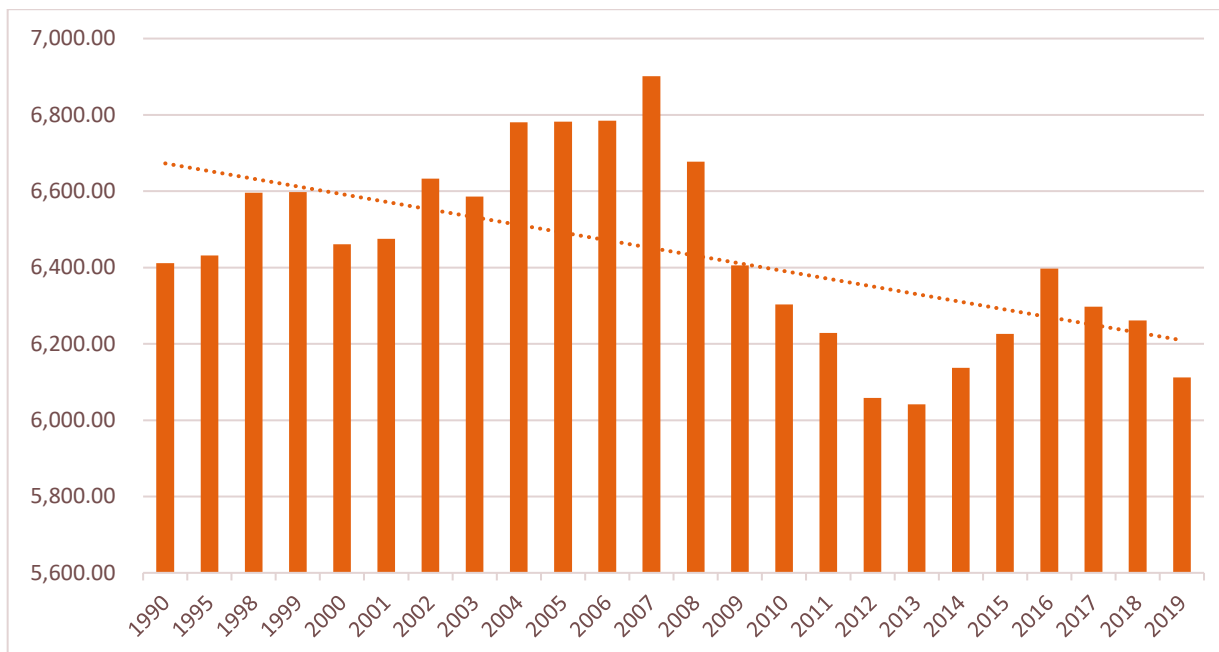
7.2.2.14 With regards to domestic transport, data from the National Atmospheric Emissions Inventory shows a decrease in 2020 and 2021 of total kilotonnes/emissions of CO_2 equivalent (compared to 2019), with an increase in 2022 (compared to the two preceding years). This is thought to be related to the COVID-19 pandemic and associated lockdowns. The total in 2022 is less than in 2019 (pre-Covid). The category 'International aviation and shipping' follows the same pattern.

7.2.2.15 Transport for Wales reports that after a fall of 21.3% in greenhouse gas emissions from the domestic transport sector in 2020, in 2021 greenhouse gas emissions grew by 11.5% but remain below their pre-pandemic levels[221]. In 2021, cars accounted for the majority of transport greenhouse gas emissions (56%), slightly below its share in 2017 (59.7%). Total car $KtCO_2e$ emissions have fallen by 19.4% over this period. Light trucks (19.1%) and heavy trucks and buses (17%) have increased their share since 2017 (16.3% and 15.4% respectively), and alongside cars contribute more than 90% of the transport sector total. Despite increasing their share of total emissions, only light trucks have seen their total $KtCO_2e$ emissions increase (from 1,030 to 1,035) since 2017. All other modes have reduced their KtCO2e emissions.

Energy from renewable sources used by public transport

7.2.2.16 According to a report on energy use in Wales[222], around 92.8 TWh of energy was consumed across Wales in 2019. Energy use for road and rail transport in Wales has remained relatively consistent

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[220] StatsWales (2024) Emissions of Greenhouse Gases by Year. Available at: https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Greenhouse-Gas/emissionsofgreenhousegases-by-year [Accessed: 06.08.24]

[221] Transport for Wales (2023) Greenhouse gas emissions from the transport sector. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/m6 [Accessed: 21.08.24]

[222] Welsh Government (2022) Energy Use in Wales, Second Edition. Available at: https://www.gov.wales/sites/default/files/publications/2022-06/energy-use-wales-report.pdf [Accessed: 28.08.24]

over the last decade, with 23.4 TWh consumed in 2019. Transport consumption by fuel in 2019 is divided into petroleum (96%) and bioenergy and wastes (4%)[223].

