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APPENDIX A

Glossary and Plans, Programmes and Environmental Protection Objectives

Glossary

Terminology	Definition
Cultural Heritage	This term is the SEA Directive Topic Cultural Heritage, including architectural and archaeological heritage.
Cultural Asset/ Cultural Environment	This term refers to arts, music, literature, sport and heritage.
Ecosystem Resilience	The capacity of ecosystems to deal with disturbances, either by resisting them, recovering from them, or adapting to them, whilst retaining their ability to deliver services and benefits now and in the future.
Historic Asset	The historic environment is made up of individual historic features which are collectively known as historic assets. Examples of what can constitute an historic asset are as follows: • Listed buildings and conservation areas; • Historic assets of special local interest; • Historic parks and gardens; • Townscapes; • Historic Landscapes; • World Heritage Sites; and • Archaeological remains (including scheduled monuments and marine archaeology).
Innovation Active[1]	The UK definition of innovation follows the EU-wide definition adopted by Eurostat. This definition of 'innovation active' includes any of the activities described below that enterprises were engaged in during the survey period: 1. Introduction of a new or significantly improved product (good or service) or process; 2. Engagement in innovation projects not yet complete or abandoned; 3. New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies; and 4. Investment activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities. The definition excludes expenditure and activities linked to innovation. For the purpose of the UK Innovation Survey and in line with the European-wide Community Innovation Survey, a business that had engaged in any of the activities described in points 1 to 3 above is defined as being 'innovation active'. For the purpose of this report, a business that has engaged in any of the activities described in points 1 to 4 above is defined as a 'broader innovator'. Also, businesses classed as a 'wider innovator' are those that have engaged in the activity described in point 3 above.
Natural Resource	Defined in section 2 of the Environment (Wales) Act 2016; this includes but is not limited to: • animals, plants and other organisms; • air, water and soil; • minerals; • geological features and processes; • physiographical features; • climatic features and processes.
Sustainable Management of Natural Resources	As defined in section 3 of the Environment (Wales) Act 2017: (1) In this Part, "sustainable management of natural resources" means— (a) using natural resources in a way and at a rate that promotes achievement of the objective in subsection (2), (b) taking other action that promotes achievement of that objective, and (c) not taking action that hinders achievement of that objective.

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[1] The UK Innovation Survey 2015: Main Report. Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/536491/UKIS_2015_Main__report_Final_v.pdf [Accessed: 04.03.21]

Terminology	Definition
	(2) The objective is to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing— (a) meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and (b) contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015 (Acts for the National Assembly for Wales 2).

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

International Plans and Programmes
UNESCO (1971) The Ramsar Convention on Wetlands (1971)
UNESCO (1972) Convention Concerning the Protection of the World Cultural and Natural Heritage
UNESCO (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora
UNESCO (1979) Geneva Convention on Long Range Transboundary Air Pollution
United Nations (1989) UN Convention on the Rights of the Child 1989
United Nations (1989) Basel Convention
United Nations (1992) The Rio Convention on Biodiversity
United Nations (1992) The Rio Declaration on Environment and Development
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
Universal Declaration of Human Rights (1948)
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 World Health Organization (1999) Guidelines for Community Noise 1999
World Health Organisation (2014) Developing National Action Plans on Transport, Health and Environment
World Health Organisation (2018) Making the (Transport, Health and Environment) Link
World Health Organisation (2004) Children's Environment and Health Action Plan for Europe
European Plans and Programmes
Council of Europe (1981) Convention on the Conservation of European Wildlife and Natural Habitats - The Bern Convention
Council of Europe (1992) European Convention on the Protection of the Archaeological Heritage
Council of Europe (2000) European Landscape Convention
European Council (2013) Seventh EU Environmental Action Plan (EAP) (2013-2020)
European Commission (2006) Groundwater Directive 2006/118/EC
European Commission (1992) EU Directive on the Conservation of Natural Habitats and Wild Fauna and Flora - The Habitats Directive 92/43/EEC
European Commission (1999) European Spatial Development Perspective (ESDP) (97/150/EC)
European Commission (2001) National Emissions Ceiling Directive 2001/81/EC
European Commission (2002) Environmental Noise Directive (END) 2002/49/EC
European Commission (2003) Public Sector Information Directive (PSI) 2003/98/EC
European Commission (2004) Environmental Liability Directive 2004/35/EC
European Commission (2005) EU Thematic Strategy on Air Quality
European Commission (2006) Sustainable Development Strategy
European Commission (2006) Action Plan on Biodiversity
European Commission (2007) Together for Health - A Strategic Approach for the EU 2008-2013
European Commission (2007) The Integrated Climate and Energy Package
European Commission (2007) Green Paper: Towards A New Culture for Urban Mobility
European Commission (2007) The Floods Directive 2007/60/EC
European Commission (2008) Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC and Air Quality Framework Fourth Daughter Directive 2004/107/EC

European Commission (2008) Environmental Quality Standards Directive 2008/105/EC

European Commission (2009) Review of the EU Sustainable Development Strategy European Commission (2009)

European Commission (2009) The Birds Directive 2009/147/EC

European Commission (2009) Renewable Energy Directive 2009/8/EC

European Commission (2009) Promotion of Clean and Energy-Efficient Road Transport Vehicles Directive 2009/33/EC

European Commission (2009) Action Plan on Urban Mobility

European Commission (2009) White Paper: A Sustainable Future for Transport

European Commission (2010) Industrial Emissions Directive (integrated pollution prevention and control) 2010/75/EU

European Commission (2010) Europe 2020: A Strategy for smart, sustainable and inclusive growth

European Commission (2010) Energy 2020 - A Strategy for Competitive, Sustainable and Secure Energy

European Commission (2011) A Roadmap for Moving to a Competitive Low Carbon Economy in 2050

European Commission (2011) EU Biodiversity Strategy to 2020

European Commission (2011) Roadmap to a Single European Transport Area

European Commission (2012) Energy Efficiency Directive (2012/27/EU)

European Commission (2013) Strategy on Adaptation to Climate Change

European Commission (2013) Towards Social Investment for Growth and Cohesion 2014-2020

European Commission (2013) Seventh Environmental Action Programme to 2020 'Living well, within the limits of our planet'

European Commission (2014) 2030 Policy Framework for Climate and Energy

European Commission (2015) An Aviation Strategy for Europe

European Commission (2016) A European Strategy for Low-Emission Mobility

European Commission (2017) Strategic Plan 2016 to 2020 – Mobility and Transport

European Union (2001) SEA Directive (2001/42/EC)

European Union (2005) Emissions Trading Scheme (EU ETS)

European Union (2014) Environmental Impact Assessment Directive 2014/52/EU amending Directive 2011/92/EU

UK Plans and Programmes

The Department for Business, Innovation and Skills (BIS) (2010) Local Growth: Realising Every Place's Potential (Local Growth White Paper)

Committee on Climate Change (2008) Building a Low-Carbon Economy - the UK's Contribution to Tackling Climate Change

Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

Defra (2007) Conserving Biodiversity: the UK Approach 2007

Defra (2010) Air Pollution: Action in a Changing Climate

Defra (2010) Adapting to Coastal Change: Developing a Policy Framework

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) Mainstreaming Sustainable Development

Defra (2012) 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 (2014) 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 and 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 (2011) 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

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 (2008) 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

HM Government (1967) Forestry Act 1967

HM Government (1973) The Protection of Wrecks Act 1973

HM Government (1979) Ancient Monuments and Archaeological Areas Act 1979

HM Government (1981) Wildlife and Countryside Act

HM Government (1986) Agriculture Act (with numerous revisions) 1986

HM Government (1990) Environmental Protection Act

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

HM Government (1996) The Treasure Act 1996

HM Government (1995) Environment Act 1995

HM Government (2000) Transport Act 2000

HM Government (2000) Countryside and Rights of Way Act 2000

HM Government (2002) The National Heritage Act 2002

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

HM Government (2006) The Stern Review: The Economics of Climate Change

HM Government (2006) Government of Wales Act 2006

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 and 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 (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

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

HM Treasury (2011) UK Plan for Growth

HM Treasury (2014) National Infrastructure Plan

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)

Public Health England (2019) PHE Strategy 2020 - 2025

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
Brecon Beacons National Park Authority (2015) A Management Plan for the Brecon Beacons National Park 2015 - 2020
Committee on Climate Change (2017) UK Climate Change Risk Assessment 2017 Evidence Report, Summary for 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
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) Natural Resources Policy Statement
Natural Resources Wales (2016) State of Natural Resources Report (SoNaRR)
Natural Resources Wales (2019) State of Natural Resources (SoNaRR) Interim Report
NHS Wales (2011) 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
Public Health Wales (2019) Our Strategic Plan 2019 – 2022
Snowdonia National Park Authority (2010) National Park Management Plan
Sustainable Development Commission (2009) Low Carbon Wales
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 (2007) One Wales – A Progressive Agenda for the Government of Wales
Welsh Assembly Government (2008) One Wales: Connecting the Nation
Welsh Assembly Government (2008) Welsh Coastal Tourism Strategy
Welsh Assembly Government (2008) The Wales Freight Strategy
Welsh Assembly Government (2009) Getting On Together - a Community Cohesion Strategy for Wales
Welsh Assembly Government (2009) Capturing the Potential: A Green Jobs Strategy for Wales
Welsh Assembly Government (2009) Rural Health Plan
Welsh Assembly Government (2010) Improving Lives and Communities – Homes in Wales
Welsh Assembly Government (2010) Setting the Direction: Primary and Community Services Strategic Delivery Programme
Welsh Assembly Government (2010) A Major Events Strategy for Wales 2010 - 2020
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 (2008) Wales Transport Strategy
Welsh Government (2008) People, Places, Future – The Wales Spatial Plan
Welsh Government (2009) One Wales: One Planet, A New Sustainable Development Scheme 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) Rural Development Plan for Wales (2014-2020)
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 (2013) Partnership for Growth: The Welsh Government Strategy for Tourism 2013 – 2020

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 (2013) The Strategy for Older People in Wales 2013-2023

Welsh Government (2013) Active Travel (Wales) Act 2013

Welsh Government (2014) Declaration of Rights for Older People

Welsh Government (2015) Water Strategy for Wales

Welsh Government (2015) Strategy for Tourism 2013 – 2020: Framework Action Plan Year 2

Welsh Government (2015) Nature Recovery Action Plan

Welsh Government (2016) Active Travel Action Plan for Wales

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

Welsh Government (2016) National Strategy on Violence against Women, Domestic Abuse and Sexual Violence – 2016 - 2021

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) Taking Wales Forward 2016 – 2021

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

Welsh Government (2019) National Transport Finance Plan 2018

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 (2021) Future Wales: The National Plan 2040

Welsh Government (2021) Planning Policy Wales; Edition 11

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

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

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

Welsh Government (2005) Technical Advice Note (TAN) 8: Renewable Energy

Welsh Government (1997) Technical Advice Note (TAN) 10: Tree Preservation Orders

Welsh Government (1997) Technical Advice Note (TAN) 11: Noise

Welsh Government (2016) Technical Advice Note (TAN) 12: Design

Welsh Government (1997) Technical Advice Note (TAN) 13: Tourism

Welsh Government (1998) Technical Advice Note (TAN) 14: Coastal Planning

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

Welsh Government (2007) Technical Advice Note (TAN) 18: Transport

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

Welsh Government (2014) Technical Advice Note (TAN) 23: Economic Development

Welsh Government (2017) Technical Advice Note (TAN) 24: The Historic Environment

Welsh Government: The Wales We Want National Conversation

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

Table 1-2 summarises the outcomes of the review of International, European, UK and National plans, policies and environmental protection objectives. This identified key themes and the implications for the ISA and the WTS illustrating how these link to the development of the ISA framework.

The Well-being of Future Generations (Wales) Act 2015 goals that are applicable to the themes relevant to the ISA have also been included within Table 1-2. 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 1-2 Sustainability Themes linked to ISA Objectives

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
Reduce air pollution and ensure improvements in air quality contributing to a healthier Wales	2, 3 and 7	Geneva Convention on Long Range Transboundary Air Pollution; 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;	Building a Low-Carbon Economy - the UK's Contribution to Tackling Climate Change; Environmental Protection Act 1990; Air Pollution: Action in a Changing Climate; Air Quality Plans for the Achievement of EU Air Quality Limit Values for Nitrogen Dioxide (NO_2)	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;	The WTS should seek to incorporate measures to improve air quality such as promoting low carbon initiatives and sustainable transport modes. The WTS should maximise the ability of Wales' natural habitats to absorb pollutants and improve air quality. The plans, programmes and	The ISA Framework should include objectives that seek to improve air quality and health through a range of potential opportunities such as	Air, Population, Human Health and Climatic Factors	1, 6, 7, 8, 11 and 12

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[2] Well-being of Future Generations (Wales) Act 2015

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		National Emissions Ceiling Directive 2001/81/EC; EU Thematic Strategy on Air Quality; Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC and Air Quality Framework Fourth Daughter Directive 2004/107/EC; Seventh EU Environmental Action Plan; The EIA Directive 2014/52/EU; Industrial Emissions Directive (integrated pollution prevention and control) 2010/75/EU; Emissions Trading Scheme (EU ETS); Cancun Adaptation Framework (2010); Paris Agreement (2016).	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 Development; Environment Act 1995; Ozone-Depleting Substances Regulations 2015; Aviation Policy Framework; UK Climate Change Risk Assessment (2012); Air Quality plan for NO_2 in	Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Technical Advice Note (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 Term Strategy Public Health Wales (2019), Our Strategic Plan 2019 – 2022; The Future Generations Report (2020).	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 WTS should also consider if poor air 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.	transport, housing, economic development and improvements to the natural environment and ecosystems services.		

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
			the UK; Clean Air Strategy (2019).					
Promote sustainable patterns of mobility, including active travel and public transport and enhance sustainable transport provision to improve air quality		A European Strategy for Low-Emission Mobility (2016); 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); Efficient Road Transport Vehicles Directive (2009/33/EC); 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 11 (2021); 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.	The WTS 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 WTS 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 ISA Framework should include objectives which seek to ensure the number of 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	1, 2, 3, 4, 5, 6 and 7	European Sustainable Development Strategy; Roadmap to a Single European Transport Area;	The UK's Shared Framework for Sustainable Development;	PPW edition 10; TAN18; One Wales, One Planet; TAN6-Planning for Sustainable Rural Communities; Well-being of Future Generations Act; Wales Transport Strategy;	Development and transport infrastructure should encourage efficient and sustainable	The ISA Framework should include objectives that	Population, Human Health and	1, 2, 3 and 9

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
through better planned and designed future communities and more inclusive public transport		Declaration of Human Rights; The Rio Declaration on Environment and Development; Review of the EU Sustainable Development Strategy European Commission (2009); Convention on the Rights of Persons with Disabilities.	Countryside and Rights of Way Act; 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).	Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Framework for Action on Independent Living; Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; Shape Your Future - future trends: Implications for the third sector in Wales; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Rural Development Plan for Wales (2014-2020); Connected Communities (2020); Improving Public Transport (White Paper); The Future Development of Transport for Wales; The Future Generations Report (2020); The Welsh Doughnut.	patterns of movement in the first instance. The WTS should 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.	encourage improving the connectivity of communities and sustainable patterns of movement, as well as sustainable transport options.	Material Assets	
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	European Sustainable Development Strategy; Roadmap to a Single European Transport Area; The Rio Declaration on Environment and Development; Review of the EU Sustainable Development Strategy European Commission (2009); 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; Countryside and Rights of Way Act; 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	PPW edition 10; 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; Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; Shape Your Future - future trends: Implications for the third sector in Wales; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Rural Development Plan for Wales (2014-2020); Connected Communities (2020); Improving Public Transport (White Paper); The Future	The WTS 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 WTS will need to ensure that transport in Wales facilitates economic independence of all	The ISA will need to help ensure that a gender perspective is at the heart of all decision-making during the preparation of the WTS. Appraisals through the ISA will provide scrutiny from a gender-lens and help to	Population and Human Health	1, 2, 3 and 9

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
			Development Strategy (2018); Public Transport and Gender, Women's Budget Group, October 2018; Campaign for Better Transport (2018) Buses in Crisis: A report on bus funding across England and Wales 2010-2018; Strategic Equality Plan 2020 - 2024.	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).	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.	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 WTS.		
Maintain and enhance biodiversity, habitats and species with healthy functioning and	1, 2, 3, 5 and 7	The Rio Convention on Biodiversity; Rio Declaration on Environment and Development Environmental; Liability Directive 2004/35/EC;	Mainstreaming Sustainable Development; The Natural Choice: Securing the Value of Nature; Wildlife and Countryside Act 1981;	One Wales: One Planet: The Sustainable Development Scheme of the Welsh Assembly Government; Woodlands for Wales Strategy; Wales Biodiversity Framework; UK Climate Change Risk Assessment 2017 Evidence Report; National Seascape Assessment for Wales;	The WTS should seek to make transport, the environment and communities more resilient to major environmental problems including addressing	The ISA Framework should include objectives that seek to conserve and enhance	Biodiversity, Flora and Fauna	6, 7, 8, 9 and 11

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
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 and mitigation, enhancements to biodiversity, geodiversity and soils and filtering air and water. Well-connected green infrastructure networks also provide active travel links		World Summit on Sustainable Development; Convention on the Conservation of European Wildlife and Natural Habitats – The Bern Convention; EU Directive on the Conservation of Natural Habitats and Wild Fauna and Flora – The Habitats Directive 92/43/EEC; Convention on International Trade in Endangered Species of Wild Fauna and Flora; The Ramsar Convention on Wetlands (1971); Convention on International Trade in Endangered Species of Wild Fauna and Flora; Cancun Adaptation Framework (2010); Paris Agreement; Review of the EU Sustainable Development Strategy; The Birds Directive 2009/147/EC; EU Biodiversity Strategy to 2020; Action Plan on Biodiversity (2006).	Environmental Protection Act 1990; Natural Environment and Rural Communities Act 2006; Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended 2010); Conservation of Habitats and 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	Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; SoNaRR; Draft NRP; One Wales: Connecting the Nation; Capturing the Potential: A Green Jobs Strategy for Wales; Rural Development Plan for Wales (2014-2020); Water Strategy for Wales; Surface Water Management Strategy; Technical Advice Note (TAN) 5: Nature Conservation and Planning; TAN 10: Tree Preservation Orders; Nature Recovery Action Plan (2015).	declining biodiversity. Section 6 of the Environment (Wales) Act 2016 introduces an enhanced biodiversity and resilience of ecosystems duty 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 WTS. The design of new transport infrastructure should retain and enhance biodiversity and habitats and the WTS should reflect this, with no interventions resulting in a net loss of biodiversity. Capturing this duty as an integral part of the WTS development process will be essential. The Plans, programmes and environmental protection	biodiversity, species and habitats as part of a wider aim to protect and enhance ecosystems services.		

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source					Main SEA Topics	Relevant ISA Objective
		International and European	UK	National	Implications for the WTS	Implications for the ISA		
			Biodiversity 2011-2020 (2010); Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended 2010); Conservation of Habitats and Species Regulations 2010 (as amended 2011); The Invasive and Non-Native Species Framework Strategy for Great Britain; National Parks and Access to the Countryside Act 1949; Environment Act 1995; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003; 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		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.			

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
			(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 EU Water Framework Directive; EU Flood Directive; European Sustainable Development Strategy; EU Directive 2014/52/EU 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment; The Floods Directive 2007/60/EC; The Rio Declaration on Environment and Development; 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); Review of the EU Sustainable Development	Flood Risk Regulations 2009; Flood and Water Management Act 2010; Adapting to Coastal Change: Developing a Policy Framework; The Marine and Coastal Access Act 2009; Environment Act 1995; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003; 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.	PPW edition 10; TAN15 Development and Flood Risk; National Flood and Coastal Erosion Strategy for Wales; Welsh Coastal Tourism 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; One Wales – A Progressive Agenda for the Government of Wales; Welsh Government Strategic Policy Position on Water; Water Strategy for Wales; Surface Water Management Strategy; Technical Advice Note (TAN) 14: Coastal Planning.	The WTS 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 WTS 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 WTS should consider if areas	The ISA 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 ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Strategy European Commission (2009).	Shared Framework for Sustainable Development.		of economic disparity are associated with a higher flood risk and should contribute to managing this additional risk.			
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; The EU Sixth Environmental Action Plan, European Sustainable Development Strategy; United Nations Framework Convention on Climate Change; European Climate Change Programme; The EU Air Quality Framework Directive; Agenda 21; EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment; UN Framework Convention on Climate Change Directive to Promote Electricity from Renewable Energy (2001/77/EC); Strategy on Adaptation to Climate Change; National	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; The Stern Review: The Economics of Climate Change; 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	Environment Strategy for Wales; Wales Spatial Plan; 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; Taking Wales Forward 2016-2021; Active Travel (Wales) Act 2013; Active Travel Action Plan for Wales; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Capturing the Potential: A Green Jobs Strategy for Wales; Woodlands for Wales Strategy; Welsh Government Strategic Policy Position on Water; Rural Development Plan for Wales (2014-2020); Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource	The WTS 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 WTS 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 ISA 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 ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Emissions Ceiling Directive 2001/81/EC; Industrial Emissions Directive (integrated pollution prevention and control) 2010/75/EU; Emissions Trading Scheme (EU ETS); Kyoto Protocol to the UN Framework Convention on Climate Change; Cancun Adaptation Framework (2010); Paris Agreement (2016); Groundwater Directive 2006/118/EC; Review of the EU Sustainable Development Strategy European Commission (2009).	England and Wales; EA's Approach to Groundwater Protection V1.2 Forestry Act 1967; Planning (Listed Buildings and Conservation Areas) Act 1990; A Green Future (2018); Environment Act 1995; The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003; Ozone-Depleting Substances Regulations 2015; One Future – Different Paths. Shared Framework for Sustainable Development.	Management in Wales; Water Strategy for Wales; Surface Water Management Strategy; Final Water Resources Management Plan; Natural Resources Policy (2017); Prosperity for All: A Low Carbon Wales; The Future Generations Report (2020); Nature Recovery Action Plan (2015); 10 Point Plan to Fund Wales' Climate Emergency Future Generations Commissioner for Wales, White Paper: Detailed Report, June 2019.				
Protect and improve the quality and quantity of water resources	2, 3 and 7	The EU Water Framework Directive; EU Flood Directive; European Sustainable Development Strategy; EU Directive 2014/52/EU 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment; The Rio	Flood and Water Management Act 2010; Adapting to Coastal Change: Developing a Policy Framework; The Marine and Coastal Access Act 2009; Environment Act 1995; The Water Environment (Water Framework	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; One Wales – A Progressive Agenda for the Government of Wales; Welsh Government Strategic Policy	The WTS 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 ISA Framework needs to include objectives that seek to ensure that the quality of water resources is	Water	6, 7, 11 and 12

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Declaration on Environment and Development; 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); Review of the EU Sustainable Development Strategy European Commission (2009).	Directive) (England and Wales) Regulations 2003; Sustainable Development Commission (2005) One Future – Different Paths. Shared Framework for Sustainable Development.	Position on Water; Water Strategy for Wales; Surface Water Management Strategy; Final Water Resources Management Plan; Technical Advice Note (TAN) 14: Coastal Planning; Draft NRP.		protected and improved.		
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	The EU Landfill of Waste Directive; EU Waste Framework Directive; European Sustainable Development Strategy; EU Directive 2014/52/EU 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment; Environmental Liability Directive; (EU) Council Directive on Waste (75/442/EEC) as amended by Council Directive 91/156/EC; Council	National Policy Statement for WasteWater; The UK's Shared Framework for Sustainable Development; Environment Act 1995; One Future – Different Paths. Shared Framework for Sustainable Development.	Environment Strategy Wales; TAN21 – Waste; PPW edition 10; Wales Spatial Plan; 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; One Wales – A Progressive Agenda for the Government of Wales; Capturing the Potential: A Green Jobs Strategy for Wales; Technical Advice Note (TAN) 21: Waste; The Future Generations Report (2020).	The WTS should promote the reduction of waste. 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 ISA Framework should include objectives that seek to encourage sustainable waste management.	Material Assets, Soil, Population, Human Health and Climatic Factors	6, 7, 8, 9, 11 and 12

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Directive on the Landfill of Waste (99/31/EC); EU Hazardous Waste Directive (91/689/EEC); EU Packaging and Packaging Waste Directive (94/62/EC); The Urban Waste Water Directive 91/271/EEC; Mineral Waste Directive 2006/21/EC; Landfill Directive (1999/31/EC); The Rio Declaration on Environment and Development.						
Relieve pressure on natural resources by increasing energy efficiency, stimulating investment and innovation, and promoting the sustainable use of national renewable energy resources	1, 2, 3, 5 and 7	European Sustainable Development Strategy; EU Directive 2014/52/EU 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Renewable Energy Coalition; The Integrated Climate and Energy Package; Renewable Energy Directive 2009/8/EC; Energy 2020 - A Strategy for Competitive, Sustainable and Secure Energy; Energy Efficiency	National Policy Statements for Energy Infrastructure; UK Renewable Energy Roadmap; UK National 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	One Wales, One Planet; PPW edition 10; TAN8 – Renewable Energy; TAN6-Planning for Sustainable Rural Communities; Wales Spatial Plan; 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; A Climate Conscious Wales; Energy Wales A Low Carbon Transition; UK Climate Change Risk Assessment 2017 Evidence Report; Low Carbon Wales; Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; Capturing the	The WTS should promote reduced energy usage and energy efficiency within the national transport network and incorporate 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,	The ISA Framework should include objectives that seek to encourage energy efficiency as well as the creation of energy from low or zero carbon energy sources, capitalising on	Population, Air and Climatic Factors	3, 6, 7, 8,11 and 12

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Directive (2012/27/EU); 2030 Policy Framework for Climate and Energy; The United Nations Framework Convention on Climate Change; Kyoto Protocol to the UN Framework Convention on Climate Change; Environmental Quality Standards Directive 2008/105/EC; Review of the EU Sustainable Development Strategy; Seventh Environmental Action Programme to 2020 'Living well, within the limits of our planet'; SEA Directive (2001/42/EC).	Coal; UK Ports for the Offshore Wind Industry: Time to Act; Forestry Act 1967; Environment Act 1995; Environmental Permitting (England and Wales) Regulations; Ozone-Depleting Substances Regulations 2015; A Green Future (2018).	Potential: A Green Jobs Strategy for Wales; Woodlands for Wales Strategy; Rural Development Plan for Wales (2014-2020); 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 (2015).	capitalising on the potential of Wales.	the potential of Wales.		
To conserve soil resources, control soil erosion and maintain their quality	2 and 7	European Sustainable Development Strategy; EU 6th Environmental Action Plan; EU Soil Framework Directive; European Nitrates Directive; EU Directive 2014/52/EU 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment; Environmental Liability	Forestry Act 1967; Environment Act 1995.	Environment Strategy for Wales; Wales Spatial Plan; Surface Water Management Strategy; The Future of our Farming; UK Climate Change Risk Assessment 2017 Evidence Report; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; Woodlands for Wales Strategy; Draft NRP; Nature Recovery Action Plan (2015).	Better soil management will contribute to erosion prevention and supporting habitats. The WTS should ensure soil resources are not adversely affected by transport infrastructure or development.	The ISA Framework should include objectives with a focus on the protection of soil resources.	Soil, Material Assets and Water	6, 7, 8, 11 and 12

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Directive 2004/35/EC; EU Nitrates Directive; European Thematic Strategy on Soil Protection European Commission (2006).						
Protect and enhance the distinctiveness of our landscapes National Parks, AONBs, seascapes, historic environment, historic assets, and their settings	1, 4, 5, 6 and 7	Convention Concerning the Protection of the World Cultural and Natural Heritage; 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 Military Remains Act 1986; Planning (Listed Buildings and Conservation Areas) Act 1990; The Treasure Act 1996; Environment Act 1995; The National Heritage Act 2002; Commons Act 2006.	PPW edition 10; Cultural Tourism Strategy; Coastal Tourism Strategy; TAN12 – Design; Register of Landscapes of Historic Interest; Historic 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; Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; 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; Snowdonia National Park Authority National Park Management Plan; Historic Environment and Climate Change in Wales Sector Adaption Plan.	The WTS should protect and retain distinctiveness of the national landscapes, valued historic environment and cultural heritage and its setting, and improve access to cultural facilities for citizens and visitors.	The ISA Framework should include objectives that seek to protect local distinctiveness and the historic environment.	Cultural Heritage and Landscape	4, 5, 9, 10 and 13

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
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; Together for Health - A Strategic Approach for the EU 2008-2013; Environmental Noise Directive (END) 2002/49/EC; Seventh Environmental Action Programme to 2020 'Living well, within the limits of our planet'.	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 10; Wales Spatial Plan; Play Policy Implementation Plan; National Energy Efficiency Action Plan; One Wales, One Planet; Living Well – Living Independent Lives; The Strategy for Older People in Wales; 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; Taking Wales Forward 2016-2021; Social Services and Well-being (Wales) Act 2014; Planning (Wales) Act 2015; Shape Your Future - future trends: Implications for the third sector in Wales; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Designed to Add Value - a third dimension for One Wales; Capturing the Potential: A Green Jobs Strategy for Wales; Rural Health Plan; A Framework for Action; Working Differently – Working Together; The Strategy for Older People in Wales 2013-2023; Technical Advice Note (TAN) 11: Noise; Healthy Weight, Healthy Wales (2019); Public Health Wales - Long Term Strategy; Public Health Wales - Our Strategic Plan 2019 –	The WTS 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 WTS 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 make Wales a more equal society. The WTS should avoid and remove barriers to access for all members of society, including in accordance with the Social Model of Disability.	The ISA 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 across the whole range of ISA objectives as a key integral cross-cutting theme.	Population, and Human Health	1, 2, 6, 7 and 8,

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
				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).				
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; One Wales – A Progressive Agenda for the Government of Wales; Well-being of Future Generations (Wales) Act (2015); One Wales: Connecting the Nation; 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.	The WTS 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 ISA 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 both rural and urban areas	1, 2, 3, 4, 5 and 6	Johannesburg Declaration on Sustainable Development; European Spatial Development Perspective; European Sustainable Development Strategy; Agenda 21; Rio Declaration on Environment and Development; EU Rural Development Policy; Aarhus Convention; PSI	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 Framework for Sustainable Development; The	National Energy Efficiency and Savings Plan; Living Well – Living Independent Lives; Framework for Regeneration Areas – Vibrant and Viable Places; Wales – A Better Country; Improving Lives and Communities – Homes in Wales; National Flood and Coastal Erosion Strategy for Wales; TAN 12- Design; Play Policy Implementation Plan; Community Cohesion Strategy for Wales; TAN1- Joint Housing Land Availability Studies; Gypsy Traveller Good Practice Guidelines; Travelling to a Better Future; Improving Lives and Communities;	The WTS should provide access to a range of employment and other opportunities to enable people to realise their individual aspirations. The WTS should promote cohesive communities through design and connectivity and promote equal access to well-being	The ISA Framework should include objectives that address community needs.	Population and Material Assets	1, 2 and 3

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
		Directive; Review of the EU Sustainable Development Strategy European Commission (2009); Towards Social Investment for Growth and Cohesion 2014-2020.	Community Rail Development Strategy (2018).	Improving Lives and Communities – Homes in Wales; 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; Taking Wales Forward 2016-2021; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Setting the Direction: Primary & Community Services Strategic Delivery Programme; Welsh Government Rural Development Plan for Wales (2014-2020); Wales Infrastructure Investment Plan; Vibrant and Viable Places New Regeneration Framework; The Strategy for Older People in Wales 2013-2023; Review of the Road Safety Framework for Wales; 20mph Task Force Group Report; National Strategy on Violence against Women, Domestic Abuse and Sexual Violence – 2016 – 2021; The Welsh Doughnut: A framework for environmental sustainability and social justice.	services and educational opportunities. The WTS should avoid and remove barriers to access for all members of society, including in accordance with the Social Model of Disability.			
Promote quality employment	1, 2, 4, 5, 6 and 7	Johannesburg Declaration on Sustainable Development; The European Employment	National Infrastructure Plan; One Future – Different Paths. Shared Framework for	PPW edition 10; Coastal Tourism Strategy; Sustainable Tourism Framework; A Skills and Employment Strategy and Action Plan; Wales – A Better Country; Well-being of	The WTS should use the natural resources and transport infrastructure available to ensure	The ISA Framework should address	Population and	1, 2 and 3,

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
opportunities and economic activity		Strategy; Review of the EU Sustainable Development Strategy European Commission (2009); Public Sector Information Directive (PSI) 2003/98/EC.	Sustainable Development; Aviation 2050; Regional Airports (2016).	Future Generations (Wales) Act 2015; Taking Wales Forward 2016-2021; Natural Resources Policy Statement; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; Capturing the Potential: A Green Jobs Strategy for Wales; Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resource Management in Wales; Wales Infrastructure Investment Plan; Technical Advice Note (TAN) 4: Retail and Commercial Development; Technical Advice Note (TAN) 20: Planning and the Welsh Language; Technical Advice Note (TAN) 23: Economic Development; Prosperity for All: National Strategy; Prosperity for All: Economic Action Plan; Taking Wales Forward (2017); National Transport Finance Plan 2018; The Future Generations Report (2020); The Socio-Economic Duty (2021).	adequate provision of employment opportunities, access to employment and increased economic activity.	employment provision.	Material Assets	
Promote sustainable economic growth and business competitiveness through transport and innovation	1, 2, 4, 6 and 7	European Spatial Development Perspective; The European Employment Strategy; Sustainable Development Goals; The Aarhus Convention; Europe 2020: A strategy for smart, sustainable and inclusive growth.	Local Growth: Realising Every Place's Potential (Local Growth White Paper); UK Plan for Growth; National Infrastructure Plan; Rail Freight Strategy (2016); Transport Investment Strategy – Moving Britain Forward (2017); Transport Infrastructure	Wales Spatial Plan; Economic Renewal: A New Direction; Third Sector Scheme; Volunteering Policy, Supporting Communities, Changing Lives; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Capturing the Potential: A Green Jobs Strategy for Wales; Wales Infrastructure Investment Plan; Vibrant and Viable Places New Regeneration Framework; Welsh	The WTS 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	The ISA Framework should include objectives relating to economic growth and development within the context of the delivery of the	Population and Material Assets	1, 2 and 3

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
			Efficiency Strategy (2017); Industrial Strategy (2017); Clean Growth Strategy (2017); Aviation 2050; Regional Airports (2016).	Government Technical Advice Note (TAN) 4: Retail and Commercial Development; Technical Advice Note (TAN) 23: Economic Development; National Transport Finance Plan 2018; Wales Freight Strategy (2008); The Socio-Economic Duty (2021).	should seek to be achieved within the boundaries of environmental limits, as reflected in the first well-being goal (a prosperous Wales).	green growth agenda, ecosystems services and environmental limits.		
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; Coastal Tourism Strategy; Wales Spatial Plan; Welsh Coastal Tourism Strategy; Partnership for Growth: The Welsh Government Strategy for Tourism 2013 – 2020; Strategy for Tourism, 2013 to 2020: Framework Action Plan – Year 2; Welsh Language (Wales) Measure 2011; a million Welsh speakers by 2050; Planning (Wales) Act 2015; One Wales – A Progressive Agenda for the Government of Wales; One Wales: Connecting the Nation; Capturing the Potential: A Green Jobs Strategy for Wales; Wales Infrastructure Investment Plan; 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; Snowdonia National Park Authority National Park Management Plan.	The WTS 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 WTS could support the tourism industry through targeting improvements to travel including: • Improving the experience of	The ISA Framework should include reference to capitalising on the tourist economy nationally, capitalising on, but not threatening, the wealth of national environmental and cultural resources and attractions.	Population, Cultural Heritage and Landscape	2, 3, 4, 9 and 10

Themes relevant to ISA of Wales Transport Strategy	Relevant Goals[2]	Source			Implications for the WTS	Implications for the ISA	Main SEA Topics	Relevant ISA Objective
		International and European	UK	National				
					car/coach/motorcycle based visitors to Wales. • Increasing the use of public transport for journeys to and within Wales. • Supporting the extension of the incoming route network, passenger numbers and attractiveness of Cardiff Airport, and maximise the potential of the ports and near airports in England.			

APPENDIX B

Baseline Data and Key Issues and Opportunities

CONTENTS

Abbreviations Used in this Appendix

Abbreviation	Definition
AONB	Area of Outstanding Natural Beauty
ASNW	Ancient Semi-Natural Woodland
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
CO_2	Carbon Dioxide
CSI	Core Subject Indicator
DBEIS	Department for Business, Energy and Industrial Strategy
Defra	Department for Environment, Food and Rural Affairs
EC	European Commission
FPI	Foundation Phase Indicator
GDP	Gross Domestic Product
GDHI	Gross Disposable Income
GVA	Gross Value Added
HBAI	Households Below Average Income
HMO	Houses in Multiple Occupancy
ISA	Integrated Sustainability Appraisal
LA	Local Authority
LCA	Landscape Character Area
LSOA	Lower Super Output Area
MCA	Marine Character Area
MCZ	Marine Conservation Zone
NDF	National Development Framework
NEET	Not in education, employment or training
NI	National Indicator
NLCA	National Character Areas
NO_2	Nitrogen Dioxide

Abbreviation	Definition
NO$_x$	Nitrogen Oxides
NRW	Natural Resources Wales
ONS	Office for National Statistics
NQF	National Qualifications Framework
NVZ	Nitrate Vulnerable Zone
PM	Particulate Matter
RIGS	Regionally Important Geodiversity Sites
SAP	Standard Assessment Procedure
SAC	Special Area of Conservation
SCA	Seascape Character Assessment
SME	Small to Medium Enterprises
SoNaRR	State of Natural Resources Report
SMP	Shoreline Management Plan
SPA	Special Protection Area
SPP	Statement of Public Participation
SSSI	Site of Special Scientific Interest
TAN	Technical Advice Note
TSA	Tourism Satellite Account
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCVA	Wales Council for Voluntary Action
WIMD	Welsh Index of Multiple Deprivation
WTS	Wales Transport Strategy

1 Introduction

This appendix provides the baseline social, economic, cultural and environmental data for Wales that is being used to help undertake the following aspects of the ISA:

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

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

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

Note on the baseline data sets

In the ISA 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.

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

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

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 ISA will be focussed, streamlined and reflective of the national scale and influence that the WTS is expected to have.

2 Well-Being Goal: A Prosperous Wales

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.'

The data relates primarily to:

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

2.1 Overview of Baseline Conditions

2.1.1 The Economy, Employment and Income in Wales

Relevance to the WTS

A strong national 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.

Figure 2-1 highlights how direct impacts from investment could create market efficiencies leading to investment and relocation decisions which in-turn can lead to changes in productivity and economic growth. 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.

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 2-1 Transport investment and economic growth

Transport Investment

Construction impact
Direct, indirect, induced and catalytic economic impacts

Transport efficiences
Journey time savings, improved reliability etc

Barriers to growth
Capacity constraints, congestion, market structure, people & skills, housing etc.

Better connectivity
Improved B2B, B2C and labour market connections.

Transport demand
Increased economic activity leads to higher transport demand.

Increased GVA
Increased competetiveness and productivity - increased tax revenue.

Market efficiencies I
Increased trade and competition - static agglomeration impacts.

Displacement
Redistribution of resources between areas and between nations.

Market efficiencies II
Business and household relocation, inward investment, dynamic agglomeration impacts.

Source: https://transportknowledgehub.org.uk/guidance-tool/relationship-between-transport-economy/

The WTS has a key role in supporting the national economy, through helping to guide decisions relating to its supporting infrastructure.

The Welsh Government Strategy for Tourism[1] seeks to promote improved transport links by air, sea, road and rail. This could be supported by the WTS.

Baseline conditions and trends

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 2018, the GVA (a key measure of economic output) was £65.1 billion, or £20,738 per head[2]. This was 72.8% of the average for the total of all UK regions, up by 2.9% on 2017, the third highest increase over the year of the 12 UK countries and English regions. Wales had the second lowest level of GVA per head in the UK (measured against the other UK regions), ahead of the North East where GVA per head was 72.1% of the UK average respectively (Welsh Government, ONS – 2020). GVA is rising, however the economic future of the whole of the UK is currently uncertain in light of the exit of the UK from the European Union. Economists and politicians are currently

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[1] The Welsh Government Strategy for Tourism 2013 – 2020: Framework Action Plan Year 2. Available at:
https://gov.wales/sites/default/files/publications/2019-07/strategy-for-tourism-2013-to-2020-framework-action-plan-year-2.pdf [Accessed: 12.02.21]
[2] Welsh Government (2018) Regional gross domestic product and gross value added: 1998 to 2018. Available at:
https://gov.wales/regional-gross-domestic-product-and-gross-value-added-1998-2018 [Accessed: 12.02.21]
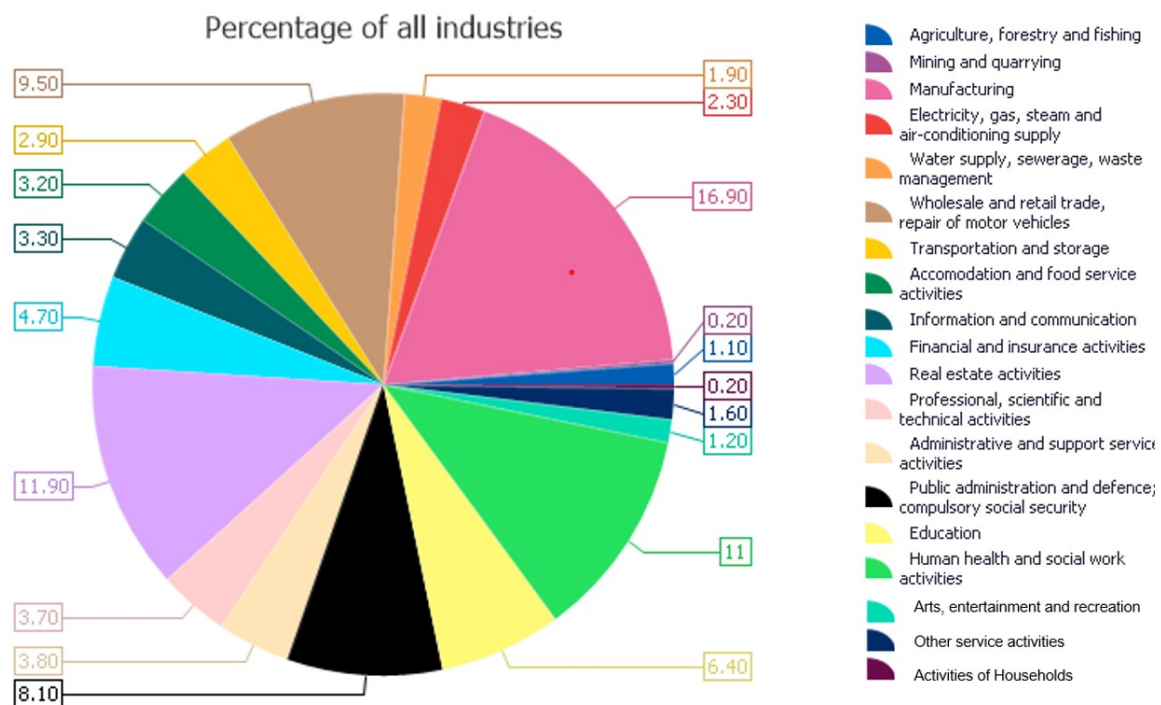
divided over what this will mean for the UK, with many schools of thought suggesting a short-term economic downturn, with potential for higher growth in the longer term.

The highest levels of output in 2018 were from Cardiff; Swansea; Monmouthshire; Newport; Flintshire; and Wrexham, reflecting the larger proportion of industry, population and services in those areas. GVA per head is significantly lower across much of the rest of Wales, reflecting its more rural nature. Blaenau Gwent recorded the lowest GVA per head in 2017 (£12,671). The fastest growth over the last decade has been in the Central Valleys region (all figures from Stats Wales).

In 2017, GVA per hour worked in Wales was approximately 16% below the UK average – making it the second lowest region in the UK, less than 1% above Northern Ireland. This reflects a lower than average level of productivity in Wales (ONS)[3].

The second half of the 20th century saw a significant decline in the traditional manufacturing and extractive industries in Wales with a move towards service sector employment. The modern Welsh economy is now dominated by the service sector including public health, education, defence and administration, accounting for over half of the total Wales GVA. Figure 2-2 shows the split of GVA per industry.