Zero Emission Vehicles (ZEVs) and Ultra Low Emission vehicles (ULEVs)

7.2.2.17   There were 314,000 zero emission cars registered for the first time in 2023, an increase of 18% from 2022[224]. Zero emission cars accounted for 16% of all new car registrations, which showed little change in 2022. There were up to 22,000 zero emission light goods vehicles (LGVs) registered for the first time in 2023, an increase of 63%, compared to 2022. Zero emission LGVs accounted for 6% of all new registrations, the same as in 2022.

7.2.2.18   Transport for Wales reports that the number of ULEVs in Wales has grown dramatically since 2013[225]. Total ULEVs (excluding taxis and private hire vehicles) have increased in number from 283 in 2013 to 22,708 in 2022. The COVID-19 pandemic had no discernible impact on the uptake of ULEVs, with growth rates of 54% in 2020 and 81.1% in 2021.

7.2.2.19   In addition, Transport for Wales data shows that there are currently 2,246 public electric vehicle charging devices and 440 rapid charging devices as of January 2024[226]. Neath Port Talbot has the lowest number of charging devices per 100,000 population (16.9). Pembrokeshire is the local authority with the highest number of publicly available charging devices.

Journeys made by sustainable travel modes

7.2.2.20   The number of rail passenger journeys in Wales reached the highest level on record in 2017-18[227], there were 31 million rail passenger journeys which either started or ended in Wales, an increase of 1.9 per cent compared with the previous year. Between April 2019 and March 2020, this decreased by 3.8% to 29.9 million passengers. This data incorporates a small period at the start of the COVID-19 pandemic, which may be reflected in the data[228].

7.2.2.21   Rail passenger journeys within Wales increased to 21.5 million in 2017-18, a 1.3 per cent increase compared to the previous year. Cardiff was the most common destination for within-Wales journeys, accounting for 41% of all journeys. In 2019-2020, journeys to Cardiff accounted for 42.9% of rail travel within Wales.

7.2.2.22   In 2022-23, rail journeys within Wales increased by 30.8% and journeys 'to or from outside of Wales's increased by 35.8% compared to 2021-22[229]. Cardiff remains the most common destination for within-Wales journeys (5.9 million passenger journeys), accounting for 40.0% of all journeys.

7.2.2.23   Transport for Wales reports that as of 31st March 2022, 1,526km of rail route in Wales is used for either passenger or freight journeys[230]. Of this, 56km (3.7%) is electrified.

[223] Welsh Government (2022) Energy Generation in Wales. Available at: https://www.gov.wales/sites/default/files/publications/2023-11/energy-generation-in-wales-2022.pdf [Accessed: 28.08.24]

[224] Department of Transport (2024) Vehicle licensing statistics: 2023. Available at: https://www.gov.uk/government/statistics/vehicle-licensing-statistics-2023/vehicle-licensing-statistics-2023#new-registrations-of-vehicles-overview [Accessed: 21.08.24]

[225] Transport for Wales (2023) Percentage of vehicles that are ultra-low or zero emission. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/m2 [Accessed: 21.08.24]

[226] Transport for Wales (2023) Number of publicly available electric vehicle charging points. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s10 [Accessed: 21.08.24]

[227] Welsh Government (2019) Rail Transport, April 2017 to March 2018. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-04/rail-transport-april-2017-to-march-2018-824.pdf [Accessed: 21.08.24]

[228] Welsh Government (2021) Rail transport: April 2019 to March 2020. Available at: https://gov.wales/rail-transport-april-2019-march-2020 [Accessed: 21.08.24]

[229] Welsh Government (2024) Statisical Bulletin. Rail transport, 2022-2023. Available at: https://www.gov.wales/sites/default/files/statistics-and-research/2024-04/rail-transport-april-2022-march-2023-090.pdf [Accessed: 28.08.24]

[230] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Percentage of rail network that is electrified. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s7 [Accessed: 28.08.24]

7.2.2.24 A total of 99.9 million passenger journeys were undertaken on local buses in Wales in 2017-18. These services covered a total 99.1 million vehicle kilometres[231]. Similarly with rail travel, the number of bus journeys taken between April 2019 and March 2020 may have been affected by the pandemic, as 88.8 million passenger journeys were taken within this period[232].

7.2.2.25 During 2022-23 (1st April 2022 to 31st March 2023), there were 61.0 million passenger journeys on local buses in Wales, a 15.7% increase on the previous year, but 33.5% below 2019-20 (pre-covid levels)[233]. Over the same period, the number of local bus and coach vehicles in operation increased by 4.5% to 2,330.

Active travel

7.2.2.26 In a Statistical Bulletin on the use of active travel in Wales (2019-2020)[234] and (2022-2023)[235], it was found that (see Figure B-48):

- 4% of adults cycled at least once a week for active travel purposes. This is down 2% on the same period between 2018 and 2019. In 2022-23, this rose to: 6% of people cycled at least once a week for active travel purposes.
- 60% of adults walked at least once a week for active travel purposes. This is up 3% on recent years. In 2022-23, 51% of people walked at least once a week for active travel purposes.
- 74% of people in urban areas walked for more than 10 minutes as a means of transport at least once a month, compared with 59% of people in rural areas. Both urban and rural walking rates are up on 2018-2019. In 2022-23, 62% of people in urban areas walked for more than 10 minutes as a means of transport at least once a month, compared with 52% of people in rural areas. 17% of people in both urban and rural areas reported that they walked daily as a means of transport in 2022-23.
- Men and those without limiting long-standing illnesses were more likely than others to cycle.
- In 2018-19, 44% of children actively travel to primary school, and 34% to secondary school.
- 226 seriously injured pedal cyclists were admitted to hospital in 2019-2020. This is roughly in line with previous years, and a 16% decrease on 2014 numbers.

[231] Welsh Government (2019) Public service vehicles (buses and taxis), 2017-18.Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-03/public-service-vehicles-buses-and-taxis-april-2017-to-march-2018_0.pdf [Accessed: 19.08.24]
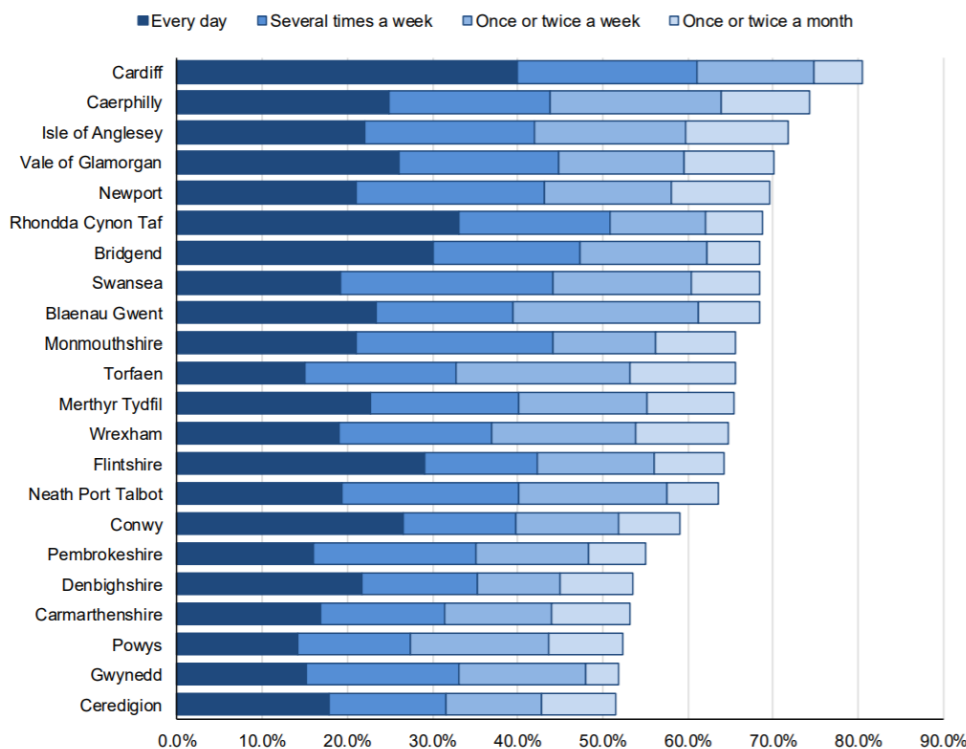[232] Welsh Government (2021) Public service vehicles (buses and taxis): April 2019 to March 2020. Available at: https://gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html [Accessed: 19.08.24]
[233] Welsh Government (2024) Public service vehicles (buses and taxis): April 2022 to March 2023. Available at: https://www.gov.wales/public-service-vehicles-buses-and-taxis-april-2022-march-2023-html [Accessed: 21.08.24]
[234] Welsh Government (2020) Active travel (walking and cycling): April 2019 to March 2020. Available at: https://gov.wales/active-travel-walking-and-cycling-april-2019-march-2020-html [Accessed: 21.08.24]
[235] Welsh Government (2023) Active travel (walking and cycling): April 2022 to March 2023. Available at: https://www.gov.wales/active-travel-walking-and-cycling-april-2022-march-2023-html#129233 [Accessed: 21.08.24]