Figure 2-2 Gross Value Added in Wales by industry (%)

Percentage of all industries

Legend:
- Agriculture, forestry and fishing
- Mining and quarrying
- Manufacturing
- Electricity, gas, steam and air-conditioning supply
- Water supply, sewerage, waste management
- Wholesale and retail trade, repair of motor vehicles
- Transportation and storage
- Accomodation and food service activities
- Information and communication
- Financial and insurance activities
- Real estate activities
- Professional, scientific and technical activities
- Administrative and support service activities
- Public administration and defence; compulsory social security
- Education
- Human health and social work activities
- Arts, entertainment and recreation
- Other service activities
- Activities of Households

Values shown: 1.90, 2.30, 16.90, 9.50, 2.90, 3.20, 3.30, 4.70, 0.20, 1.10, 0.20, 1.60, 1.20, 11, 11.90, 3.70, 3.80, 8.10, 6.40

Source: Stats Wales (2020)

After the service industry, the next largest group is the 'Production' industry. Whilst heavy industry has been in decline, Wales still has a diverse manufacturing sector. This includes:

- Metal ore refining at plants in, for example, Port Talbot, Llanwern, Newport, Trostre, Shotton, Ammanford, Pontarddulais, Tafarnaubach and Caerphilly;
- Oil refining at Milford Haven;
- Automotive component production; and
- Growth in the electronics industry.

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[3] ONS (2019) Regional and sub-regional productivity in the UK: February 2019. Available at:
https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/regionalandsubregionalproductivityintheuk/february2019 [Accessed: 12.02.21]

Rural economy

Wales is largely rural in nature, so agriculture and forestry represent a large area of economic land-use. This is dominated by beef, sheep and dairy farming on relatively small farms, compared to the rest of the UK. Economic output from these industries is, however, relatively small.

Tourism

The National Heritage Memorial Fund[4] (25/10/2016) sets out the following from The Impact of heritage tourism for the UK economy 2016, which is the second follow-up to Investing in Success, HLF's original report on heritage tourism, published in 2010 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 is more important as economic driver in Wales than the UK as a whole.

With its rich natural and cultural assets, tourism is also a significant and growing part of the national economy. Cardiff, in particular, is a primary tourist destination due to its large number of high-quality attractions. This brings income and employment opportunities for a range of associated businesses such as hotels, food and retail outlets. The Wales Tourism Satellite Account (TSA) estimated a total tourism GVA of £1.8bn – around 4.4% of total direct GVA for the Welsh economy in that year. Emerging research suggests that when indirect impacts are added, the Tourism GVA increases to £2.5bn, which represents 6% of the whole economy (The Welsh Government Strategy for Tourism 2013 – 2020).

Between September 2018 and 2019 there were 10.4 million overnight domestic Great Britain trips to Wales which was an increase of 6.3% on the previous year which generated an expenditure of £1,973 million (9.2% increase)[5]. These figures compare to a 0.1% increase in overnight domestic trips in Great Britain and a 0.7% increase in expenditure. For both Great Britain and Wales, the total expenditure increased but the number of nights spent decreased. The volume of international trips and expenditure also increased in Wales by 4% and 12%, respectively. In contrast, the number of tourism day visits taken in Wales decreased by 13% in the same period, compared to a decrease of 3% of trips taken in Great Britain.

Third sector

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 2017, approximately 100,000 people in Wales were employed in the charity/voluntary sector in Wales, accounting for just over 8% of all employment in Wales (WCVA Statistical Resource 2020).

The value of the third sector has been estimated by WCVA by adding the value of volunteer time (provided by organisations) – an estimated 61 million hours is given in a year and this has a monetary value of £757 million. In 2019 the sector had an estimated value of £3.8 billion[6].

Micro-businesses

In 2019, there were an estimated 267,045 enterprises, the highest estimate since the start of the series in 2003. There was a steady annual increase from 2009-2019 and this trend is likely to continue (StatsWales). The overall increase was largely attributed to growth in the micro size-band enterprises - 0-9 employees which grew by 29% between 2009 and 2019. This could be a result of the recent labour market conditions,

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[4] Gross value added (GVA) is a measure of the value of goods and services produced in an area, industry or sector of an economy. GVA is linked as a measure to gross domestic product (GDP).
[5] Welsh Government (2020) Wales tourism performance, January to September 2019. Available at: https://gov.wales/sites/default/files/statistics-and-research/2020-02/wales-tourism-performance-january-september-2019-537.pdf [Accessed: 12.02.21]
[6] Welsh Government (2019) Third Sector Scheme Wales. Available at: https://gov.wales/sites/default/files/publications/2019-03/third-sector-annual-report-2017-18_0.pdf [Accessed: 12.02.21]

which may have encouraged people to set up businesses, as they are made redundant (for example). Regionally, micro enterprises in 2019 accounted for 34.9% of employment, however in mid-Wales they represented 52% of employment. The production sector had the smallest proportion of total employment in micro businesses in Wales at 5.6 per cent.

Innovation

The Welsh Government also monitors the levels of innovation in the economy. It identified that between 2014-2018, 46% of Welsh businesses were innovation active, comparable to levels in Scotland, but just behind England (49%) and ahead of Northern Ireland (Stats Wales)[7].

Economic Activity

The 2010, the Welsh Government publication, Economic Renewal: a New Direction, 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 December 2019, the employment rate in Wales was 74.4% compared to 76.55% in the UK. In September 2019, the number of people economically inactive had decreased in Wales over the past decade by 4% from 23.7% to 19.7% (between September 2009 – September 2019). The national trend decrease in Wales has been above the UK average over this period with the UK decreasing by only 2.6%, however the percentage of economic inactivity in Wales remains above the UK average of 17.4 in 2019. The future direction of this trend is likely to be affected by the outcome of Brexit.

According to the Welsh Index of Multiple Deprivation (WIMD)[8] 2019 employment domain (see Figure 2-3), the highest levels of employment deprivation were in the South Wales valleys and in some North Wales coastal towns. In terms of local authorities, Blaenau Gwent Merthyr Tydfil recorded the highest proportion of LSOAs in the most 10% in Wales for the employment domain. Monmouthshire had no LSOAs in the most deprived 10%.

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[7] Stat Wales. Businesses that are innovation active by year. Available at: https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/Businesses/Innovation/businessesthatareinnovationactive-by-year [Accessed: 12.02.21]
[8] 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.

Figure 2-3 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 ————

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Cartographics • Welsh Government • ML/45/19.20
November 2019
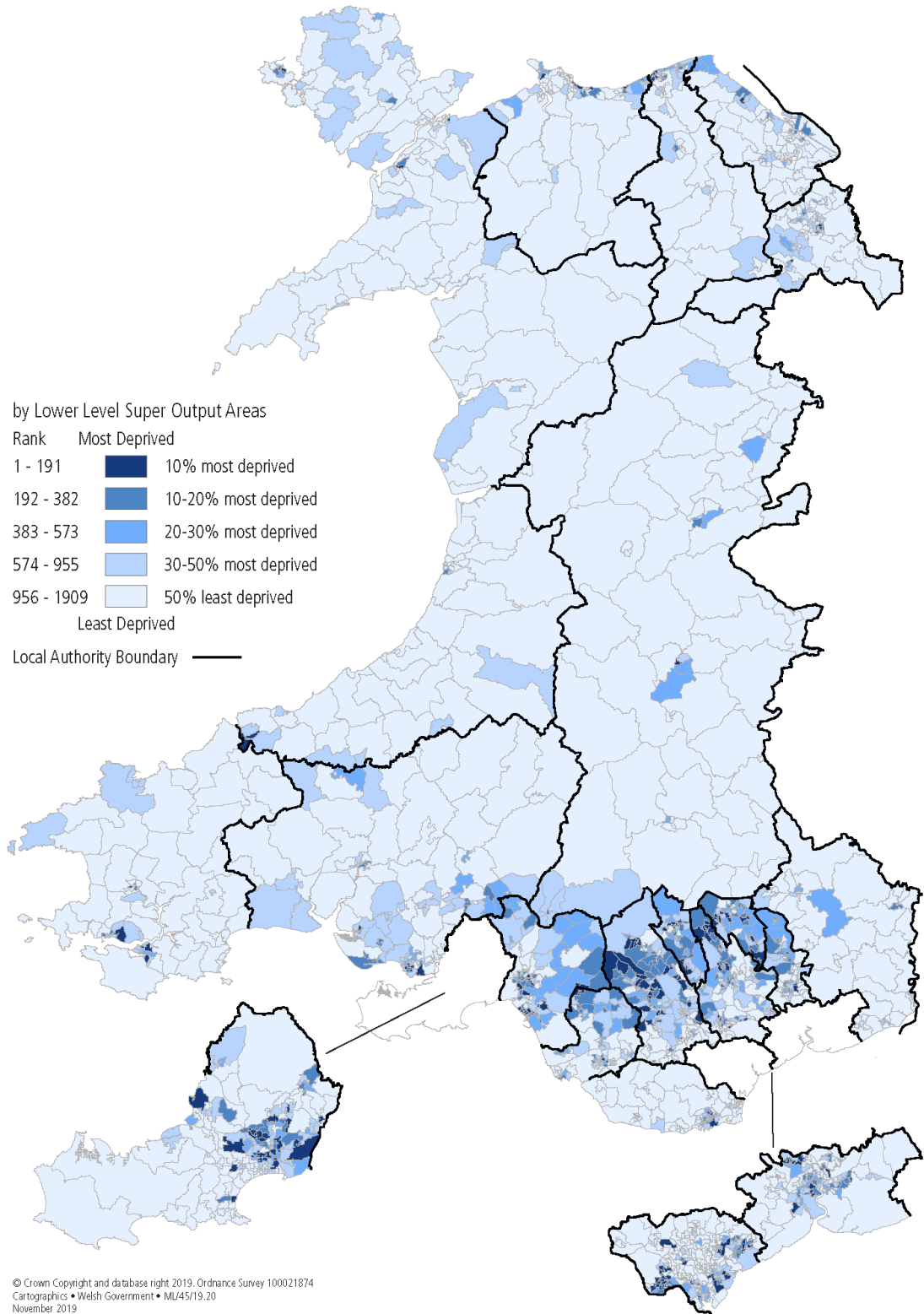
Source: WIMD 2019

Earnings

In April 2019, the average (median) gross weekly earning for full-time adults working in Wales was £535.00, this compares to a UK average of £584.90[9]. However, median gross earnings in Wales increased by 5.1% between 2018 and 2019, compared to 2.9% across the UK.

The highest average earnings were in the South East and West Wales economic regions, followed closely by the North Wales economic region with the Mid Wales region significantly lower (Stats Wales).

In Wales, 67.5% of people in employment were either on permanent contracts (or have a temporary contract and are not seeking permanent employment) and were earning more than two thirds of the UK median wage for August to October 2018 (Stats Wales)[10].

The WIMD 2019 income domain focuses on the proportion of people with income below a defined level and has a weight of 22% in the overall index. In the WIMD 2019 income domain, there were pockets of high deprivation in the South Wales valleys, and in some North Wales coastal towns. The local authorities with the highest proportion of LSOAs in the most deprived 10% in Wales, for the income domain, were Newport, Merthyr Tydfil and Cardiff (at around 20%).

Job Satisfaction

Findings from the Work in Wales Skills and Employment Survey (2006-2017) found that, in terms of overall work satisfaction, workers in Wales exhibited the highest levels of low job satisfaction (9% compared to 7% in Britain) and very high job satisfaction (21 % compared to 18% in Britain).[11] In 2013-14, respondents (to the National Survey of Wales) were asked how satisfied they were with their present job. On a scale of 0-10, the average satisfaction score was 7.5. There appears to be a strong correlation between satisfaction with present job and satisfaction with commuting time. 66% of people who were highly satisfied with their present job were also highly satisfied their commuting time.

Distance travelled to work

Table 2-1 shows the majority of Welsh residents travel less than 10km to work. The majority of residents living within all Welsh regions travel a maximum distance of less than 10km to work at a proportion ranging between 37.9 to 58%. Of the residents who work from home Mid and West Wales work have significantly higher numbers than the Welsh and other regional levels. The age of this dataset should be taken into account as distances may have changed significantly in the past 9 years.

Table 2-1 Distance travelled to work by Welsh Regions

Distance travelled to work	Mid and West Wales	North Wales	South Wales Central	South Wales East	South Wales West	Wales
Less than 10km	37.9%	48.6%	58.0%	51.2%	55.9%	50.5%
10km to less than 30km	23.0%	23.5%	20.4%	25.8%	21.1%	22.8%
30km and over	11.7%	9.6%	6.1%	7.6%	8.1%	8.5%
Work mainly at or from home	18.2%	10.8%	7.8%	8.1%	7.7%	10.4%
Other	9.3%	7.6%	7.7%	7.3%	7.2%	7.8%

Source: 2011 Census

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[9] Welsh Government (2020) Annual Survey of Hours and Earnings: 2019. Available at: https://gov.wales/annual-survey-hours-and-earnings-2019 [Accessed: 12.02.21]

[10] Stat Wales. People in employment who are on permanent contracts (or on temporary contracts and not seeking permanent employment) and who earn more than two thirds of the UK median wage by year. Available at: https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Earnings/peopleinemploymentwhoareonpermanentcontractsearnmorethantwothirdsukmedianwage-by-quarter [Accessed: 12.02.21]

[11] Welsh Government (2019) Work in Wales, 2006-2017. Evidence from the Skills and Employment Survey. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-04/work-in-wales-2006-2017.pdf [Accessed: 12.02.21]

Journey to work by mode

The method of travel to work, Census data (QS701EW), for Welsh residents are illustrated in Table 2-2. The results show a similar split between each mode type compared across each country by Welsh regions. The results for Wales overall show the majority of residents travel by car (car or van driver, car passenger or motorcyclist) is 45%, those using active travel (walking or cycling) is at 7%, and the proportion of residents travelling via public transport (bus or rail) is lower still at 4%. The proportion of residents not in employment in Wales overall stands at 39%.

Table 2-2 Method travelled to work by Welsh Regions, 2011 Census

Distance travelled to work	Mid and West Wales	North Wales	South Wales Central	South Wales East	South Wales West	Wales
Car	44%	48%	42%	47%	46%	45%
Public Transport	2%	4%	7%	5%	4%	4%
Active	8%	7%	9%	6%	6%	7%
Other method of travel to work	1%	0%	0%	0%	0%	0%
Not in employment	38%	37%	39%	40%	42%	39%
Working from home	7%	3%	2%	2%	2%	3%

Source: 2011 Census

Broadband

Ofcom[12] reported in 2018 that Superfast Broadband is available to 93% of premises in Wales, up 4% from the previous year. However, of the 93% of the homes and businesses with access, only 38% of homes/businesses have taken up the services which is the lowest uptake in any of the UK nations. Whilst the coverage of internet access is growing, speeds and, in particular, access to superfast broadband can be a particular issue in rural communities, particularly amongst those with low incomes (National Survey for Wales, 2014-15). Poorer households across Wales are less likely to have internet access in their home. This is exacerbated in rural areas by relatively poor access to good quality broadband (Rural broadband ICT Toolkit, Welsh Government). Notwithstanding, full fibre broadband coverage to rural premises is the highest in Wales compared to the other nations in the UK, with 16% of homes/businesses having access to this, compared to 8% in rural England and Northern Ireland and 3% in rural Scotland. Over time, it is anticipated that the coverage of high-speed broadband will improve.

Access to Services

The Welsh Index of Multiple Deprivation 2019[13] 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
- Public Library
- Sports Facility

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[12] Ofcom (2018) Connected Nations 2018. Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0020/130736/Connected-Nations-2018-main-report.pdf [Accessed: 12.02.21]
[13] 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: 12.02.21]

- Secondary School
- Petrol Station
- Pharmacy

Figure 2-4 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. 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%). Cardiff, Neath Port Talbot, Bridgend, Rhondda Cynon Taf, Blaenau Gwent and Torfaen local authorities 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.

Figure 2-4 Access to services for LSOAs in 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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November 2019
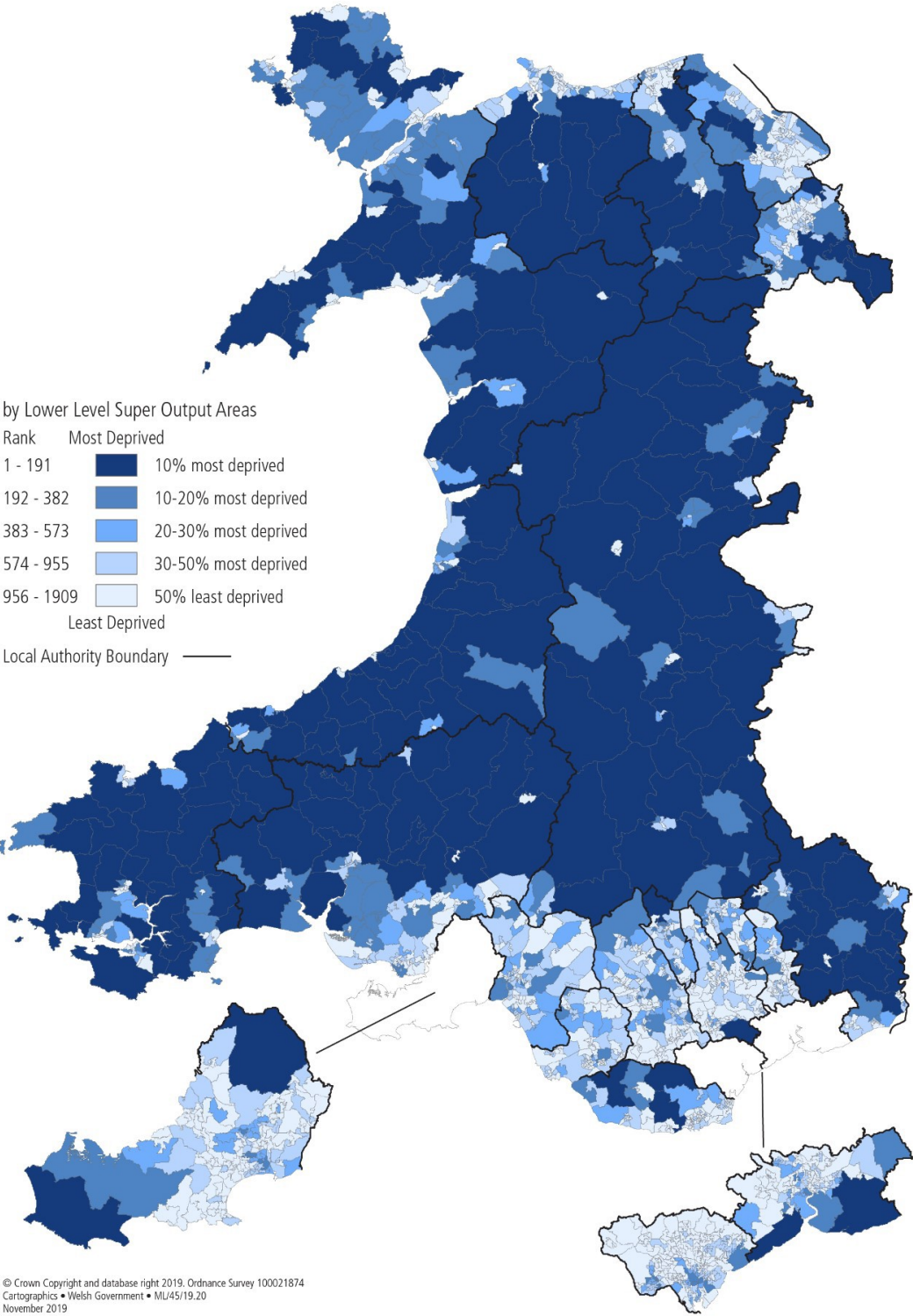
## 2.1.2 Education in Wales

Relevance to the WTS

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 skillsets 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.

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

Baseline conditions and trends

Education/ Training

The Welsh Government publishes data on the learning activities and labour market status of young people (aged 16 to 24) in Wales. The provisional data series for 2018 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 78.3% were in education or training (down from 79.8% in 2017). The proportion in employment had increased annually since 2011 and in 2018 37.6% were in full or part-time employment. In addition, 10.3% of 16-18 year olds were reported as NEETs, an increase of 0.9% from the previous year.

Since 2004, the proportion of 19-24 year olds in education or training has remained around a similar level (37 to 39 per cent), whilst the proportion who are NEET increased to higher levels, following the start of the 2008 recession, reflecting contracting employment levels. There has, however, been an increase in employment, and a decrease in the proportion who are NEET in the last 3 successive years. As with many economic statistics, the immediate future direction of this trend is likely to be influenced by Brexit.

In terms of 19-24 year olds, around 38.4% were in education or training and 64% were in full or part-time employment. In addition, 16.1% of 19-24 year olds were reported as NEETs which is similar to the previous year.

Educational attainment in Wales is slightly below the UK average. The proportion of adults of working age holding Higher Education or equivalent level qualifications (NQF level 4 or above) in 2018 was 37.8%, compared with 27.9% in 2008. Wales is below the UK average level for NQF level 4 (which is 44%[14]). However, Wales is above Northern Ireland (33%) and some other UK regions. Over 78% of adults were qualified to NQF level 2 or above.

The trend is rising, with a 10% increase in NQF level 4 attainment in working age adults since 2008, with the greatest rises being amongst women.

In terms of regional distribution, adults in Mid Wales had the highest level of qualifications, whereas adults in South West Wales had the highest number of adults with no form of qualifications. The results for 2018 are presented in Table 2-3. More specifically, qualification levels were highest in Cardiff, Monmouthshire, and Vale of Glamorgan and lowest in Blaenau Gwent, Merthyr Tydfil and Neath Port Talbot.

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[14] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757675/UKETS_2018_Text.pdf

Table 2-3 Percentage of adults with qualifications at the different levels of the NQF

Area	No qualifications	Qualified to below level 2	Qualified to NQF level 2 or above	Qualified to NQF level 3 or above	Qualified to NQF level 4 or above
Wales	8.4%	12.7%	78.9%	59.1%	37.8%
North Wales	7.0%	12.9%	80.1%	59.0%	36.3%
Mid Wales	6.4%	12.2%	81.4%	63.8%	38.8%
South West Wales	9.2%	12.0%	78.8%	57.9%	36.1%
South East Wales	8.9%	13.0%	78.0%	59.0%	39.1%

Source: Stats Wales

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 2-5 below. The South Wales valleys are the most educationally deprived area of Wales. This area includes the local authorities of Merthyr Tydfil, Torfaen, Blaenau Gwent and Rhondda Cynon Taff. There are also parts of the urban areas of Cardiff, Newport and Swansea that are suffering from education deprivation. Parts of Monmouthshire, Powys, Vale of Glamorgan and the North-East corner of Wales exhibit relatively low levels of education deprivation.

Figure 2-5 Education Deprivation for LSOAs in Wales

Welsh Index of Multiple Deprivation 2019
Education Domain
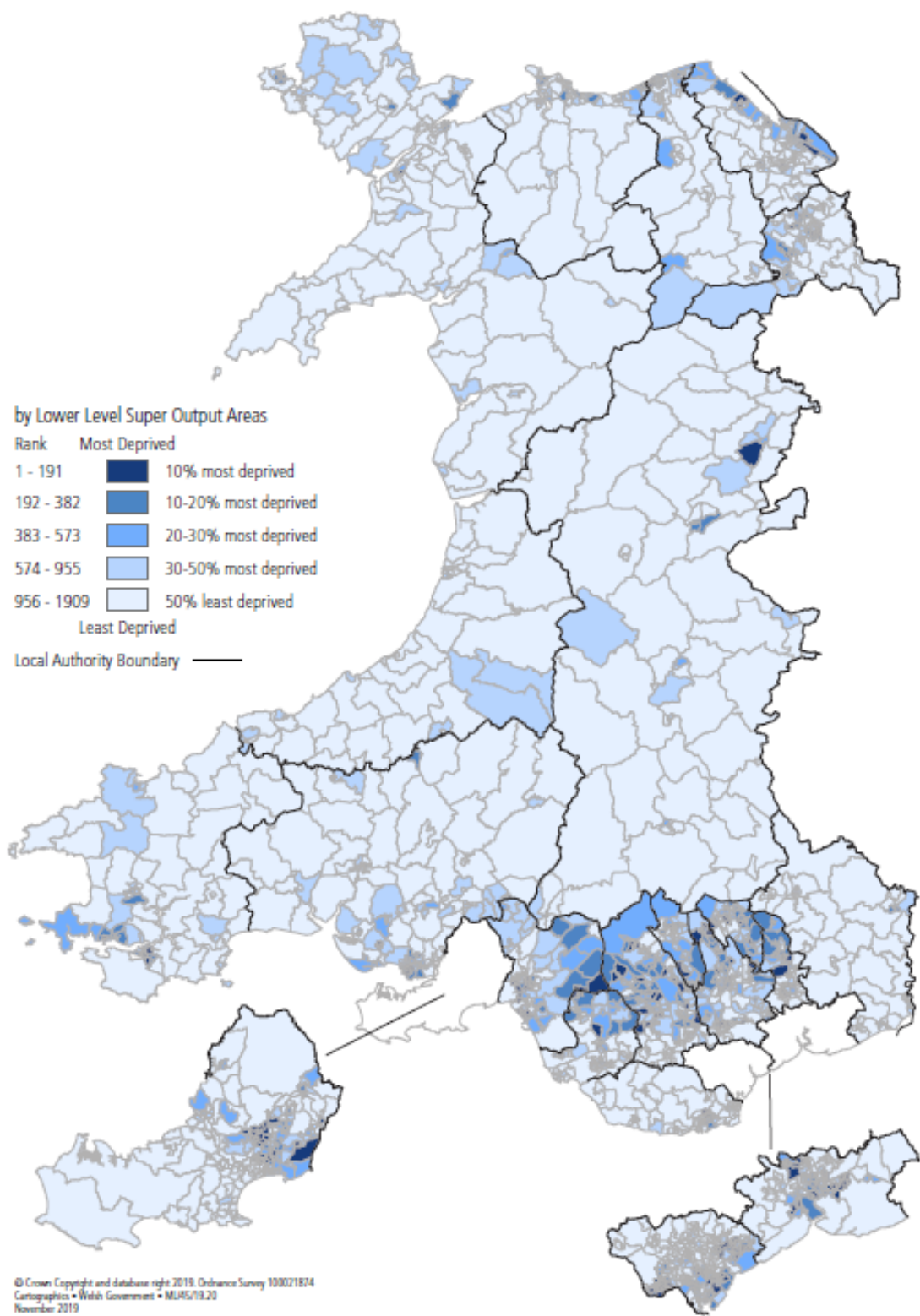
by Lower Level Super Output Areas

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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November 2019

Source: Welsh Index of Multiple Deprivation 2019

Travel to School

National Survey results (2019) indicate that car was the most common mode of transport used to get to a primary school (55%), followed by walking with an adult (32%)[15]. At secondary school the most popular modes of transport were catching a school bus and walking.

Figures 2-6 and 2-7 illustrate the mode of travel to/from school by urban/rural classification.

Figure 2-6 Mode of travel to/from primary school by urban/rural classification (a)
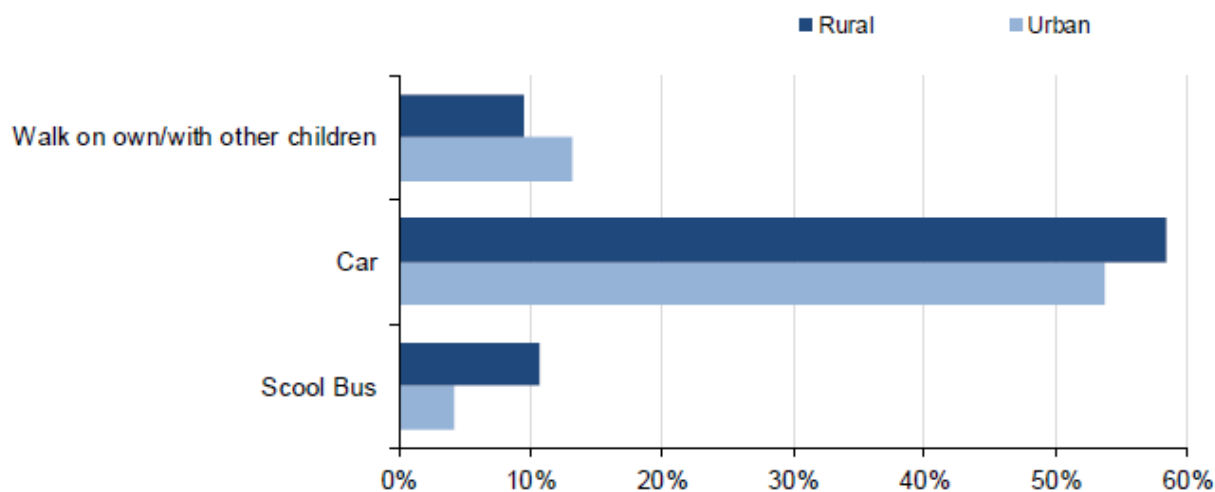
(a) Totals may not sum to 100% as multiple modes of transport can be selected

Figure 2-7 Mode of travel to/from Secondary school by urban/rural classification (a)
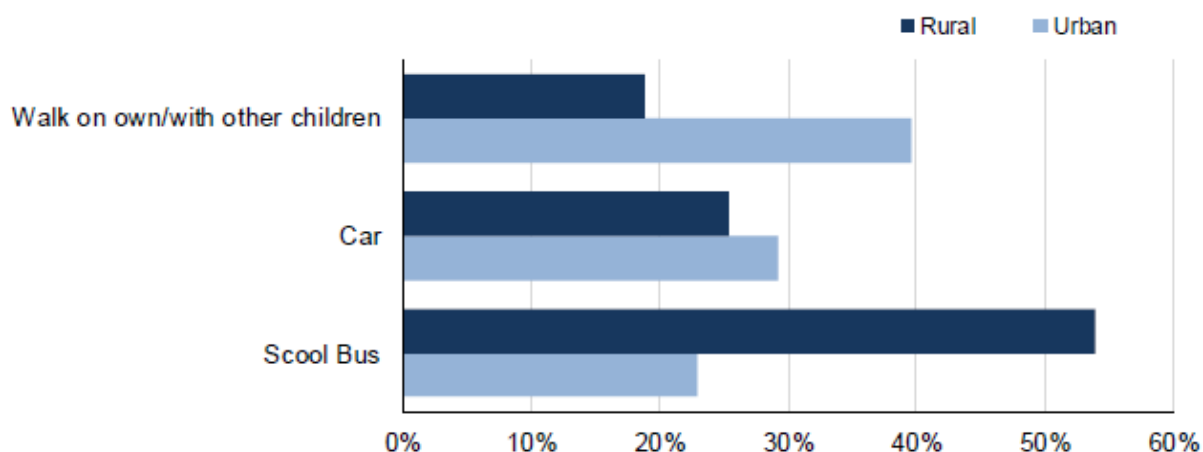
(a) Totals may not sum to 100% as multiple modes of transport can be selected

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[15] Welsh Government (2019) Walking and cycling in Wales: Active travel, 2018-19. Available at:
https://gov.wales/sites/default/files/statistics-and-research/2019-11/active-travel-walking-and-cycling-april-2018-march-2019-073.pdf
[Accessed: 12.02.21]

Data gaps

Data relating to the barriers to walking to school.

Data relating to distance travelled to work/education opportunities.

There are also relevant data gaps to be considered from the data collated from the 2011 Census, as it may not be accurate to the current population and these figures will not be updated until 2021/2022.

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.

Visitor Economy Data may be considered out of date.

2.2   Key Issues relevant to the WTS and opportunities for it to address them

Issues

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 clear geographical differences in employment activity in Wales with pockets of higher than average deprivation in the South Wales valleys and in some North Wales coastal towns.

Key reasons for relatively poor economic performance include:

- Relatively low skills levels and poor educational attainment levels (although improving), particularly in the more deprived parts of the country.
- The largely rural nature of the country results in relatively small urban areas which would otherwise be more strongly associated with agglomeration effects.
- There is a relatively high proportion of older people who are retirement age.
- There are high levels of congestion which have negative economic impacts including the impact on productivity and freight.

The UK Climate Change Risk Assessment 2017: Evidence Report highlights a number of key risks and opportunities facing Wales with regard to business. These could have effects on a number of factors including health and well-being, employment and the economy. Such matters facing Wales can be summarised as risks to business from flooding, loss of coastal locations, water scarcity, reduced access to capital, reduced productivity from disruption to infrastructure etc., disruption to supply chains and changes in demands for goods and services. These could all be taken into consideration in the WTS as they will all influence the habits of transport users.

There are issues with provisioning access to schools and employment, as the highest density areas for these are in the South of Wales. These facilities are much more difficult to access by any means other than private owned car in the North of Wales. It should be noted that, as per Appendix B, there are data gaps with regards to detailed information on school access.

Opportunities

The WTS has a role to play in achieving balanced and sustainable growth, and the transition to a low resource use (including low carbon) economy, to enable the population to live within environmental limits. This includes the opportunity to promote sustainable freight transport.

The WTS 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 WTS may facilitate improvements in access to education.

The WTS 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.

Overall, the WTS could help to achieve the important balance of economic and social improvement that is also sustainable and respects the country's valuable natural and cultural environment.

There is an opportunity for the WTS to support employment through the promotion and support for active tourism, including the designation of the National Cycle Network as a strategic transport facility to encourage active tourism.

There is an opportunity to promote the use of active travel to primary and secondary schools through walk to school schemes.

There is also an opportunity through improved public transport schemes to enable people to access a wider range of employment and education options.

There is an opportunity for the WTS 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

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).'

The data relates primarily to:

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

3.1 Overview of Baseline Conditions

3.1.1 Air Quality

Relevance to the WTS

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[16]. 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[17]. 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.

Transport is the biggest source of air and noise pollution in the UK. The WTS can affect 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.

Baseline conditions and trends

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 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 (SoNaRR, 2016).

There are currently 38 designated Air Quality Management Areas (AQMAs) in Wales all of which are found in the south particularly centred around urban centres such as Cardiff, Newport and Swansea and relate to vehicle emissions. However, one area of elevated air pollution from an industrial source also exists associated with Port Talbot, where Tata Steel is located (Defra, 2017). Only four designated AQMAs have been revoked in Wales, with the last AQMA being revoked in 2015 in Rhondda Cynon Taff. The other three revocations occurred in Cardiff in 2007 (two AQMAs revoked) and 2013. Hafod-yr-ynys, a road in Caerphilly,

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[16] Public Health England (2018) Guidance
Health matters: air pollution. Available at: https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution [Accessed; 21.02.21]
[17] Defra in partnership with the Scottish Executive, Welsh Assembly Government and the Department of the Environment Northern Ireland (2007) the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume 1.

is the most polluted road in the UK outside London. It exceeded hourly NO_2 limits on 60 occasions in 2016 (42 times more than allowed under EU law) and its annual mean NO_2 is almost double the EU limit (National Assembly for Wales, 2018). Figure 3-1 illustrates the highest concentrations of PM and NO_2 nationally.

Figure 3-1 PM$_{2.5}$ and NO$_2$ concentrations in Wales (SoNaRR, 2016).
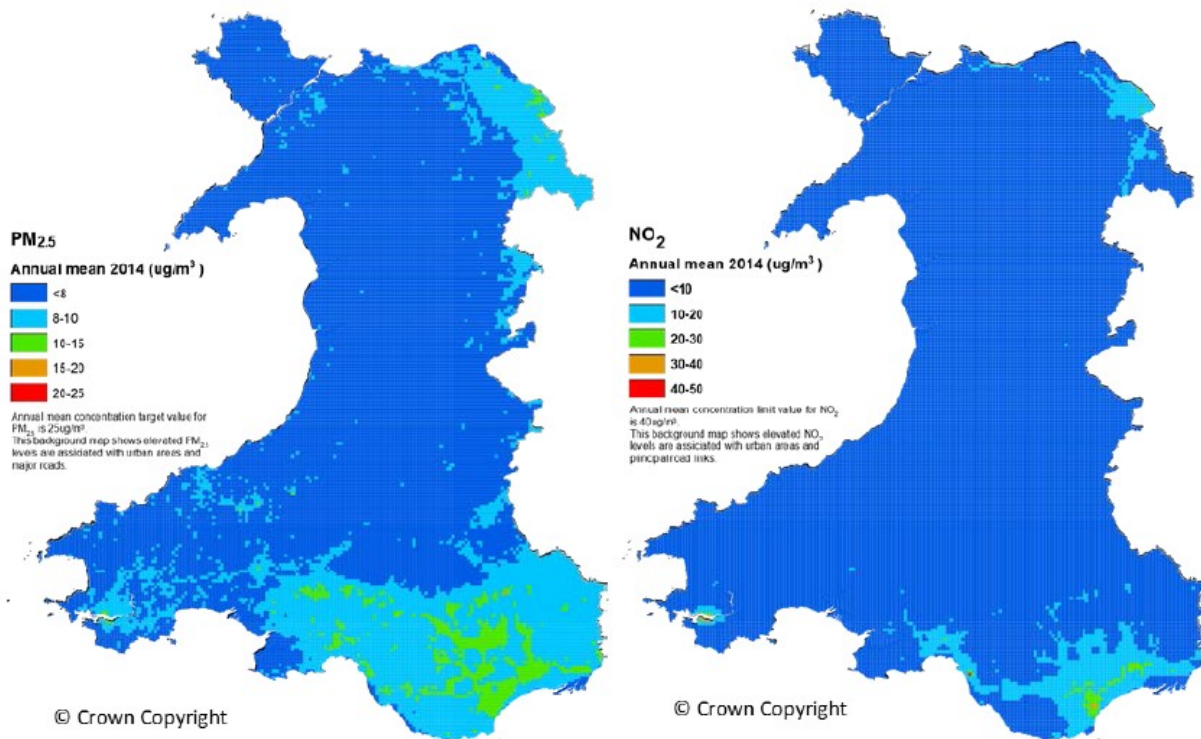
Road transport accounts for nearly a third of all NO_2 emissions in the UK and transport is the biggest source of air pollution in the UK (National Assembly for Wales, 2018). Levels of Nitrogen Oxides (NO_x) emissions have seen a significant decrease of over 50% between 1990 and 2013. The major contributor to NO_x emissions is the energy industry, however, the largest decrease in emissions between 1990 and 2013 was recorded by transport sources (see Figure 3-2).

Figure 3-2 Wales nitrogen oxides (NO$_x$) emissions by source sector (Defra, 2017)
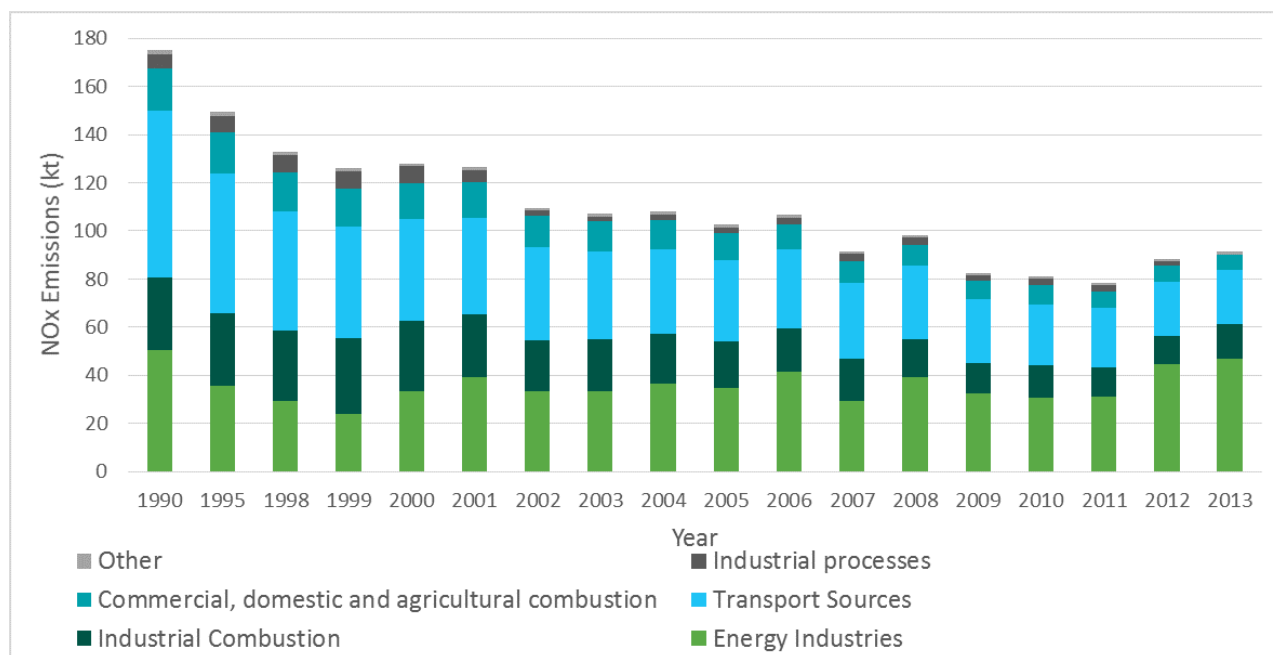
Ammonia also remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter. Concentrations of secondary particulate matter have risen in Wales in recent years, largely due to changes in agricultural practice. Indeed, 90% of semi-natural nitrogen sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits (SoNaRR, 2016).

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 Port Talbot both have higher PM10 levels than either Birmingham or Manchester. There are also five sites on motorway trunk roads (where NO2 concentrations are above the limit level) that have had speed limits introduced in June 2018 in order to improve the air quality[18].

Figure 3-3 shows the trends in ambient air pollution from 1990 to 2016. Whilst there were no instances in 2016 of EU PM$_{10}$ air quality limits being reached; NO$_2$ limits were exceeded at five sites. NO$_2$ 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[19].

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[18] Welsh Government (2019) Tackling roadside nitrogen dioxide concentrations 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: 12.02.21]
[19] DEFRA (2021) Emissions of air pollutants in the UK – Nitrogen oxides (NOx). Available at: https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox#:~:text=Road%20transport%20accounted%20for%2033,accounted%20for%2014%20per%20cent [Accessed: 12.02.21]

Figure 3-3 Ambient Pollution Trends in Wales 1990-2016
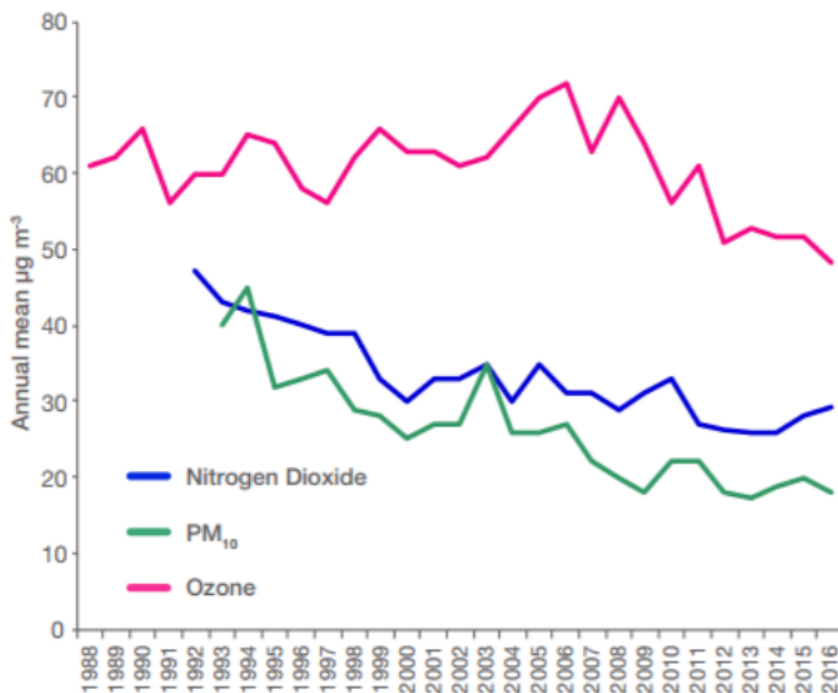
Source: Abernethy, 2018

Data gaps

One relevant data gap is if the poor air quality hot spots have any relation to areas of economic disparity. Also, the individual transport mode contributions to air quality as opposed to road transport.

3.1.2 Noise

Relevance to the WTS

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 WTS 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.

Baseline Conditions and trends

Noise pollution from railways mostly takes place in the south of Wales around Cardiff. Figure 3-4 shows the noise from major railways 2012/2017.