Figure B-48: Active Travel by Walking, by Local Authority

Legend: ■ Every day ■ Several times a week □ Once or twice a week □ Once or twice a month

Local Authorities (top to bottom): Cardiff, Caerphilly, Isle of Anglesey, Vale of Glamorgan, Newport, Rhondda Cynon Taf, Bridgend, Swansea, Blaenau Gwent, Monmouthshire, Torfaen, Merthyr Tydfil, Wrexham, Flintshire, Neath Port Talbot, Conwy, Pembrokeshire, Denbighshire, Carmarthenshire, Powys, Gwynedd, Ceredigion

Source: Gov.Wales (2018-19)

7.2.2.27 Transport for Wales reports that sustainable modes of transport (walking, cycling and public transport) accounted for at least 28.1% of all journeys in Wales in 2012[236]. Walking (21.5%) was the most popular sustainable mode, followed by public transport (6.6%). Private vehicles were the most popular journey mode. Almost 70% of journeys were made by car or van, either as the driver (45.7%) or as a passenger (23.7%). The Office for National Statistics' Labour Force Survey data shows that in 2022, 78.8% of people commuted to work by car. People commuting to work using public transport in 2022 is 6.9%, this suggests no major shifts in public transport use.

7.2.2.28 Transport for Wales reports that in 2023 compared to 2019, South West Wales has a 5.4 percentage point increase in share of population within walking distance of active travel routes, increasing to 47.2%[237]. However, the percentage of people (in this region) within walking distance of bus services fell by 6.3%.

Ecological footprint

7.2.2.29 A study in 2011 estimated Wales's ecological footprint at 10.05 million global hectares (gha), which is roughly five times the size of Wales, or 3.28 global hectares per capita (gha/c). This is estimated to be roughly 1.2-1.8 times the global average. Wales's carbon footprint is estimated at 34 Mt CO_2e, or 11 t CO_2e per capita[238].

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[236] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Percentage of journeys by walking, cycling and public transport. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/m1 [Accessed: 28.08.24]

[237] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. % people within walking distance of sustainable modes of transport. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s3 [Accessed: 28.08.24]

[238] Stockholm Environment Institute and GHD (2015) Ecological and Carbon Footprint Report: Wales. Available at: https://gov.wales/ecological-and-carbon-footprint-report [Accessed: 21.08.24]

7.2.2.30   Carbon land (land and sea required to sequester CO_2 emissions) is the most important component, accounting for 63% of the overall ecological footprint of Wales. In other words, the emission of carbon dioxide resulting from burning fossil fuels is the most important factor determining the overall environmental burden. The consumption of food, housing, transport, consumer items, private services and public services together accounts for approximately 85% of the ecological footprint.

Hectares of healthy ecosystems that form part of the transport network

7.2.2.31   It states in the Welsh Transport Planning Appraisal Guidance (2008) that about 70% of the Welsh coastline is safeguarded in one way or another and 10% of all the land area in Wales is designated as a SSSI. There are over 1,500 protected sites across the country[239]. Transport for Wales (2023) reports that in 2022-23, there were 3,145 hectares of habitat on the strategic road network maintained or improved for biodiversity benefit[240]. Due to improvements made, the level of hectares improved for biodiversity benefit has increased by 50% from 28 in 2021-22 to 42 in 2022-23.

Freight

7.2.2.32   In 2022, total freight tonnage at all Welsh ports (major and minor combined) was 53.9 million tonnes (Mt), an increase of 14.5% from 2021, and an increase of 1.8% from 2019. Welsh ports handled 11.7% of the UK's total freight tonnage in 2022[241]. Figure B-49 below shows the total sea freight through major ports within Wales in 2022.

Figure B-49: Sea Freight through Wales Major Ports
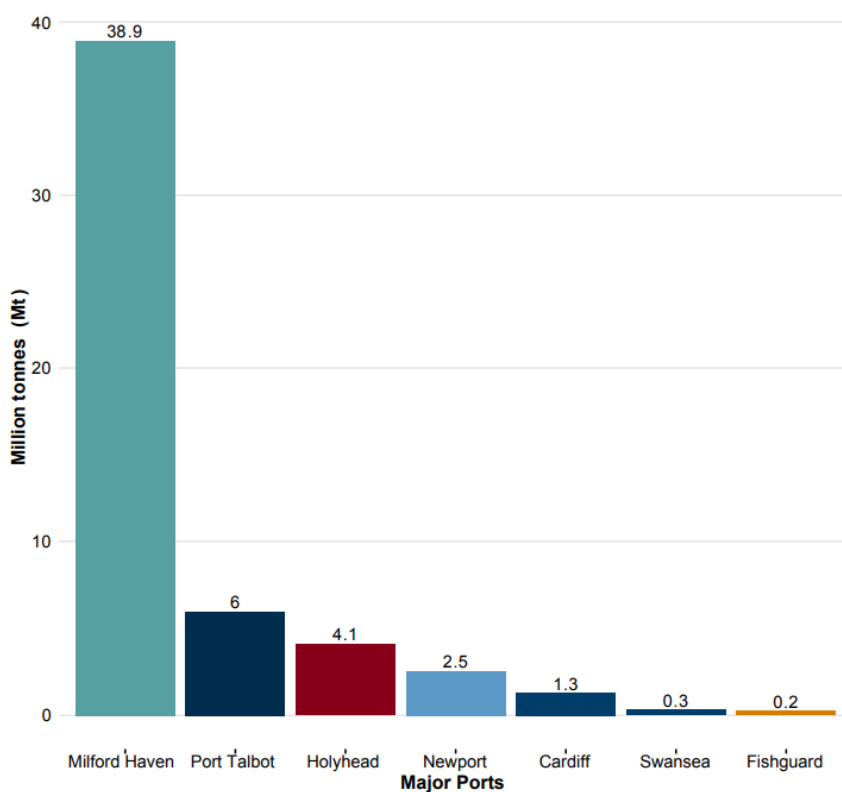
Source: Welsh Government

[239] Welsh Government (2008) Welsh Transport Planning and Appraisal Guidance. Available at: https://gov.wales/sites/default/files/publications/2017-09/welsh-transport-appraisal-guidance-weltag.pdf [Accessed: 21.8.08.24]
[240] Transport for Wales (2023) Wales Transport Strategy: Monitoring Measures. Hectares of habitat on the transport estate maintained or improved for biodiversity benefit. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s25 [Accessed: 21.08.24]
[241] Welsh Government (2023) Statistical Bulletin: Sea Transport 2022. Available at: https://www.gov.wales/sites/default/files/pdf-versions/2023/11/3/1701251926/sea-transport-2022.pdf [Accessed 21.08.24]

7.2.2.33 In 2022, Milford Haven was the largest port in Wales and the third largest port in the UK by freight tonnage, predominantly oil and gas. Freight tonnage at Milford Haven accounts for 72.2% (more than two thirds) of all Welsh port freight. It handled 38.9Mt of freight in 2022, which was 8.5% of the UK total for 2022.

7.2.2.34 Total freight tonnage through UK ports in 2022 was 458.9Mt, a 3.0% increase on 2021 but a 4.9% decrease from 2019. Wales total sea freight tonnage increased by 14.5% whilst Scotland freight increased by 2.0%. Northern Ireland sea freight decreased by 5.3% since 2021.

7.2.2.35 The change in Wales' port traffic (up to 2020) can be seen in Figure B-50 which compares it to other UK countries and their change in port traffic[242].

Figure B-50: All port traffic inwards and outwards across the UK
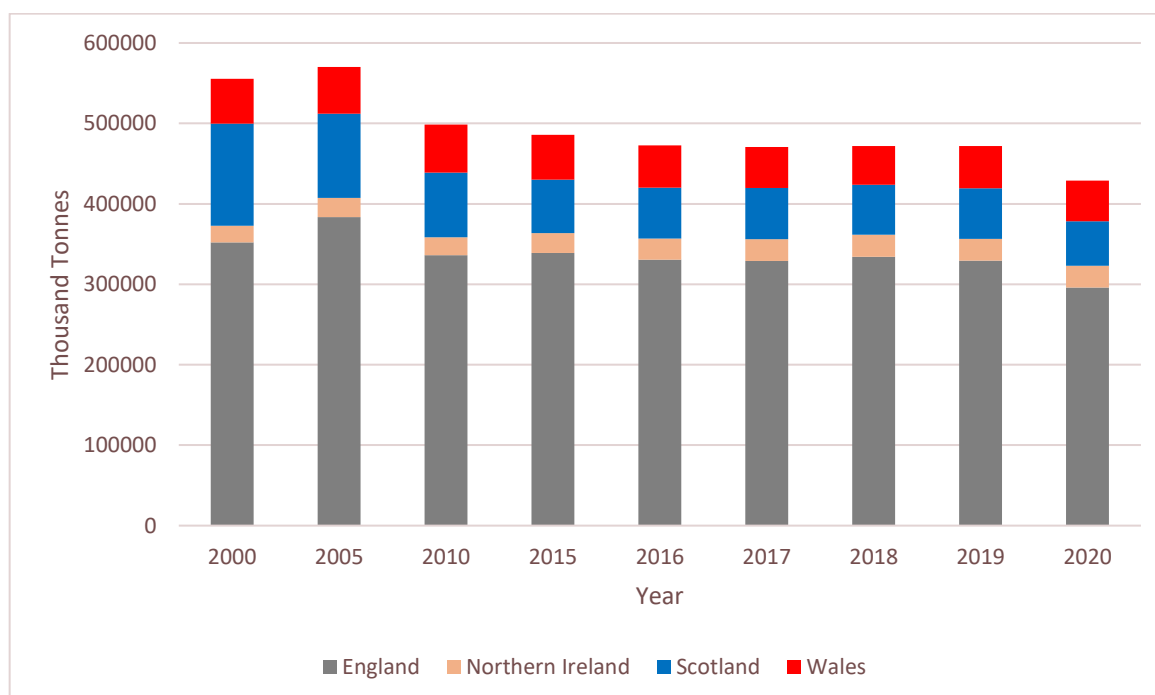
Source: Adapted from Department for Transport