Figure 3-4 Noise of major railways in Wales (2012/2017)
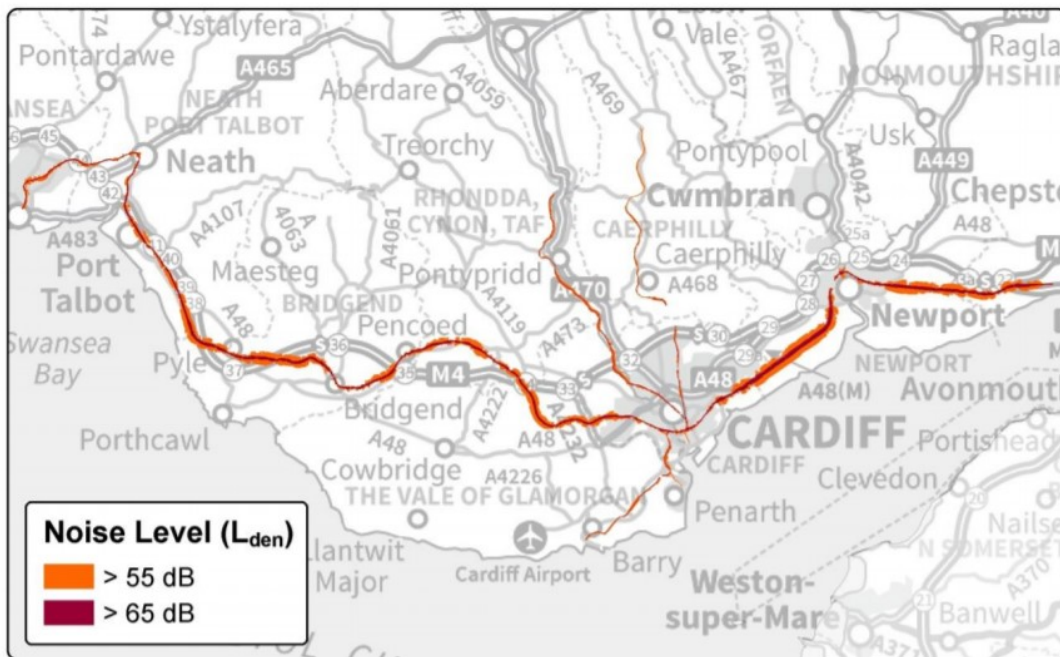
Source: Welsh Government, 2018

Noise mapping carried out by the Welsh Government in 2013 under the Environmental Noise Directive (see Figure 3-5) highlights that road noise is focused around the M4 in South Wales and adjoining 'A' roads. The A55 and adjoining 'A' Roads in North Wales, and the A483 in Mid Wales, also contribute to high levels of noise pollution.

Figure 3-5 Wales Major Roads Noise Map
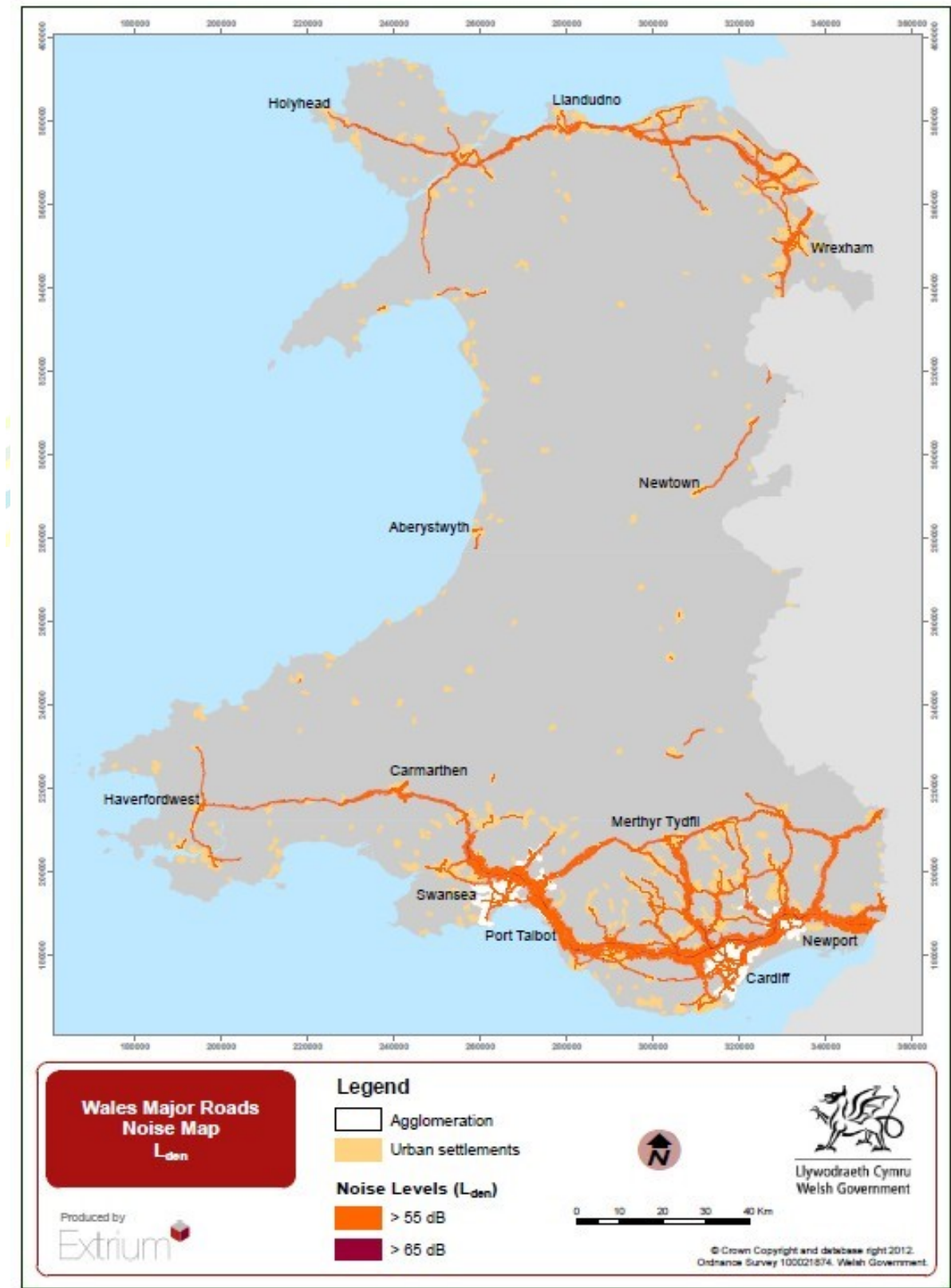
Source: Welsh Government (2013) Data Flow 4 and 8 Supplementary Report Major Roads in Wales

The Welsh government has received many complaints about transport noise, the location of these complaints is shown in Figure 3-6.

Figure 3-6 Transport noise complaints received by the Welsh Government
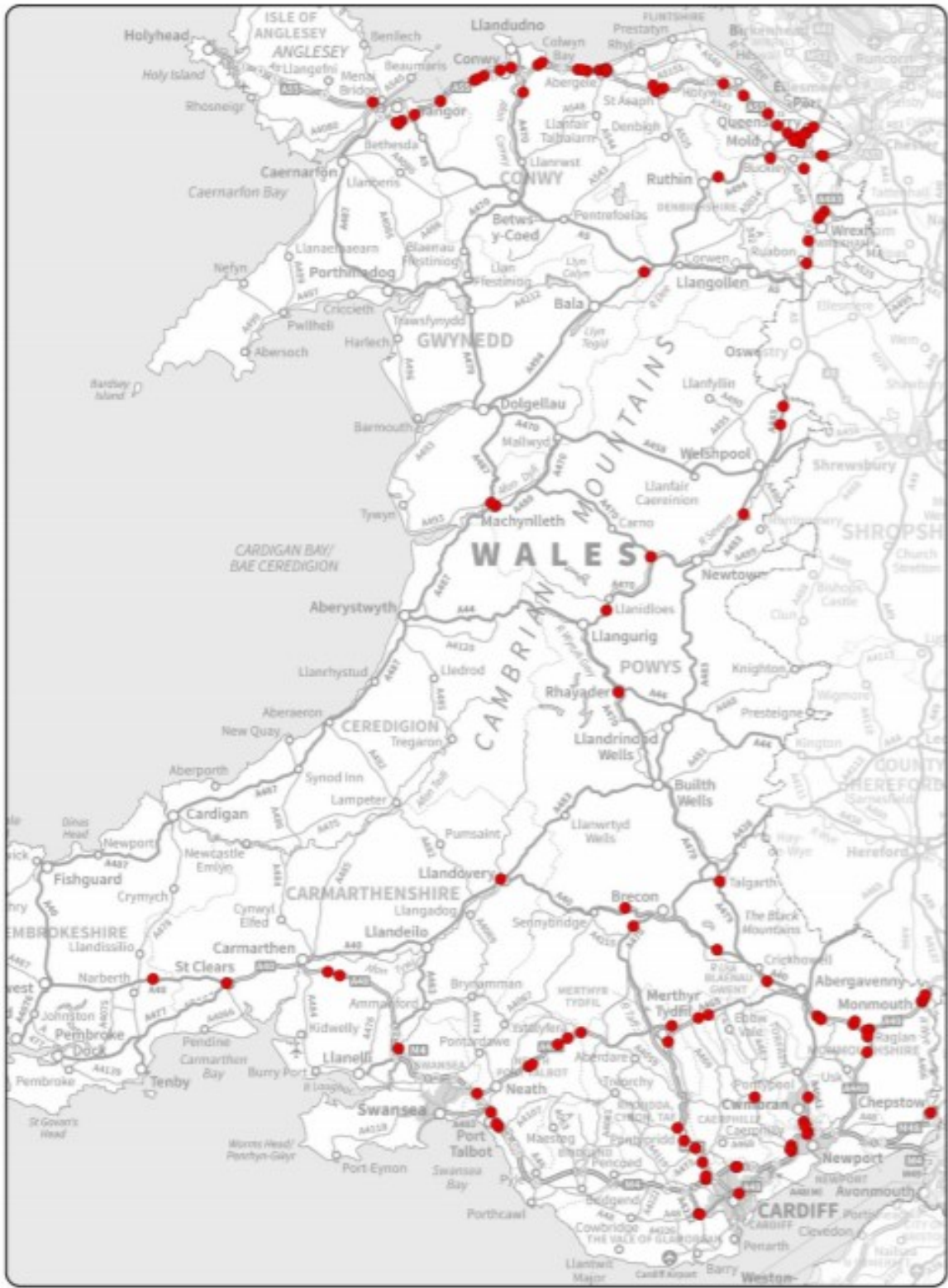
Source: Welsh Government, 2018

When surveyed on noise complaints, 24% of Welsh people said they had regularly been bothered by noise from outside their home in the previous 12 months, 45% of these complaints were related to traffic, business or factories (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, 2020).

In Wales there is an official designation for areas of tranquillity, these different areas are mapped out below in Figure 3-7.

Figure 3-7 Map of Tranquil areas Wales 2009
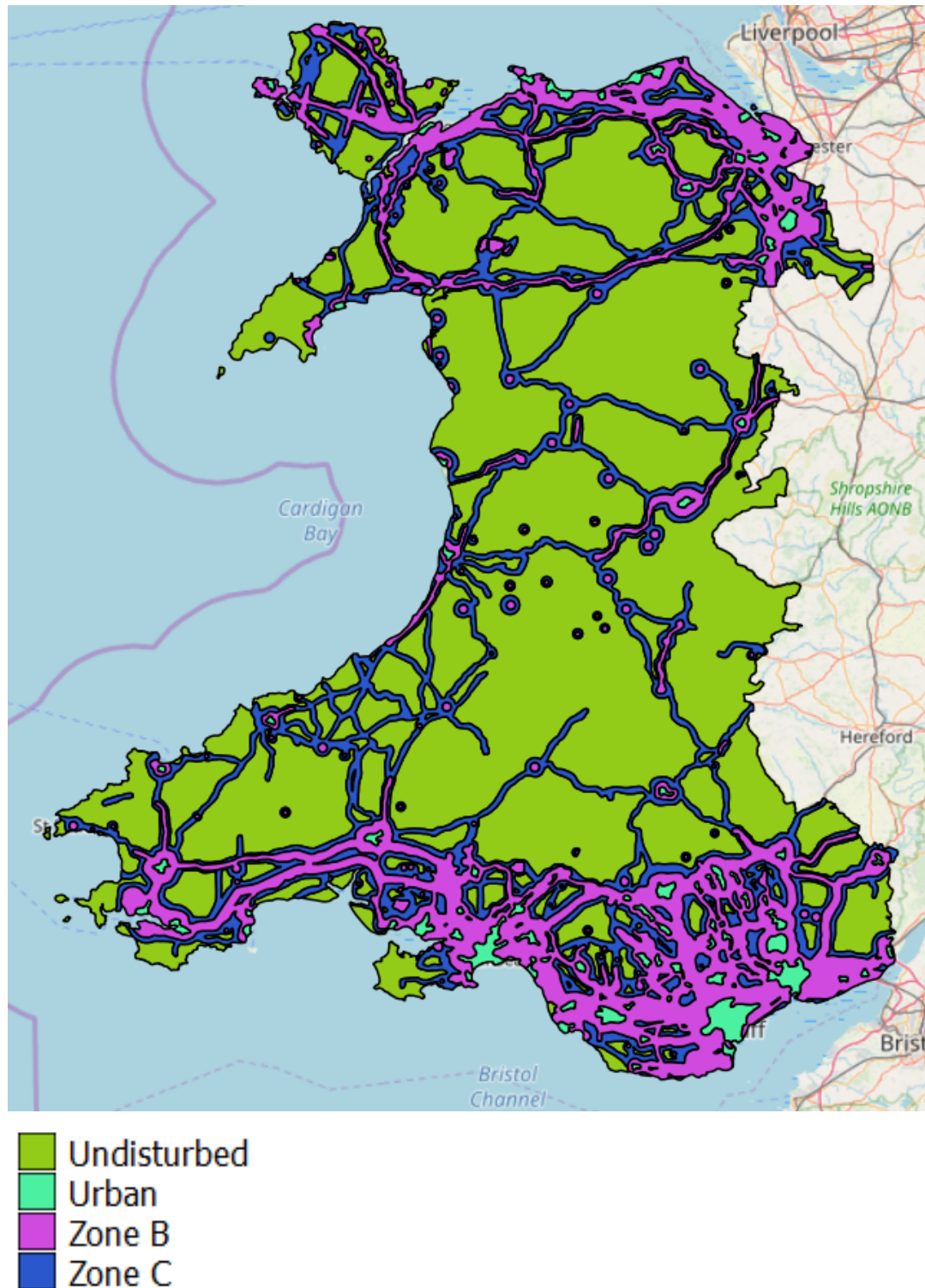
Source: NRW

Data gaps

A data gap is if noise complaints made in Wales have any relation to economic disparity e.g. poorer households may be within closer proximity to factories or roadsides.

3.1.3 Biodiversity, Flora and Fauna

Relevance to the WTS

Biodiversity refers to the variety of all living organisms. It can be seen at a number of 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.

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' residents and help maintain its attraction as a place to live and visit.

The WTS can significantly 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 WTS has the potential to make a significant contribution to national and local biodiversity targets, particularly for those habitats and species that occur commonly on the Welsh trunk road and motorway network. The Trunk Road Estate Biodiversity Action Plan (TREBAP) audit of the network identified those habitats and species that are most at risk from the operation of the trunk road network, and those that could benefit from appropriate management of the soft estate.

The Welsh Assembly Government soft estate extends across the whole of Wales, traversing a wide variety of rocktypes, landscapes and habitats, from purple moorgrass and rush pasture to reedbed, coastal floodplain grazing marsh, and rock habitats. The associated soft estate currently extends to approximately 1,700 hectares.

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.

The RSPB[20] 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.

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[20] RSPB (2000) Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes. Available at: http://ww2.rspb.org.uk/Images/BiodiversityImpact_tcm9-257019.pdf [Accessed: 12.02.21]

- 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.
- 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

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

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

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

Air pollution

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

Changes to microclimate

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.

Wind-funnelling

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 wind-funnelling 'jet' effect increasing. Wind-blow and evaporation that may result in a water supply shortfall which may lead to changes in species composition.

Disturbance

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

Reduced visibility

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

Introduction of exotics

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

Public pressure

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 roads.

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.

Cumulative effects

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

Baseline conditions and trends

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.

Wales has a wide representation of species across a broad range of taxonomic groups with estimates varying from 25,000 to 50,000 different species of animals, plants and other organisms. There are 20 Special Protection Areas (SPAs) for internationally important populations of birds and 92 Special Areas of Conservation (SACs) for other threatened species and natural habitats. 562 of the total 1,016 Sites of Special Scientific Interest (SSSI) (as of 2010) have individually qualifying species and 54 have species assemblages which qualify. Many of the same species are also found on sites that qualify for their habitat. The list of species and habitats of principal importance in Wales (the interim Section 7 list) includes 557 species (SoNaRR, 2016).

Species

The 2013 reports on the Annexes of the Habitats Directive and Birds Directive summarise the UK status and trends of the selected habitats and species and are important evidence resources.

From monitoring data collected for species features on Natura 2000 sites, the overall condition of SAC and SPA species features on these sites in Wales, as reported in 2013, was mostly unfavourable (55%) with the exception of birds and mammals of which 86% and 68% were in favourable condition respectively.

In Wales, the interim Section 7 list of the Environment (Wales) Act 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 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*).

An assessment of the status of some of the interim Section 7 species in comparison to their condition at the time of the last Biodiversity Action Plan report in 2008 is shown in Box 1 below.

Box 1 Assessment of the state of some of the Welsh priority species at broad taxonomic group level (SoNaRR, 2016)

Of the 104 invertebrate species listed as priorities, 67 were assessed. *21% of these were declining*, the outlook was *improving for 25%*, and the remaining *54% showed little change* in their status.

83 vertebrate species appear on the list of priority species and we assessed 78 of them. *37% of these were declining* and the outlook was *improving for 21%*. The remaining *42% showed little change* in their status.

Of the 87 fungi and lichens listed as priorities, 55 were assessed. *29% of these were declining*, the outlook was *improving for 27%* and the remaining *44% showed little change* in their status.

52 bryophytes feature on the priority species list and we assessed 49 of them. *47% of these were declining*, the outlook was *improving for 24%* and the remaining *29% showed little change* in their status.

A study of the impact of the 1995 drought on butterfly abundance showed that some widespread species, including large skipper (*Ochlodes sylvanus*) and green-veined white (*Pieris napi*), were particularly drought-sensitive. The impact of extreme weather events is also relevant to many invertebrates and birds on a yearly basis.

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.

Habitats

The Habitat Survey of Wales provides complete coverage of the country and was undertaken between 1979 and 1997. More detailed information for habitats which are a priority for conservation measures is provided by NRW's ongoing Phase 2 Habitat Survey.

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 3-8. Of the lowlands 17.3% is semi-natural habitat, whereas of the upland area 84% is semi-natural habitat. Semi-natural habitats in Wales cover a total of 626,100 ha (30% of the Welsh land surface) (SoNaRR, 2016).

Figure 3-8 Summary of the representation of semi-natural habitats and modified land-cover types in Wales.
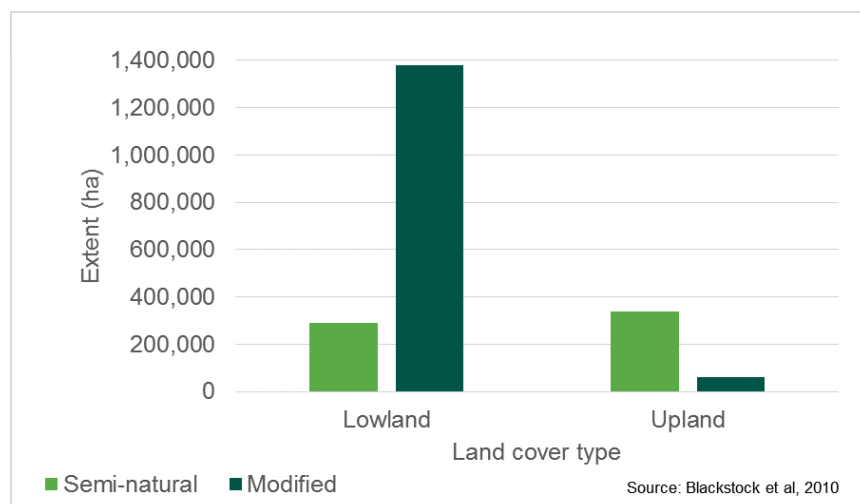
The extent, condition and trends of terrestrial species in Wales are influenced primarily by habitat management and by climate change. Habitat management directly influences plant community composition, amounts of bare substrate, shading and vegetation structure. Shading due to scrub encroachment, following 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 (SoNaRR, 2016).

Habitats of Principle Importance

In Wales, the interim Section 7 list has 55 habitats of principle 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. Honeycomb worm reefs cover 476 ha and are mainly found in South and West Wales. More than 50% of all BAP habitats were in decline in Wales in 2008 (SoNaRR, 2016).

Ancient Woodland

The area of Ancient Woodland in Ancient Wood Inventory (AWI) 2011 is 33,000 ha (53 percent) greater than in AWI 2004. Largely, the revised figure consists of Ancient Semi-Natural Woodland (ASNW) in private ownership (29,000 ha). 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 (SoNaRR, 2016).

European and UK Protected Sites

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.
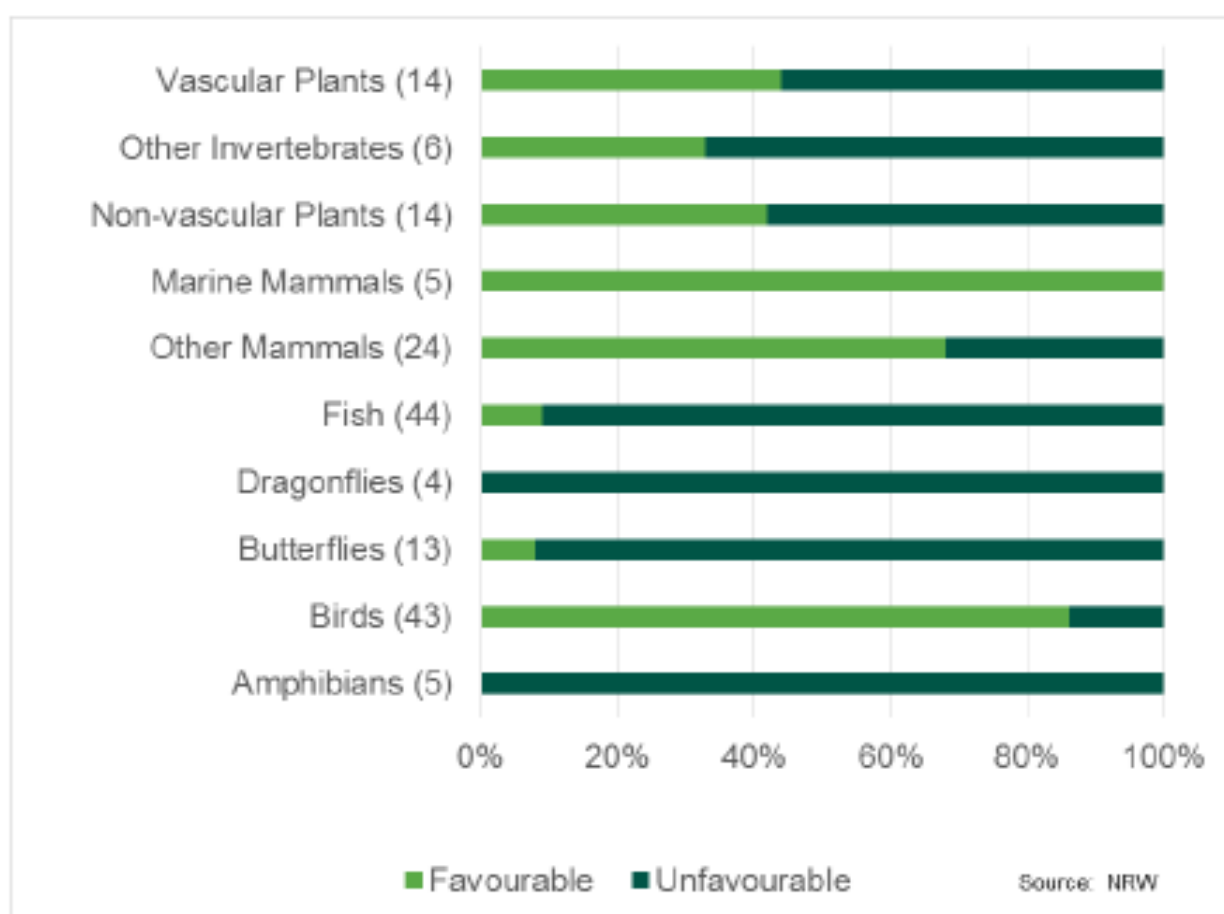
Special Protection Areas (SPA)

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 (Defra, 2013).

SPAs in Wales include the coastline between Burry Port and Saundersfoot, sections of the Pembrokeshire coast and the coastline from Penarth to the Severn Bridge in South Wales. The area between Llandrindod Wells and Tregaron in Mid Wales and the South Gwynedd area and Northern coastline in North Wales. The spatial distributions of Welsh SPAs can be found in Figure 1 - Designated Nature Conservation Sites.

The condition of SAC and SPA species features on sites in Wales, as reported in 2013, remains mostly unfavourable (55%), with the exception of birds and mammals of which 86% and 68% were in favourable condition, respectively. A summary of the results for species is shown in Figure 3-9.

Figure 3-9 Overview of condition of Habitat and Bird Directive species features on SACs and SPAs. Number of features in assessment shown in brackets.

Special Areas of Conservation (SAC)

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

SACs in Wales include the coastline between Burry Port and St. Davids; sections of the Pembrokeshire coast; and the coastline from Penarth to the Severn Bridge in South Wales. Large sections of the coastline between Cardigan up to Caernarfon in Mid Wales and the coast between Bangor and Conwy in North Wales are also protected under this designation. The spatial distributions of Welsh SACs can be found in Figure 1 – Designated Nature Conservation Sites. As an overview, roughly a quarter of SAC habitats in Wales are in a favourable condition, see Figure 3-10.

Figure 3-10 Percentage of SAC habitat features in favourable and unfavourable condition. Number of habitat features in assessment shown in brackets (SoNaRR, 2016)
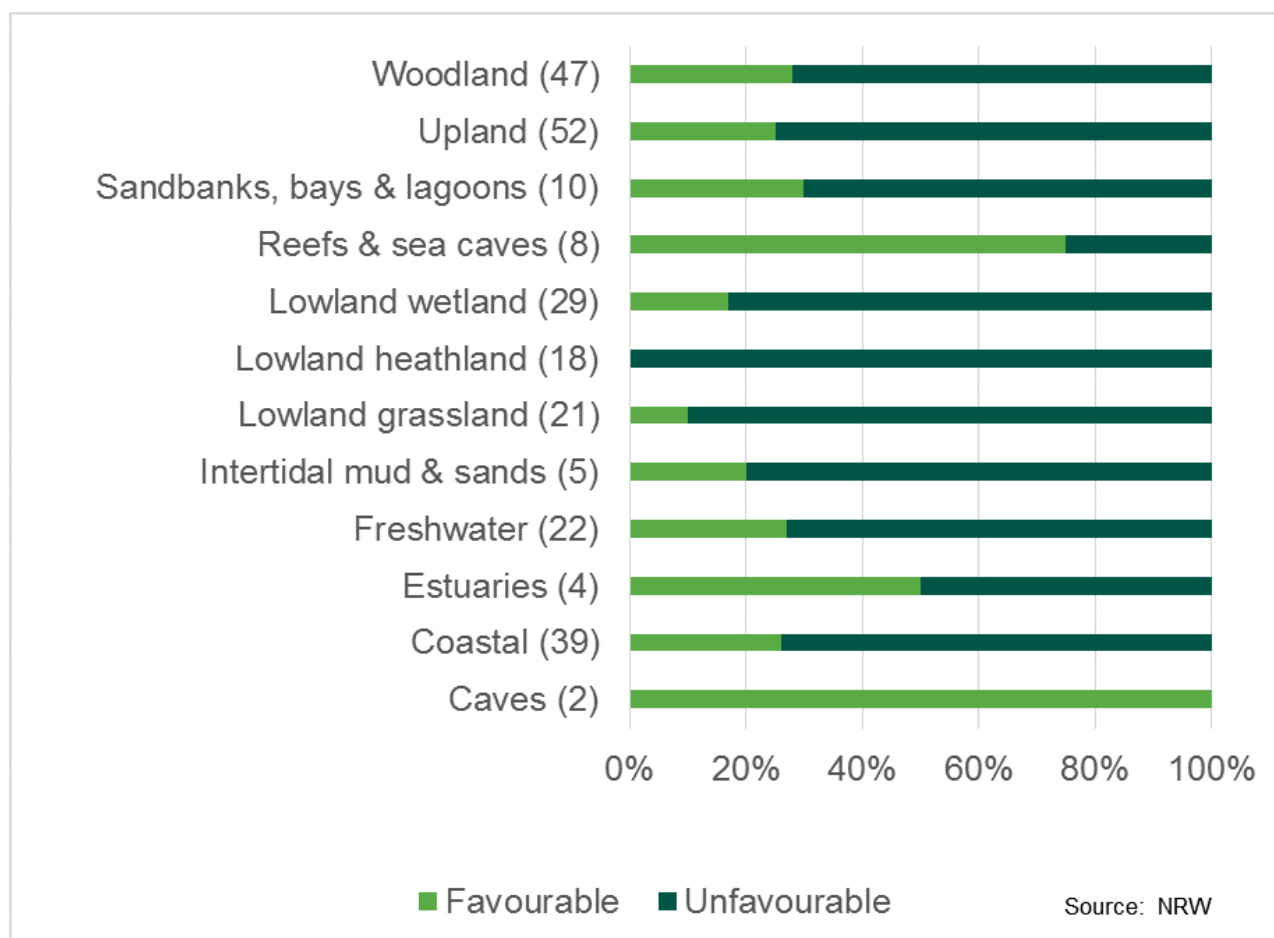
Ramsar Sites

The Ramsar Sites in Wales include wetlands that are considered to of international importance under the Ramsar Convention. 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. The spatial distributions of Welsh Ramsar sites can be found in Figure 1 – Designated Nature Conservation Sites.

Sites of Special Scientific Interest (SSSI)

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. They contain important types of land, plants and wildlife. Geological sites range from quarries to rocky outcrops and massive sea-cliffs (Natural Resources Wales, 2016). As demonstrated in Figure 1 – Designated Nature Conservation Sites, the SSSIs in Wales are geographically spread across the country with a slight cluster in the rural areas North Powys and South Gwynedd. As of 2019 there are 1,078 SSSIs within Wales[21].

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[21] Natural Resources Wales. Sites of Special Scientific Interest (SSSI). Available at:
https://lle.gov.wales/catalogue/item/ProtectedSitesSitesOfSpecialScientificInterest/?lang=en [Accessed: 12.02.21]

National Nature Reserves

National Nature Reserves tend to occupy the coastal areas of the country. 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. The spatial distributions of Welsh National Nature Reserves can be found in Figure 1 – Designated Nature Conservation Sites.

Marine Conservation Zones (MCZ)

The marine environment 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.

In 2014, the first MCZ in Welsh waters was established. Skomer MCZ is situated around the island of Skomer and the Marloes Peninsula in Pembrokeshire, South West Wales. Before 2014 the area had been Wales' only Marine Nature Reserve for 24 years (Joint Nature Conservation Committee). This is clearly visible in Figure 3-11 below.

Figure 3-11 Skomer Marine Conservation Zones – The first and only current MCZ in Wales situated off the South-West coast of Wales.

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, these areas that need improvement should be considered in the WTS; their 2020 findings[22]:

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[22] ERAMMP. Data Analysis for SoNaRR. Available at: https://erammp.wales/en/gmep-data-analysis [Accessed: 12.02.21]

- 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.

Resilient Ecological Networks

In order to preserve biological diversity, resilient ecological networks are planned to enable habitats to adapt to developments within Wales.

Figure 3-12 Level 2 habitat networks in Wales 2008
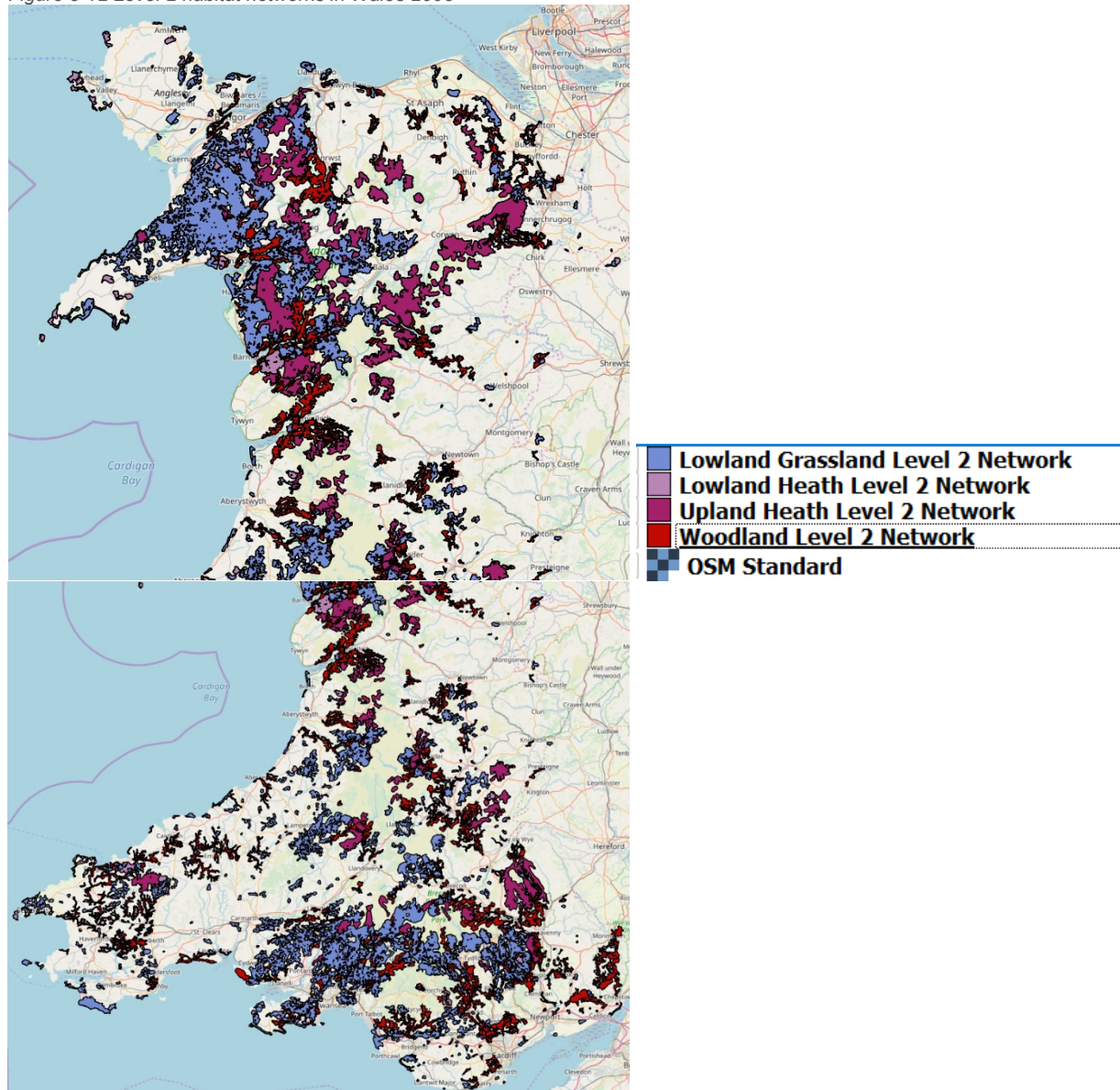
Data gaps

No significant data gaps have been identified for this topic at this stage. Information in this section comes mostly from the SoNaRR, 2016 report, this information has not been updated online in an accessible form since then, even though there is a 2019 interim report.

3.1.4 Climate Change Adaptation and Flood Risk

Relevance to the WTS

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.

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

Baseline conditions and trends

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.

Figure 3-12 presents the Technical Advice Note (TAN) 15 development flood risk areas, including the identification of areas served by significant infrastructure including flood defences; areas without flood defences; areas known to have had past flooding events; and areas at little or no risk of fluvial coastal or tidal flooding. TAN 15 notes that, historically, the topography of Wales has generally resulted in transport infrastructure being concentrated on valley floors, lowland areas and in the coastal fringes. The North West, North East, and South East regions are areas that have a high risk of flooding due to the extent of watercourses. A large proportion of the Welsh population is also located within urban centres along the coastal plain in North and South Wales, particularly Cardiff, Swansea and Newport and the coastal settlements of North Wales. Shoreline Management Plans (SMPs) provide a large-scale assessment of the risks associated with coastal processes that result in both erosion and flooding and presents a policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner. Wales is covered by the following SMPs:

- SMP 19 Anchor Head to Lavernock Point (Severn Estuary);
- SMP 20 Lavernock Point to St Ann's Head (South Wales);
- SMP 21 St Ann's Head to Great Ormes Head (West of Wales); and
- SMP 22 Great Ormes Head to Scotland (North West England and North Wales).

Overall, it has been assessed by the National Assembly in Wales in 2017 that:

- There are at present around 208,500 properties at risk from flooding from rivers and sea in Wales. Around 163,000 properties are at risk from surface water flooding (based on 2014 data).
- Natural Resources Wales[23] estimates that 33 properties could be lost to coastal erosion over the next 20-50 years, and about 156 could be lost in the next 50-100 years. These estimates take into account the interventions proposed in the Second Generation Shoreline Management Plans. Without the interventions, these figures could increase to about 559 properties within 20-50 years and about 2,126 in 50-100 years.

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[23] NRW (2017) Flood and Coastal Erosion Risk Management in Wales https://www.assembly.wales/Research%20Documents/17-024/17-024-Web-English.pdf

Figure 3-13 TAN 15 Development Flood Risk

Zone C1: Served by significant infrastructure, including flood defences

Zone C2: Without significant flood defence infrastructure

Zone B: Areas known to have been flooded in the past

Zone A: Considered to be at little or no risk of fluvial or coastal/tidal flooding

Source: Development Advice Maps, Welsh Government

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 Impacts Programme (UKCP09) forecasts that by 2080 (under a medium emissions scenario), there will be an increase in winter mean precipitation of 19% (it is very unlikely to be less than 4% and it very unlikely to be more than 42%). Sea-levels are forecast to increase by 36.2 cm compared to 1990 levels[24].

Almost 28% of the coast has some form of artificial protection, whilst 23.1% of the Welsh coast is considered to be eroding, with the potential to affect people, properties and infrastructure. In addition, both erosion and coastal protection have the potential to affect protected sites, although allowing dynamic processes to take place is usually considered to be positive.

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, 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 to 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. Between 2011 and 2014, in excess of 340 coastal and river flood defence schemes were delivered, reducing flood risk to approximately 6,700 properties (Welsh Government Climate Change Annual Report 2014). It is estimated that £2.96 billion of damage to properties was avoided as a result of protection

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[24] UK Climate projections (2009) Maps and key findings. Available at: http://ukclimateprojections.defra.gov.uk/21708#key [Accessed: 12.02.21]

from defences (SoNaRR, 2016). 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.

Data gaps

Data gaps relating to transport links affected by flooding.

Data gaps relating to transport structures affected by scour.

Data gaps relating to the types of households most likely to be affected by flooding.

3.1.5 Geology and Soils

Relevance to the WTS

Wales has some of the most varied geology in the world representing all geological periods and spanning 1.4 billion years of the Earth's history. This diverse geology not only underpins the country's biodiversity and landscape but also provides important mineral resources. The protection and sustainable use of geological diversity, soil resources and minerals can be delivered through the guidance within the WTS.

Baseline conditions and trends

As identified above, Wales' geodiversity is significant. 300 SSSIs in Wales, covering 48,815 ha, contain some 500 geological features and 93% of these features are in favourable condition. Figure 3-13 illustrates the distribution of geological SSSIs and Regionally Important Geodiversity Sites (RIGS). Two UNESCO Global Geoparks, Geo Môn and Fforest Fawr, cover 1,483 km^2 of Wales and are also designated for the primary purpose of promoting geo-tourism (SoNaRR, 2016).

Figure 3-14 Welsh Geodiversity Sites (SoNaRR, 2016).
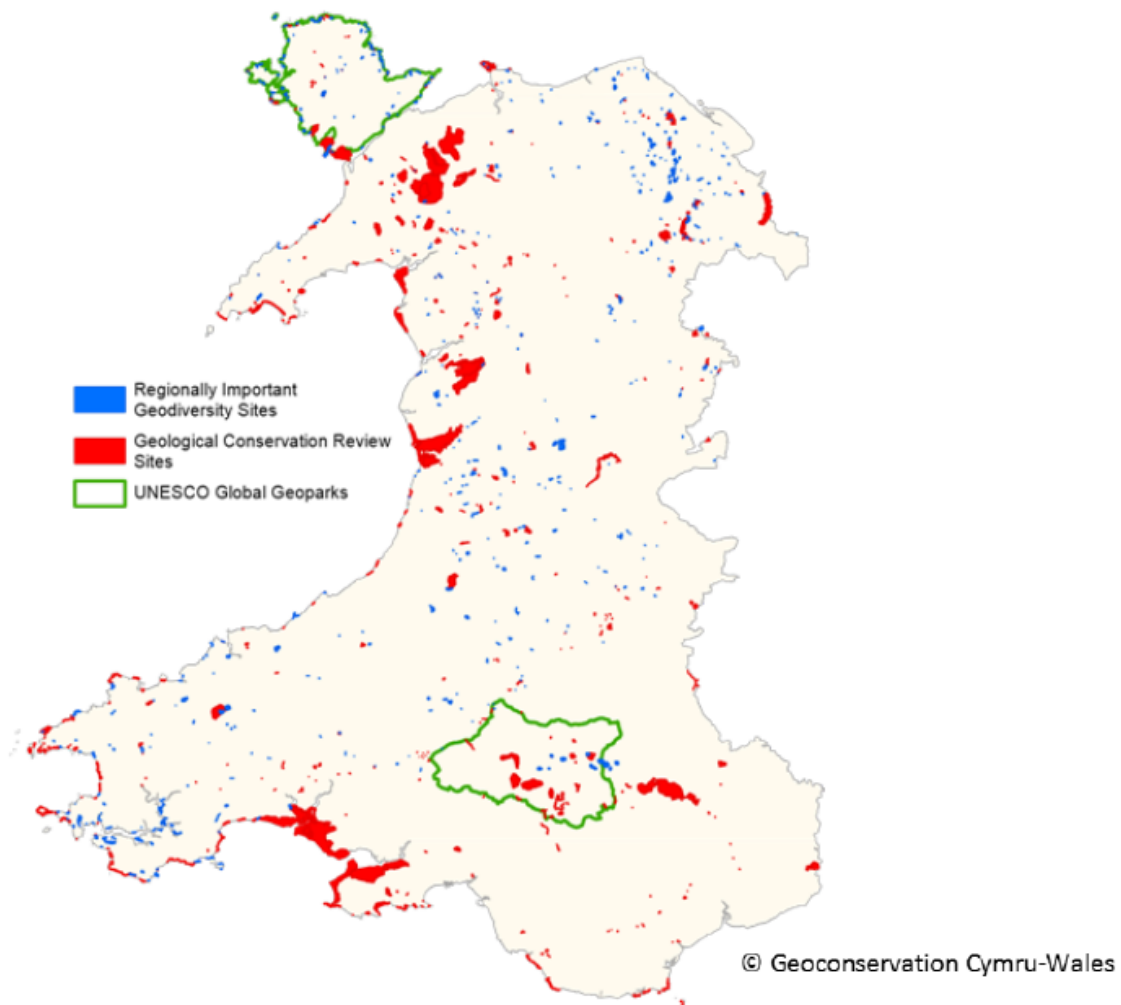
Source: SoNaRR, 2016.

In the future, geological hazards may change as a response to climate change. For example, coastal erosion, landslides and pollution from former mine sites. Exploration for conventional and unconventional sources of oil and gas also remains a possibility in Wales and its consideration will form a part of the emerging Welsh Government Energy Strategy.