7.2.2.36 The tonnes of goods transported by freight on the roads in Wales has decreased between 2004 and 2020[243]. Table B-14 sets out the total mass of freight transported by road in Wales since 2004.

Table B-14: Goods transported via road freight in Wales 2004-2020

Year	Million Tonnes
2004	86
2005	94
2006	89
2007	96

[242] Department for Transport (2021) Statistical data set: Port and domestic waterborne freight statistics: data tables (PORT0301). Available at: https://www.gov.uk/government/statistical-data-sets/port-and-domestic-waterborne-freight-statistics-port#port-level-statistics [Accessed: 21.08.24]
[243] Department for Transport (2021) Statistical data set: Domestic road freight activity (RFS01). RFS0121: Goods lifted and goods moved by region and country of origin. Available at: https://www.gov.uk/government/statistical-data-sets/rfs01-goods-lifted-and-distance-hauled#domestic-road-freight-by-region [Accessed: 19.08.24]

Year	Million Tonnes
2008	89
2009	66
2010	73
2011	64
2012	71
2013	59
2014	59
2015	63
2016	67
2017	70
2018	62
2019	64
2020	57

7.2.2.37 Transport for Wales reports that in 2022, a total of 14.4 billion tonne kilometres of freight were moved in Wales by road and rail. Road freight accounts for 94.1% of the total with the remaining 5.9% attributed to domestic rail freight[244].

7.2.3 Data Gaps

- Data relating to gendered differences in data captured.
- Data relating to energy from renewable sources used by public transport

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[244] Transport for Wales (2023) Percentage of land-based freight moved by rail. Available at: https://tfw.wales/projects/monitoring-and-evaluation/wales-transport-strategy/monitoring-measures/s8 [Accessed: 21.08.24]

7.2.4 Transport Budget Headline Figures

Figure B-51: Revenue and Capital of rail transport in Wales

<div>

2020/21 (£m)

Capital   **610**

Approx 50% on public transport and active travel, including:

Rail enhancements	47
South Wales Metro	142
North Wales Metro	23
Sustainable and AT	89

Revenue   **530**

But only around 10% of revenue budget could be considered as discretionary expenditure.

Rail franchise	185
Bus services	58
Trunk road opex	71
Depreciation	188

</div>

Source: Economy, Skills and Natural Resources Group, Welsh Government

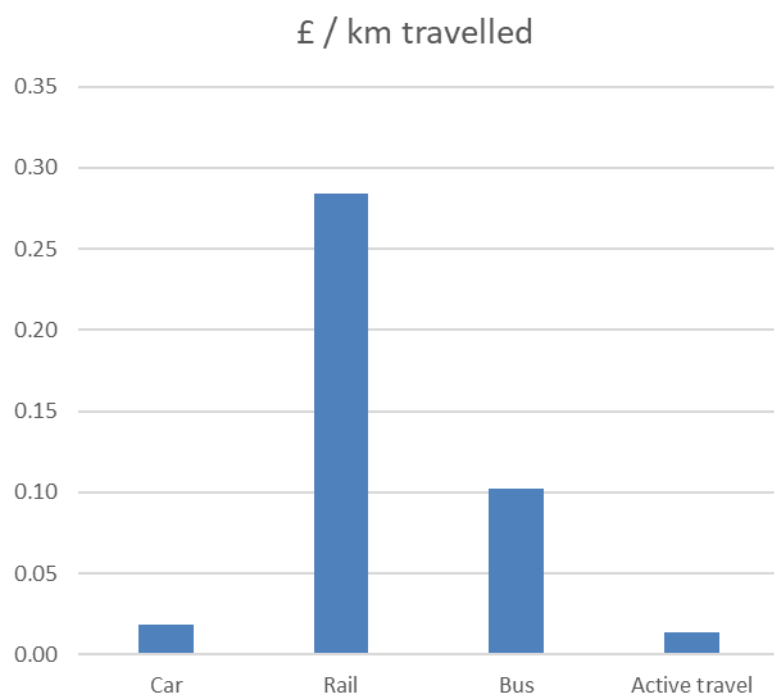**Figure B-52: Pounds sterling per kilometre travelled by different transport modes**

£ / km travelled

Figure B-53: Money spent across different transport modes in Wales

|	£m spent	Journeys (millions)	Modal share	Distance (billion km)	£ / journey	£ / km travelled
Car	682	849	62%	36.6	0.80	0.02
Rail	397	34	2%	1.3	11.63	0.31
Bus	198	103	8%	0.9	1.92	0.22
Active travel	42	384	28%	1.6	0.11	0.03
Total	1319					

Caveats

1. Funding levels not linear with patronage
2. Latest available data from each source has been used to produce these figures, meaning they are not always from directly comparable time periods
3. Wales-specific data not available for all modes, in which case estimates have been made using data for England

Source: Economy, Skills and Natural Resources Group, Welsh Government

7.2.4.1   In their business plan 2022-23, Transport for Wales (TfW) sets out how they will deliver on our remit for 2022-23 reflecting revenue and capital in key areas[245].

Figure B-54: How TfW plan to spend their Welsh Government funding in 2022-23
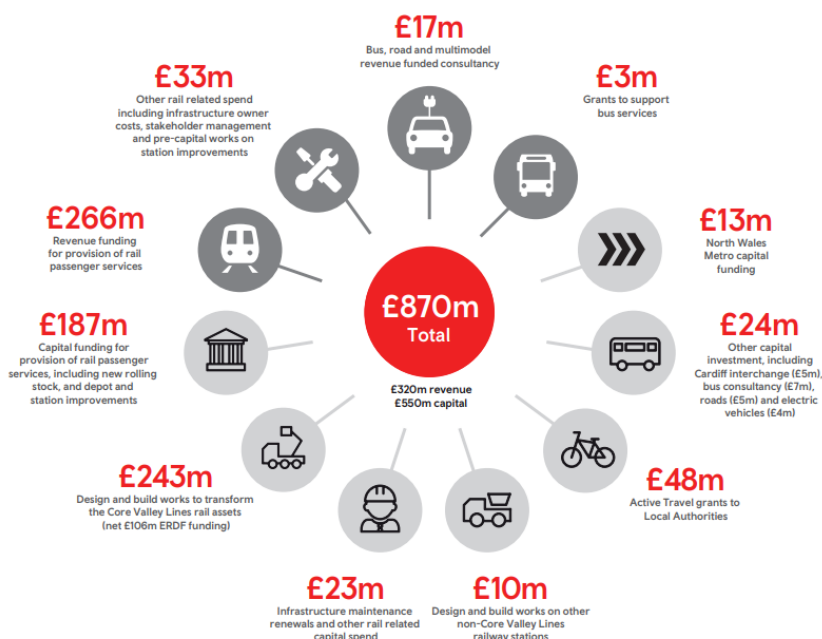
7.2.4.2   In addition to Welsh Government funding, TfW will receive other significant sources of income from the European Regional Development Fund (£106m) and rail revenue (£177m) of which passenger revenue is £146m.

7.2.5   Data Gaps

- How specifically the transport network interacts with these factors e.g. how many hectares of healthy ecosystems does the transport network cross.
- How much energy used by the transport network is sourced from renewable resources.
- How many recycled materials are used in construction of transport infrastructure.

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[245] Transport for Wales (2022) Business Plan 2022-23. Available at: https://tfw.wales/sites/default/files/2022-07/017-22_TfW%20Business%20Plan.pdf [Accessed: 21.08.24]

7.3 Key Issues relevant to the RTP and opportunities for it to address them

7.3.1 Issues

7.3.1.1 Since 2012, total greenhouse gas emissions from the Welsh domestic transport sector have been relatively stable over time. The level in 2021 is below the pre-COVID-19 pandemic level, which follows the long-term trend of falling greenhouse gas emissions in the domestic transport sector. In 2019, transport consumption by fuel is dominated by petroleum, while bioenergy and wastes only make up 4% of the total.

7.3.1.2 In 2021 compared to the previous year, Wales increased its electricity generation share resulting from greater fossil fuel generation, particularly gas. While all four nations experienced a decline in their shares of renewable generation, Wales and England did both record their second highest shares from 2017 to 2021.

7.3.1.3 The challenge remains to ensure that the positive trend of falling greenhouse gas emissions associated with the domestic transport sector continues and accelerates. The gradual shift in energy generation to renewable and cleaner fuels together with technological and efficiency improvements are key issues.