The soil and agricultural land quality of Wales is reflective of the topography and geology of the country. The soil types are diverse with over 400 different soil types present across the country, which contribute to a rich geodiversity and biodiversity, landscapes and land uses. The majority of Wales is either Grade 4 or 5 in the Agricultural Land Classification. This classification is generally considered to be of poor or very poor quality agricultural land and is largely due to the predominantly upland nature of Wales. This has a strong influence on the types of agriculture feasible, lending itself more towards livestock farming. 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.

Soil quality has deteriorated over time across all habitats apart from woodlands where there has been some improvement (SoNaRR, 2016).

Figure 3-15 Agricultural Land Classification Map of England and Wales (extract) (Natural England).
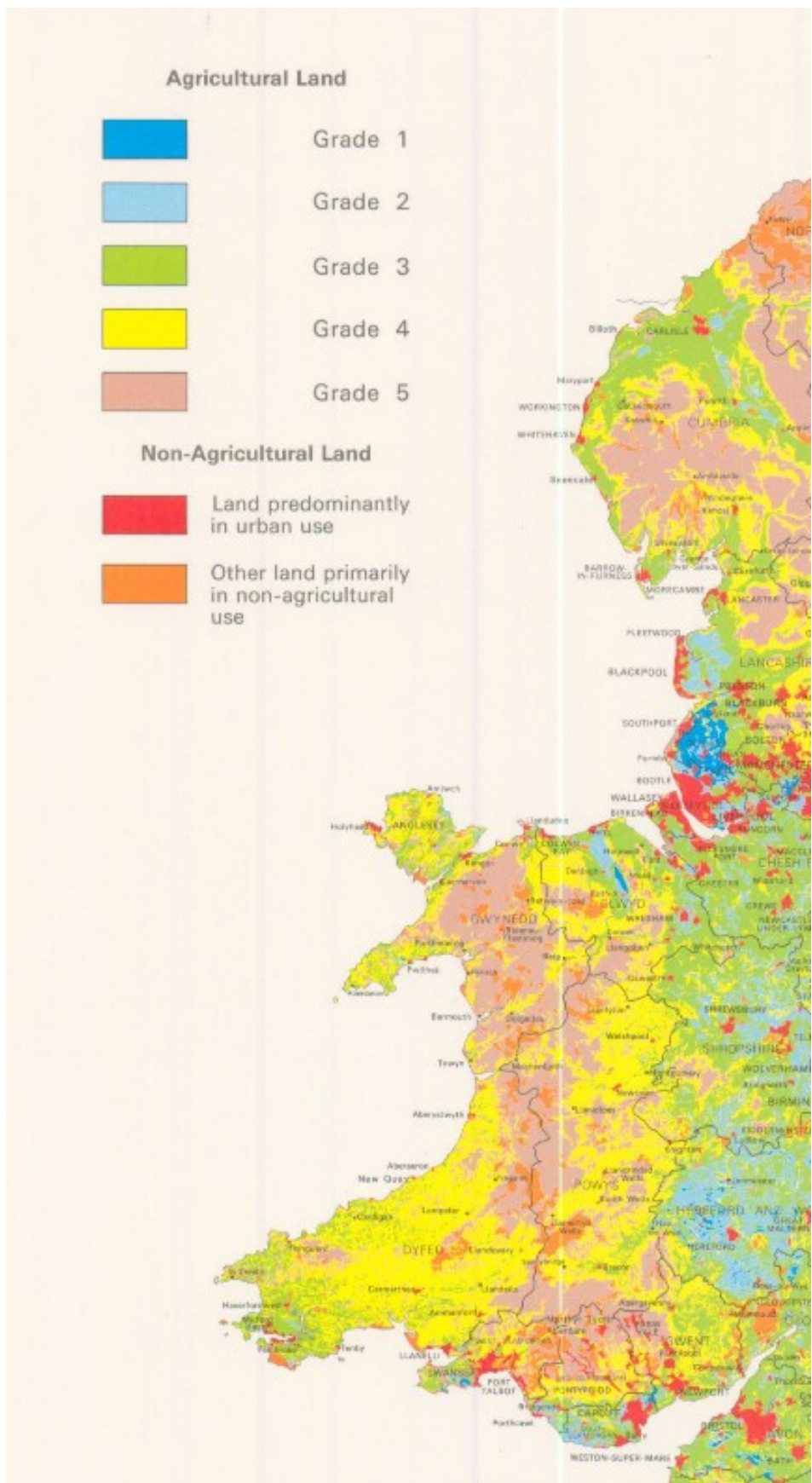
Source: Natural England

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. Only 30% of the Welsh peat soil area is considered to be in 'good condition' (SoNaRR, 2016).

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 (SoNaRR, 2016).

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 3-16 below, 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 (SoNaRR, 2016).

Figure 3-16 Distribution of soil carbon in Wales, shown as carbon density (t/ha) depth 0-100 cm (SoNaRR, 2016).
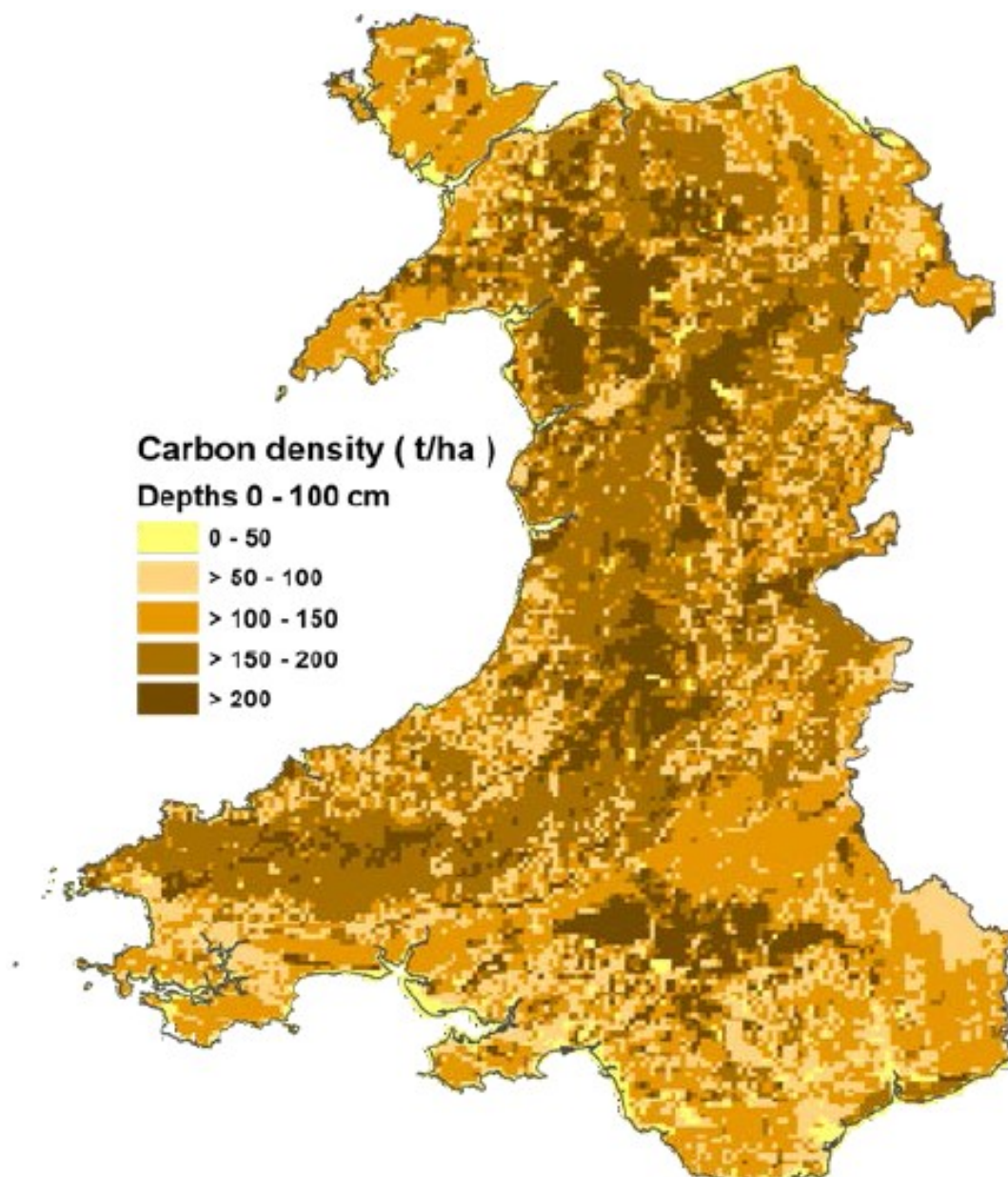
Source: SoNaRR, 2016

Data gaps

Issues relating to geology and soils amounting from transport and the potential impact new transport infrastructure can have on geology and soils.

3.1.6 Water Environment

Relevance to the WTS

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.

The WTS can help manage the water environment through helping to guide decisions through the planning process relating to development of transport infrastructure that could harm water quality or put pressure on water resources. It also has a role to play in environmental protection in general through its guidance.

Baseline conditions and trends

The water features map of Wales in Figure 3-17 was produced under the requirements of the Water Framework Directive. The map shows the river catchments and other water features in Wales. Water resources across Wales tend to range from a good to poor classification but are very rarely classed as high or bad. In particular, the river catchments in the south and Cardigan Bay are classed as moderate or good.

The Water Framework Directive required the UK to achieve 'good' status of all water bodies (including rivers, streams, lakes, estuaries, coastal waters and groundwater) by 2015.

In 2014 42% of water bodies in Wales were classified as being of 'good' ecological status compared to 21% in England. There was a slight decrease to 39% classified as being of 'good' ecological status in 2015 (Natural Resources Wales).

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 (SoNaRR, 2016).

Figure 3-17 Water Features and Quality in Wales
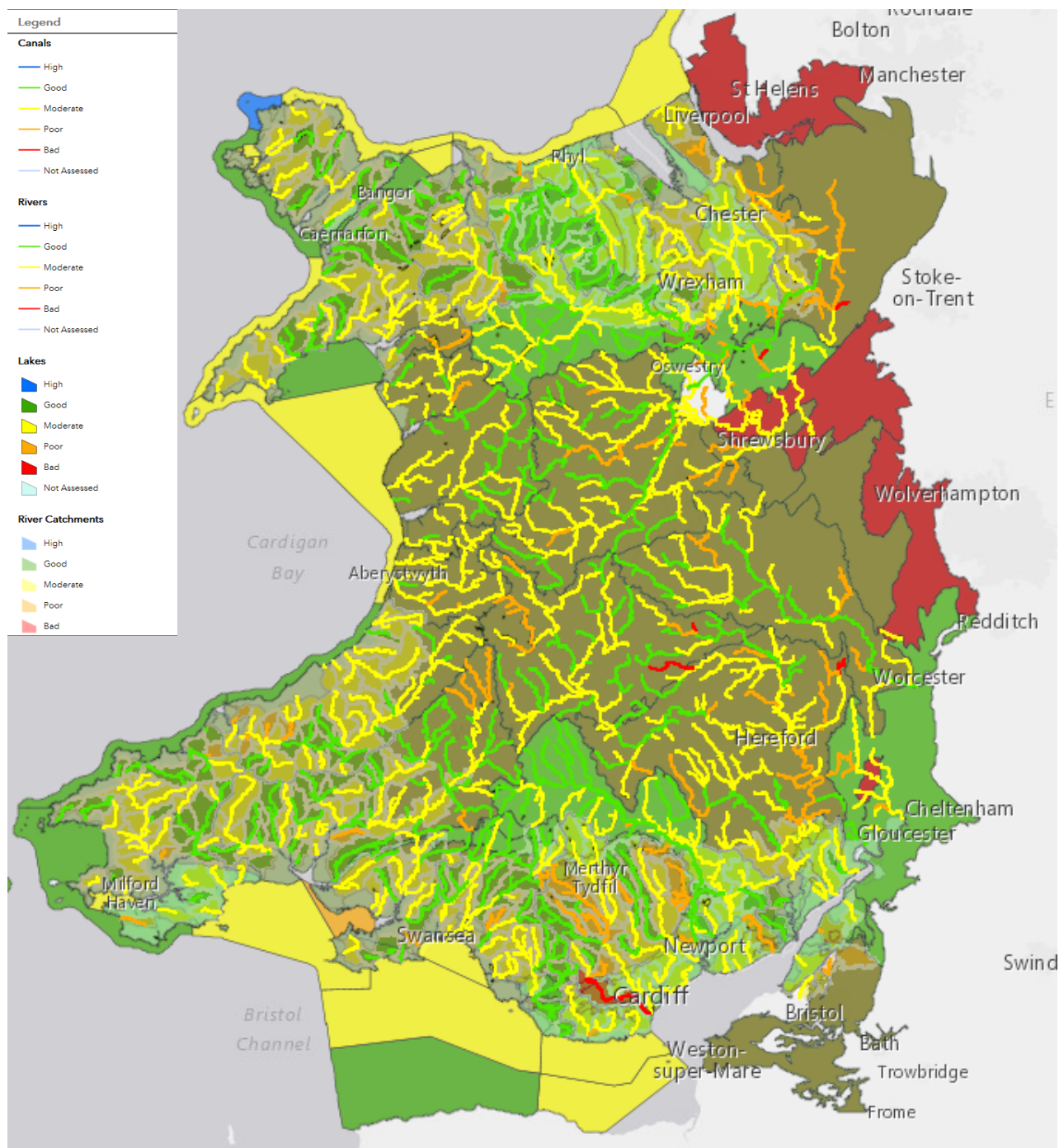
Source: Natural Resources Wales

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 a 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.

In Wales, the EC Nitrates Directive (91/676/EEC) was brought into law through the Nitrate Pollution Prevention (Wales) Regulations 2013. 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. Around 2.4% of Wales is currently within an NVZ.

Data gaps

No significant data gaps have been identified for this topic at this stage.

3.1.7 Minerals and Waste

Relevance to the WTS

As described above, Wales' 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 can be delivered through the guidance within the WTS.

Baseline conditions and trends

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 3-1 (SoNaRR, 2016)).

Table 3-1 Mineral Production in Wales for 2014 (SoNaRR, 2016)

Mineral	Thousand Tonnes Extracted
Coal (deep-mining)	91
Coal (opencast)	2,343
Igneous Rock	1,905
Limestone and Dolomite	8,934
Sand and gravel (land)	673
Sand and gravel (marine)	632
Sandstone	2,774
Total	**17,352**

The future trend in minerals extraction is heavily influenced by the national economy and confidence in the construction industry. Exploration for conventional and unconventional sources of oil and gas also remains a possibility in Wales and its consideration will form a part of the emerging Welsh Government Energy Strategy.

The sales of aggregates in Wales was published in the 2019 South Wales Regional Aggregates Working Party Annual Report for 2017.

Figure 3-18 Primary Aggregate Sale 2008-2017[25]
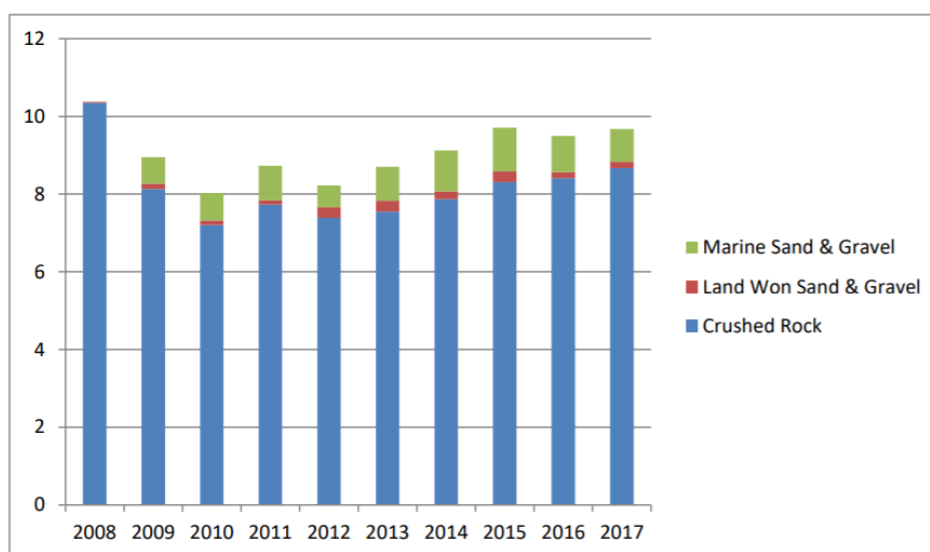
The Welsh Government publication, 'Towards Zero Waste 2010–2050' aims for Wales to become a high recycling nation by 2025 and a zero-waste nation by 2050. The 2015 Progress Report identifies the following key statistics and trends:

- 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 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.

Table 3-2 shows the total amount of waste per sector that was not recycled, re-used or composted as a percentage of overall municipal waste production. This shows a steady decrease in the amount of waste sent to landfill. This trend is echoed in the commercial and construction sectors.

Table 3-2 Percentage of Municipal Waste sent to Landfill (Statistical Bulletin 'Local authority municipal waste management report for Wales, 2013-14', Welsh Government)

Year	% municipal waste sent to landfill
2009-10	59.5%
2011-12	50.0%
2013-14	45.7%

The latest quarterly statistical release for Landfill Disposals Tax by the Welsh Revenue Authority states that for waste disposed to landfill in the period April to June 2020, there were 179 thousand tonnes of authorised disposals, which is a fall of 28% for the same period in 2019. These disposals resulted in £5.2 million tax due, a fall of nearly 50% from the same period 2019. It is cited that Covid-19 has had a major impact on the

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[25] South Wales Regional Aggregates Working Party (2019) Annual Report For 2017. Available at: http://www.swrawp-wales.org.uk/Html/SWRAWP%20Annual%20Report%202017%20FINAL.pdf [Accessed: 12.02.21]

businesses of some landfill site operators and is likely to be a factor in the level of waste disposed.

The Natural Resource Policy published in 2017 puts an emphasis on taking a place-based approach and delivering nature-based solutions[26]. There is an emphasis within the document of using a solid baseline to understand how to sustainably plan for the future.

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

Data gaps

Data gap relating to how recycled materials are used in the transport industry as a percentage of total materials used.

Data gaps relating to the transportation and management of waste and minerals.

There may be data gaps due to some of the data being five years old or more, this data may no longer be an accurate representation.

3.2   Key Issues relevant to the WTS and opportunities for it to address them

Issues

Air Quality

Air quality in Wales is generally very good, reflective of its largely rural nature and high-quality natural environment. However, 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. These notably occur in urban areas and adjacent to busy roads.

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

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

Road noise is focused around the M4 in South Wales and adjoining 'A' roads. The A55 and adjoining 'A' Roads in North Wales, and the A483 in Mid Wales, also contribute to high levels of noise pollution. Noise pollution from railways mostly takes place in the south of Wales around Cardiff.

Biodiversity, Flora and Fauna and Ecosystem Resilience

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 of which are effects that come from the transport network.

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

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[26] Welsh Government (2017) Natural Resources Policy. Available at: http://www.hwa.uk.com/site/wp-content/uploads/2018/11/POL_22-Welsh-Government-2017-Natural-Resources-Policy.pdf [Accessed: 12.02.21]

A change in soil leaching and erosion patterns.

Changes to microclimate from light and radiation emissions.

Wind-funnelling from bisected trees.

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 roads.

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 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 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.

Climate change will impact on 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 Wales.

The UK Climate Change Risk Assessment 2017: Evidence Report highlights a number of key risks and opportunities facing Wales with regard to transport, including the need to transition towards low-emission vehicles and enhanced active travel options.

Geology and Soils

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. Only 30% of the Welsh peat soil area is considered to be in 'good condition'. 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

The quality of Wales' water bodies is still not up to Water Framework Directive requirements with only 42% being of good ecological status in 2014. 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 flows during winter may also increase pressure upon sewerage and drainage systems and diffuse pollution (which may come from road surface run off).

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.

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

The country still has substantial resources if required. Sustainable management of this extraction is necessary for ongoing or future activity. Minerals safeguarding can sometimes also conflict with other forms of development e.g. transport infrastructure.

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

Covid-19

The Covid-19 pandemic has impacted most on the most vulnerable individuals and deprived communities. The long term impacts of the pandemic are currently unknown and, whilst there have been some beneficial impacts, including improved air quality and greater reliance on active travel, the approach to recovery should promote social, health and economic equality.

Opportunities

Air Quality

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.

Noise Pollution

The WTS 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

The WTS 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 WTS to introduce additional green infrastructure as part of future transport proposals to support placemaking as well as biodiversity, flora and fauna.

Climate, Flood Risk and Coastal Erosion

The WTS 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 WTS can help provide guidance on the location and design of infrastructure development to help minimise the risk. It is also an opportunity to further work with partners such as NRW and local authorities in developing flood management and protection schemes as part of encouraging sustainable land and ecosystem management, including the opportunity for the inclusion of SuDS to reduce the impact of new schemes on flood risk.

The WTS has a focus on significantly reducing greenhouse gas emissions from transport, through the promotion of more sustainable transport methods such as public transport and active travel.

Geology and Soils

The WTS has an opportunity to guide the sustainable use of Wales' geology and soils in the transport system in terms of their use in the construction of transport infrastructure.

The WTS could also help to avoid future risks by managing or avoiding geological hazards through the planning of the transport system. Exploration for conventional and unconventional sources of oil and gas also remains a possibility in Wales and its consideration will form a part of the emerging Welsh Government Energy Strategy.

Water Environment

The WTS can help to guide new development of transport infrastructure and transport routes in a manner that seeks to avoid pollution of water bodies. It could also be cognisant of the potential limitations of water supply and could promote measures to reduce water use in developments.

Minerals and Waste

The WTS has an important role to play with regard to minerals demand (through economic aspirations), planning and management. It can help to guide the sustainable use of such resources through its policies.

Covid-19

The WTS has a role to play in the recovery from Covid-19, particularly addressing changes in mobility. The WTS should address inequalities that have been exacerbated by Covid-19 and should promote sustained, equal recovery.

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

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

'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.'

The data relates primarily to:

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

4.1   Overview of Baseline Conditions

4.1.1   Health and Well-being

Relevance to the WTS

Information with regard to the links between transport, health and priority groups can be found in section 4.1.3. 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.

Baseline conditions and trends

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.

Active Travel

'"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.'

Between 2018 and 2019 the Walking and cycling in Wales report[27] identified:

- 6% of adults cycled at least once per week for active travel purposes.
- 57% of adults walked at least once per week for active travel purposes.
- 70 per cent of people in urban areas walked for more than 10 minutes as a means of transport at least once a month, compared with 56 per cent of people in rural areas (Figure 4-1).
- Men, younger people, those without limiting illnesses and those who have qualifications were more likely than others to cycle.
- 44 per cent of children actively travel to primary school, and 34 per cent to secondary school.
- National Survey respondents who were in 'very good' or 'good' health were more likely to walk or cycle regularly.

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[27] Welsh Government (2019) Walking and cycling in Wales: Active travel, 2018-19 Statistical Bulletin. Available at: https://gov.wales/active-travel-walking-and-cycling-april-2018-march-2019 [Accessed: 12.02.21]

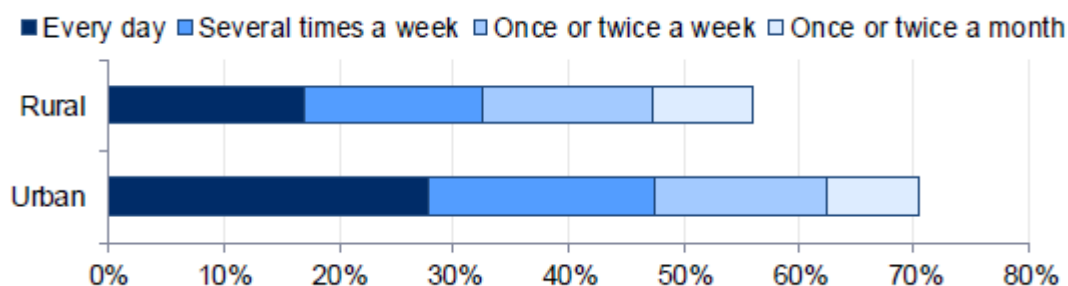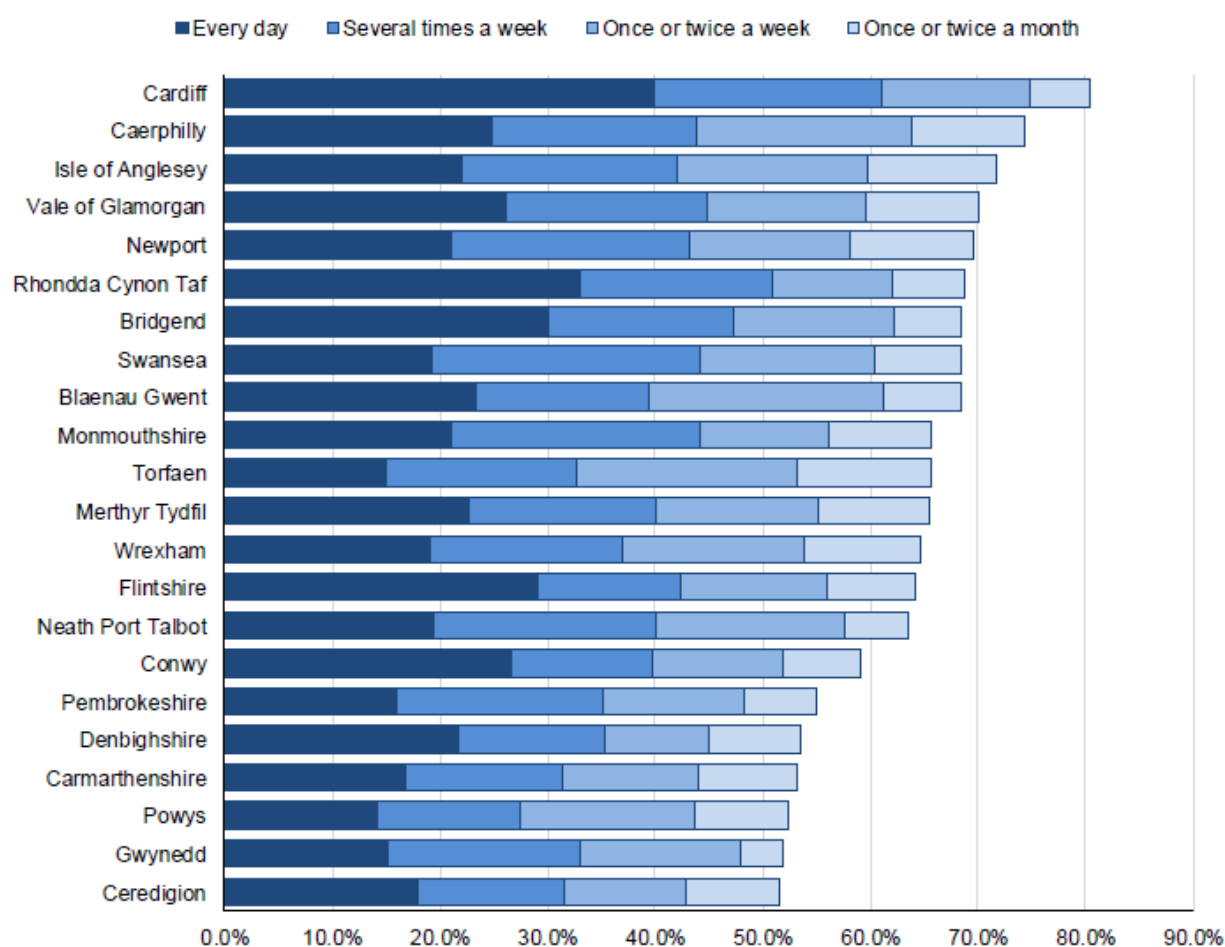*Figure 4-1 Active travel (walking) by urban and rural classification*

Figure 4-2 Active travel by walking, by local authority

Percentage of adults who have fewer than two healthy lifestyle behaviours

The 2019 Welsh Health Survey[28] assessed whether Welsh respondents exhibited the following healthy lifestyle behaviours:

- Not smoking;
- Not drinking above daily guidelines in the previous week;

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[28] Welsh Government (2019) National Survey for Wales 2018-19: Adult lifestyle. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-06/national-survey-for-wales-april-2018-to-march-2019-adult-lifestyle-534.pdf [Accessed: 12.02.21]

- 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.

Around 10% of adults reported following less than 2 healthy lifestyle behaviours, 64% of adults reported either 2 or 3 healthy lifestyle behaviours.

In terms of specific groups, the percentage of adults who followed fewer than 2 healthy lifestyles was slightly more common in men (12%) than women (8%), and among adults aged 45-64.

Figure 4-3 shows that the percentage of adults who reported following 0 or 1 healthy lifestyles was more prevalent in the most deprived areas (age-standardised).

Figure 4-3 Percentage of adults who exhibited 0 or 1 healthy lifestyles, by deprivation quintile

	Quintile 1 (most deprived)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (least deprived)
■ Fewer than 2 healthy behaviours	12	13	11	8	7
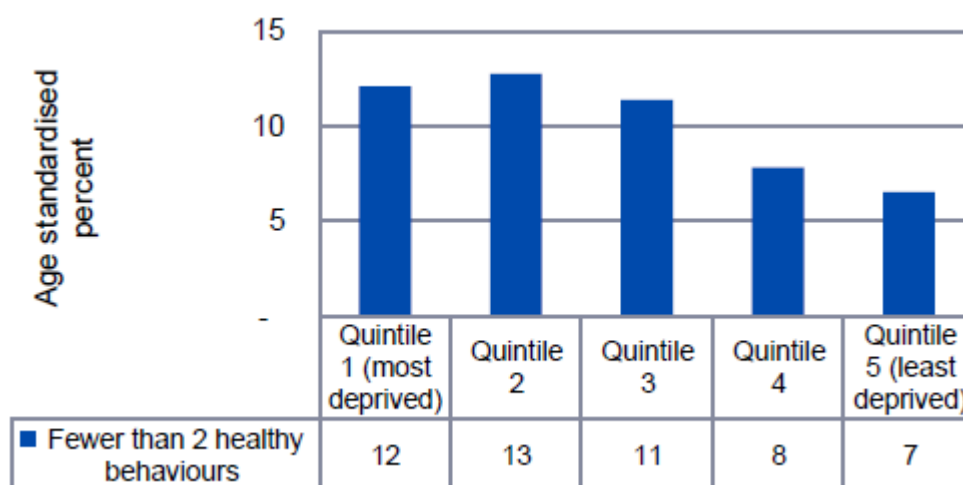
Source: Welsh Government

The Welsh Health Survey (2019) established that for 2018 and 2019, amongst local health boards, the highest reports of 'Active less than 30 minutes a week' (50%) and lowest reports of 'Active 150 minutes a week' (39%) was in Cwm Taf Morgannwg. In contrast, Powys has the lowest records of less than 30 minutes of exercise (25%) and highest records of 150 minutes of exercise (65%).

Percentage of people who are lonely

In 2017-18, the National Survey for Wales asked people whether they agreed with a series of statements about their current life status. Users of care and social services were the most likely to agree that they often felt lonely (29% compared with 13% of those who were not users or carers).

Health facilities in Wales

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 4-1. As of 2018 there were 421 GP Practices in Wales 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. (GP Access, Welsh Government, 2019).

Table 4-1 Number and Type of Hospital Facilities within Wales

Hospital Facility Type	Number
Major A&E Unit	13
Minor A&E Unit	1
Minor Injuries Unit	24
Other Hospitals	
Acute	2
CHC Local Committee	3
Clinic	19

Hospital Facility Type	Number
Community	28
Community Hospital: Elderly Mental Infirm	3
Day Hospital	5
Major Acute	1
Psychiatric: Learning Disability	2
Psychiatric: Mental Illness	17
Psychiatric: Mental Illness / Learning Disability	2
Specialist Acute	3

Source: NHS Wales

Percentage of people overweight in particular levels of childhood

In 2019, 59% of adults were classified as overweight or obese, including 23% obese. Obesity levels in Wales have seen an increase since the Welsh Health Survey began in 2003/2004. Childhood obesity rates were higher in Wales in 2014 than in England. The prevalence of overweight and obese children in Wales was highest in Merthyr Tydfil (34%), Gwynedd and Bridgend (both 30%) and lowest in Monmouthshire (21%) and the Vale of Glamorgan (22%) (Public Health Wales, 2019).

In 2019 four and five year olds in Wales were found to have an obesity rate of 3.3%[29].

Number and distribution of LSOAs in bottom 10% of most deprived in terms of access to services

Latest figures for the LSOAs in Wales (there are 1909 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. Furthermore, there are some deprived pockets near large urban areas.

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%).

Cardiff, Neath Port Talbot, Bridgend, Rhondda Cynon Taf, Blaenau Gwent and Torfaen local authorities 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.[30]

Access to services and facilities

In the 2019 Wales National Survey[31], 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 services they needed.

Figure 4-4 shows the deprivation levels of the LSOAs in Wales with regard to access to services.

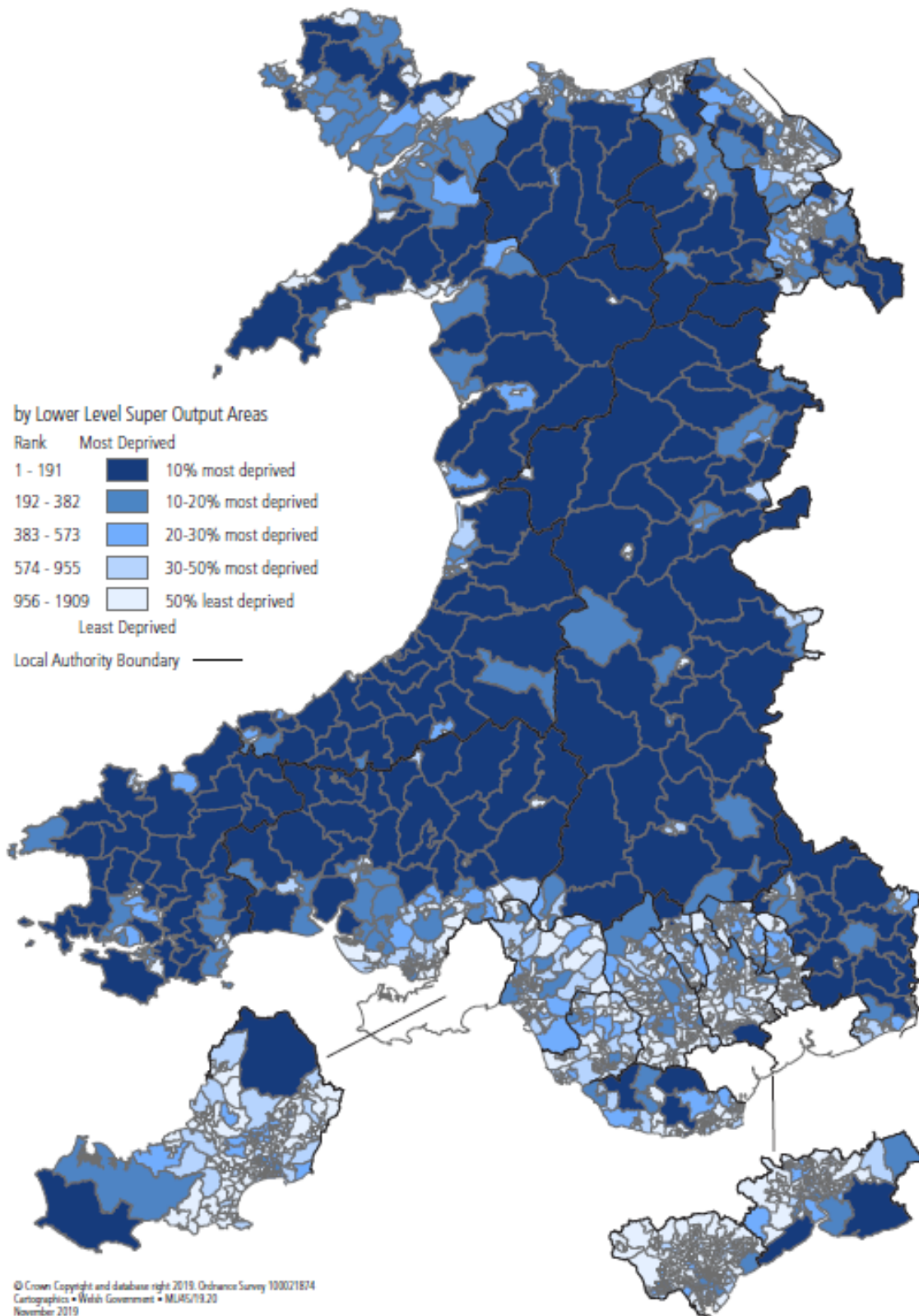[29] BBC (2019) Severely obese Welsh children numbers reach 1,000, figures show. Available at: https://www.bbc.co.uk/news/uk-wales-47483203 [Accessed: 12.02.21]
[30] Welsh Government (2019) Welsh Index of Multiple Deprivation, 2019. Available at: https://gov.wales/welsh-index-multiple-deprivation-full-index-update-ranks-2019 [Accessed: 12.02.21]
[31] 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: 12.02.21]

Figure 4-4 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 • WLA5/19.20
November 2019

Source: WIMD 2019

No of LSOAs in bottom 10% Health deprivation domain

Patterns in health deprivation in Wales have remained largely unchanged since the 2011 WIMD. High deprivation levels were recorded in South Wales valleys and large cities, coastal areas of North Wales and border towns. The local authority the highest proportion of LSOAs in the most deprived 10% in Wales for health domain was Merthyr Tydfil. Three local authorities (the Isle of Anglesey, Ceredigion and Monmouthshire) were recorded as having had no LSOAs in the most deprived 10%.

For the health domain, the most deprived LSOA in Wales was Rhyl West 2, Denbighshire.

Percentage of good / bad health

In 2018, 70% of people in Wales reported their general health as either 'Very good' or 'Good'. The gap between local health board reporting the highest (Powys: 76%) and lowest (Cwn Taf: 67%) percentages of 'Very good' and 'Good' general health was 9%. 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.

Isle of Anglesey, Ceredigion and Monmouthshire had no LSOAs in the most deprived 10%. Only 15.2% of the LSOAs in Ceredigion were in the most deprived 50% in Wales. Blaenau Gwent had the highest proportion of LSOAs in the most deprived 50% in Wales (95.7%). The next highest was Merthyr Tydfil, with 86.1% of its LSOAs in the most deprived half of Wales.

Figure 4-5 shows the deprivation levels of the LSOAs in Wales with regard to Health Domains.

Figure 4-5 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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November 2019
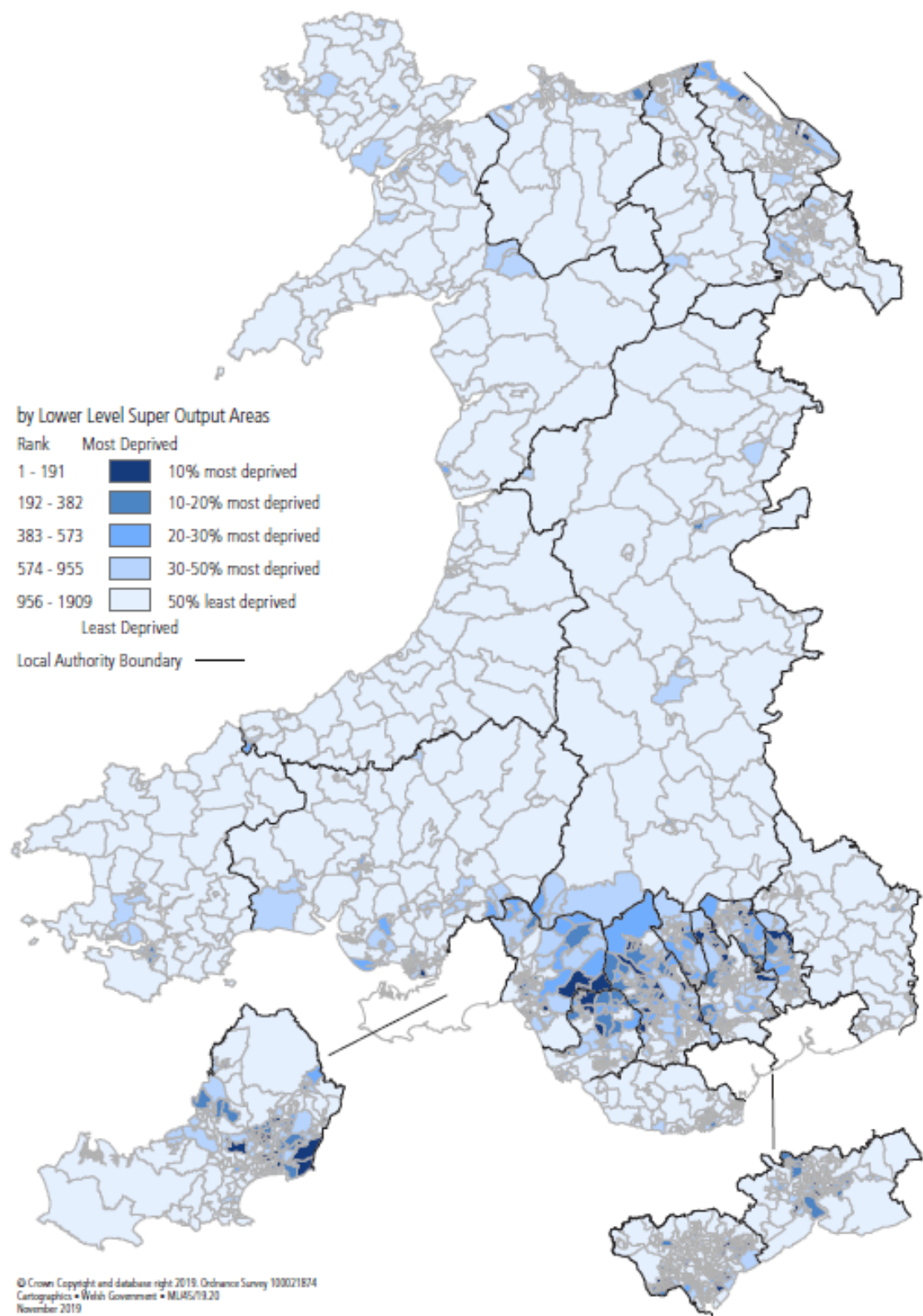
Source: WIMD 2019

4.1.2 Population

Relevance to the WTS

An equal society in Wales can help to ensure that public transport services are fair and accessible to all and completely inclusive. The WTS could contribute positively towards making more fair and inclusive societies. Further detail is provided in section 4.1.3.

Baseline conditions and trends

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:

Percentage of Ethnic Groups

The ethnic make-up of the Welsh local authorities compared to national figures is shown in Table 4-2 below.

Table 4-2 Percentage of Ethnic Groups in Wales and local authorities

Area	All categories: Ethnic group	White (%)	Mixed (%)	Asian (%)	Black (%)	Other (%)
United Kingdom	63,182,178	87.2	2.0	6.9	3.0	0.9
Wales	3,063,456	95.6	1.0	2.3	0.6	0.5
Anglesey	69,751	98.2	0.7	0.7	0.1	0.3
Blaenau Gwent	69,814	98.5	0.6	0.7	0.1	0.1
Bridgend	139,178	97.8	0.7	1.1	0.2	0.2
Caerphilly	178,806	98.3	0.7	0.8	0.1	0.1
Cardiff	346,090	84.7	2.9	8.1	2.4	2.0
Carmarthenshire	183,777	98.1	0.6	1.0	0.2	0.2
Ceredigion	75,922	96.7	1.0	1.4	0.4	0.5
Conwy	115,228	97.7	0.8	1.1	0.2	0.3
Denbighshire	93,734	97.4	0.8	1.5	0.2	0.1
Flintshire	152,506	98.5	0.6	0.8	0.1	0.1
Gwynedd	121,874	96.5	0.8	1.8	0.2	0.7
Merthyr Tydfil	58,802	97.6	0.8	1.2	0.2	0.2
Monmouthshire	91,323	98.0	0.7	1.0	0.2	0.1
Neath Port Talbot	139,812	98.1	0.7	1.0	0.2	0.1
Newport	145,736	89.9	1.9	5.5	1.7	1.0
Pembrokeshire	122,439	98.1	0.6	1.0	0.1	0.2
Powys	132,976	98.4	0.6	0.9	0.1	0.1
Rhondda Cynon Taf	234,410	97.4	0.6	1.3	0.6	0.1
Swansea	239,023	94.0	0.9	3.3	0.8	1.0
The Vale of Glamorgan	126,336	96.4	1.3	1.6	0.4	0.3

Area	All categories: Ethnic group	White (%)	Mixed (%)	Asian (%)	Black (%)	Other (%)
Torfaen	91,075	98.0	0.7	1.1	0.2	0.1
Wrexham	134,844	96.9	0.7	1.7	0.5	0.2

Source: 2011 Census – Nomis

In 2011, Wales had 8% more of its population who were white compared to the rest of the United Kingdom and a lower percentage of people who were Asian, black, mixed or other. The white ethnic group is dominant across all of the local authorities. The urban areas of Cardiff and Newport have a slightly more multicultural population and their percentages of white persons compares similarly with the UK figures.

Limiting long term illness or disability by local authority

Figure 4-6 shows the extent of illness or disability by local authority in Wales. In all cases, the majority of residents do not have an illness or disability that limits their day-to-day activities. The trend of results on a national scale for Wales is similar to that of the local authorities with 11.9% limited a lot and 10.8% limited a little. However, levels in Wales were slightly higher than that of England with 8.3% limited a lot and 9.3% limited a little in England (ONS).

Figure 4-6 Limiting long term illness or disability by local authority
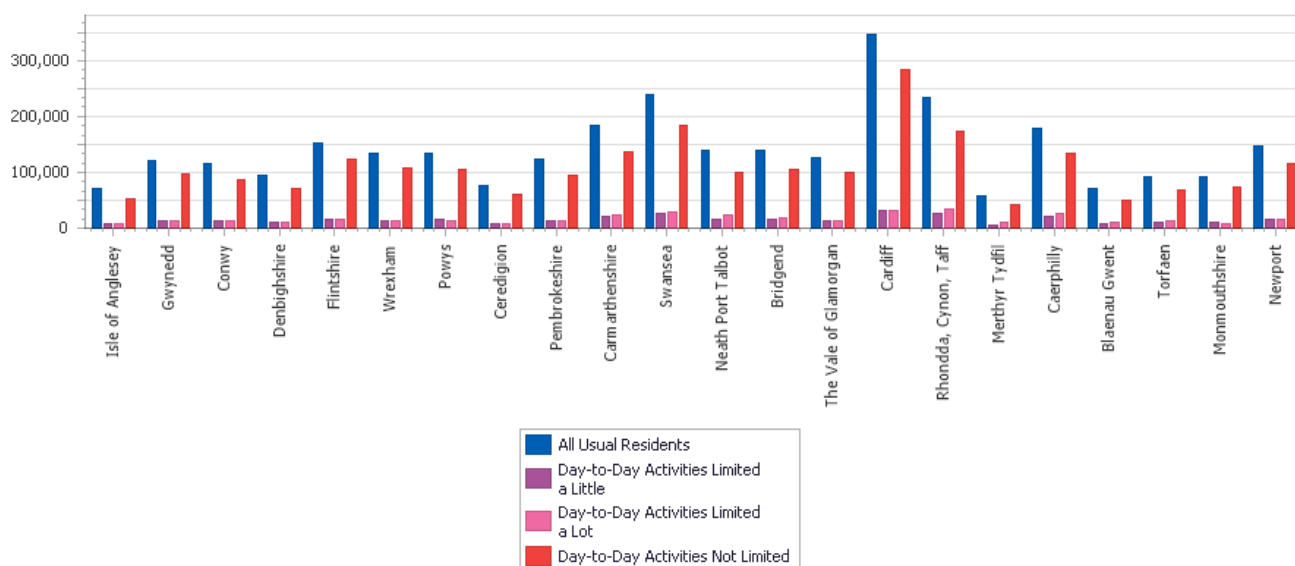
Source: StatsWales (2011)

Population Age Structure

Wales' population age structure for 2011 is shown in Figure 4-7. It shows the dominant age group is 45 – 64 years old. The results would also suggest that Wales is an 'ageing' population with the higher figures leaning towards the older age groups. The number of people aged 65 and over is projected to increase by 292,000 (44%) between 2014 and 2039 (ONS). The 2009 Older People's Wellbeing Monitor identified that 44% of older people in Wales had a limiting long term illness or disability.

In local authority terms, the majority of the authorities have a higher population between 25 and 64 with a fairly even split between the 25-44 and 45-64 age groups. Cardiff has a considerably higher proportion of 25-44 year olds.

Figure 4-7 Resident Population in Wales by broad age group
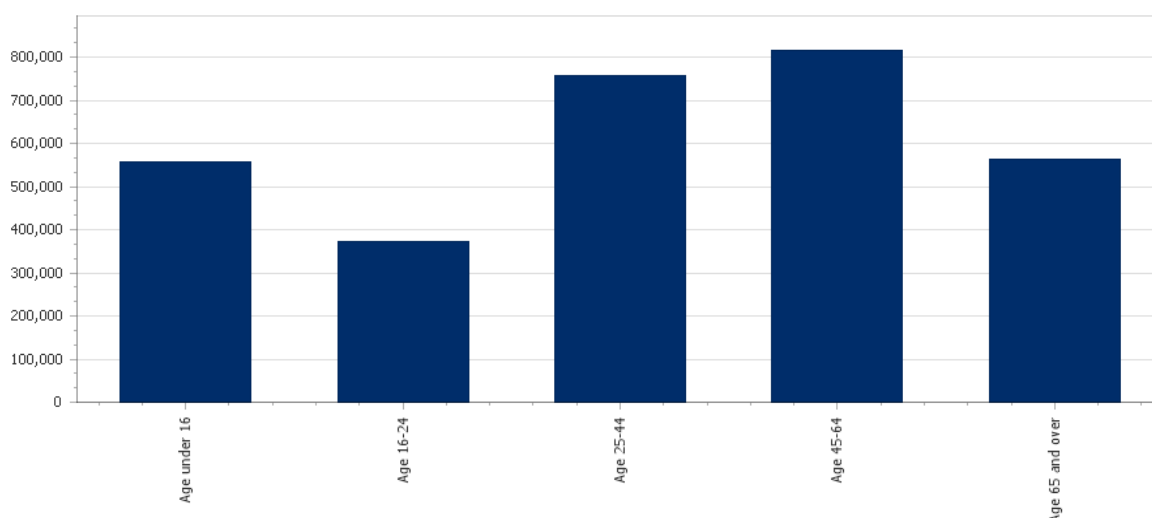
Source: StatsWales

Net Migration Trends

Net migration in Wales has fluctuated over the past 12 years. Between 2012 and 2013 showed a considerable upturn in net migration (14,000) compared to the preceding years. Figure 4-8 shows the changes of migration in Wales over 16 years[32].

Figure 4-8 Migration in Wales between 2001 and 2017
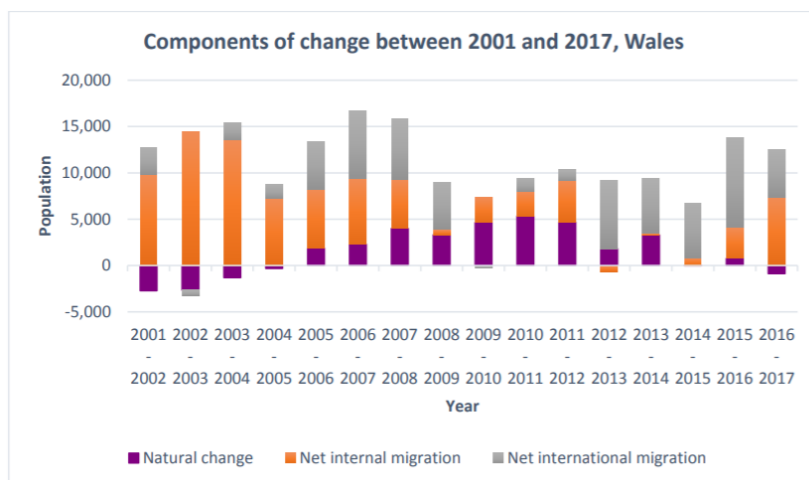
Source: Bevan Foundation, 2018

Gender

Travel by public transport is highly gendered. In 2017 it was found that in England, a third more women than men travelled by bus and a third more men than women travelled by rail. Overall, expenditure on UK public transport (2016/17) was £29.1bn. This includes spending on national and local roads, public transport and national rail. 54% of this was spent on rail, compared to 8% on 'public transport' including local buses. The

[32] Bevan Foundation (2018) Demographic trends in Wales. Available at: https://www.bevanfoundation.org/wp-content/uploads/2018/11/Demographic-trends-FINAL.pdf [Accessed: 12.02.21]

vast majority of politicians and policy makers involved in high level decision making about public transport are white men[33].

Gender Pay Gap

In 2019 the gender pay gap in Wales increased to 14.5%, this is a 1% increase on the 2018 figure of 13.5%, but still remains below the UK average of 17.3%[34].

4.1.3 Links between transport, population and health of relevance to the study area

The identification of links between transport systems and health, covering health determinants, pathways and outcomes are presented in Table 4-3. This analysis has informed the identification of potential health impacts of the Scheme on identified vulnerable groups during construction and operation (Section 7).

The following definitions have been adapted:

a) Health Determinants: Factors that cause outcomes and influence our state of health. Factors are personal, social, cultural, economic and environmental. They include our physical environment, income, employment, education, social support and housing (Birley, 2011);

b) Health Pathways: Routes leading to a change in determinant which affect the health risks (the probability that a particular harm will occur) (Birley, 2011); and

c) Health Outcomes: medically defined states of disease and disability, as well as community defined states of wellbeing (Birley, 2011).

Table 4-3 identifies potential linkages between transport schemes and health, based on findings from research. However, the MRC Guide advocates that the findings from research be assessed against the local profile and qualitative evidence, to determine whether these findings are likely to be applicable.

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[33] Women' Budget Group (2018) Public Transport and Gender. Available at: https://wbg.org.uk/analysis/2018-wbg-briefing-transport-and-gender/ [Accessed: 12.02.21]
[34] Chwarae Teg (2019) Wales' Gender Pay Gap. Available at: https://chwaraeteg.com/news/wales-gender-pay-gap-increases/ [Accessed: 12.02.21]

Table 4-3 Health determinants, pathways and outcomes

Relevance to the WTS: Health Determinants, Pathways and Outcomes Relevant to Transport Schemes

Determinant and Explanation	Pathways	Health Outcomes
Accessibility to transport options and community facilities Accessible and affordable transport, enabling good access to education, employment, fresh food, friends and family, leisure and health services, enhances general physical health and wellbeing. Accessibility is a critical component of locally-based travel, which is influenced by socio-economic activity. Poor transport provision disproportionately affects lower-income groups and vulnerable groups and can lead to social exclusion and contribute negatively to quality of life and health. Specific groups include teenagers, older people, job seekers, and people living in rural locations. Car ownership amongst vulnerable groups is low. Therefore, the availability of other transport options is important for the wellbeing of vulnerable social groups.	**Construction** Transport routes and modes can be adversely affected by construction activities. There can be disruption and reduced access to existing transport modes and routes from route closures and diversions.	**Construction** Limited and disrupted accessibility may reduce access to amenities and services, adversely affecting general physical health and wellbeing. This is due to greater difficulties in travelling to the service or amenities and the increased stress caused by the disruption while travelling. Research shows that journey duration, predictability and convenience appear to be associated with lower stress levels.[35] Disruption to pedestrian routes may result in a temporary increase in local traffic and congestion.
	Operation Transport schemes can lead to an increase in the provision of public transport use and an improvement of the walking/cycling environment. This can lead to a reduction in car usage.	**Operation** The identified pathways can lead to improvement in physical fitness, physical health and mental wellbeing.
Risk of injuries and deaths and highway user stress Road traffic accidents are a significant cause of mortality, disability and serious injuries across all age groups.[36] Since the development of the DMRB methodology, understanding of the principal factors which cause driver stress has developed. Frustration at the inability to drive at a constant speed, as well as unreliable journey times, are now considered to represent factors of increased importance in assessing driver	**Construction** Increased construction traffic in residential area and alteration to existing traffic routes and patterns, can increase the risk of injury as a result of increase traffic levels and an unawareness of altered traffic movements. The risk of highway user stress could be increased during construction activity.	**Construction** Vulnerable road users, including motorcyclists, older drivers, children, pedestrians, new drivers and cyclists, may be at more risk of injury due to increased construction traffic and altered traffic movements. Highway user stress could be increased during construction activity.

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[35] MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine, *Health Impact assessment of Transport Initiatives: A Guide*, 2007, p34

[36] Eastern Region Public Health Observatory, *Transport, Access and Health in the East of England, 2005, p16-23*

Determinant and Explanation	Pathways	Health Outcomes
stress.	**Operation** Transport schemes can improve road safety, which can improve actual and perceived road safety. Highway user stress can be improved by the introduction of transport schemes.	**Operation** There can be a reduction in traffic-related injury and death and the risk of such. Vulnerable groups are similar to the ones identified for the construction stage. Highway user stress can be improved by the introduction of transport schemes.
Active travel Walking and cycling are physically active forms of transport. A supportive and safer environment for physical activity is a decisive factor in stimulating uptake. High quality, accessible new routes for pedestrians and cyclists with appropriate and safe crossing points are vital.	**Construction** Increased disruption, altered traffic movements and perception that routes have become unsafe can reduce active travel.	**Construction** Reduced levels of active travel may lead to increased prevalence of sedentary lifestyles, proven to increase risks of many preventable health conditions, including cardiovascular disease, obesity, osteoporosis and depression.[37]
	Operation Transport schemes can enhance walking and cycling through new and more accessible, attractive and improved walking and cycling routes.	**Operation** An increase in active travel would increase the rate of physical activity leading to a potential improvement in wellbeing and improvement in physical fitness. This could lead to a decrease in conditions related to sedentary lifestyles.
Access to green space and land blight Studies[38] have shown that exposure to the natural environment, or green space, has an independent effect on health and health-related behaviours.	**Construction** Transport schemes may lead to disruption of the normal uses of, or reduced access to, and potential loss of, green space. This can reduce the use of green space and have a negative aesthetic impact on the use and perception of the green space.	**Construction** Green space can affect health by inducing beneficial physical activity and by ameliorating stress level. Reducing or disrupting access to green space may therefore have negative health consequences. The fear of land being blighted by the proposals may lead to an increase in stress and affect wellbeing.

[37] Health Scotland, MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine, *Health Impact assessment of Transport Initiatives: A Guide*, 2007, p18
[38] Mitchell, R and Popham, F, *Effect of exposure to natural environment on health inequalities: an observational population study,* 2008

Determinant and Explanation	Pathways	Health Outcomes
	Operation Transport schemes can encourage active travel and improve access to local amenities, including green spaces. However, transport schemes could also lead to a loss of green space due to land-take.	**Operation** An increase in access and interaction with green spaces could lead to an improvement in mental health and wellbeing. It would also lead to an improvement in physical fitness, and a potential decrease in conditions related to sedentary lifestyles or air pollution. Loss of green space could cause the reverse of the above, as well as generate blight. This could have a further negative effect on wellbeing and health.
Air pollution Road traffic is a main source of air pollution. Pollutants that adversely impact health from road traffic include particulate matter (PM) and nitrogen dioxide (NO_2).	**Construction** Construction activities can have a short term negative impact on air quality. There can be dust from site works and construction vehicles carrying site materials or waste along with exhaust emissions from construction and other traffic due to road disruption and diversions.	**Construction and Operation** Increases in outdoor air pollution can lead to increased cardiovascular and respiratory mortality and morbidity. Some effects are more or less immediate and affect vulnerable groups (e.g. children or people whose health is already impaired) in particular, whereas the effects of long term exposure are more widespread. PM is the constituent most closely associated with adverse health effects. Some evidence shows that PM from traffic is more toxic (per unit mass) than PM from other sources.[39] A reduction in air pollution can reduce the above adverse health effects.
	Operation Transport schemes can increase car or motor vehicle usage leading to an increase in air pollution. They can also reduce car usage, which in turn could reduce air pollution. Increased efficiency of the road network could also lead to an overall neutral effect on air pollution, as although motor vehicle usage may increase, there may be less congestion.	
Noise pollution and vibration Motorised forms of transport are a common source of noise pollution.	**Construction** Construction activities can lead to an increase in localised noise and vibration.	**Construction and Operation** Noise pollution and vibration at the levels generated by traffic can lead to annoyance, interference with speech and sleep disturbance. It can also have

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[39] MRC Social and Public Health Sciences Unit and Institute of Occupational Medicine, *Health Impact assessment of Transport Initiatives: A Guide*, 2007, p26-31

Determinant and Explanation	Pathways	Health Outcomes
	Operation Transport schemes can increase noise pollution and vibration through increase motor vehicle usage and the construction of new road and rail routes. They can also reduce noise and vibration by encouraging a shift from cars to active travel and public transport or through smoother traffic flows.	cardiovascular and physiological effects. Stress has been suggested as a possible mechanism through which noise may affect mental and physical health. Evidence suggests noise pollution may limit children's learning. An improvement in mental and physical health may result during operation, should noise and vibration levels decrease.
Soil and water pollution Surface water run off containing particles from car tyres, brake linings and road surfaces contribute to the spread of hazardous substances in the environment and impact on water and soil quality. Oil and vehicle fuel also contain harmful organic substances.	**Construction and Operation** Potential for localised contamination can occur during the construction period from construction spills and road run off. Road construction activities can bring about changes in groundwater levels and pollute nearby waterbodies. During operation, potential for pollution as a result of drainage contaminated with vehicle emission particulates and grit/salt spreading residues. Also, potential contamination as a result of fuel/chemical spillages following major traffic accidents.	**Construction and Operation** Soil and water pollution can lead to public health impacts directly when people come into contact with water and soil through recreation activities and or indirectly through the use of water for gardens or other green spaces.
Quality of life Quality of life is typically measured using a range of indices, encompassing health, happiness, prosperity, arts, safety, community, public realm, access to transport, access to green space, diet, etc.	**Construction** A combination of all pathways. Light pollution could result from an increase in lighting relating to construction activities.	**Construction** A combination of all outcomes. There is evidence showing that exposure to light at night can lead to associated problems including psychological stresses; increased cancer rates; disruption in sleeping patterns; and negative impacts on immune systems. Glare from poorly shielded outdoor lighting is also harmful to health, because it decreases vision by reducing contrast. This limits our ability to see potential dangers at night. Aging eyes are especially affected.

Determinant and Explanation	Pathways	Health Outcomes
	Operation Increasing the accessibility of transport options can lead to an increase in access to education, employment facilities, health and social care facilities, leisure facilities, and family and friends. This could improve quality of life. Community severance could reduce accessibility and hence reduce quality of life. Light pollution could result from an increase in lighting as part of transport schemes, particularly new infrastructure such as roads.	**Operation** Increased quality of life can improve wellbeing and mental health and vice versa. There is evidence showing that exposure to light at night can lead to associated problems including psychological stresses; increased cancer rates; disruption in sleeping patterns; and negative impacts on immune systems. Glare from poorly shielded outdoor lighting is also harmful to health, because it decreases vision by reducing contrast. This limits our ability to see potential dangers at night. Aging eyes are especially affected.
Personal safety and perceptions of safety More segregated spaces with limited natural surveillance may lead to enhanced fear of crime.[40]	**Construction** During construction, the perception of safety along routes could decrease due to the removal of open spaces, presence of site hoardings, construction activities, access diversions, a reduction on the attractiveness of walking and cycling, decreased interaction with other people (as construction reduces access and prevents people from walking or cycling) and the general construction environment generating noise/vibration, which may create the perception that the area is unsafe.	**Construction** Fear of crime and perception of safety can be an important factor influencing travel choices. Women's fear is generally greater than men's. Women are therefore more likely to avoid segregated spaces and disrupted routes. Older people and people with disabilities may also avoid disrupted routes. Personal safety may also affect decisions to walk or cycle. This has implications for public health directly (fear of crime) and indirectly (decrease in active lifestyle).
	Operation Transport schemes can enhance actual and perceived safety through road safety improvements and increase natural surveillance. They can also enable more strangers to travel through an area which can reduce perceived safety. However, the use of underpasses could increase the fear or crime and reduce usage, in comparison to bridges.	**Operation** In addition to the above, an increased use of public transport during operation could increase interaction with other people, which could increase perceptions of a safer community through natural surveillance. This could reduce stress and improve mental wellbeing. Improvements to the walking and cycling environment should also increase perceptions of safety.

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[40] Hillier, B. and Sahbaz, O, Crime and Urban Design, 2009 In: Cooper, R. Evans, G. and Boyko, C. Designing Sustainable Cities, 2009

Determinant and Explanation	Pathways	Health Outcomes
Social interaction and community severance There is an observed relationship between positive social capital and health. Well-connected and walkable neighbourhoods can enhance social capital by increasing co-presence and encounter opportunities, which are vital for interaction.	**Construction** During construction, there could be a decrease in access to services and amenities resulting from road closures/diversions and disruption to traffic and road flows. Construction can decrease transport mode and route options and can increase the cost of travel. There is also a risk of communities being severed by the construction traffic routes through an increase in the levels of traffic.	**Construction** Community severance can result from the divisive effects of major roads and railways running through an existing community including through the construction of new routes or increased traffic on existing routes. Potential severance during construction can lead to a decrease in interaction with other people. This can be of particular importance to those who rely heavily on local social networks e.g. older people and parents with young children. Reduced social interaction and increased community severance can reduce wellbeing and mental health as well as lead to reduced active travel and reduced physical fitness and a potential increase in obesity and cardiovascular disease.
	Operation Enhanced connectivity and new travel modes and route options could increase social interaction and reduce community severance. However, new routes through or near existing communities could increase community severance and reduce social interaction.	**Operation** An increase in social interaction and reduced community severance could improve wellbeing and mental health as well as lead to increased active travel and improved physical fitness. This could improve physical and mental health.
Climate Change Greenhouse gases (GHGs) from transport contribute to climate change.	**Construction** During construction, increased vehicle movements from construction vehicles and car movements, as well as the embodied energy in construction materials, can lead to an increase in fossil fuel use and an increase in GHG emissions.	**Construction** Climate change consequences, at local level, are likely to affect the health of the population, particularly with an increase in flooding, summer temperatures, levels of solar radiation and frequency of extreme weather events leading to, for example, increased levels of fatalities, injuries, infectious diseases, heat related deaths, skin cancer cases and cataracts.
	Operation Transport schemes may reduce the efficiency in the use of roads or a reduction in car usage. These aspects could decrease the use of fossil fuels, which could lead to a reduction in GHG emissions.	**Operation** In addition to the above, a reduction in GHG emissions could have positive implications for public health.

Determinant and Explanation	Pathways	Health Outcomes
Employment The implementation of infrastructure projects generates new employment opportunities. Employment is a positive factor for health, providing financial security, promoting equality and contributing to self- esteem.	**Construction** New employment opportunities can be generated by construction activities. **Operation** Transport schemes may improve access to employment opportunities for various social groups.	**Construction and Operation** The HUDU planning tool states that unemployment generally leads to poverty, illness and a decrease in personal and social esteem. People in employment are healthier, particularly those who have more control over their working conditions. Employment is also associated with income, a feeling of security, increased friendship networks and social status. In turn, these are linked to better health. These positive impacts are particularly important at a time where economic downturn is recent, which may have had negative effects on mental health.

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

4.1.4 Vulnerable or Priority Groups

An 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 HUDU guidance.

Vulnerable sub-groups are more likely to be susceptible to the WTS's impacts than other social groups due to various factors as explained in Table 4-4. Other wider target groups including adults and professionals and the general population living in Wales may also be impacted by the WTS.

Table 4-4 Vulnerable or Priority groups and health outcomes related to the WTS

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. Over half of children will walk to school for at least part of the week and 40 %will travel by bus. Bus travel is important for young people to access college, leisure facilities and work. Affordability of travel is an issue for younger people. 16-24 year olds have higher risk of becoming a road casualty. They represent 12 percent of the population but 25 percent of fatal and serious casualties. The WTS contains schemes to improve active travel opportunities, support and improve access to key services by bus, address affordability of bus fares for young people and reduce road casualties.
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 2011/12 indicate 80 percent of men and 67 percent 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 percent compared to 85 percent of men) and more likely to travel by bus (6 percent compared to 3 percent). 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

Vulnerable/ Priority Group	Explanation and Health Outcomes
	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. In2016/17, 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, 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 (50+)	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 modes and route options.
	Around 48 percent of pensioner households do not have access to a car compared to 26 percent of all households. The WTS contains commitments to provide funding to support socially necessary services and continue a concessionary fares scheme for older people. Public and Community Transport services provide access to key services including health but also enable improved social interaction for older people helping to tackle chronic loneliness.
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 (6 out of 10 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

Vulnerable/ Priority Group	Explanation and Health Outcomes
	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 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%); and
	• 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.[41] 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.[42]
Black, Asian Ethnic Minority people	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

[41] 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

[42] 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

Vulnerable/ Priority Group	Explanation and Health Outcomes
	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). Schemes to improve public transport, including personal safety at waiting facilities and on vehicles, and the availability and accessibility of public transport information in the WTS will impact positively on all public transport users including those from minority ethnic backgrounds.

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[43] as well as the National Transport Finance Plan 2015 – Impact Assessments [44]

Data Gaps

- Up to date national data relating to access to open space.
- Up to date data regarding the specific distribution of hospital or healthcare facilities in Wales.
- Information relating to the potential impact of the WTS on transgender people.
- Information relating to the potential impact of the WTS on people by religion and belief or non-belief.
- Information relating to the potential impact of the WTS on people by sexual orientation.
- Information relating to the potential impact of the WTS on Asylum Seekers and Refugees.
- Information relating to the potential impact of the WTS on Gypsies and Travellers.
- Information relating to the potential impact of the WTS on Migrants.
- Impact of health emergencies on transport.
- 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.
- There are also relevant data gaps to be considered from the data collated from the 2011 Census, as it may not be accurate to the current population and these figures will not be updated until 2021/2022.
- Information relating to the percentage of men and women using different modes of public transport within Wales.
- For all data collected, there may be gendered differences that are not reflected in the sources they were collected from.

4.2   Key Issues relevant to the WTS and opportunities for it to address them

Issues

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 the country and in particular access to services is varied, being good in more urban areas, notably the south, but relatively poor across much of rural Wales. Although the health of those living in rural communities is generally good compared to those of urban environments.

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

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[43] The APHO website includes the SBL report as a good practice example of an HIA for a road project. Available at: http://www.apho.org.uk/resource/item.aspx?RID=136453 [Accessed: 12.02.21]
[44] Welsh Government (2015) National Transport Finance Plan 2015 Impact Assessments. Available at: https://gov.wales/sites/default/files/publications/2017-08/national-transport-finance-plan-2015-impact-assessments.pdf [Accessed: 12.02.21]

parts of rural Wales. Public transport is 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.

The transport system could be put under strain through a projected increase in net-migration mainly from within the UK and with urban areas projected to see greatest increase.

Increasing levels of those aged 65 and over could present pressures across the country (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.

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.

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.

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

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

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

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.

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.

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.

Minorities are more likely to live in a household without a car and so will be more reliant on public transport. 77 racially aggravated offences took place across three years on British railways. The WTS must provision for the safety and inclusion of minorities across all modes of public transport.

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 WTS must make 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.

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 gender pay gap overall is increasing within Wales. The WTS must ensure that men and women working for the transport system are paid equally for carrying out the same job.

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.

Opportunities

Overall, the WTS could help to achieve the important balance of economic and social improvement that is also sustainable and respects the country's valuable natural and cultural environment.

The WTS 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.

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.

The WTS 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).

Overall, the WTS 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 WTS 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.

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 WTS.

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

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

'Attractive, viable, safe and well-connected communities.'

The data relates primarily to:

- Crime and Safety

5.1 Overview of Baseline Conditions

5.1.1 Crime and Safety

Relevance to the WTS

The creation of cohesive communities which are attractive, well-connected, safe and meet the needs of the population are important for Wales and the Wales Transport Strategy. The WTS has a key role to play in helping to guide decisions through the planning process 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.

Baseline Conditions and trends

Percentage of people feeling safe at home, walking in the local area and when travelling

In 2019, In the National Survey[45], people were asked how safe they felt in a variety of situations after dark:

- 81% of people said they felt safe walking alone in their local area after dark;
- 97% of people felt safe at home after dark;
- 79% of people felt safe on public transport after dark; and
- 97% of people felt safe travelling by car after dark.

Percentage of people satisfied with the local area as a place to live

In 2019, the National Survey 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.

- 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.

Latest figures for year ending September 2019[46] show the total crime rate per 1000 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 September 2018 figures are as follows (Source ONS):

- Total Vehicle related theft – 45/1000 (-5%)
- Theft from vehicles – 33/1000 (-4%)
- Theft of vehicles – 3/1000 (-19%)
- Theft attempts of and from vehicles – 9/1000 (-2%)
- Criminal damage to a vehicle – 36/1000(-8%)

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[45] 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: 12.02.21]

[46] ONS (2020) Crime in England and Wales: year ending September 2019. Available at:
https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingseptember2019 [Accessed: 12.02.21]

- Bicycle theft – 25/1000 (-2%)

In the report, Family Spending in the UK: April 2017 to March 2018[47], it was found that the top spending category in Wales is transport, with households in Wales spending 15% of their total expenditure in this category, this mirrors the statistic that 85% of households in Wales owned a car or van in this three-year period. Households in Wales spent an average of £25.80 a week on the purchase of vehicles, which was 5% of total expenditure.

Crime on the rail network in Wales in 2017-18 increased by 15% 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%[48].

Transport user's satisfaction

Passenger satisfaction figures were collected by the National Passenger Survey (NPS)[49], in a report called 'Overall passenger satisfaction with their journey on Arriva Trains Wales', it was found that in August 2018, 7% of passengers were dissatisfied with the service, 11% were neither satisfied nor dissatisfied and 82% were satisfied with the service. Across all regional operators 79% of passengers were satisfied with the service.

A study of Public Service Vehicles (buses and taxis) found that bus fares in Wales increased by 3.6% from 2017 to 2018[50].

Road accidents by area by year and people killed or seriously injured on roads

In 2018, 103 people were killed (2 more than in 2017) and 1,028 people seriously injured on Welsh roads (69 more than in 2017).

In 2018, there were 4,215 road accidents in Wales involving personal injury recorded by the police, a reduction of 333 on 2017 (7.9% reduction). These recorded accidents resulted in 5,759 casualties.

Although there has been a slight increase in road traffic deaths and serious injuries, the number of road traffic accidents in general in Wales is trending downwards as the volume of traffic on the roads is trending upwards.[51]

In 2019 police forces in Wales recorded 4,317 road accidents involving personal injury. These recorded accidents resulted in 5,789 casualties[52], an increase from 2018.

Within the 5,789 casualties:

- 98 people were killed, 10 fewer (9.2% lower) than in 2018.

- 1,092 people were seriously injured, 63 more (6.1% higher) than in 2018.

- 4,599 people were slightly injured, 32 fewer (0.7% lower) than 2018.

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[47] ONS (2019) Family spending in the UK: April 2017 to March 2018. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2018#spending-levels-on-transport-in-fye-2018-remained-similar-to-fye-2017 [Accessed: 12.02.21]
[48] 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: 12.02.21]
[49] Stats Wales. Overall passenger satisfaction with their journey on Arriva Trains Wales by time of survey. Available at: https://statswales.gov.wales/Catalogue/Transport/rail/rail-transport/overallpassengersatisfactionwiththeirjourneyonarrivatrainswales-by-timeofsurvey [Accessed: 12.02.21]
[50] 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: 12.02.21]
[51] Welsh Government (2019) Police recorded road accidents, 2018. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-06/police-recorded-road-accidents-2018.pdf
[52] Welsh Government (2019) Police recorded road accidents: 2019 (revised). Available at: https://gov.wales/police-recorded-road-accidents-2019-html [Accessed: 12.02.21]

Railway Incidents

In 2017, there were 13 railway fatalities, 11 of which were suicides.

In 2017-18 there were 1,369 notifiable offences reported on Welsh railways, an increase of 15.3 per cent from previous years[53].

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.

5.2 Key Issues relevant to the WTS and opportunities for it to address them

Issues

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.

The number of deaths on the road is remaining consistent year to year when it should be improving, more efforts should be made to provision the safety of drivers and other road users as much as possible.

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.

Rural isolation and loneliness can lead to mental health problems, this can be caused by a less accessible transport system reducing access to communities, but also cars travelling through communities can sever communities and promote isolation.

When people are travelling, they should be able to do so without the fear or threat of crime.

Opportunities

The WTS 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 WTS 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-occupancy car journeys, the risk to non-motorised users could be reduced and the issue of isolation be lessened.

The WTS 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.

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[53] 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: 12.02.21]

6 Well-Being Goal: A Wales of Vibrant Culture and Thriving Welsh Language

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.'

The data relate primarily to:

- Welsh Language;
- Landscape and Townscape Character; and
- Cultural and Heritage Assets.

6.1 Overview of Baseline Conditions

6.1.1 Welsh Language

Relevance to the WTS

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 WTS. Cymraeg 2050[54] sets out that Welsh-medium immersion education is our 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 – infrastructure and context.

The WTS 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 WTS 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 WTS 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 WTS there will be opportunities to promote the Welsh language through its use in station announcements, road signs and signs within rail and bus stations.

Baseline conditions and trends

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'[55] 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.

The Welsh language use survey is funded jointly by Welsh Government and the Welsh Language Commissioner. It provides information about Welsh speakers' use of the Welsh language. The average fluency across Wales is 29%, this can be seen in Figure 6-1 which shows the fluency of Welsh people across local authorities.

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

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[54] 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: 12.02.21]
[55] 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: 12.02.21]

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[56].

Attitudes towards the Welsh Language

In the National Survey for Wales 2017-18[57], Welsh Language: Confidence and attitudes, it was found that:

In terms of ability –

- 19% of adults aged 16 and over reported that they can speak Welsh, with a further 12% reporting to have some Welsh-speaking ability.
- Younger people aged 16 to 24 were most likely to be able to understand, speak, read and write Welsh.

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.

In terms of attitudes –

- 86% of people felt the language was something to be proud of.
- 67% 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.

The Annual Population Survey[58] (last updated January 2020) found the percentage of people who can speak Welsh by local authorities as per Figure 6-1.

The January 2014 Report of the Welsh Language and Economic Development Task and Finish Group to the Minister for Economy, Science and Transport[59] sets out 27 recommendations for how economic development, and the public sector, can assist with enhancing the Welsh language.

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[56] Working Group on the 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: 12.02.21]

[57] Welsh Government (2018) 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: 12.02.21]

[58] StatWales. Annual Population Survey - Ability to speak Welsh by local authority and year. Available at: https://statswales.gov.wales/Catalogue/Welsh-Language/Annual-Population-Survey-Welsh-Language/annualpopulationsurveyestimatesofpersonsaged3andoverwhosaytheycanspeakwelsh-by-localauthority-measure [Accessed: 12.02.21]

[59] 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: 12.02.21]

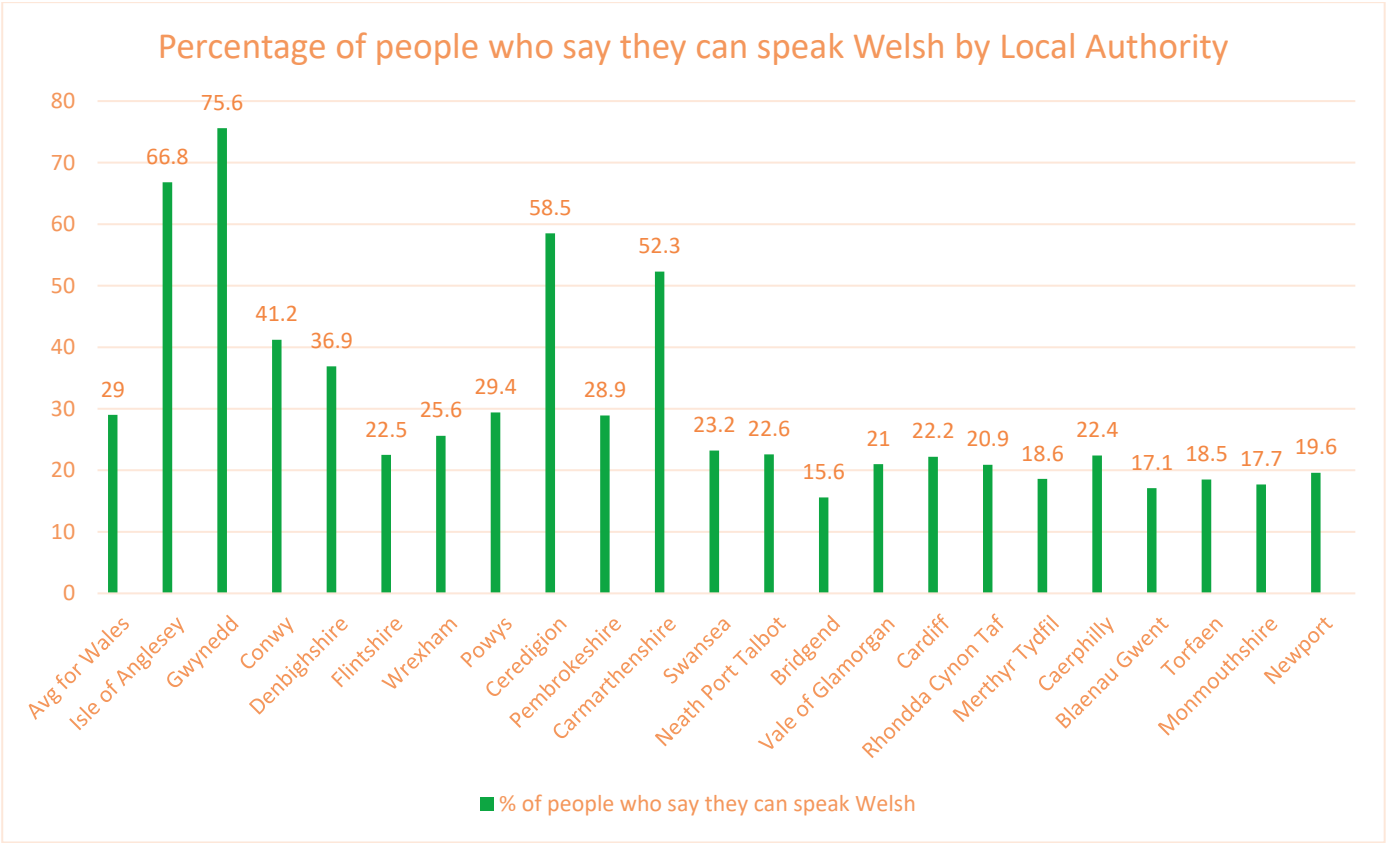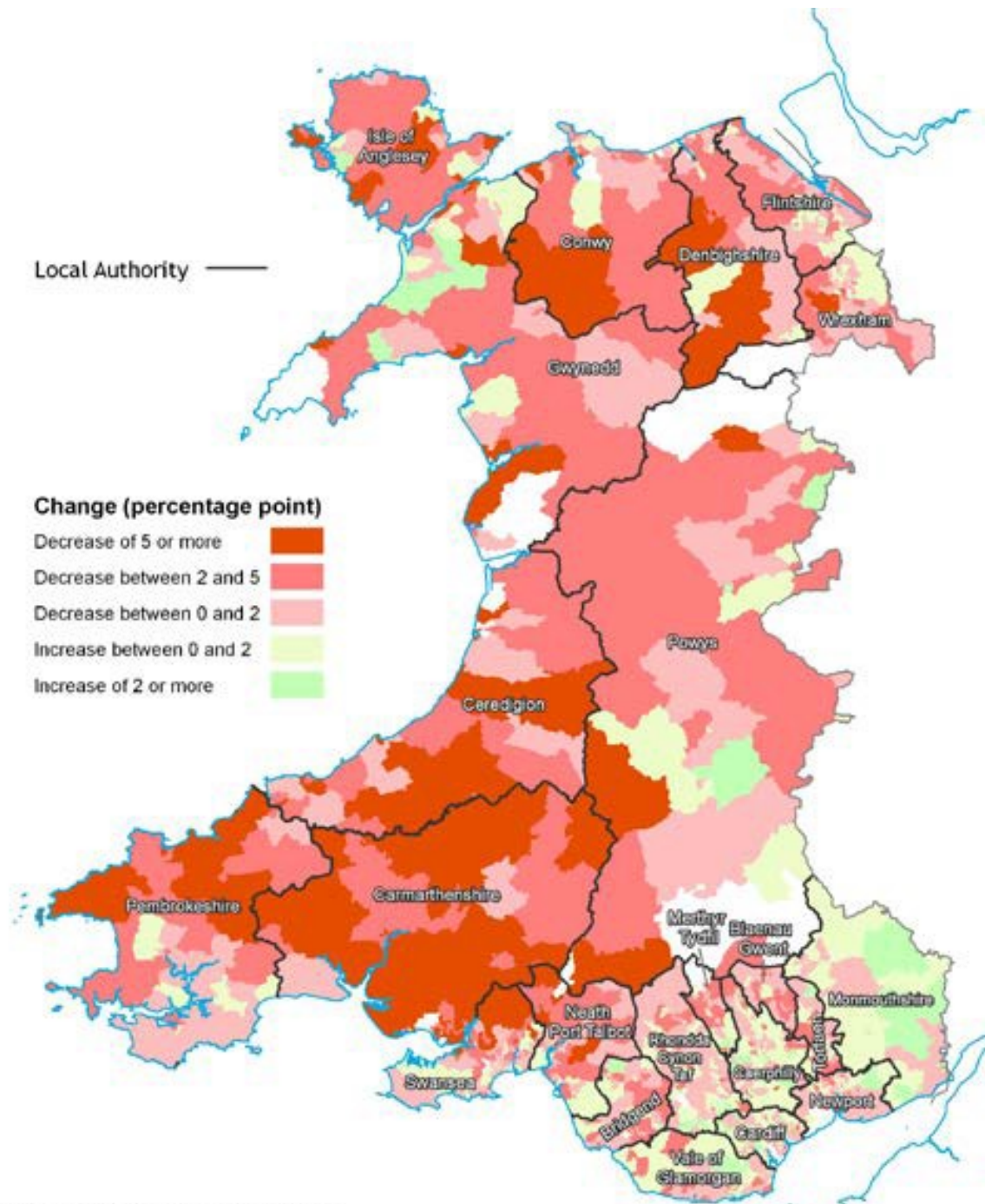*Figure 6-1: Percentage of Welsh Speakers who are fluent by local authority area*

Percentage of people who say they can speak Welsh by Local Authority

Avg for Wales: 29
Isle of Anglesey: 66.8
Gwynedd: 75.6
Conwy: 41.2
Denbighshire: 36.9
Flintshire: 22.5
Wrexham: 25.6
Powys: 29.4
Ceredigion: 58.5
Pembrokeshire: 28.9
Carmarthenshire: 52.3
Swansea: 23.2
Neath Port Talbot: 22.6
Bridgend: 15.6
Vale of Glamorgan: 21
Cardiff: 22.2
Rhondda Cynon Taf: 20.9
Merthyr Tydfil: 18.6
Caerphilly: 22.4
Blaenau Gwent: 17.1
Torfaen: 18.5
Monmouthshire: 17.7
Newport: 19.6

■ % of people who say they can speak Welsh

Figure 6-2 Change in proportion of people able to speak Welsh by LSOA, 2001 to 2011

Local Authority ———

Change (percentage point)

Decrease of 5 or more
Decrease between 2 and 5
Decrease between 0 and 2
Increase between 0 and 2
Increase of 2 or more

Source: 2001 Census 2011 Census

(a) Presented for LSOAs that did not change between 2001 and 2011 only.

193.12-13

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Llywodraeth Cymru
Welsh Government

Source: Cymraeg 2050[60]

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[60] 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: 12.02.21]

Data Gaps

There are no specific statistics found with regards to the satisfaction of Welsh speakers and their ability to travel using Welsh.

Data gaps relating to gendered and age differences in Welsh speakers.

Data gaps relating to access to Welsh Language education and the role transport plays

6.1.2 Landscape and Townscape Character

Relevance to the WTS

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.

These elements have been strongly shaped by human intervention and land-uses throughout history and the WTS will continue to play an important role in shaping this character through its guidance on transport infrastructure planning. Landscape, townscape and seascape character are important in terms of Wales' strong sense of place and cultural identity with close links to the tourism industry.

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.

Figure 6-3 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[61].