7.3.1.4 Wales has an ecological footprint which is estimated to be roughly 1.2-1.8 times the global average. Ecological footprint is an indicator of the total environmental burden that society places on the planet. Transport developments should seek to alleviate this whilst also accommodating new development and economic growth.

7.3.1.5 Measures must be taken to improve the safety of pedestrians and cyclists on the road, in order to promote them as viable forms of travel.

7.3.1.6 A key issue to address within the RTP shall be to effectively respond to rural need, particularly with regards to public transport, with a view to helping to reduce private vehicle use.

7.3.1.7 It is noted in The Case for Change for the Regional Transport Plan for South West Wales that a key challenge is capturing value for the community associated with the movement of freight.

7.3.2 Opportunities

7.3.2.1 The RTP has an opportunity to help promote low carbon fuels, renewable energy and improved standards of energy efficiency in transport infrastructure.

7.3.2.2 As only 3.7% of the rail network in Wales is electrified, as of March 2022, and the transport sector in Wales is heavily reliant on petroleum as a fuel source, the RTP should encourage a positive change which would help to reduce greenhouse gas emissions associated with the transport sector.

7.3.2.3 The RTP should support the increase of publicly available electric vehicle charging points.

7.3.2.4 The RTP should aim to reduce the growth of motor traffic.

7.3.2.5 The RTP should consider how the quality of transport in rural areas can be improved.

7.3.2.6   The RTP should address the tension between local amenity and business requirements associated with the movement of HGVs carrying freight. In line with The Case for Change, 'change will need to come in the form of effective routing, suitable facilities for HGV parking and locking into ways to decarbonise HGV use'.

7.3.2.7   The RTP must promote sustainable transport modes (including active travel and Ultra Low Emission Vehicles (ULEVs) and Zero Emission Vehicles (ZEVs)).

7.3.2.8   The RTP could help support businesses through promoting work travel plans and literature for sustainable travel options.

7.3.2.9   The RTP presents an opportunity to implement the sustainable transport hierarchy:

- Firstly, by reducing the need to travel unsustainably:
  - bring services closer to people, integrated planning (communities built around transport hubs)
  - ICT, flexible working, homeworking
- Secondly, by widening and promoting more sustainable travel choices:
  - integration, modal shift.
- Thirdly, by making better use of the existing transport network:
  - managing demand, facilities, capacity, targeted infrastructure improvements

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Appendix C

Internal Compatibility of IIA Objectives

The 13 IIA Objectives have been tested for their compatibility with each other. The internal compatibility of the IIA Objectives was generally assessed as neutral i.e. no clear impact or as positive as they all seek to improve the quality of the environment and sustainability within Wales. However, the compatibility of some IIA Objectives was assessed as uncertain.

Uncertainty was scored against IIA Objective 6 'To reduce greenhouse gas emissions from transport and contribute to modal shift' and IIA Objectives 9, 10 and 13 because the provision of renewable energy infrastructure such as wind turbines has the potential to affect landscape character, heritage assets, tranquillity and quality.

The compatibility was assessed as uncertain between IIA Objective 3 'To support sustainable economic growth' and a number of the IIA Objectives, as measures to promote the economy may lead to increased land requirements and thus, leading to some environmental and social effects.

Internal Compatibility of IIA Objectives

IIA Objective	1	2	3	4	5	6	7	8	9	10	11	12	13
1													
2	+												
3	+	+											
4	+	+	+										
5	+	+	?	+									
6	+	+	?										
7	+	+	?			+							
8	+	+	?			+	+						
9	+	+	?	+	?	?	+	+					
10	+	+	?	+	+	?	+	+	+				
11	+	+	?			+	+	+	+	+			
12	+	+	?			+	+	+	+	+	+		
13	+	+	?			?	?	?	+	+	?	+	

Objectives are compatible = +
Mutually incompatible = -
Compatibility unknown = ?
No clear impact on each other = (left blank)

The IIA Objectives are listed below:

1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales
2. To create the conditions within which an improvement in social cohesion and equality can be achieved
3. To support sustainable development

4. To protect and promote Welsh culture and improve access to cultural and recreational spaces
5. To encourage the protection and promotion of the Welsh Language
6. To reduce greenhouse gas emissions from transport and contribute to modal shift
7. To enable climate change resilience
8. To protect and improve air quality
9. To protect and enhance the local distinctiveness of our landscapes and townscapes
10. To promote the conservation and enhancement of heritage assets
11. To promote the conservation and enhancement of biodiversity and geodiversity
12. To ensure the sustainable use of natural resources
13. To enable the protection of tranquil and quiet areas and prevention of noise and light pollution

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