Figure 6-3 The range of factors generally considered to be part of landscape

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[61] 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: 12.02.21]

Baseline conditions and trends

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 (SoNaRR, 2016). The country is predominantly rural in character with 60% of the landscape defined as Field Pattern/Mosaic and 20% is categorised as Open Land (SoNaRR, 2016).

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.

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.

25% of Wales is designated as either national park or Area of Outstanding Natural Beauty.

Protected Landscapes

Within Wales there are three national parks; Brecon Beacons, Pembrokeshire Coast and 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. The locations of the national parks in Wales are presented on Figure 2 – Landscape Features.

Brecon Beacons

The Brecon Beacons National Park contains some of the most distinctive upland landforms in southern Britain. The Park covers 520 square miles (1344 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.

The national park is also home to 33,000 people, over 9,000 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[62].

Snowdonia National Park

The Snowdonia National Park takes its name from Snowdon which, at 1085m (3,560 feet), is the highest peak in Wales. The Snowdonia National Park is rich in landscape and townscape and has 60km of coastline. In addition to this, Snowdonia has extensive areas of woodlands and over 96,000 hectares of moorland. The landscape within the national park has been formed over millions of years. Since the end of the last Ice Age, 10,000 years ago, the interaction between people and nature has shaped the landscape of the national park and there are strong cultural associations between people and place. The traditional rural character of settlements is distinct to the national park and forms part of its historic landscape character. Fourteen towns and villages in Snowdonia have Conservation Areas and there are 1,900 listed buildings, 13 being Grade I and 116 buildings at Grade II*, there are also 21 Historic Parks and Gardens within the national park. The Welsh language is a fundamental part of the area's culture. Welsh is the spoken and written language of approximately 62% of the population of Snowdonia and in some communities the percentage is as high as 85%. The 2001 Census showed a population of 25,482, with a small increase to 25,745 in the Mid-2006 Population Estimates for national parks[63].

[62] Brecon Beacons National Park Authority (2013) Brecon Beacons National Park Authority Local Development Plan 2007-2022. Available at: https://www.beacons-npa.gov.uk/wp-content/uploads/Brecon-Written-Statement.pdf [Accessed: 12.02.21]
[63] Snowdonia National P Authority (2011) Eryri Local Development Plan 2007-2022. Available at: https://www.snowdonia.gov.wales/__data/assets/pdf_file/0026/224945/ELDP-Final_6-1-12.pdf [Accessed: 12.02.21]

Pembrokeshire Coast National Park

Pembrokeshire Coast National Park boasts some of the most spectacular scenery and diverse wildlife in Britain including internationally important nature reserves, geology and archaeology. 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[64].

In Wales, there are five AONBs: Anglesey, Gower, Llŷn, the Clwydian Range and Dee Valley and Wye Valley. See Figure 2 – Landscape Features.

Anglesey AONB

Designated in 1966 the Isle of Anglesey's AONB, has one of the most distinctive, attractive and varied landscapes in the British Isles[65]. It is also home to approximately 7,000 people. Some of the main features of the Anglesey AONB are:

- Low cliffs alternating with coves and pebble beaches;
- Sheer limestone cliffs interspersed with fine sandy beaches; and
- Stretches of sand dunes with beaches.

A number of the habitats found on Anglesey are afforded even greater protection both through UK and European designations because of their nature conservation value, these include:

- 5 Special Areas of Conservation;
- 3 Special Protection Areas;
- 1 National Nature Reserve;
- 31 Sites of Special Scientific Interest; and
- 75 Scheduled Monuments

Gower AONB

The Gower AONB was designated in 1956 for its classic limestone coast and the variety of its natural habitats, it was the first AONB designated in the UK. 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[66].

Pen Llyn AONB

The Pen Llyn was designated as an AONB in 1956, the third to be designated in the UK. The Llŷn Peninsula is renowned for its diverse and interesting coastline. The AONB encompasses around one quarter of the peninsula, a total of 15,500 hectares, mostly along the coast, but it also extends inland and includes prominent igneous protrusions. Llŷn, whose complex geology includes ancient pre-Cambrian rock formations, is a natural extension of the Snowdonia massif. The geology is typified by the wide variation of coastal landscapes, ranging from the steep cliffs of Aberdaron Bay and promontories to the sand dune systems in the Abersoch area. The highest point in Llŷn is the Eifl (564m) mountain range which levels out to a plateau that extends towards the sea and the black rocks of Mynydd Mawr at the tip of the Peninsula. The

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[64] The Pembrokeshire Coast National Park. Available at: http://www.pembrokeshirecoast.org.uk/?PID=552 [Accessed: 12.02.21]
[65] Isle of Anglesey County Council (2015) The Isle of Anglesey Area of Outstanding Natural Beauty (AONB) Management Plan Review 2015 – 2020. Available at: https://www.anglesey.gov.uk/en/Residents/Countryside/Areas-of-Outstanding-Natural-Beauty-AONBs/Anglesey-AONB-Management-Plan.aspx#:~:text=The%20Management%20Plan%20provides%20an%20opportunity%20to%20draw,qualities%20are%20conserved%20and%20enhanced%20for%20future%20generations [Accessed: 12.02.21]
[66] Swansea Council (2017) Gower Area of Outstanding Natural Beauty, Management Plan 2017. Available at: https://www.swansea.gov.uk/media/23445/Gower-Area-of-Outstanding-Natural-Beauty-Management-Plan-2017/pdf/Final_AONB_Management_Plan_English.pdf [Accessed: 12.02.21]

area is typified by narrow and winding roads, farms and whitewashed cottages and also includes open areas of ancient common land[67].

Clwydian Range and Dee Valley AONB

The Clwydian Range was designated as an AONB in July 1985, then in November 2011 the Welsh Government's Environment Minister confirmed a southerly extension to include much of the Dee Valley from Corwen to Newbridge along with stunning natural features such as the Eglwyseg Escarpment, Horseshoe Pass and Esclusham Mountain. At the same time the whole area became known as the Clwydian Range and Dee Valley AONB. Its special qualities include historic landmarks such as Pontcysyllte Aqueduct and Canal and the Iron Age hillforts that crown the Clwydian Range. They also include cultural and artistic inspirations such as the eisteddfodau held all over the area, its quarrying and mining heritage[68].

Wye Valley AONB

The rich combination of breathtaking views, impressive geology, historic legacies and diverse wildlife in the valley of the River Wye between Hereford and Chepstow led to the designation, in 1971, of the valley and adjoining plateaux and hills as an AONB. The Wye Valley AONB covers 92km (58 miles) of the lower reaches of the River Wye totalling an area of 327km². It stretches from Mordiford in the north, just east of the city of Hereford, southwards to the outskirts of Chepstow[69].

The location of AONBs in Wales are presented on Figure-002 Landscape Features.

Quality of Landscapes

The most detailed landscape baseline in Wales reporting on landscape state, condition and trend is LANDMAP. 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.

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.

Special Landscape Areas that identify areas of high landscape importance, often linked to LCAs, are identified by some authorities (SoNaRR, 2016) within Wales there are many of these landscapes designated.

Marine Character Areas

70% of Wales' coastline is designated or registered AONB, national park, Heritage Coast or Historic Landscape (Seascapes and Marine Planning in Wales, 2014). 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) (National Seascape Assessment for Wales, NRW Evidence Report 80[70]), the 50 Regional Seascapes (Welsh seascapes and their sensitivity to offshore developments, CCW Policy Research Report 08/5, 2009) and the local Seascape Character Assessments (SCA) of Pembrokeshire, Snowdonia and Ynys Mon provide comprehensive seascape information for Wales as a whole.

[67] Gwynedd Council (2015) Llŷn Area of Outstanding Natural Beauty, Management Plan, 2005-2020. Available at: https://www.ahne-llyn-aonb.org/Content/Upload/2015-2020-Management-Plan.pdf [Accessed: 12.02.21]
[68] Clwydian Range and Dee Valley Management Plan 2014 – 2019. Available at: https://www.clwydianrangeanddeevalleyaonb.org.uk/wp-content/uploads/2020/07/979717185-Clwydian-Range-and-Dee-Valley-AONB-Mgt-Plan-2016.pdf [Accessed: 12.02.21]
[69] Wye Valley Area of Outstanding Natural Beauty, Management Plan. Available at: https://www.wyevalleyaonb.org.uk/caring-for-wye-valley-aonb/management-plans/ [Accessed: 12.02.21]
[70] Natural Resources Wales. Marine Character Areas. Available at: https://naturalresources.wales/evidence-and-data/maps/marine-character-areas/?lang=en [Accessed: 12.02.21]

Landscapes of Historic Importance

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 compiled a Register of Landscapes of Historic Interest in Wales. 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 (Cadw).

Data Gaps

Data relating to transport within, to and from AONB's in Wales.

Data relating to transport to major cultural events in Wales.

6.1.3 Dark Skies and Tranquil Areas

Relevance to the WTS

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 WTS has a key role to play in helping to guide decisions through the planning of new transport networks.

Baseline Conditions and trends

Dark sky areas are a good indicator of very low light pollution. There are three locations in Wales that have been designated as part of the International Dark Sky Places Program. These are:

- Brecon Beacons National Park (Dark Sky Reserve status)
- Snowdonia National Park (Dark Sky Reserve status)
- Elan Valley Estate, Powys (A Silver-tier International Dark Sky Park)

The Countryside Council for Wales (now NRW) commissioned a tranquil areas assessment in 2009, following an earlier assessment in 1997. This identified 55% of Wales (11,600 km^2) as tranquil in 2009, a loss of 1500km^2 of tranquil landscapes from 1997.

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.

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.

Data Gaps

No significant data gaps have been identified for this topic at this stage.

6.1.4 Historic Environment, Cultural and Heritage Assets

Relevance to the WTS

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 identity.

The WTS has a key role to play in the provisioning of access, protection and enhancement of cultural heritage through guiding decisions made in the planning system. 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. 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.

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.

Baseline conditions and trends

Heritage assets in Wales are numerous. This section describes the key types of asset present.

World Heritage Sites

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.

Wales currently has three World Heritage Sites:

- The Castles and Town Walls of Edward I in Gwynedd at Caernarfon, Conwy, Beaumaris and Harlech in North-West Wales;
- Blaenavon Industrial Landscape in South-East Wales; and
- Pontcysyllte Aqueduct and Canal in North-East Wales.

Each of these cover large areas straddling a number of local authorities and have management plans which detail the planning policies of each authority regarding the protection of the World Heritage Sites. Some, such as Pontcysyllte, have buffer zones to add a supplementary degree of protection within the landscape adjacent to the site while others, such as Edward's Castles, have defined their Essential Setting and Significant Views within the management plan to protect the surrounding area. Each of the Welsh World Heritage Sites, their buffer zone, or their essential setting/significant view contain privately owned houses or land. Figure 3 – Heritage Features shows the locations of the World Heritage Sites in Wales.

Listed Buildings

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:

- 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.

There are over 30,000 Listed Buildings (Grade I, Grade II and Grade II*) within Wales (Cadw) distributed across its counties varying from medieval halls and castles to Edwardian villas.

Scheduled Monuments

Cadw compile and maintain a Schedule of Ancient 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 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.

Over 4,000 monuments have now been scheduled across Wales and the number is increasing as part of an ongoing planned policy of enhancing the Schedule (Cadw).

Scheduled monuments in Wales are distributed throughout its counties and their locations are presented on Figure 3 – Heritage Features.

Registered Historic Battlefields

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. To date there is no formal Register of Historic Battlefields in Wales. However, this is something that is being developed by Cadw.

Conservation Areas

There are over 500 conservation areas in Wales. They are designated by local planning authorities for their special architectural and historic interest. Many local planning authorities have undertaken conservation area character appraisals which identify areas where enhancement through development may be desirable (Cadw).

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.

Heritage Coasts

Heritage coasts are 'defined' rather than designated, so there isn't a statutory designation process like that associated with national parks and AONBs. However, they are largely located within areas that are afforded with national park or AONB status.

Within Wales there are 14 heritage coasts:

- Glamorgan;
- Gower;
- South Pembrokeshire;
- Marloes and Dale;
- St Brides Bay;
- St Davids Peninsula;
- Dinas Head;
- St Dogmaels and Moylgrove;
- Ceredigion;
- Llŷn;
- Aberffraw Bay;
- Holyhead Mountain;
- North Anglesey; and
- Great Orme.

The location of heritage coasts is presented on Figure 3 – Heritage Features.

Historic Parks and Gardens

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.

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 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.

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.

Parks and gardens on the Register range from medieval to late twentieth century. Many are multi-period, with features of different styles and periods (Cadw).

Locations of historic parks and gardens are presented on Figure 3 – Heritage Features.

Heritage at Risk

A key element of Cadw's heritage regeneration activity is action related to heritage assets in a deteriorating condition. Cadw have been working to identify the number and type of listed buildings at risk in Wales. 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 from the 20% of the building stock which has been re-surveyed in the past year (Cadw).The percentage of buildings at risk over time has fallen since 2013.

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.

Cultural activity

According to the National Survey for Wales[71] 75% of people attended or participated in arts, culture or heritage activities at least three times in the past year. 68% of people had been to an arts event in the previous 12 months, 40% 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 (88% of these were in Wales).

34% of people had used a public library service in the past 12 months; 98% of these had visited a library in Wales. 5% went at least once a week. 58% of people said they had a library in their local area. 39% of people with a library in their local area had visited one in the last 12 months, compared with 28% of those who did not.

When people were asked why they had not attended a museum in the past 12 months, 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".

When people were asked why they had not visited a historic place in Wales in the past 12 months, only 5% cited a lack of transport as their reason (consistent with previous years), with 3% saying "Not enough museums close to where I live" (National Survey for Wales, 2017 – 2018).

When people were asked "Whether they would go to more arts events if they were nearer", 25% strongly agreed and 26% agreed, 21% were neutral, 19% disagreed and only 9% strongly disagreed (National Survey for Wales, 2018 – 2019).

Data Gaps

The heritage value of transport infrastructure itself.

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[71] Welsh Government (2021) National Survey for Wales: results viewer. Available at: https://gov.wales/national-survey-wales-results-viewer [Accessed: 12.02.21]

6.2   Key Issues relevant to the WTS and opportunities for it to address them

Issues

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.

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

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.

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 other environmental factors, protecting and provisioning fair access to cultural heritage assets is a key challenge for sustainable planning of the transport system.

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

Welsh Language

The WTS has an opportunity to protect and promote the use of the Welsh language through the transport system through encouragement of its use in sign posting and employees of bus and train stations. The WTS 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 WTS 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 WTS 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 WTS 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

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 WTS has an opportunity to provide high quality transport connections to national parks for both tourists/visitors and local leisure users.

Historic Environment, Cultural Heritage and Assets

As with landscape, the WTS 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 identity and sense of place and that indirect effects on the setting of assets are also important considerations.

Opportunities also exist for the WTS to promote awareness of cultural heritage and encourage the enhancement of access to cultural education centres.

The WTS could seek to identify and protect transport infrastructure that may be of heritage value in its own right.

The WTS 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

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.'

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

7.1 Overview of Baseline Conditions

7.1.1 Energy Consumption, Greenhouse Gas Emissions and Ecological Footprint

Relevance to the WTS

Wales is a globally responsible nation and the WTS 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.

Baseline conditions and trends

Energy Generation

Energy generation in Wales is relatively evenly split between gas, coal, renewable and other sources with generation overall being significantly lower than in England and Scotland. Production has been in decline since 2010, largely due to the decline in energy from gas generation (Welsh Government, Energy Generation and Consumption Biennial Report, 2015). Figure 7-1 below shows energy generation by fuel in 2015 for England, Scotland, Wales and Northern Ireland in 2015.

Figure 7-1 Energy Generation by fuel in 2015 for England, Scotland, Wales and Northern Ireland in 2015
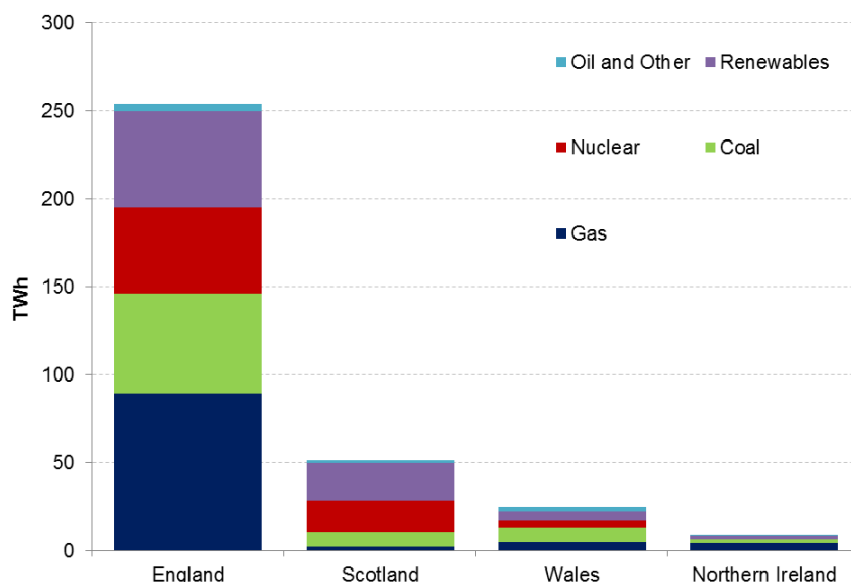
Sources: www.gov.uk

Between 2000 and 2013, the percentage of electricity generated from renewable energy sources has increased from less than 3% to over 10%. This is largely as a result of wind generation. However, this proportion of generation is still lower than any other UK country. The use of renewable energy could help to

reduce Wales' carbon footprint over time. The capacity (in GWh) of renewable energy generated in Wales in a recent study was 5,182.6 GWh (DECC).

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[72].

Energy Consumption

Energy use in Wales in 2015 was about 25TWh which is about a 10th of the 250TWh energy used in England. Total energy consumption has been falling since 2005, though more so since 2007, which coincides with the economic downturn (as of 2015). The industry and commercial sector accounts for a large proportion of this decline[73].

The average energy efficiency of new homes in Wales in monitored. Percentage of dwellings with a Standard Assessment Procedure (SAP) rating of 65 or above is considered adequate. The SAP is a methodology used by Government for assessing the energy performance of dwellings. The SAP rating is expressed on a scale of 1 to 100 – the higher the number, the lower the running costs. Average SAP rating of new homes in Wales in 2008 was 77.6 and in 2009 this was 77.

Greenhouse Gas Emissions

Total greenhouse gas emissions in Wales in 2014 amounted to 46,402 $ktCO_{2e}$. This compares to 56,620 $ktCO_{2e}$ in 1995, although that figure has fluctuated over the period showing a gradual decreasing trend overall. Total greenhouse gas emissions from Wales have reduced between 1990 and 2014 by 18%, whilst carbon dioxide emissions have fallen by 12%. 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)[74].

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.

Figure 7-2 illustrates the split of emissions between different sources in Wales between 1990 and 2014. 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 (NAEI Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990-2014).

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[72] Electricity generation and supply figures for Scotland, Wales, Northern Ireland and England, 2014 to 2017. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770766/Regional_Electricity_Generation_and_Supply.pdf [Accessed: 12.02.21]
[73] Welsh Government, Energy Generation and Consumption Biennial Report, 2015
[74] NAEI Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990-2014

Figure 7-2 Total Greenhouse Gas Emissions per Sector in Wales (ktCO2e)
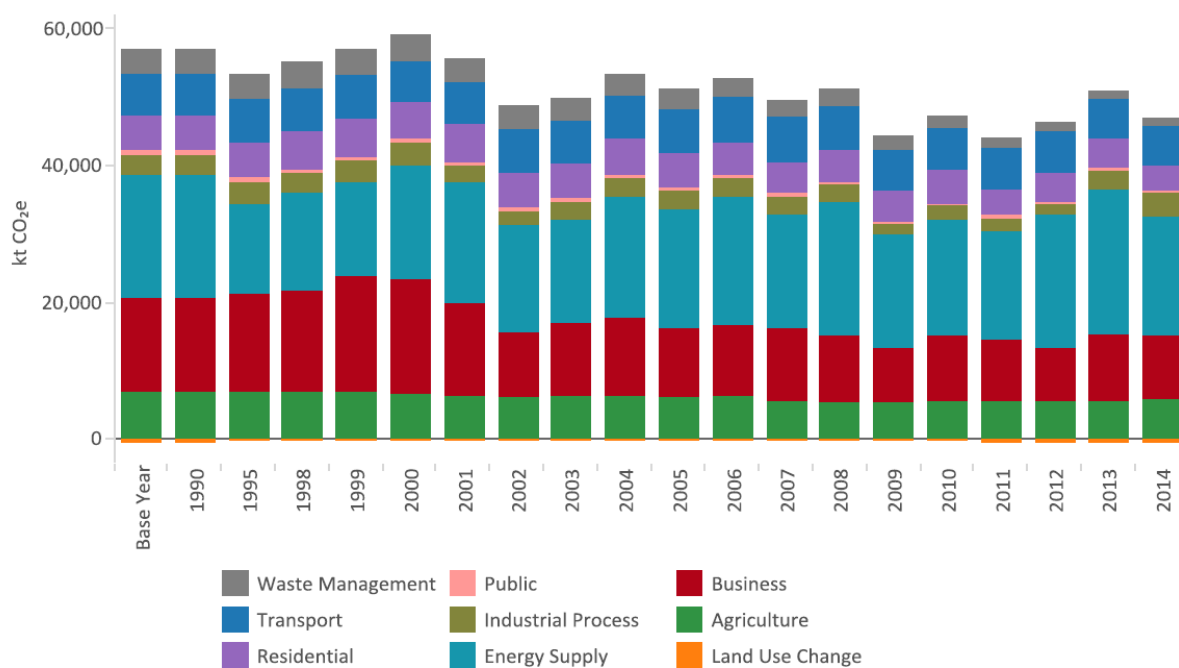
Change in greenhouse gas emissions from the transport sector

According to the National Atmospheric Emissions Inventory there is a declining rate of CO_2 emissions from the transport sector in Wales[75].

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[75] Stats Wales. Emissions of Greenhouse Gases by Year. Available at: https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Greenhouse-Gas/emissionsofgreenhousegases-by-year [Accessed: 12.02.21]

Figure 7-3 Total CO^2 emissions from the transport sector in wales (kT)
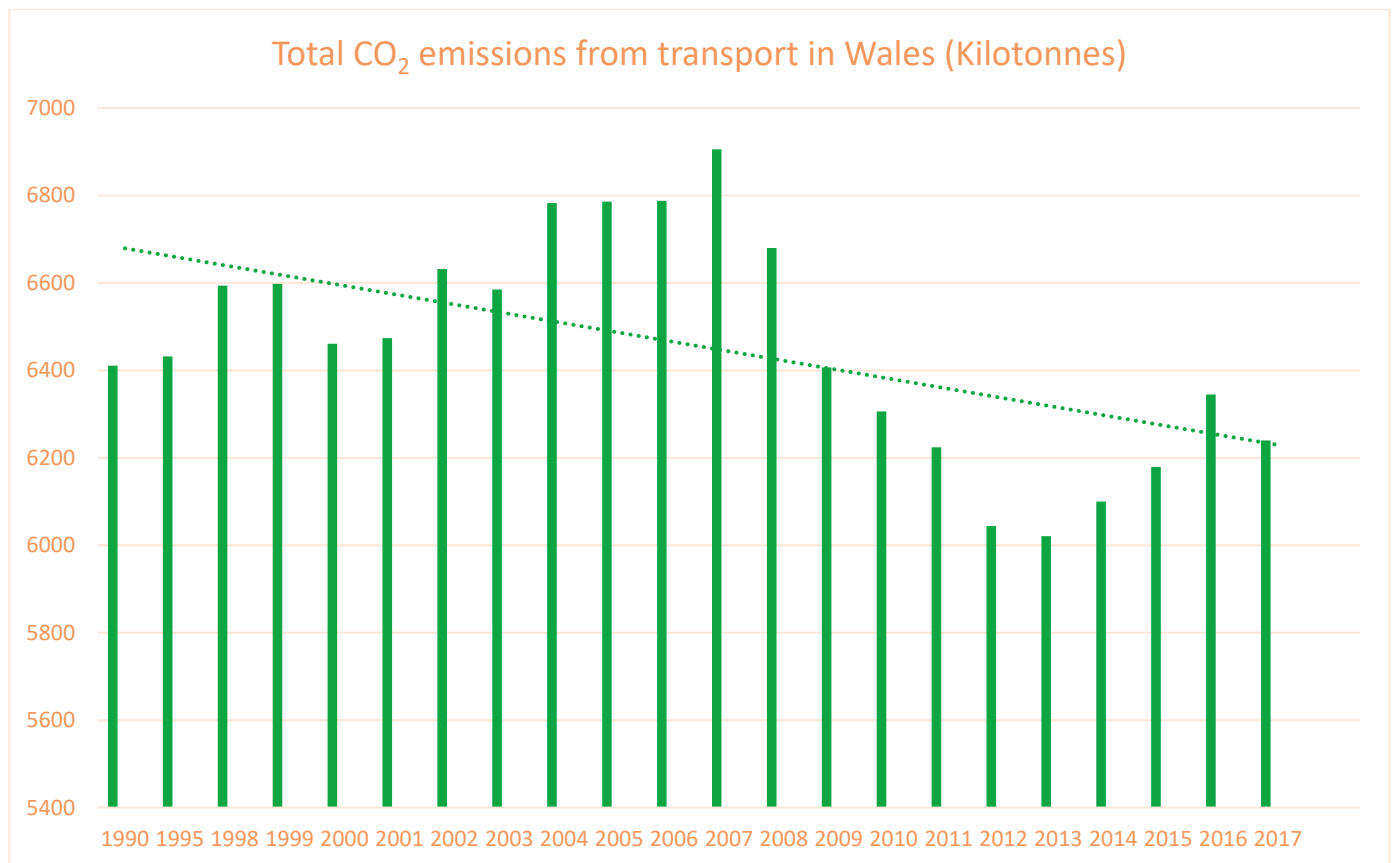
Energy from renewable sources used by public transport

According to a report on energy generation in Wales[76], around 91 TWh of energy per year is consumed in the country. 76.1 TWh of this is associated with transport, heating and industry. 7.4 out of 30.2 TWh of electricity generated in Wales was generated by renewable resources in 2018.

Ultra Low Emission Vehicles (ULEV)

There were 39% more licensed ULEVs at the end of 2018 compared to the previous year, this figure representing 200,000 ULEVs across the UK. ULEV's accounted for 0.5% of all licensed vehicles in the UK, regionally Wales had the lowest rate at 0.2% relating to 9,500 vehicles out of 1.9 million total vehicles in the country.[77]

Journeys made by sustainable travel modes

The number of rail passenger journeys in Wales reached the highest level on record in 2017-18[78], 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.

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.

[76] Welsh Government (2018) Energy Generation in Wales. Available at: https://gov.wales/sites/default/files/publications/2019-10/energy-generation-in-wales-2018.pdf [Accessed: 12.02.21]

[77] DfT (2019) Vehicle Licensing Statistics: Annual 2018. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/800502/vehicle-licensing-statistics-2018.pdf [Accessed: 12.02.21]

[78] Welsh Government (2018) 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: 12.02.21]

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.[79]

Active travel

In a Statistical Bulletin on the use of active travel in Wales (2018-19)[80], it was found that:

- 6% of adults cycled at least once a week for active travel purposes. This has not changed very much in recent years.
- 57% of adults walked at least once a week for active travel purposes. This is broadly unchanged from the previous year.
- 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.
- 44% of children actively travel to primary school, and 34% to secondary school.
- 225 seriously injured pedal cyclists were admitted to hospital in 2018-19.

Figure 7-4 Active Travel by Walking, by Local Authority
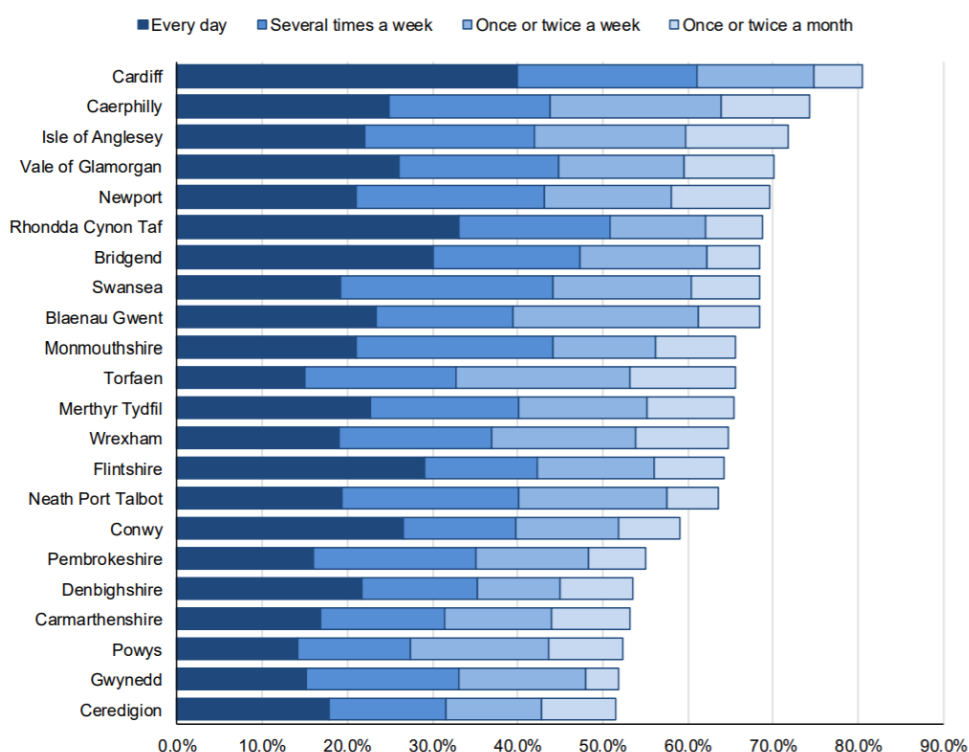
Source: gov.wales

Ecological footprint

A study in 2008 estimated that Wales' 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). Wales' carbon footprint is estimated at 34 Mt CO_{2e}, or 11 t CO_{2e} per capita. In comparison with other developed countries, Wales' ecological footprint is significantly higher (Stockholm Environment Institute/University of York) [81].

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[79] 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
[80] Welsh Government (2019) Walking and cycling in Wales: Active travel, 2018-19. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-11/active-travel-walking-and-cycling-april-2018-march-2019-073.pdf
[81] Stockholm Environment Institute and GHD (2015) Ecological and Carbon Footprint of Wales Update to 2011. Available at: https://gov.wales/sites/default/files/publications/2019-04/ecological-and-carbon-footprint-of-wales-report.pdf [Accessed: 12.02.21]

Hectares of healthy ecosystems that form part of the transport network

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[82].

Freight

Freight traffic at Welsh ports was 49.2 million tonnes in 2018, a decrease of 4.8% from the previous year. Figure 7-5 below shows the total freight through major ports within Wales[83].

Figure 7-5 Total Freight through Wales Major Ports 2017 and 2018
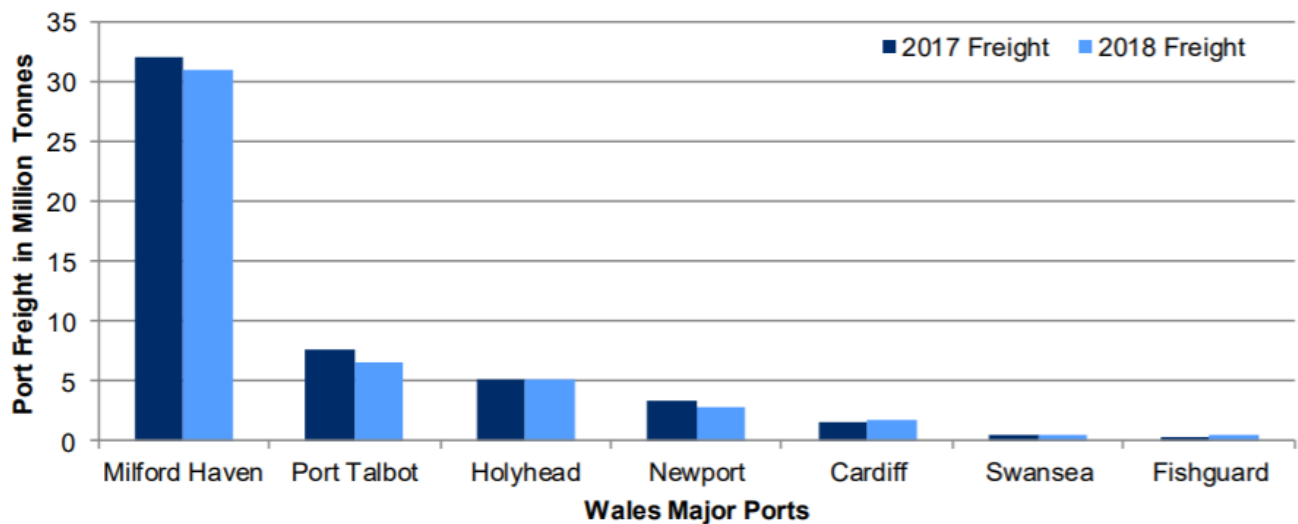
Source: Welsh Government, 2019

Milford Haven handles the 5th highest traffic tonnage in the UK, accounting for 6.4% of UK traffic. The decrease in Wales' port traffic can be seen in Figure 7-6 which compares it to other UK countries and their change in port traffic.

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[82] Welsh Government (2008) Welsh Transport Planning and Appraisal Guidance https://gov.wales/sites/default/files/publications/2017-09/welsh-transport-appraisal-guidance-weltag.pdf [Accessed: 12.02.21]
[83] Welsh Government (2019) Sea transport, 2018. Available at: https://gov.wales/sites/default/files/statistics-and-research/2019-11/sea-transport-2018-624.pdf [Accessed: 12.02.21]

Figure 7-6 All port traffic inwards and outwards across the UK, 2017 and 2018

| | Million tonnes | | Per cent |
	2017	**2018**	**% change 2017 to 2018**
England			
Inwards	231	240	4.2% ▲
Outwards	105	100	-4.8% ▼
All	336	340	1.4% ▲
Wales			
Inwards	35	33	-5.7% ▼
Outwards	17	16	-3.0% ▼
All	52	49	-4.8% ▼
Scotland			
Inwards	19	20	4.2% ▲
Outwards	48	45	-5.6% ▼
All	67	65	-2.8% ▼
Northern Ireland			
Inwards	17	17	3.7% ▲
Outwards	10	11	6.0% ▲
All	27	28	4.6% ▲
United Kingdom			
Inwards	301	310	3.0% ▲
Outwards	181	173	-4.2% ▼
All	482	483	0.3% ▲

Source: Welsh Government analysis of Department for Transport data

The tonnes of goods transported by freight on the roads in Wales has decreased in the last 15 years[84].

Table 7-1 Goods transported via road freight in Wales 2004-2019

Year	Million Tonnes
2004	86
2005	94
2006	89
2007	96
2008	89
2009	66
2010	73
2011	64
2012	71

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[84] DfT (2021) Domestic road freight activity (RFS01). Available at: https://www.gov.uk/government/statistical-data-sets/rfs01-goods-lifted-and-distance-hauled#domestic-road-freight-by-region [Accessed: 12.012.21]

Year	Million Tonnes
2013	59
2014	59
2015	63
2016	67
2017	70
2018	62
2019	64

Data Gaps

Data relating to freight transported on railways in Wales.

Data relating to gendered differences in data captured.

7.1.2 Transport Budget Headline Figures

Figure 7-7 Revenue and Capital of rail transport in Wales

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

Source: Economy, Skills and Natural Resources Group, Welsh Government

Figure 7-8 Pounds sterling per kilometre travelled by different transport modes
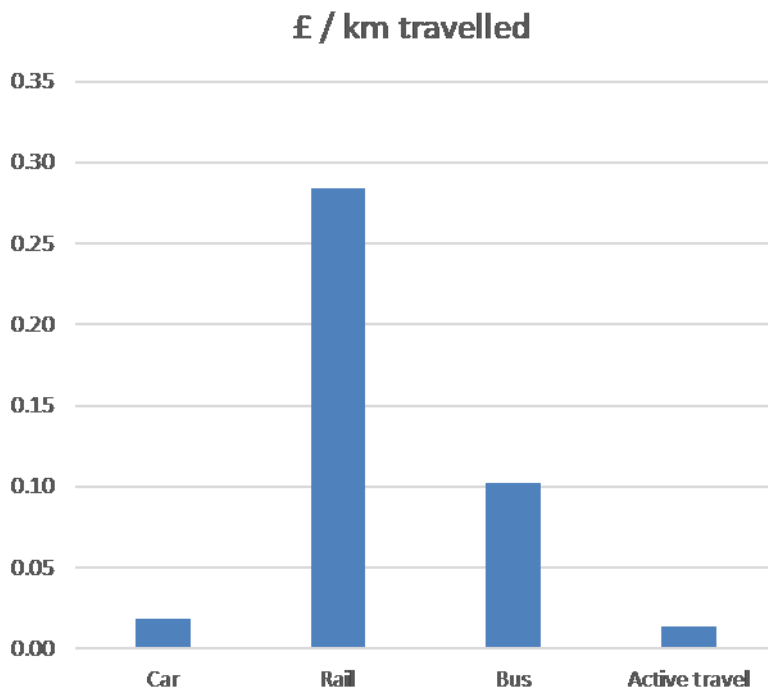
Figure 7-9 Money spent across different transport modes in Wales

	£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

Data Gaps

The largest gap in data is 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.

7.2 Key Issues relevant to the WTS and opportunities for it to address them

Issues

Greenhouse gas emissions have been steadily falling in Wales; there is still a long way to go to meet the emissions targets. This reduction is partly as a result of a gradual shift in energy generation to renewable and cleaner fuels together with technological and efficiency improvements in industry. However, again there are challenges to maintain these positive trends.

Wales' high ecological footprint must be maintained and not compromised by transport developments.

Measures must be taken to provision the safety of pedestrians and cyclists on the road in order to promote it as a viable form of transport.

The estimated global footprint of Wales is high compared with other developed countries. There is a challenge to reduce this whilst also accommodating new development and economic growth.

Opportunities

The WTS has an opportunity to help promote low carbon fuels and improved standards of energy efficiency in transport infrastructure.

The WTS should aim to reduce the growth of motor traffic.

The WTS must promote sustainable transport modes (including active travel and Ultra Low Emission Vehicles (ULEVs)).

The WTS 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 make better use of the existing transport network:

- managing demand, facilities, capacity.

APPENDIX C

Response Log

Consultation Reponses to the ISA Scoping Report, July 2020

Integrated Sustainability Appraisal Response Log		Arcadis Response
Q1	**Do you support the findings of the review of relevant plans, programmes, and environmental protection objectives? Are there any additional plans, programmes, or environmental protection objectives you think should be added? Are there any that you would like to remove from the review?**	
I believe that there should be a comprehensive assessment of the existing transport network throughout Wales to ascertain whether it is fit for purpose. I believe that the lack of a modern transport network is a major contributory factor to the issues of poverty & deprivation and adverse effects on the environment. The paucity of the current network fails to attract the businesses to Wales and does little to stimulate tourism and existing businesses in the rural economy.		Agree, comment noted.
I do not understand what you mean by 'scoping'. Indeed, much of the document is difficult to read and by the time I have read to the end of a paragraph, I can hardly remember the beginning. The document is opaque and regrettably difficult to comprehend. It should be written in far simpler and preferably shorter language. I know I am not all that bright, but I have been to University, have a couple of degrees and have worked in the National Health Service for almost 40 years, talking and communicating with all sorts of people. Would you allow me to raise the unworthy suspicion that your document has been written in such a way so that few people will understand it or write comments on it? Or are the people who wrote it unable to express themselves in plain language? Sorry....		Scoping is the legally required first stage of the ISA process and best efforts have been made to present the diverse and extensive range of data in as-readable a format as possible. Following this stage, all ISA outputs will be accompanied by a non-technical summary to enhance their accessibility.
We should be encouraging Active Travel by providing facilities that children & families can use to get to work places of education etc., rather than using vehicles.		Active travel opportunities will be a key consideration of the WTS and its ISA.
There is no reference to plans for shared resources - for example community owned electric vehicles. There is one such scheme in Bethesda which is very popular. I think it would be great if Wales could be a leading example of best practice in terms of environmental conscientiousness, by providing this kind of cutting edge solution to green transportation.		This comment is directed towards the contents of the WTS.
The COVID-19 aspects should be widened to consider spread of infectious diseases more generally. Transport strategies ought to be considering how they can avoid promoting the spread of disease by spreading the peak load, increasing capacity on mass transit, and promoting active travel. The socio-economic duty was introduced in Scotland in 2018, and the Scottish Government's Transport Strategy, published in February this year, was subject to it. TfW is taking steps to prepare for commencement. The purpose of the duty is to ensure that specified public bodies, when making strategic decisions, such as determining priorities and setting objectives, have due regard to the need to reduce the inequalities of outcome resulting from socioeconomic disadvantage.		Advice noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and

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	its implementation.
The plans set out a lot with regard to the environment but little about transport and its delivery. Although the Town Council supports the policy of environmental protection the scoping plan does not outline what aims and objectives are to be met with regard to transport delivery. Throughout the 58 page document there is little or nothing about change or improvement in public transport services that could result in increased usage.	Public transport is a key consideration of the WTS and the Scoping Report.
Jacobs welcomes Welsh Government's commitment to sustainable solutions which aligns with our own PlanBeyond initiative.	Noted.
Yes we do and we agree that the WTS should be shaped to help deliver social, economic, environmental and cultural benefits that are consistent with the seven goals of the Well-being of Future Generations Act.	Agreed.
Reference to the Active Travel (Wales) Act 2013 to be included in the Scoping Report; also current Planning Policy Guidance.	Active Travel Wales Act has now been included.
It is noted that existing plans and programmes have been reviewed to shape the ISA. However, it must be emphasized that where proposed schemes, that are well developed and substantially address the 'Well-being of Future Generation Act Goals' (such as Magor and Undy Walkway Station), must not be compromised, undermined or slowed because of the process mechanics of the ISA when they are clearly in line with its aims.	It is not anticipated that the ISA could conceivably slow down the delivery of any permitted developments.
The scoping should recognise the value and purpose of Wales' National Parks and their contribution to overall national well-being. The review should include 'Valued and Resilient' which sets out the Welsh Government's priorities for the National Parks and AONBs. NRW/WG guidance advises that National Park Management Plans are of 'national significance' and therefore the relevant Plans for Brecon Beacons, Pembrokeshire Coast and Snowdonia National Parks should be included in the review.	National Parks will be an important consideration of appraisals in the ISA. Valued and Resilient and National Park Management Plans now included in the Scoping Report.
The plans set out a lot with regard to the environment but little about transport and its delivery. Although the Association supports the policy of environmental protection the scoping plan does not outline what aims and objectives are to be met with regard to transport delivery.	The Scoping Report is not intended to outline plans for transport delivery at this stage.
There is no reference to bus service provision with particular regard to rural areas.	Bus services are an important element of the baseline data, including for rural areas to avoid and minimise the risk of isolation.
Given recent events and the impacts of the COVID-19 pandemic it is obvious that focus should also now be on any plans/programmes associated with the pandemic that will directly impact the WTS moving forward. Particular emphasis should be on ensuring consistent and complimentary aims and objectives with the Prosperity for All, Low Carbon Wales and A Climate Conscious Wales policies.	During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19

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	including how it could influence the WTS and its implementation.
I have answered such, as I'm not 100% sure what the current document is seeking to deliver. There are many words but the document lacks clarity in its purpose and direction. It appears to be a document which seeks to tick boxes in process, but doesn't deliver much in terms of strategy. Plain language would help the reader. One positive is that a strategy will be delivered for the longer term – 25 years. If this is the case there will need to be a formalised review process every 5 years or so, but this must be adhered to strictly. Finally, Planning Policy Wales (PPW, v10) should be listed in section 3.1 (page 15).	The Scoping Stage is the first legally required stage of the ISA Process and is intended to establish the scope for the appraisal process. Planning Policy Wales Edition 10 added to Section 3.1.
CUK broadly supports the findings of the review presented in Chapter 3. We agree that the WTS should be shaped to deliver social, economic, environmental and cultural benefits, in accordance with the seven goals of the Well-being of Future Generations Act, and with the need to identify potential synergies with these wider goals, as well as possible inconsistencies and constraints. We strongly welcome the recognition of the "particular importance" of documents such as: • Prosperity for All: A Low Carbon Wales • Prosperity for All: A Climate Conscious Wales • The Natural Resources Policy for Wales, incorporating Sustainable Management of Natural Resources (SMNR) principles, such as public access to the natural environment However, we would suggest adding in references to several plans, programmes and environmental objectives relating to transport's various public health impacts, notably air pollution, physical inactivity, road injuries, noise, and the social isolation (and hence mental and physical health impacts) of road danger on vulnerable groups. The relevant plans, programmes and environmental objectives should therefore also include those set out in: • Public Health Wales's Long Term Strategy, and its Strategic Plan 2019-22; • The Clean Air Action Plan for Wales; • Wales's Sport and Physical Activity Strategy ('Climbing Higher'); • The emerging Road Safety Framework for Wales (this was reviewed in 2018, though a final version has yet to be adopted); • The Noise and Soundscape Action Plan; • Tackling Loneliness and Social Isolation through Connected Communities; • Welsh 20mph Task Force Group, Final Report, July 2020; • The National Cycle Network - sustrans.org.uk. We welcome the recognition of "Promote sustainable patterns of mobility and enhance sustainable transport provision to improve air quality" as one of the key themes (Table 3-2). However, we would suggest adding "and active" after both occurrences of the word "sustainable". This would contribute not just to improving air quality but also to reducing greenhouse gas emissions, ill-health relating to physical inactivity, noise, road injuries, the	Public Health Wales' Long Term Strategy and Strategic Plan added. Review contains Clean Air Action Plan and Connected Communities. Physical Activity Strategy, Road Safety Framework, Noise and Soundscape Action Plan, 20mph Task Force Report added. "Sustainable and Active patterns…" added to key themes.

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isolation (and consequent health and well-being impacts) suffered by those most vulnerable to road danger, and the disproportionate burden of these impacts on disadvantaged groups. "Promote sustainable and active patterns of mobility ...." would therefore contribute not just to the four national well-being goals listed, but also to the goals of a 'more equal' and a 'more cohesive' Wales – for more on this, see our comments (in answer to question 2) on the treatment of these two goals in table 4-1.	
Yes, the list of plans, programmes and environmental protection objectives appears to be comprehensive.	Noted.
We welcome the Integrated Sustainability Appraisal in ensuring that sustainable development will be central to the development of the Wales Transport Strategy and that it will be aligned to the well-being goals of the Well-being of Future Generations (Wales) Act 2015. We welcome the establishment of the ISA Working Group. We hope that women are well represented in the membership of the Group as often women have not been equally represented in policy-decisions relating to transport. Equally, it will be vital that the views and experiences of women are represented during stakeholder engagement on the draft strategy and that the consultation and engagement process reaches those groups who rely on public transport. Under the theme 'Create safe, sustainable, balanced and cohesive communities, including in both rural and urban areas', we would suggest that you consider the Violence Against Women, Domestic Abuse and Sexual Violence (Wales) Act 2015 and the National Strategy on Violence Against Women, Domestic Abuse and Sexual Violence - 2016 -2021. Women need to feel safe on public transport and during active travel. There is also a need to ensure that women, wherever they live, are equally able to access violence against women support services using public transport. We would also suggest that The Future Generations Report 2020 is considered, particularly in relation to the findings and recommendations on transport.	National Strategy on Violence Against Women, Domestic Abuse and Sexual Violence - 2016 -2021 included in Appendix A. The Future Generations Report 2020 added also.
Generally, yes. The document should also consider the Wales Spatial Plan and be consistent with other aims and objectives such Prosperity for All and a Low Carbon Wales along with Tackling Transport Poverty in Wales. Further, the COVID-19 impacts now need consideration.	During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
We are pleased to see that the ISA provides a long list of relevant plans across a range of departments that will relate to the Wales Transport Strategy. Transport is cross cutting so will relate in some way to most plans and strategies. As a result, there should be a cross-departmental approach to developing the WTS, recognising that transport is essential for the success of strategies across Government. We note that Habitat Regulations Assessments are not being undertaken at this stage and that it is felt that it is more appropriate to consider the protection of the Natura 2000 network at the next stage of transport plan-making	Noted. Wales NRAP and Future Generations 2020 Report added to review. DfT's Community Rail Development Strategy added also.

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and that a letter explaining this decision will be sent to NRW. In the principle of open government, we request that both the letter and any response are shared with stakeholders and that Welsh Government be prepared to reconsider this decision in light of any recommendations that NRW might suggest. We note that NRW has recognized both the climate and nature emergencies and that the Natura 2000 network has an irreplaceable role in addressing both. We welcome the detailed references to ecosystem resilience within the document and the intention to integrate the 5 'building blocks' of Diversity, Extent, Condition, Connectivity and Adaptability into the WTS. We suggest that this might be aided by explicit reference to both Wales's Nature Recovery Action Plan (NRAP) and the Convention of Biological Diversity's Strategic Action Plan that the NRAP supports. We note the recent recommendation in the Future Generations 2020 Report that Wales should aim to become 'an eco-literate nation' and suggest that inclusion of these key plans would contribute towards this. Explicit reference to these strategies will help raise awareness of the state of global ecosystems by helping raise both awareness, and action, on national and international commitments to biodiversity and ecosystem resilience. In addition, we recommend that the Welsh Government considers the DfT's Community Rail Development Strategy, adopted by the Welsh Government, which helps to show how engaging and empowering communities in regards to local transport provision can deliver benefits for sustainability, health, well-being and inclusion.	
It is important to recognise that transport is a key enabler and essential for people to participate in society. It affects health outcomes both physical and mental by supporting access to services and facilities, social networks, jobs and more. Barriers to accessing transport costs the health service in missed appointments, loneliness and isolation, inability to live independently and so on. We believe that transport impacts on and has a role to play in most if not all of the Welsh Government's plans and strategies so much so that perhaps transport should be integrated into all of these rather than having a separate strategy of its own. The cross-cutting nature of transport should be recognised by all and be addressed through a commitment to joint policy-making & commissioning across sectors and departments to ensure a strategic approach to investment.	Noted and agreed. The ISA will help to ensure that the cross-cutting nature of transport is accounted for.
We support the findings of the review. However, we recommend that the following additional plans and programmes are included as part of the review: • Design Manual Roads and Bridges Volume 11 Section 3, Part 10, Annex I – Environmental Assessment Methods • Road Drainage and Water Environment LA 113 • National Development Framework • Shoreline Management Plans • Welsh Government Noise and Soundscape Action Plan 2018-23 • Valued and Resilient: Welsh Government's Priorities for AONB's and National Parks 2018 • National Park and AONB Management Plans	Comments noted. Emerging National Development Framework included Noise and Soundscape Action Plan, Priorities for AONB's and National Parks, National Park Management Plans, Historic Environment and Climate Change Adaption Plan added.

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- Historic Environment and Climate Change Sectoral Adaptation Plan - Tranquillity maps - NRW LANDMAP, Landscape and a Changing Climate full report - National Flood & Coastal Erosion Risk Management Strategy for Wales (new strategy due to be published shortly). We recommend that reference to the following documents should be amended as follows: - The Environment Agency (2013) Groundwater Protection Policy and Protection (GP3) has been replaced with 'The Environment Agency's Approach to Groundwater Protection, February 2018 V1.2' - Appendix A (Table 1.2, section re: flooding/coastal erosion), PPW Edition 10 should be referenced, not edition 9 - Replace 'Welsh Government (2011) Preparing Wales for Climate Change: Adaptation Delivery Plan' in Table 1.2: with 'Climate Conscious Wales (2019)' - In Appendix A – National Plans – amend from Bill to Act: Public Health (Wales) Act 2017.	Amendments made to documents.
Welsh version: Cynlluniau a Rhaglenni Mae Deddf Llesiant Cenedlaethau'r Dyfodol yn ganolog i'r strategaeth arfaethedig; ac fel noda'r ddogfen ymgynghorol, mae 'Cymru â diwylliant bywiog lle mae'r Gymraeg yn ffynnu' yn un o'r saith nod llesiant. Mae'r ddogfen ymgynghorol yn rhestru'r dogfennau cenedlaethol sydd 'o bwysigrwydd arbennig' ac y 'bydd Strategaeth Drafnidiaeth Cymru'n gweithio â nhw ac yn rhannu nodau ac amcanion cyffredin.' Nodwn nad yw strategaethau eraill y Llywodraeth o ran y Gymraeg wedi eu rhestru yn y ddogfen ymgynghorol, er eu bod yn cael eu rhestru yn Atodiad 1. Argymhellion - Datblygu'r Strategaeth Drafnidiaeth mewn ffordd sy'n ategu gweledigaeth strategaeth Cymraeg 2050: Miliwn o Siaradwyr (2016). - Cysylltu'r strategaeth â'r gofyniad ar awdurdodau lleol i hwyluso mynediad at addysg Gymraeg yn unol â Mesur Teithio i Ddysgwyr (Cymru) 2008 a'u Cynlluniau Strategol y Gymraeg mewn Addysg. - Cynnwys adran yn y strategaeth am ddyletswydd sefydliadau perthnasol i gydymffurfio â safonau'r Gymraeg yn unol â Mesur y Gymraeg (Cymru) 2011. - Rydym yn cytuno â'r cysylltiad rhwng nod llesiant y Gymraeg â'r amcanion canlynol: - Gwella cysylltedd cymunedau sydd wedi eu cynllunio a'u dylunio'n well, a hybu cyfle mwy cyfartal i bob dinesydd - Diogelu a gwella unigrywedd ein tirweddau a'r amgylchedd hanesyddol, asedau hanesyddol a'u lleoliadau - Cyfrannu at lesiant y Gymraeg, diwylliant a threftadaeth yn y dyfodol - Creu cymunedau diogel, cynaliadwy, cytbwys a chydlynus, mewn ardaloedd gwledig a threfol	Noted. Most of this comment refers to the contents of the WTS rather than the ISA. Listed documents in this response are now included in the ISA.

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• Hybu twf economaidd cynaliadwy, amrywiaeth a chystadleurwydd busnes
• Sefydlu economi dwristiaeth gref, gan fanteisio'n sensitif ar asedau amgylcheddol, treftadaeth a hamdden.
Argymhelliad
Cysylltu nod llesiant y Gymraeg â'r amcanion canlynol:
    • Gwella iechyd a llesiant corfforol a meddyliol y boblogaeth a lleihau anghydraddoldebau iechyd i greu Cymru iachach
    • Gallai Strategaeth Drafnidiaeth Cymru gynnig cyfle i leihau ynysigrwydd ac annog datblygiad cymunedau integredig y gellir byw ynddynt trwy ddarparu ar gyfer cynhwysiant trafnidiaeth gyhoeddus i ganiatáu i bawb gael yr un lefel o fynediad
 	
English translated version:
Plans and Programmes
The Well-being of Future Generations Act is central to the proposed strategy; and as noted in the consultation document, 'Wales and a vibrant culture where the Welsh language thrives' is one of the of the 7 well-being objectives.
The consultation document lists the national documents that are 'of special interest' and 'the Wales Transport Strategy will work with them and will share the general aims and objectives'. We note that the Government's other strategies with regards to the Welsh language are not listed in the consultation document, even though they are listed in Appendix 1.
Recommendations
    • Develop the Transport Strategy in a way which complements the Cymraeg 2050: A Million Welsh Speakers (2016) strategic vision.
    • Connect the strategy and requirement on local authorities to facilitate access to Welsh-medium education in accordance with the Learner Travel (Wales) Measure 2008 and their Strategic Planning for Welsh in Education.
    • Include a section in the strategy about the responsibilities of relevant organisations to comply with Welsh language Standards in accordance with Welsh Language (Wales) Measure 2011.
    • We agree with the connection between the Welsh language well-being and the following objectives:
    • Improve community connectivity which have been designed and planned well, and promoting more equal opportunity for all citizens
    • Protect and improve the uniqueness of our landscapes and historical environment, historical assets and their locations
    • Contribute to the well-being of the Welsh language, culture and heritage in the future	

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• Create communities that are safe, sustainable, balanced and co-ordinated in rural and urban areas • Promote sustainable economic growth, range and competitiveness of businesses • Establish a strong tourism economy, by sensitively taking advantage of environmental, cultural and leisure assets Recommendation Connect the well-being of the Welsh language aim with the following objectives: • Improve the population's physical and mental health and well-being and reduce health inequalities to create a healthier Wales • The Wales Transport Strategy could offer an opportunity to reduce isolation and encourage the development of integrated and habitable communities by providing for inclusive public transport which would allow the same access to everyone.	
The document has a strong public transport focus and, as such, has a reasonably comprehensive coverage at a National Level. However, there is no mention of the various regional level policies produced by the transport consortia in the period to 2014. However, freight transport related policies have been ignored and this is then reflected in the final review table. Looking at Appendix A, the Wales Freight Strategy is an obvious omission. If looking at regional level strategies too, then the Marches and Mid Wales Freight Strategy (2018) should also be included.	Noted. Agree, Wales Freight Strategy added to the Scoping Report.
Yes we do and we agree that the WTS should be shaped to help deliver social, economic, environmental and cultural benefits that are consistent with the seven goals of the Well-being of Future Generations Act.	Noted.
Q2 **Do you agree with the sustainability issues that we have identified? Are there additional issues and opportunities that the ISA should consider? If so, what are they?**	
So far as I can understand them...	Comment noted.
Long term, people need to feel able to wean themselves off driving their car everywhere. I think there should be safer cycle paths, providing more joined up routes. I also feel there should be more incentives to make greener choices. I personally would give up my car if this was a feasible option, but it can be impossible to get anywhere that is only a 20-minute drive away - by the time you've got the multiple buses there it's time to get the last bus home... I appreciate that running bus services must be expensive, especially if they're not used much, I also feel that bus prices per year should not equate to more than it costs to run a car (including petrol).	Agreed, comment noted.
In the Opportunities section for A Prosperous Wales there's potential to mention the ability to support employment through the promotion and support for active tourism e.g. considering the designation of the National Cycle Network as a strategic transport facility which could be adopted by LAs and expanded and funded to encourage	Comment noted.

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cycle/active tourism with appropriate links to the public transport network. This should also include mention of the potential to introduce additional green infrastructure as part of future transport proposals (biodiversity is mentioned but this should be explicitly stated as well) to support placemaking as well as biodiversity, flora, and fauna. Consider mention of opportunities for inclusion of SuDS approach to reduce impact of new schemes on flood risk. Should this not refer to road users not just drivers, assuming that the casualties of road accidents are not just drivers. For opportunities, consider inclusion of reduction in unnecessary short distance single-occupancy car journeys to reduce risk to NMUs.	Added National Cycle Network and active tourism to Opportunities.
The Town Council agrees with the what the ISA should consider and the plan for taking policy forward as set out below subject to our comments on 'transparency and clear aims and objectives'.	Support noted.
Yes, we do. We recognise that there are sustainability issues associated with the economy, the climate, air quality, noise, biodiversity, flood risk, geology and soils, the water environment, minerals and waste, Welsh language, landscape and townscape character, the historic environment and our other cultural heritage and assets.	Support noted.
In terms of climate change, we're not sure whether current carbon reduction targets are stated and explained in detail: there is a need for sectoral analysis of transport modes and their capacity to change carbon outputs by greater efficiency and new technologies, and the capacity to question sectoral commitments and trajectories.	Comment noted.
MAGOR (Magor Action Group on Rail) have been lobbying for seven years to open Magor & Undy Walkway Station. This would be the first dedicated 'Walkway Station' to be purpose-built in 100 years. It would be a first for Wales/UK – positioned and designed to allow the majority of residents to walk or cycle to it (with only drop-off and disabled-parking facilities for cars, but assuring bus integration). The station would have the potential to remove up to 100,000 car journeys per year off the B4245. The road carries circa 11,000 vehicles per day. The area is in a pollution hotspot. Most of this traffic passes three primary schools. Therefore, the opening of Magor & Undy Walkway Station is an unmissable opportunity for this community, of what will be 10,000 in the next few years. Hence: • Creating the conditions within which air quality can be protected and improved where necessary. • Encouraging a reduction in the negative effects of transport on local air quality. • Reducing the likelihood of new Air Quality Management Areas being required through transport initiatives. • Creating the conditions within which potential emissions from traffic and industry may be reduced. • As far as is possible, ensuring that the most vulnerable communities are not disproportionately affected by poor air quality.	Comment noted.
1. An interim version of the 2019 SoNaRR is available and provides more up to date information than the 2016 version cited in the consultation document (section 4.2 and 4.3.1).	Comments noted. SoNARR interim report added.

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2. As part of the rural-proofing of the document it is important to recognise the needs of tourists and leisure users in rural areas. The population of the National Parks is more than doubled during busy holiday periods with visitors which are a crucial element of the local economies. The transport needs of visitors and leisure users differ greatly to those of the usual resident population and high numbers of visitors to popular, natural tourist attractions – mountains, rivers, beaches - has significant impacts in terms of congestion, impact on local communities and the environment. 3. Town centres are changing and are likely to experience significant change following the current COVID- 19 crisis with regular news of retailers going out of business. These areas need redefinition and repurposing. Our transport systems are set up to bring large numbers of people into these areas from suburbs or countryside for education, work, retail, health etc but the switch to home-working combined with the short-term cautionary approach of only using public transport where necessary is having an impact on behaviours and choices – some of which may endure into the longer term. 4. Improved access may not always mean 'more' – it should be 'appropriate' in terms of volume and type – and so may mean a shift of mode rather than an overall increase in some places. Examples would be town and city centres and popular tourist attractions (including natural attractions). 5. E-bikes and e-scooters need to be taken fully into consideration. 6. Opportunity to improve access to valued landscapes, townscapes and viewpoints should ensure that all Wales communities have integrated services to connect them with their protected landscapes with further opportunity to promote awareness of cultural heritage and cultural education centres. 7. Table 3.2 omits to recognise the significance of connecting Wales' population with their National Parks thereby losing the contribution they bring to national well-being.	Added opportunity to provide transport connections to National Parks. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
The Association agrees with what the ISA should consider and the plan for taking policy forward as set out below subject to our comments on 'transparency and clear aims and objectives':	Support noted.

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The Scoping Report obviously needs to mindful that the environmental, social, economic and cultural baseline from which the sustainability information is developed is an ever evolving dataset, and as the WTS has a 25-year horizon, many factors can and will influence its development and require amendment during that period. e.g. impact of COVID-19.	Agree, comment noted.

During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation. |
| Sadly, there are some tainted views over the issues and opportunities referenced in table 4.1 of the document, particularly the understanding of minerals issues. These are misleading and does not necessarily reflect Welsh Government policy. | Noted. Table 4.1 has been refined further. |

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We certainly support the broad thrust of the analysis presented in Chapter 4. We agree with the importance of understanding the economic, social, cultural and environmental characteristics of Wales in order to assess the impacts of the WTS.	Support and comments noted.
We particularly welcome the ISA's recognition of climate change and ecosystem resilience as "overarching considerations" in preparing and assessing the new WTS (Section 4.3). We very strongly endorse the sentiment that "The WTS could help to lower greenhouse (gas) omissions ... by promoting active travel and ULEVs as well as implementing the sustainable transport hierarchy..." However, we think the key need, to reduce the growth of motor traffic, should be explicitly identified and endorsed.	Agree, need to reduce the growth of motor traffic added.
As regards the summary of key issues and opportunities for the WTS to address (as set out in table 4-1), we make the following comments on points of detail:	
Well-being goal 1: A prosperous Wales	
The list of 'key issues' needs to include the economic disbenefits of congestion due to a transport system which is over-dependent on motorised road transport after many decades of failure to plan for and invest adequately in healthy and sustainable alternatives (i.e. walking, cycling and public transport).	Agree, congestion added to issues for A Prosperous Wales.
The 'opportunities' column should include the opportunities: • To redesign roads, streets, junctions and public spaces to be safer and more attractive for walking and cycling; • To reallocate road-space in favour of transport modes that make more efficient use of that space (i.e. walking, cycling and public transport); • To improve the integration of walking and cycling with public transport services, enabling more people to use clean and healthy travel for the whole of longer door-to-door journeys; • To reduce the need to travel through better planning, from broadband investment to land-use policies which concentrate new developments where they facilitate shorter journeys and/or journeys that can be more easily be made by walking, cycling and public transport.	Opportunities to reduce congestion added.
Well-being goal 2: A resilient Wales We agree with both the 'issues' and 'opportunities' identified.	Support noted.
Well-being goal 3: A healthier Wales and a more equal Wales	
We are not clear why Well-being goals 3 & 4 have been merged for the purpose of this scoping report. This seems counter-intuitive; the seven well-being goals are central to Welsh government policy, and goals 3 & 4 are quite distinct.	Comment noted.
In terms of the 'key issues' column:	
• There needs to be a clear acknowledgement that 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	Agree, comment noted.

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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.	
• All of the above impacts fall disproportionately on people from lower income or other disadvantaged groups, i.e. they all contribute to the issue of health inequalities. At present, air pollution, noise and "road accidents" are mentioned in the third bullet-point, noise reappears in the 11th and 15th bullet-points, while the 10th bullet-point acknowledges that road injuries disproportionately affect young people (though it fails to identify other groups who are also disproportionately affected). Physical inactivity and the isolation effects of road traffic danger are not mentioned at all, and there is a failure to recognise the health inequalities aspects of any of these impacts.	Added impacts of road transport.
The 'opportunities' column then needs to highlight:	
• The role of policies to boost active travel in addressing all of these issues, boosting physical activity, reducing pollution, noise, road injuries and the isolation impacts of road danger.	Opportunities added.
• The opportunities to tackle inequalities by focusing active travel measures in areas of deprivation, thereby tackling ill-health, pollution, road danger and noise in areas where they are particularly acute, while boosting access to employment, education or training, recreational and social opportunities, and local services (including healthcare) in areas where they are most needed.	
Well-being goal 4: A Wales of cohesive communities	
As noted under the previous well-being goal, fear of road danger limits people's freedom of movement, particularly among more vulnerable groups such as older people or people with movement, sensory or indeed learning disabilities. However, it also limits quality of life more generally. Studies conducted in the USA, by Appleyard and Lintel (1969), and replicated in Bristol by Hart and Parkhurst (2011), have shown that the number of friends and acquaintances people have among their neighbours correlates with the levels of motor traffic on their streets. An overview of these references and other related literature is available at https://discovery.ucl.ac.uk/id/eprint/1540724/1/Street%20Mobility%20Toolkit_What%20we%20know.pdf.	Agree, comment noted.
It follows that:	
• The 'issues' column should highlight the isolation felt not just by people in rural areas (penultimate bullet-point), but also those living on roads with fast or heavy traffic.	Issue of cars travelling through communities promoting isolation added and opportunity added.
• The 'opportunities' column should highlight the potential to overcome this isolation by improving provision for journeys on foot or by cycle, both utilitarian (active travel), and for leisure (active recreation).	
The 'key issues' column includes the statement "more efforts should be made to provision (sic) the safety of drivers as much as possible". This is wholly inadequate and fails to recognise settled Welsh Government policy to reduce injuries to all road users - not just drivers. UK road casualty data is sophisticated and detailed; the	Other road users added to issues.

Agree, comment noted. |

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simplistic and erroneous statement that "the number of deaths on the road is remaining consistent (sic) year to year" does not do justice to the readily available statistics. The current WG targets for 2020 are a 40% reduction in casualties since 2013; progress is way off target for two of the three categories. Casualty rates amongst pedestrians and pedal cyclists are similar to each other - but around ten times higher than for car occupants, per billion miles travelled (Pedal Cycling Road Safety Factsheet: March 2018, UK Department for Transport). In striving for a 'more equal Wales' the new WTS needs to address this disparity proactively. Importantly and in addition, road safety is more than the avoidance of being injured. It must also address the perception of risk of harm and freedom from harm and its manifestation at the individual, community and societal levels (Welsh 20mph Task Force Group Final Report, July 2020, p8). The proposed 20mph default speed limit in Wales will improve overall well-being in our communities, but its main aim is road danger reduction (a much preferable, broader, aim than casualty reduction). The new WTS should recognise this. Well-being goal 5: A Wales of vibrant culture and thriving Welsh language The 'issues' column should recognise that road traffic (including noise) and parking can blight the character of landscapes, townscapes, and the settings of environmental, cultural and heritage assets. The 'opportunities' column should note the opportunities to reduce motor traffic, including the blight of noise and parking, through the promotion of sustainable and active travel, and specifically the opportunities to travel to, or through, Wales's environment and landscapes, or its heritage and cultural assets, by walking or cycling. The Welsh Government has set up working groups to discuss proposals (set out in 'Taking forward Wales's Sustainable Management of Natural Resources') to open up most footpaths as multi-user trails. There is an opportunity to blend Rights of Way Improvement Plans with the Active Travel Network Maps (ATNMs), extending the latter out into surrounding areas. This would not only increase opportunities for active travel (e.g. for school pupils in rural areas to walk or cycle safely to schools in nearby towns) but also for active recreation, (e.g. allowing families living in those towns, or visitors staying in those towns, to get out into the surrounding countryside on foot or by cycle, without needing to drive to 'honeypot' locations. The same approach could also reduce car dependence in the most popular areas for outdoor recreation. An enhanced National Cycle Network, adopted as an integral part of the Welsh national transport infrastructure, has a large part to play. Well-being goal 6: A globally responsible Wales We agree with both the 'issues' and 'opportunities' identified.	Agree, comment noted. Motor traffic and parking can blight landscape and townscapes added to issues and opportunities columns. Support noted.
Yes, the key sustainability issues have been identified.	Support noted.
We welcome the comprehensive summary of the key issues and opportunities that the ISA should consider.	Support noted.
Generally, yes. Sustainability in the wider context needs to be considered as there many factors linked to environmental, social, economic and cultural that need consideration. The current pandemic now also needs consideration in regard to the wider "sustainability" context.	Support and comment noted.

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We welcome the wide range of issues that the ISA has identified and support this holistic approach in line with the Well-Being of Future Generations Act. As above, we think there is an opportunity to contribute towards an increase in 'eco-literacy' in Wales through inclusion of reference to the Nature Recovery Action Plan, which would also support those considering and implementing the WTS to meet the Environment Act Section 6 duty to maintain and enhance biodiversity and ecosystem resilience.	Support and comment noted.

Nature Recovery action plan added. |
Under Objective 3 - To support sustainable economic growth and diversity, there is an opportunity to consider how the WTS might support the foundational economy, which provides opportunities for local employment and stronger communities. As the First Minister has noted, the foundational economy can 'help keep money in communities, create better employment conditions and increase prosperity across Wales'.	Comment noted.
It would be useful to know how the WTS will consider the goal of a Globally Responsible Wales and relevant issues here might be consideration of ethical and sustainable supply chains, particularly if there is a prospect that items could be sourced from vulnerable communities or habitats internationally and issues of Modern Day Slavery.	
We recommend that the role of community engagement and empowerment in delivering positive outcomes for sustainable transport, health, well-being and inclusion, is recognised in the WTS and explored in the ISA. A range of research attests to the importance of community engagement and empowerment in achieving more sustainable forms of development, and sustainable transport behaviours. Our experience, across our member organisations, of working with communities in Wales on transport matters also shows the range of positive outcomes that can be delivered, aligning with the Well-being of Future Generations Act. We would also raise the importance of community resilience, the benefits of which have been highlighted through the local response to COVID-19.	Agree and advice noted.
Empowering communities to be involved in the development and provision of local transport, and ensuring local knowledge informs developments and transport management and decision-making – going well beyond 'consultation' should be central to the WTS. Transform Cymru members have strong links with communities across Wales and the capability this provides should be used to inform and deliver plans. We are able and enthusiastic about advising further on this topic.	Agree, advice noted.
Finally, there is little direct mention of those with disabilities or mobility impairments, which can be both physical and mental barriers to using the transport network (across all modes). It is important to separate these issues out so that they are not covered in a collective sense, which risks exclusion of those with specific needs.	Physical and mental barriers of the transport network added to issues under A More Equal Wales.
In exploring sustainability, the scoping report focuses on environmental resilience. We believe that community sustainability and resilience is another aspect that should be included here. Now more than ever, we understand the importance of community resilience and this has relevance to any transport strategy. In particular, we believe that communities should be involved in shaping policy and developing solutions, preferably through co-production rather than traditional methods of consultation where people are generally asked if they agree with things that are being proposed. The Well-being of Future Generations Act commits public bodies to principles of involvement and collaboration however, whilst reference is made in the consultation document to this, it is unclear how it will be	Agree, comment noted.

Agree, further detail on the Third Sector and community transport added. |

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realised. Our preferred approach would involve taking steps to listen and understand people's priorities and objectives i.e. What do they want transport to achieve for them? Why do they need transport services? Third sector organisations have strong links with communities with community transport in particular having in-depth knowledge of local transport needs and this should be recognised with steps taken to ensure expertise is fully utilized in the development of this work with continued engagement as the strategy is delivered.	
We generally support the sustainability issues that have been identified. However, we recommend that the following additional issues and opportunities should be considered by the ISA: Table 4.1. Well-being Goal: A Resilient Wales Opportunities for the WTS to address COVID-19 • We recommend that the evidence and assumptions underpinning the Wales Transport Strategy, need to be reviewed, to take into account post COVID-19 circumstances as set out in the recent Welsh Government Ministerial letter requesting a review of the evidence base underpinning local development plans. Climate and Flood Risk • Consideration of the existing transport infrastructure at the coast and sections that may be affected by coastal adaptation – to ensure that the significant infrastructure in the coastal zone is in a sustainable position and is secure in the long term. Shoreline Management Plans have a key role here. • Coastal erosion: There have been numerous coastal flood/erosion events in recent years which have affected coastal roads and railways, examples are included in the 2013/14 storms Coastal Flooding Review: https://naturalresources.wales/evidence-and-data/research-and-reports/reports-evidence-and-data-on-flooding/wales-coastal-flooding-review-phase-2/?lang=en. We recommend coastal erosion is included as an additional consideration for the WTS to address.	Agree, support and advice noted.

The impacts of COVID-19 added under A resilient Wales. |
| **Welsh version:**
Ceir cydnabyddiaeth yn y ddogfen ymgynghorol o'r cyfleoedd i hybu'r Gymraeg drwy'r Strategaeth Drafnidiaeth arfaethedig.
Argymhelliad
Cyflwyno dyhead y Llywodraeth i hybu'r Gymraeg drwy'r strategaeth yn glir: drwy gynyddu'r defnydd o'r iaith ar drafnidiaeth gyhoeddus, gwella mynediad at addysg a gwasanaethau Cymraeg, a hwyluso cyfleoedd economaidd a mynediad at weithgareddau cymdeithasol yn yr iaith.

English translated version
The consultation document acknowledges the opportunities to promote the Welsh language in the proposed Transport Strategy.
Recommendations
Presenting the Government's aspiration to promote the Welsh language clearly through the strategy: increasing the use of the Welsh language on public transport, improve access to education and Welsh language services, and facilitate economic opportunities and access to social activities through the medium of Welsh. | This comment refers to the contents of the WTS, rather than the ISA. |

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Again, the summary of issues in Table 4-1 has a significant focus on passenger transport and there needs to be a greater recognition of freight transport users of the transport network. This would then also be reflected in the opportunities for the WTS to address. In Figure 4, the Port of Mostyn is omitted, which handles significant traffic for the energy sector (and especially offshore wind). Also, the map neglects to include the Swansea District line which does have a small number of passenger trains per day currently, with a proposal for a Parkway station currently being developed.	Freight transport added. Port of Mostyn and Swansea District Line added to Figure 4.
Yes, we do. We recognise that there are sustainability issues associated with the economy, the climate, air quality, noise, biodiversity, flood risk, geology and soils, the water environment, minerals and waste, Welsh language, landscape and townscape character, the historic environment and our other cultural heritage and assets.	Support noted.
Q3	**Are there any particular topics or geographical areas of specific concern to you or your organisation?**	
I live in Torfaen and the north of the County continues to suffer from a lack of connectivity. For example, there is a World Heritage Centre in Blaenavon that should attract much greater numbers of visitors than at present. I believe the lack of decent transport is wholly responsible for not just this but the general lack of employment and tourism opportunities in the area. People living in the area have to rely on the private car to access employment and retail venues.	This comment is focused on the contents of the WTS, rather than the ISA.
North Wales.	This comment is focussed on the contents of the WTS, rather than the ISA.
Little happening in North Wales. There is life north of Brecon!	This comment is focussed on the contents of the WTS, rather than the ISA.
The bus routes can be so poorly linked that it takes several hours and costs around £10 to make a journey that would take 20 minutes in a car (I'm thinking of Rachub to Llanberis). In a previous job, it used to be faster for me to cycle to work in Llanbedrgoch, Anglesey, than to get 3 buses, but meant I was exhausted before even starting a 2 day shift.	This comment is focussed on the contents of the WTS, rather than the ISA.
Should make reference to addressing gender pay gap, as well as equal pay issues. No mention of regional connectivity.	The gender pay gap, gender inequality, and regional connectivity is a key consideration of the baseline data and key issues and is reflected in the ISA framework.

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Jacobs believes integration across the whole of the UK is of great benefit and would encourage Welsh Government to consider all linkages across borders in depth. This is particularly important in accommodating Brexit related issues across the Irish Sea.	This comment is focussed on the contents of the WTS, rather than the ISA.
Public transport in North Wales and particularly Gwynedd has been decimated over the past 10 years. An integrated, sustainable network cannot be maintained commercially. Promoting services, in particular, providing network timetable booklets essential (well done Ynys Mon and Conwy who still do). Competent bus operators should be fully involved in the process if issues such as Padarn and Express Motors are to be avoided.	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes, there are. The ongoing COVID-19 pandemic has seriously damaged the Welsh economy and employment prospects. Short term interventions may need to be prioritised in order to support economically deprived areas. The WTS should be shaped to assist the development of Wales' national, regional and local economies including those that are largely dependent on recreation and tourism.	This comment is focussed on the contents of the WTS, rather than the ISA.
We would cease arbitrary distinctions between strategic and non-strategic transport provision, and include all modes including active travel, recognising the pressing need to rebalance travel as means to achieve greater and more sustainable access to social, economic, and environmental services.	This comment is focussed on the contents of the WTS, rather than the ISA.
Monmouthshire is a county that has relatively poor public transport links. Whilst this is particularly true of the more rural parts, it is also relevant to the Severnside corridor in the south of the county. In Severnside it is believed everyone has access to personal transport. This assumption deprives many people of all age-groups the connectivity to workplaces, education establishments, medical facilities and leisure pastimes.	This comment is focussed on the contents of the WTS, rather than the ISA.
1. The three Welsh National Parks. 2. Please see the response to Q2 above. 3. Coastal adaptation is happening in some locations – e.g. Newgale in Pembrokeshire. This will have significant implications for transportation and communication links in some locations.	National Parks will be an important element of appraisals in the ISA. Coastal adaptation will also be an important element of appraisals in the ISA.
The geographical area of Mid Wales is rural with small communities. Public transport to these areas is important. A policy with reference to the retention of local buses is essential.	This comment is focussed on the contents of the WTS, rather than the ISA.
Ceredigion is obviously supportive of the fact that 'Welsh language' and 'rural proofing' impact assessments are to be included in the ISA process.	Support noted.
In response to Table 4.1 and in particular page 28 – Minerals and Waste. Firstly, the author has a disappointing, rather archaic and possibly tainted opinion of the minerals industry, demonstrating an ill-informed understanding of the subject. This questions whether or not the document is "fit for purpose". The section of the report fails to acknowledge the many and substantial benefits of a sustainable minerals industry in Wales, not just supplying the raw materials to build infrastructure, including transport infrastructure, but the significant opportunities to delivery	Comment noted. The statement "extraction can be very damaging to the natural and

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biodiversity net benefit/net gain on a landscape scale. A steady and adequate supply of minerals is essential to deliver society's needs and never more so has this been demonstrated, than in the recent COVID-19 crisis. This supply of minerals is essential to the economic health of the country. We seek clarification on the author's statement that "extraction can be very damaging to the natural and human environment". Indeed, we challenge this perception most strongly and trust this is not a representative view of Welsh Government (WG). Through Planning Policy Wales (PPW), the planning system employs the principle of Buffer Zones, together with industry establishing known mitigation measures to ensure the effects of mineral operations on the environment are properly controlled. If WG is to deliver a green revival (infrastructure, energy, etc.), a steady and adequate supply of minerals and mineral products is essential. However, it must be stressed that the supply of minerals and mineral products cannot be assumed. It is important that their availability and deliverability should be properly planned when considering the long term objectives of the Wales Transport Strategy. Within this the proximity principle is important for minerals supply but recognising the criticality of high specification aggregates to Wales' transport system and its wider economy. Further, the issues identified in this section appear somewhat conflicting. The first bullet point makes reference to "substantial resources", whilst the second bullet point refers to the "strain on limited resources". The report also fails to acknowledge the need to safeguard mineral resources from sterilisation from incompatible development. Mineral resources should be afforded the same level of consideration as other matters such as cultural heritage assets and landscape designations to ensure they remain available in the longer term. Once a mineral resource is sterilised, it becomes inaccessible for future generations.	human environment" has been removed by the author.
Yes, we wish to see a modal shift in Wales to more environmentally friendly forms of transport - that is to walking and cycling for short-distances and to public transport for longer distance trips. Walking and cycling offer important health and well-being benefits and contribute to the UK's and the WG's targets for cleaner air and net-zero carbon. This modal shift requires motor traffic reduction, so connects with strategies designed to facilitate a more local, circular or foundational economy, notably in the areas of economic strategy, spatial planning and broadband (e.g. the WG's Circular Economy Strategy). Spatial planning is particularly important for reducing dependence on private motorised travel. Planning policies need to support the aim of minimising the need to travel, by fostering self-contained developments, and/or by guiding development to locations where journeys can most easily be made by walking, cycling and public transport. Shorter journeys are not only less carbon-intensive in themselves but are also more easily switched to these clean and healthy modes.	This comment is focussed on the contents of the WTS, rather than the ISA.
Of key concern to Public Health Wales is the need to recognise the fact that transport, including access to different transport options, is linked to health, both directly and indirectly, in terms of ability to access health services. In addition, health related inequalities may be exacerbated or alleviated by transport systems, depending on the provision and delivery; Public Health Wales is always keen to assess provision of this type to ensure that inequalities are not exacerbated.	Health inequalities has been covered in the PPP review, baseline data and is recognised as a key sustainability issue that will be addressed in the ISA.

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Since its inception, sustainable development has been at the heart of the WI. One area where WI members find it difficult to be more environmentally friendly is transport. To mark the centenary of the WI in 2015, the NFWI undertook research with WI members. The WI at 100 Report found that while 63% of WI members use public transport to varying degrees, 46% of members say that their use of these services could improve as part of efforts to reduce environmental impact at household level. During the focus groups, members discussed the challenges in accessing public transport in rural areas. They highlighted 'scanty provision' and noted problems in accessing the services that were available, for instance where bus stops were located at a distance and on a road with no footpath. Decline in local bus services – In 2019, WI members passed a resolution calling on local and national governments to take action to address the decline in local bus services. The NFWI's Get on Board for a Better Bus Service campaign is currently taking forward this resolution. The campaign seeks to raise awareness of the importance of local bus services and empower members, WIs and federations to make the case for buses in their local communities. Rural communities - We are concerned about the current provision of bus services in rural communities. Without access to a local bus service, there is concern that those who do not have access to a car are unable to reach local services, particularly those living in rural communities. This can lead to social isolation and impact on the health and well-being of individuals who rely entirely on public transport. With 14% of the population of Wales without access to a car, it is vital that communities across Wales have access to affordable and reliable bus services that meet their needs in order to help reduce inequalities and social exclusion. Climate change – Climate change is a key area of concern for the WI. The public transport sector has a key contribution to make in supporting the Welsh Government to reach its ambition of net zero by 2050. Impact of COVID-19 – As the recovery begins, it will be important to build on the increase we have seen in active travel and also to give people the confidence to use public transport in order to help reach the modal shift that is required to cut our carbon emissions and tackle climate change. Provision of bus services that meet the needs of women – cuts to bus services disproportionately impact on women. In addition, the provision that is available often does not support the travelling patterns of women. More women than men work part-time and often women also have caring responsibilities that they fit around their work commitments. To achieve long term behavioural change, there needs to be investment in bus services to ensure that the provision meets the needs of women and the wider public in order to address the continuing decline in passenger numbers.	Agree, The WTS must place the necessary investment in public transport, particularly bus and removing barriers to transport. The ISA will help to ensure that public transport, including regional, rural/urban, and gender inequalities are tackled. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
The WTS needs to fully recognise the regional and local variations and ensure that access to the most deprived areas is critical to ensure there are opportunities to increase prosperity within these communities. Good, affordable transport links and infrastructure are crucial.	This comment is focussed on the contents of the WTS, rather than the ISA.

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We stress the importance of inclusion for all communities and groups across Wales. The transport network typically supports those who are 'easy to help' and the strategy needs to ensure that all people can access services and facilities regardless of financial status, location, background or ability. We are especially concerned about the impact of COVID-19 on transport services, in particular rural services and urge that the WTS explores all options to mitigate this impact and mobilise all opportunities to ensure communities remain connected.	This comment is focussed on the contents of the WTS, rather than the ISA.
Again, we point to the cross-cutting nature of this strategy and the impact other policy areas, strategies and plans could have on its success. For example, national planning guidance should ensure that transport is considered in the initial stages of service design to ensure people can access facilities without needed to rely on a private vehicle which a substantial number of people across Wales do not have access to. The failure to consider access early on in service planning further exacerbates social exclusion and poverty which is unacceptable.	
In terms of safety, we note that the benchmarking data includes safety 'on public transport' but suggest that access points must be made safe also which includes lighting for car parks and entry ways. In addition, we stress the importance of ensuring that children are able to travel safely across all modes which would include ensuring provision for active travel with segregated cycle-ways and walking routes that would increase levels of confidence for those under 18 and their parents.	
The scoping report references the need to tackle 'driver stress' which could be reduced through reducing levels of private car use and tackling congestion. Evidence shows that journeys combining active travel and public transport are good for mental health and well-being, and even enhance people's productivity at work. We therefore recommend a strong focus on influencing behaviours and achieving modal shift. There are further opportunities to tackle driver stress through education to enable a better understanding of new active travel facilities from a driver perspective. The Highway Code is likely to be updated in the near future to help with this.	Agree, Objective 1 decision aiding question amended to "driver stress and potential stresses caused to other road users".
The number of killed and seriously injured road users has remained stagnant for some time; whilst the scoping report recognises that efforts need to be made to reduce this, the WTS needs to include clear and achievable goals for road safety across all modes.	
We welcome the recognition of gendered patterns in transport use and the typical needs of women. We suggest however, that the scoping report could be strengthened with the inclusion of these aspects:	
1) Gender pay – we welcome the reference to gender pay and importance of taking steps to reduce the gap within the transport sector. We would also advise that transport has a role to play in making sure work pays for women. For example, a paper published by Sustrans and Chwarae Teg in 2013 highlighted the significant difference in pay for full and part-time workers, demonstrating that travel discounts, benefitting those travelling more than 3 days, were aimed at the group of people already financially better off not just because they work more hours but also because the rate of pay for part-time workers is lower on average. As such, the strategy could look to ensure fair fares for part-time workers, ensuring they can purchase multiple tickets for use over a period of time. A more	Support and advice noted. It is not expected that the pay gap will be within the scope of the WTS.

Gender pay, travel patterns and trip chaining have been discussed at length in the ISA Scoping Report |

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recent article from Campaign for Better Transport calls for flexible season tickets for part-time workers, recognising the change in working patterns created by COVID-19. 2) Travel patterns – whilst the scoping report recognises the different ways men and women use transport, the data provided in the baseline report looks at home to work travel suggesting that this is a direct journey. For many parents, this journey is far more complex with women more likely than men to go to work via school (7%), escorting others (5%) or other purpose (2%). 'Trip-chaining' as it is known, is attributed to part-time workers more than full-time and women more than men. The rate varies depending on the age of the child but in a household with a child under the age of 5, a working woman will increase her trip-chaining by 54% compared with 19% for men. Finally, we note that the third sector is referenced in the report but require further clarity of the role identified for the sector. As a coalition that has significant representation of third sector organisations, we would advise that authorities should utilise the expertise of these organisations in engaging with communities and drawing on technical expertise, and that the community and voluntary sector as a whole could be involved and empowered to play an important role in the WTS. We also note that whilst there is reference in the scoping report to bus, rail and active travel, there is no mention of community transport which we believe is a significant oversight. The third sector plays a key role in the provision of transport to many communities and individuals who face barriers to access and the impact and potential of these organisations should be recognised in the scoping report. We are happy to advise further on this.	documents and will be an important consideration of the appraisals. The impacts on the Third Sector will be assessed as part of this ISA. Agree, further detail on the Third Sector and community transport added. Community transport added to Objective 2.
Transport for rural communities is a particular concern for us as we know that many communities are poorly served by public transport and community transport services play an important role in mobilising these communities. In some of these areas, there are no transport options at all aside from private cars and that includes no local taxi service. Where there are options, the infrequency of buses for example or cost of taxis creates barriers for those who need to access services outside of their local community. Rural bus routes were already insecure, and the current public health crisis (and resulting financial crisis) makes these services especially vulnerable. The future has to provide a focus on sustainable solutions developed at a local level in partnership with communities to resolve the challenges faced by these communities. Following COVID-19, we anticipate a significant reduction in commercial bus and coach operations which will widen the gaps in transport provision across bus networks, school transport and leisure travel. The importance of the third sector in addressing this challenge needs to be recognised in the Wales Transport Strategy. For decades, the sector has delivered socially necessary transport, facilitating mobility through shared modes such as demand-responsive bus, community car schemes, moped hire and more. These are bespoke services developed by community organisations in response to local needs. Through CTA's Connecting Communities in Wales project, CTA has supported the sector to secure £2m additional funding for transport services for an investment of	This comment is focussed on the contents of the WTS, rather than the ISA. Community transport added to Objective 2. Agree, further detail on the Third Sector and community transport added.

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£300k. There is clear potential to develop and grow the community transport sector which would allow many of the problems we face in transport today and are likely to meet in the future to be addressed in a sustainable and inclusive manner. Another concern for us is accessibility for vulnerable groups and those with disabilities. Much of the public transport network serves those who are able-bodied and 'easy to help' which leaves large groups of people excluded and unable to access key services, facilities and social networks, all of which are essential for a basic quality of life. Having access to transport allows people to live independently for longer and in particular, community transport services facilitate this. This is a pressing matter given that we have an ageing population and we must ensure a framework for provision that recognises the needs of these groups and the cost savings for health that are associated with transport provision. A further way of ensuring equity of provision would be for minimum standards of public transport provision to be adopted across Wales, ensuring that good public and community transport is regarded as something that all citizens have a right to wherever they are, moving away from the current situation where levels of service are dictated by a host of circumstances (e.g. historic factors and commercial interests). We suggest that this should be considered to ensure quality of life for all.	
Of key concern to Public Health Wales is the need to recognise the fact that transport, including access to different transport options, is linked to health, both directly and indirectly, in terms of ability to access health services. In addition, health related inequalities may be exacerbated or alleviated by transport systems, depending on the provision and delivery; Public Health Wales is always keen to assess provision of this type to ensure that inequalities are not exacerbated.	Comment noted.
Climate Emergency Page 22 (Section 4.3.1) of the Integrated Sustainability Appraisal of the Wales Transport Strategy Draft Scoping Report (ISA Report) refers to climate change. We consider that the statement of reducing Wales' contribution towards the causes of climate change (such as greenhouse gas emissions) will reduce the magnitude of climate change impacts needs to acknowledge that even if Wales became carbon neutral, the impacts of climate change would still be felt. We recommend that the paragraph should be amended to recognise the need for climate change adaptation in addition to other measures to help reduce the magnitude of impacts. The Wales Transport Strategy should identify what adaptation measures may be needed to ensure long term resilience.	Agree, advice noted. Adaptation is an element of resilience, which is discussed in length in 4.3.1 just before the text on the impacts of climate change.
Welsh version Mae angen gwella gwasanaethau trafnidiaeth mewn ardaloedd gwledig sydd â dwysedd uchel o siaradwyr Cymraeg. Byddai cysylltiadau trafnidiaeth effeithiol yn yr ardaloedd hyn yn sicrhau mynediad dirwystr at wasanaethau allweddol yn y Gymraeg, yn creu cyfleoedd economaidd yn yr ardaloedd yn ogystal â hwyluso mynediad at weithgareddau cymdeithasol yn yr iaith.	Noted. This comment refers to the contents of the WTS rather than the ISA. '*Contribute towards an improvement in the accessibility of Welsh-medium*

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Mae gan y Gymraeg statws swyddogol yng Nghymru, ac mae dyletswydd ar sefydliadau cyhoeddus i hybu'r iaith a darparu cyfleoedd i bobl ei defnyddio lle bynnag bônt yn byw. Dylai darpariaeth trafnidiaeth yng Nghymru hybu mynediad rhwydd at ganolfannau addysg, gwasanaethau, gweithleoedd a gweithgareddau cymdeithasol yn y Gymraeg ar draws Cymru. **English translated version** There's a need to improve transport services in rural areas which have high densities of Welsh speakers. Effective transport links in these areas would ensure unobstructed access to key Welsh-medium services, creating economic opportunities in these areas together with facilitating access to social activities in Welsh. The Welsh language has official status in Wales, and organisations have a duty to promote the language and provide opportunities for people to use it wherever they live. Transport provision in Wales should promote easy access to educational centres, services, workplaces and social activities in Welsh throughout Wales.	*health/welfare services?*' has been added as a decision aiding question in the ISA Framework.
Yes, there are. The ongoing COVID-19 pandemic has seriously damaged the Welsh economy and employment prospects. Short term interventions may need to be prioritised in order to support economically deprived areas. The WTS should be shaped to assist the development of Wales' national, regional and local economies including those that are largely dependent on recreation and tourism.	Comment noted.
Q4 **Are there any changes you consider should be made to the ISA Objectives or Questions?**	
There should be more emphasis on economic development.	Economic development forms an important element of the ISA including the ISA Framework.
Written in simpler language so that I may understand it.	Comment noted.
"Sustainably manage natural resources and tackle the causes of climate change" -......"A globally responsible Wales". I agree with this whole heartedly but feel my previous suggestions would make this more genuinely achievable.	Support noted.
The ISA objectives seem to support a more integrated approach to transport infrastructure (so Metro within a street environment rather than segregated). The ISA objectives have nothing in respect of affordability. Objective One - suggests a car-focussed approach and that only drivers get stressed on the transport network. This should be reworded to highway users if specifically referring to road users but should apply equally to all transport users in Wales (particularly for public transport users considering their lack of control over travel consistency and in the aftermath of COVID-19).	Advice noted. Agree, Objective 1 decision aiding questions amended to "driver stress and potential stresses caused to other road users".

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The Town Council supports the policy 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. This will no doubt be difficult in some areas of transport provision but should be an objective. We would add that environmental issues should be considered at all stages, but they should not be the overriding objective. Welsh Transport Policy needs to be about enhancing services as a priority but taking environmental matters into consideration.	This comment is focussed on the contents of the WTS, rather than the ISA. As is best practice for ISA, the economic, environmental and social themes of sustainability are equally weighted and cross-cutting. The ISA accounts for sustainability on the whole, with no theme overriding the other.
Yes, there are. The 13 ISA objectives would appear to be equally weighted. Perhaps more weight should be placed on economic objectives at least in the short to medium term. Social, environmental, and cultural objectives are very important, but major (transport) interventions are costly, have a long lead in time and need to be affordable, effective and deliverable.	The ISA accounts for sustainability on the whole, with no theme overriding the other. Placing greater weight on economic Objectives would risk significant adverse effects on environment or social themed Objectives, which would be unacceptable and not best practice.
We're continuing to learn more about the ways in which the COVID-19 pandemic will continue to change the ways in which we live, whether in work or in accessing services and products, especially public services. This needs more consideration of proposed outcomes, evidence collecting, and measures adopted for monitoring.	Comment noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
To make sure that schemes that already fit the ISA are promoted for early adoption and used as a model for the future.	Comment noted
1. When considering access to health and social care services – take into account the needs of those needing to visit/support users of these services to reduce social isolation. The need to improve access to many health-care services in rural areas is hindered by the WG policy to reduce the number of hospitals which requires patients to travel greater distances – in West Wales this can involve round trips of 70 or 80 miles – with no realistic public transport options. For those supporting those having treatment this is a significant barrier.	Agree, comment noted. Agree, access to national parks included in ISA Objective 1 decision aiding questions.

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2. Access to employment – in rural areas the lack of affordable housing requires many people to travel long distances to their place of work (typically low-paid jobs) as they cannot afford to live in the same locality. This is particularly true for those working in the tourism sector. 3. Table 5.3 should include the need for the Welsh population to have access to and travel around the three Welsh National Parks by means of inexpensive and accessible public transport, walking and cycling (including e-bikes and e-scooters).	
The Association supports the policy 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. This will no doubt be difficult in some areas of transport provision but should be an objective.	Support and comment noted.
The Committee supports the policy 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. This will no doubt be difficult in some areas of transport provision but should be an objective.	Support and comment noted.
Ceredigion believes that the WTS should be a mechanism for contributing to and promoting social, economic and environmental stewardship/sustainability, and suggests that rather than seeking to 'encourage' within some of the objectives these should be amended to 'contribute', 'enable', 'promote', 'ensure' and a more pro-active emphasis given to its role.	Advice and comment noted. Agree, language amended to more pro-active words.
Yes, the issue of minerals, mineral products and minerals safeguarding should be appropriately considered in the development of objectives, as outlined above.	Comment noted.
We support the objectives proposed in Table 5-3, but we suggest slightly rewording one of them, and adding one more. The amendment is to the wording of objective 6. In our opinion "Create the conditions within which greenhouse gas emissions can be reduced" is too indirect. It should simply be "To reduce greenhouse gas emissions from transport". The additional objective we wish to propose is an explicit one "to reduce the volume of road traffic." The 'decision-aiding questions' for this additional objective could be whether the WTS (or a reasonable alternative) would: • Reduce the need to travel. • Reduce journey distances. • Increase the options available for people to meet their travel needs by walking, cycling and public transport.	Support and advice noted. Agree - Objective 6 amended to be Reduce Greenhouse Gas Emissions from Transport. Reduce the volume of road traffic added to Objective 6. Promotion of active travel added to Objective 1. Reduce road danger added to Objective 1.

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N.B. An alternative would be to add these 'decision-aiding questions' to the objective for reducing greenhouse gas emissions. However, we believe it would be preferable to include this additional objective explicitly, to highlight the cultural and societal changes necessary.
In addition, we wish to propose a number of changes of detail to the existing proposed Objectives:
 	
i. Under Objective 1 (relating to mental and physical health, and tackling health inequalities), in the 3rd bullet point, after "promote healthy lifestyles through…", we suggest deleting the remaining words of this bullet-point and replacing with "the promotion of active travel".
 	
ii. Again under Objective 1, we suggest deleting the fifth bullet point "improve road safety" and replacing it with "reduce road danger' to take account of the much broader concept which better fits the well-being goals.
 	
iii. Again under Objective 1, we suggest deleting the sixth bullet point; its purpose will be covered in the previous point about road danger.
 	
iv. Under Objective 2 (relating to social cohesion and equality), we suggest replacing the 3rd bullet point with the following question:
   • [Will the WTS] "Improve the safety, convenience and accessibility of walking and cycling routes so that walking and cycling are seen as realistic, safe and attractive options for people of all ages, backgrounds and abilities".
 	
v. Under Objective 3 (relating to sustainable economic growth and diversity), after the word "employment", we suggest inserting "education and training" before "opportunities".
 	
vi. Under Objective 4 (relating to Welsh culture), we suggest adding "sustainable and" before "resilient".
 	
vii. Under Objective 8 (relating to air quality), we suggest replacing the words of the final bullet-point, to say:
   • [Will the WTS] "Reduce the disproportionate impact of poor air quality on the most disadvantaged and vulnerable communities?" The current wording is unacceptably weak.
 	
viii. Under Objective 9 (relating to the protection and enhancement of landscapes and townscapes), add:
   • [Will the WTS] "Reduce the adverse impacts of road traffic and parking (e.g. visual intrusion and noise) on Wales' valued landscapes and townscapes?"
 	
ix. Under Objective 12 (relating to the sustainable use of natural resources), add
   • [Will the WTS] "Increase opportunities to enjoy Wales' natural environment and rights of way network through all forms of active travel?"
 	
There is also a need to clarify the weighting of these objectives and the questions under each objective - and how any such weighting process would operate. Given the statement (on p21) that climate change and ecosystem resilience are "overarching considerations" we suggest that the objectives relating to these considerations are given additional weight.
	Third bullet point replaced with "Improve the safety, convenience and accessibility of walking and cycling routes so that walking and cycling are seen as realistic, safe and attractive options for people of all ages, backgrounds and abilities".
	
	Agree – Added education and training to first bullet point of Objective 3.
	Agree – added sustainable before resilient in first bullet point of Objective 4.
	
	Agree – replaced final bullet point of Objective 8 with "Reduce the disproportionate impact of poor air quality on the most disadvantaged and vulnerable communities?".
	
	Agree – added "Reduce the adverse impacts of road traffic and parking (e.g. visual intrusion and noise) on Wales' valued landscapes and townscapes?" to Objective 9.
	
	Agree – added "Increase opportunities to enjoy Wales' natural environment and rights of way network through all forms of active travel?" to Objective 12.

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	All ISA Objectives are weighted equally and combine to provide a comprehensive understanding of 'sustainability' on the whole.
In terms of ISA objectives, we agree with objective 1, but note that the only direct health harm associated with the transport system that is mentioned is in terms of road safety. There are no questions that refer to emissions affecting air quality and therefore respiratory and cardiovascular health, and no questions about noise having similar effects. Another issue that could be covered is the current transport system directly and indirectly limiting the ability to be physically active and the health harms that are associated with this. Driver stress, and the need to reduce it, is listed, but there is no mention of stress for active travellers or public transport users; this implies that driving and driver stress is more important than travel and stress of other road users. If the sustainable travel hierarchy is to be adopted, logically, the system should offer minimal stress for active travellers and public transport users, but be less concerned about driver stress. Low driver stress will encourage continued driving. Healthy lifestyles are referenced and presumably this is intended to cover active travel and public transport use, but it may be useful to be more explicit about this. Mental health is highlighted in the initial objective, but not in any of the accompanying questions. Community severance does account for some of these issues, but not for wider issues associated with loneliness, isolation and stress and anxiety associated with the transport system and, in many cases, speeding traffic. Objective 2 does encompass some of the issues around access to walking and cycling routes and the reference to improving equitable access to these is welcomed. The Active Travel Act is the key, and most important, connection that follows from here in that not only does access need to be equitable, but it needs to be extended. In theory, it would also be possible to make the system equitable by removing it completely. Therefore, the availability of routes also needs to be equitable. These routes also need to be safe, and perceived to be safe, in terms of traditional views of crime and also crash and injury risks. Objective 3 highlights the need to reduce travel for work. While we agree with this, it also needs noting that full time home working can have negative effects on mental health. It is also important to ensure that those people who have to travel to and from work have choices in the way they travel and do not suffer disadvantages associated with long journey and travel times. Objective 8 states that the WTS will aim to create the conditions where air quality can be protected and improved where necessary (emphasis added). There is no safe level of air pollution and this is recognised in Prosperity for All, which aims to deliver continuous improvements in air quality. The WTS needs to be consistent with these aims.	Comment noted. Agree - added decision aiding questions on air quality, noise and Objective 1. Agree, Objective 1 decision aiding questions amended to "driver stress and potential stresses caused to other road users". Agree - "promotion of active travel" added to third bullet point of Objective 1. Agree – added accessibility and availability of public transport to bullet point 2 of Objective 2. Agree – rephrased bullet point 1 of Objective 8 to "Create conditions within which air quality can be improved and protected". Agree – bullet point 2 of Objective 8 rephrased to "Reduce the negative….".

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Objective 8 also states that the WTS will aim to encourage a reduction in the negative effects of transport on local air quality. It would be useful if rather than encouraging a reduction, a more robust statement was made. It is also important to be mindful of the fact that electric vehicles do still produce emissions; exhaust emissions are reduced, but production of particulate matter due to tyre and brake wear will still compromise air quality. Finally, objective 8 states that the likelihood of new air quality management areas (AQMAs) being needed will be reduced. We feel that this would be better phrased as "reduce traffic pollution to help get rid of existing AQMAs and prevent new ones being declared."	
ISA Objective 1 - Will the WTS contribute towards reducing loneliness and social isolation? ISA Objective 3 - To support sustainable economic growth and diversity, we would suggest that that this objective could consider the impact the WTS could have in supporting access to / promoting local high streets and town centres.	Loneliness and isolation included in decision aiding questions. High Streets will comprise an important element of the more economic themed appraisals.
There needs to be a focus on achieving measurable outcomes rather than vague statements such as "contribute to". Climate change is a big influencing factor and is not prominent within the document as it stands.	Agree, comment noted. Language amended to more pro-active words.
Objective 2. To create the conditions within which an improvement in social cohesion and equality can be achieved In line with our comments above, we recommend that this objective, and the related questions, could overtly recognise the importance of community engagement, empowerment and resilience. Objective 3. To support sustainable economic growth and diversity We note that there is a question under Objective 3 that asks if the WTS supports and encourages third sector activities. It would be useful to have further clarity on the role of the third sector in the strategy to better understand this question. We believe that there is an important role for the third sector in supporting authorities to engage with communities, providing technical expertise and local knowledge along with the delivery of transport services. Not all of these things would sit under Objective 3 so this needs to be considered and addressed accordingly. We would also highlight that the wording of this objective would align better with global thinking on sustainability, the Well-being of Future Generations Act, and the aspirations of communities, if it were to refer to 'sustainable development and diversity'. It is widely documented that the pursuit of economic growth often undermines sustainability objectives, whereas 'sustainable development' is a concept that attempts to marry up economic prosperity and sustainability. Objective 6. To create the conditions within which greenhouse gas emissions can be reduced	Comment noted. Agree, further detail on the Third Sector and community transport added. Amended Objective 3 – "To support sustainable development and diversity". Comments noted.

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It might be helpful to include a question to address impact on the National Forest to consider how the WTS could contribute towards maintenance, restoration or creation of this Wales-wide asset and avoid unintended detrimental impact on its ecological connectivity or carbon sequestration capacity. With the current emphasis on the Green Recovery there is a huge opportunity to also consider how infrastructure created by WTS might link with adjacent green spaces and amenity areas to enhance the National Forest and other nature and climate gains. Objective 11. To encourage the conservation and enhancement of biodiversity and geodiversity Section 6 of the Environment Act places a legal duty on public authorities exercising their functions in relation to Wales. It states that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Rather than considering if the WTS will encourage the conservation and enhancement of biodiversity and geodiversity therefore we feel that the more pro-active language used in other objectives would be more appropriate here e.g. Objective 11: To create the conditions within which the conservation and enhancement of biodiversity and geodiversity can be increased Or simply, the language of the s6 duty could be used instead Objective 11: To maintain and enhance biodiversity We also note that there is an aspiration to protect geodiversity and invite consideration of whether there could be a simple equivalent question assessing if the WTS will protect biodiversity, particularly as protection may be a more pro-active term, and perhaps more widely-used and understood, than conservation. Objective 12. To encourage the sustainable use of natural resources Sustainable management of natural resources is now defined in the Environment Act as: "using natural resources in a way and at a rate that maintains and enhances the resilience of ecosystems and the benefits they provide. In doing so, meeting the needs of present generations of people without compromising the ability of future generations to meet their needs, and contributing to the achievement of the well-being goals in the Well-being of Future Generations Act." Given increasing awareness of the pressures that Wales's natural resources are under, we again feel that a stronger and more pro-active term than 'encourage' may be helpful. Encouraging something suggests that it is not already the norm, and making sustainable use of natural resources the norm is a clear intention of both the Environment Act and the Well-Being of Future Generations Act. Another way to approach this challenge might be to rephrase this objective as: 12. To discourage the unsustainable use of natural resources.	Agree, language amended to "promote" rather than encourage. Agree, language amended to "ensure".
There are a number of comments we would make on the objectives and corresponding questions which we set out as follows: Objective 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	Comments noted.

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This is a key objective and we are glad it is first on this list. In terms of the questions, we believe that the first question should be broadened out to recognise that the WTS should contribute towards an improvement in access to health and social care services for all who face barriers to accessing transport, including for those living in isolated/rural areas. The aim here should be for services to consider transport links early in the planning process and engage operators to ensure individuals can travel to services without reliance on the private car. Solutions might include community or voluntary car schemes which allow demand-responsive travel. Objective 2. To create the conditions within which an improvement in social cohesion and equality can be achieved Whilst background and circumstances are detailed in the questions provided, we would like to see location listed also given the high proportion of rural and semi-rural communities poorly supported by the transport network. Rural may be considered as 'circumstances' but we would like to see it explicitly referenced to ensure absolute clarity. It is also worth pointing out that community transport is already creating conditions for social cohesion and equality to be achieved and so a good way to support this would be to create some stability for the sector which would allow operators to focus on the future and identify opportunities for growth. Objective 3. To support sustainable economic growth and diversity Question - Support and encourage third sector activities? Reference to the third sector is welcome and indeed a critical part of the transport strategy. It is unclear from the document what this means though and so impossible to tell if we support it or if it is included in the best place. Our instinct would be to say that to include support for third sector exclusively under the objective 'to support sustainable economic growth and diversity' is to misunderstand the role of the third sector in the overall transport sector. Further work needs to be done to understand the third sector's role in delivering the Wales Transport Strategy and ensuring this is clear in all supporting documents. In terms of economic benefits of the sector, we know that investment in community transport delivers outstanding value for money as well as savings for the public sector through a reduction in missed appointments and support for people living independently which removes pressure for social services. We further believe that there are opportunities for not-for-profit transport solutions and would like to see this further emphasized in the strategy.	Agree, community transport and rural/urban inequalities added. Agree, further detail on the Third Sector and community transport added.
In terms of ISA objectives, we agree with objective 1, but note that the only direct health harm associated with the transport system that is mentioned is in terms of road safety. There are no questions that refer to emissions affecting air quality and therefore respiratory and cardiovascular health, and no questions about noise having similar effects. Another issue that could be covered is the current transport system directly and indirectly limiting the ability to be physically active and the health harms that are associated with this. Driver stress, and the need to reduce it, is listed, but there is no mention of stress for active travellers or public transport users; this implies that driving and driver stress is more important than travel and stress of other road users. If the sustainable travel hierarchy is to be adopted, logically, the system should offer minimal stress for active travellers and public	Comments noted. Agree, decision aiding questions on air quality and noise added to Objective 1. Agree, Objective 1 decision aiding questions amended to "driver stress

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transport users, but be less concerned about driver stress. Low driver stress will encourage continued driving. Healthy lifestyles are referenced and presumably this is intended to cover active travel and public transport use, but it may be useful to be more explicit about this. Mental health is highlighted in the initial objective, but not in any of the accompanying questions. Community severance does account for some of these issues, but not for wider issues associated with loneliness, isolation and stress and anxiety associated with the transport system and, in many cases, speeding traffic. Objective 2 does encompass some of the issues around access to walking and cycling routes and the reference to improving equitable access to these is welcomed. The Active Travel Act is the key, and most important, connection that follows from here in that not only does access need to be equitable, but it needs to be extended. In theory, it would also be possible to make the system equitable by removing it completely. Therefore, the availability of routes also needs to be equitable. These routes also need to be safe, and perceived to be safe, in terms of traditional views of crime and also crash and injury risks. Objective 3 highlights the need to reduce travel for work. While we agree with this, it also needs noting that full time home working can have negative effects on mental health. It is also important to ensure that those people who have to travel to and from work have choices in the way they travel and do not suffer disadvantages associated with long journey and travel times. Objective 8 states that the WTS will aim to create the conditions where air quality can be protected and improved where necessary (emphasis added). There is no safe level of air pollution and this is recognised in Prosperity for All, which aims to deliver continuous improvements in air quality. The WTS needs to be consistent with these aims. Objective 8 also states that the WTS will aim to encourage a reduction in the negative effects of transport on local air quality. It would be useful if rather than encouraging a reduction, a more robust statement was made. It is also important to be mindful of the fact that electric vehicles do still produce emissions; exhaust emissions are reduced, but production of particulate matter due to tyre and brake wear will still compromise air quality. Finally, objective 8 states that the likelihood of new air quality management areas (AQMAs) being needed will be reduced. We feel that this would be better phrased as "reduce traffic pollution to help get rid of existing AQMAs and prevent new ones being declared."	and potential stresses caused to other road users". Comments noted Agree, Objective 8 amended to "Improve air quality in order to get rid of existing Air Quality Management Areas and reduce…".
Table 5.3 ISA Objectives and Questions Objective 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': Page 39 We advise that the reference to health protection in the objectives could be made more explicit as an outcome. We recommend that the significance of the protection and improvement of physical and mental health, and improving air quality, is highlighted as a specific objective. Objective 6 'To create the conditions within which greenhouse gas emissions can be reduced'; Page 40 We recommend that the wording for the following objective, 'To create the conditions within which greenhouse gas emissions can be reduced', should be amended as follows: 'To enable greenhouse gas emissions to be reduced'. This wording change is recommended because it would strengthen the objective to be more positive with the expected outcome. Objective 7: 'To encourage climate change resilience': Page 41 We	Comments noted. Air quality added to decision aiding questions of Objective 1. Objective 6 amended to "reduce greenhouse gas emissions from transport". Decision aiding question added.

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advise that an additional decision aiding question is included: 'Will the WTS reduce the risk of flooding and/or coastal flooding and promote protection of floodplains or areas of managed flood risk having regard to Shoreline Management Plans and coastal management proposals?' We recommend that this question is included to place greater emphasis on planning for sustainable transport infrastructure which has regard to Shoreline Management Plans and coastal adaptation proposals. Objective 7: 'To encourage climate change resilience': Page 41 We advise that this ISA objective should also encourage measures that prioritises green infrastructure that contributes climate change resilience by maximising ecosystem resilience and ecosystem functions. This could be assessed as a new question: 'Will the WTS maximise opportunities for improving ecosystem resilience and functions that help reduce climate vulnerability?'. Objective 7: 'To encourage climate change resilience': Page 41 We also recommend the addition of a further decision aiding question to the objective: 'Will the WTS contribute to the implementation of coastal adaptation?' so that it encompasses avoiding/ minimising adverse effects from the inappropriate location of assets. Recommendation of New Objective regarding 'Water Quality': Page 41 We recommend that there is a new objective for water quality, separate from air quality. We advise this is worded as: 'To encourage the protection and improvement of water quality'. We also advise that a decision aiding question is added to this objective, 'Will the WTS ensure a reduction in diffuse pollutant loading, notably for water resources in the longer term?'. This is particularly important if greater seasonality and hence water-scarcity is going to become a norm.	
Welsh language version: Fel nodwyd uchod, dylid cysylltu nod llesiant y Gymraeg ag amcanion eraill sy'n ymwneud ag iechyd a llesiant unigolion yn y strategaeth. Mae mynediad at wasanaethau iechyd a lles drwy gyfrwng y Gymraeg yn angen clinigol, ac mae hyn yn arbennig o wir pan ystyrir plant, pobl hŷn ac unigolion bregus, er enghraifft pobl yn byw â dementia neu ag anhwylderau iechyd meddwl **English translated version:** As noted above, the well-being of the Welsh language should be linked to the other objectives in the strategy which relate to the health and well-being of the individual. Access to health and welfare services through the medium of Welsh is a clinical need, and this is particularly the case when considering children, older people and vulnerable individuals, for example, people living with dementia or who have mental health disorders.	Access to Welsh-medium health and welfare services will form an important part of the ISA in terms of assessments against health and welfare, as well as Welsh language. "*Contribute towards an improvement in the accessibility of Welsh-medium health/welfare services?*" has been added as a decision aiding question in the ISA Framework.
Given the above, there is a need to ensure that freight is included within the decision aiding questions. In terms of the ISA Objectives, we note that only one relates to economic issues and that there may need to be a greater focus on this as it links to the achievement of other objectives.	Advice noted. Freight transport added to decision aiding questions.

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Yes, there are. The 13 ISA objectives would appear to be equally weighted. Perhaps more weight should be placed on economic objectives at least in the short to medium term. Social, environmental and cultural objectives are very important but major (transport) interventions are costly, have a long lead in time and need to be affordable, effective and deliverable.	Advice noted.
Q5 **Do you have any comments regarding how reasonable alternatives should be developed?**	
Your group who wrote a previous questionnaire for children should be involved.	Comment noted.
I feel it is fair enough that prices for bus tickets are what they are. However, I think your annual tickets should be significantly more affordable. Community vehicles would be a good idea - even if they aren't electric. The concept of sharing common resources is something that should be promoted for a resilient future.	Comment noted.
There needs to be greater emphasis on Active Travel as one of the key ways to tackle climate change and reinforce the desired hierarchy.	Comment noted.
Services should be accessible to all and not just local residents. Demand responsive services will not attract tourists and casual users and local users may not be able to plan their journeys in advance.	Comment noted.
Alternatives should be developed in collaboration with others and in consultation with stakeholders. They should be designed to deliver social, economic, environmental and cultural benefits. Non-essential journeys should be discouraged. Modal shift should be encouraged. That is to say, the WTS should encourage more and better use of public transport (when COVID-19 allows) and of low emission vehicles and of active travel (walking and cycling) for short trips. Use of the private car for non-essential journeys should be discouraged.	Comment noted.
These should be open to a wide range of public and political stakeholders, acknowledging that there may be new voices and visions to be captured through the consultations on well-being goals. This may involve new ways of engaging stakeholders.	Comment noted.
Section 4.3 and Table 4.1 fails to reference the need for Wales' population to connect with the three National Parks as a key sustainability issue and opportunity. The existing wording – "There is an opportunity for improved access to valued landscapes, townscapes and viewpoints" fails to convey the importance of access to the Parks to national well-being of the population having access to the cultural ecosystem services within.	Comment noted.
Significant thought and co-ordination needs to take place in relation to integrated transport (including the ongoing review of bus services and development of a freight network) and the introduction/promotion of EV and Hydrogen alternatives and how this would be facilitated across the network. Linkages and funding opportunities need to be strengthened and aligned in order to develop and deliver a coherent national approach and strategy. Ambitious targets need to be established, but these need to be supported by appropriate funding on a national basis for infrastructure improvements and a clear lead provided by Welsh Government.	Comment noted.

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Yes, the issue of minerals, mineral products and minerals safeguarding should be appropriately considered in the development of alternatives, as outlined above.	Comment noted.
The development of one or more "reasonable alternatives" should take account of the seven well-being goals, the Welsh Government's legal obligations to reduce greenhouse gas and pollutant emissions, and the recognition in this framework of climate change and eco-system resilience as "overarching considerations". The proposed WTS and the 'reasonable alternatives' should therefore be developed as alternative approaches for achieving these goals. There should be no preconception that the (initially) 'preferred' WTS will necessarily perform better in meeting the proposed objectives than the "reasonable alternative(s)". On the contrary, there needs to be an openness to the possibility of adopting the reasonable alternative(s), or elements from them, if it turns out that they score better against the ISA framework. One approach might be to develop a WTS that was focussed more on technological solutions (e.g. electric vehicles, use of broadband to reduce the need to travel), and another that was focused more on improved infrastructure for walking and cycling, on the assumption that both strategies would be supported with similar budgets. A composite strategy could then be developed (again, with an assumption of a similar overall budget, so that this composite strategy didn't automatically 'win'). This would help determine an optimal mix between investment in measures to reduce the need to travel, decarbonise existing motor travel, and replace existing motor travel through investment in healthy and sustainable alternatives.	Comment noted.
Reasonable alternatives need to focus on technological advancements and where transport is likely to move in the future e.g. hydrogen, active travel, etc. There needs to be consideration of whether COVID-19 has now given an environment where the old ways are no longer the right ways. Consideration of what the "new norm" will look like needs to be built into the document.	Comment noted.
The role of the third sector in the Wales Transport Strategy should be explored and developed in partnership with the sector. We advocate for a co-production approach to ensure the strategy reflects the role and capability of the third sector appropriately and offer our support to facilitate this.	Comment noted. Agree, further detail on the Third Sector and community transport added.
We have identified some small tweaks in our response to Q4 but in terms of representing the third sector appropriately in this scoping work, we would suggest engagement with key stakeholders to ensure the sector's role is reflected appropriately.	Comment noted Agree, further detail on the Third Sector and community transport added.
We acknowledge that until the Wales Transport Strategy is developed further it is challenging to set reasonable alternatives out in detail. However, we recommend the options for reasonable alternatives include: • The COVID-19 pandemic has resulted in increased home working. We advise that an alternative option should be to permanently reduce road traffic levels if people continue to work from home and hence reduce	Comment noted.

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the pollution loading to air, soils and water. Greater resourcing on improving the ethernet/computer network across Wales, thereby reducing the need to travel for many who are able to work from home. • Increasing the rail network/public transport network as an alternative to developing the road network because of less need for road traffic. The positive consequences would be less congestion; improved well-being; reducing the contaminant loading on air quality, soils and water; benefits for biodiversity and human health, as a result of reduced road users.	
Engaging with a wide range of stakeholders throughout the development process for the WTS is essential.	Comment noted.
Alternatives should be developed in collaboration with others and in consultation with stakeholders. They should be designed to deliver social, economic, environmental and cultural benefits. Non-essential journeys should be discouraged. Modal shift should be encouraged. That is to say, the WTS should encourage more and better use of public transport (when COVID-19 allows) and of low emission vehicles and of active travel (walking and cycling) for short trips. Use of the private car for non-essential journeys should be discouraged.	Comment noted.
Q6 **Do you have any further suggestions regarding the scope of the ISA and its proposed appraisal of the Wales Transport Strategy?**	
There seems to be an assumption throughout this appraisal that the current infrastructure is fit for purpose when it clearly is not. Any appraisal needs to recognise this as a fact.	Comment noted.
You have taken little note of the lesser railways of Wales. Note that Porthmadog Harbour has more passengers in a year than Llandudno.	Comment noted.
There is a need to give high level recognition in the ISA to issues of public safety on the road network in Wales. This could be alongside but separate from health impacts. Sadly, the rate of road accidents in Wales, especially on rural trunk roads, is worse than in many other parts of the UK. The location and seriousness of road accidents should be identified in the ISA and there should be a clear commitment to resolving the most significant hazard locations by effective remedial measures. In certain circumstances minor safety improvements may suffice but in others more substantial improvement works will be appropriate. Where significant improvement is needed to resolve a safety issue there should of course be attention to mitigating environmental impacts and the incorporation of active travel provision.	Comment noted.
The language is non-committal in Table 4-1. "Could", "can", "could consider" etc. We also note that under the Environment Habitat Assessment that TfW have no licence to operate. However, during the CVL Vegetation Programme we successfully negotiated with Natural Resources Wales the Bats on Tress/Bridges and Dormice Working Licence 5 years certificate. The first licence issued in Wales.	Comment noted Agree, language amended to more pro-active words.
In clause 1.2 it states 'Covering all modes, it sets out our strategic priorities and desired outcomes, providing a link to the wider priorities as well as plans at the local authority level.' However, the Town Council cannot identify clear priorities or desired outcomes.	Comment noted. As part of the ISA and WTS process, the scoping report is an evidence gathering stage and involves

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In clause 3.2 it sets out 'Key Themes Resulting from the Review' but all it says in the column headed 'National well-being goals' is a list of headings 'A prosperous Wales A resilient Wales A healthier Wales A globally responsible Wales'. This does not set out any aims or objectives regarding transport. The aims and objectives should be included from those plans into the Transport Strategy in a similar way to the impact assessments referred to. The appraisals in themselves are good as a base for taking forward objectives, however these have not been identified in an understandable way. The plan lacks substance in 'what is actually going to be done'. It is suggested that a clear schedule of aims and objectives is included so that the plan can be measured. As an overriding comment there is a lot of content about aims etc, but nothing on strategy – i.e. how anything is going to be done. On many occasions the Town Council has discussed cycling and the danger that it poses to pedestrians by allowing cyclists to use the same pathway. The active travel wales act (2013) should be amended so as to keep cyclists and pedestrians apart. We would strongly urge that the WG policy is to keep pedestrian and cyclists apart at all times with no future combined facilities considered. In addition, all existing combined facilities below the design width of 10 feet should be closed to either pedestrians or cyclists. There is evidence that an impact of 17.6 mph between a pedestrian and a cyclist may result in death to the pedestrian. This is supported by judgements in the common law.	engaging with stakeholders. The next stage is to develop and consult on the main issues, priorities and outcomes. The key themes are identified from the review of plans, programmes and environmental Objectives and are considered against the seven well-being goals. The ISA Objectives are then presented in Table 5-3 which were initially designed to reflect these key themes.
All forms of public transport should be treated equally. Far more journeys are made by bus yet receive a fraction of the support given to TfW rail services.	Comment noted.
We live in an age of uncertainty. The integrated sustainability appraisal framework should be stress-tested in order to ensure it delivers robust results.	Comment noted.
"Transport" can be open to interpretation as means / modes of giving access to places of work, education and health services, and to the supply of goods and materials. These should be challenged if they are not open to question as the most suitable and sustainable solutions to the movement of people and produce. There is also a need to have fair, equitable, and robust measures of economic and social benefits and disbenefits.	Comment noted.
Wales' National Parks are a national resource for all to enjoy and an important contributor to well-being. Affordable access to and around the National Parks is essential for everyone to be able to enjoy them without the environmental impact of car travel. Failure to address this will result in a significant proportion of the population being excluded from enjoying this rich and natural resource, whilst the continued increase in visitors arriving by cars fails to address key objectives of factors contributing to climate change, environmental and health impacts.	Comment noted.
In clause 1.2 it states 'Covering all modes, it sets out our strategic priorities and desired outcomes, providing a link to the wider priorities as well as plans at the local authority level.' However, we cannot identify clear priorities or desired outcomes.	Comment noted. As part of the ISA and WTS process, the scoping report is an evidence

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In clause 3.2 it sets out 'Key Themes Resulting from the Review' but all it says in the column headed 'National well-being goals' is a list of headings 'A prosperous Wales A resilient Wales A healthier Wales A globally responsible Wales'. This does not set out any aims or objectives regarding transport. The aims and objectives should be included from those plans into the Transport Strategy in a similar way to the impact assessments referred to. The appraisals in themselves are good as a base for taking forward objectives, however these have not been identified in an understandable way. The plan lacks substance in 'what is actually going to be done'. It is suggested that a clear schedule of aims and objectives is included so that the plan can be measured. The details of how the aims and objectives are to be delivered will no doubt be in future documents.	gathering stage and involves engaging with stakeholders. The next stage is to develop and consult on the main issues, priorities, and outcomes. The key themes are identified from the review of plans, programmes and environmental Objectives and are considered against the seven well-being goals. The ISA Objectives are then presented in Table 5-3 which were initially designed to reflect these key themes.
Whilst the ISA should rightly consider all other relevant plans and programmes the WTS should not be constrained, nor its vision compromised unduly by those. Delivery of the WTS is key to the future social, economic and environmental sustainability of the nation, and it is therefore essential that deliverability is not compromised.	Comment noted.
Yes, the issue of minerals, mineral products and minerals safeguarding should be appropriately considered in the scope of the ISA and its appraisal of the WTS.	Comment noted.
The scope is broad, and the objectives are probably about right. However, as noted in our response to question 4, the report does not state what weight is attached to each objective. We recommend giving additional weight to objectives relating to climate change and ecosystem resilience, given their recognition as "overarching considerations". A mechanism for this weighting will need to be developed.	Comment noted.
The scope should clearly now also consider what the "new norm" is likely to look like in recognition of the recent changes as a result of the pandemic.	Comment noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
The ISA references a range of modes such as bus, rail and active travel. We note, however, the absence of community transport in the scoping report. Community transport provides essential services for many communities and should be acknowledged in the scoping exercise.	Comment noted. Community transport added to Objective 2.
The scoping report references public transport, bus, rail and active travel but excludes community transport completely. We welcome the commitment to 'recognising and promoting the Third Sector' however, this	Comment noted.

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commitment could be evidenced by providing specific information about how the sector is expected to be involved in the development or delivery of the strategy. Community transport operators provide essential services across Wales which help to address transport poverty and exclusion. The Minister himself has said that there cannot be an integrated transport network for Wales without community transport. The sector must be explicitly referenced in these plans in an appropriate manner. The Community Transport Association is able to support colleagues to ensure this is developed in line with the sector's role and capabilities.	Community transport added to Objective 2.
Table 3.1: We recommend a reference to the Environment (Wales) Act in Table 3.1 would be appropriate as it underpins the Natural Resources Policy and SoNaRR and connects these with the Well-being of Future Generations Act. Table 5-3 (ISA Objective 7): We recommend that reference is made to coastal erosion in this section. Whilst it is currently focused on 'flood' issues it should also address wider representatives of climate change impacts. Table 3.2 Key Themes page 18: We suggest the following wording change in bold to 'Protect and enhance the distinctiveness of our landscapes, National Parks and AONBs, Seascapes, historic environment….', to ensure protection of designated landscapes isn't overlooked. Table 3.2 also refers to green infrastructure, but it would also be appropriate to refer to resilient ecological networks (RENs) alongside this. Green infrastructure can be considered alongside RENs, distinguished from them by the specific recognition they receive within the land use planning system. Section 4.3.1: Overarching considerations: Climate Change and Ecosystem Resilience: Section 4.3.1 refers to the aspects of ecosystem resilience as defined in the Environment Act. The Act acknowledges that these aspects are not exhaustive and as part of its ongoing work NRW has identified two further significant aspects, recovery and resistance, that are important to consider and would be appropriate to refer to as part of the building blocks list of aspects.	Comment noted. Agree - Environment (Wales) Act added to Table 3.1. Agree – Coastal erosion added to decision aiding questions for Objective 7. Agree – Changed Key theme to "Protect and enhance the distinctiveness of our landscapes, National Parks and AONBs, Seascapes, historic environment….".
We live in an age of uncertainty. The integrated sustainability appraisal framework should be stress-tested in order to ensure it delivers robust results.	Comment noted.
Q7	**Do you support the approach to the integration of the impact assessments?**
The document is almost identical to the ISA for the National Development Framework which was consulted on in 2017. The WTS needs a different approach to that of the NDF.	Comment noted.
To consider all impact assessments together is a much better approach than having separate ones which need to be collated.	Support noted.
Whilst the integration of the impact assessments is to be welcomed, as it allows advantage to be taken of synergies and opportunities, it is unclear how potential inconsistencies and constraints will be addressed if they	Support and comment noted.

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adversely impact the aspirations of the WTS, and its delivery of the improvements it seeks to achieve and direction it looks to set.	
An integrated approach would be beneficial, but greater clarity is needed over what this will entail and ultimately seek to deliver.	Support and comment noted.
Yes, in principle. We strongly commend the aim of integrating the assessment of health and equality impacts into the process for carrying out Strategic Environmental Assessments. However, as we have said before, this does not appear to have been done sufficiently comprehensively. We feel the assessment framework needs to better reflect the range of public health impacts of the transport system (i.e. physical inactivity, air pollution, noise, road safety and casualties, and isolation), together with the fact that these impacts fall disproportionately on lower income and other disadvantaged groups.	Support and comment noted.
Yes, bringing the assessments together is important to avoiding duplication. It also allows for a more balanced view of the relative importance of different initiatives and the potential for assessment of actions that will benefit one area contributing to harms in another.	Support and comment noted.
Yes, we very much support this approach. It is important that impact assessments are not carried out in isolation.	Support noted.
In general, yes. The approach recognises the importance and coverage of Well-being of Future Generations.	Support noted.
We support the approach to integrate the impact assessments and believe this is a sensible way to assess all aspects.	Support noted.
Yes. We believe it is a sensible approach to integrate the necessary impact assessments although it is important to ensure they remain robust.	Support and comment noted.
Yes, bringing the assessments together is important to avoiding duplication. It also allows for a more balanced view of the relative importance of different initiatives and the potential for assessment of actions that will benefit one area contributing to harms in another.	Support noted.
We support the approach to the integration of the impact assessments subject to regulatory requirements of SEA Regulations being met.	Support noted.
Welsh language version Er bod y ddogfen ymgynghorol yn talu sylw i'r Gymraeg mewn sawl adran, a bod rhai o'r prif ystyriaethau perthnasol yn cael eu hamlinellu ar dudalen 31, credwn y dylid integreiddio anghenion y Gymraeg a'i siaradwyr fel thema lorweddol ar draws y strategaeth, ac nid ei thrin fel mater unigol i'w thrin ar wahân yn unig. **English translated version**	Noted and agreed. The ISA Scoping Report sets out baseline data, key issues and Objectives for each topic of the ISA. In practice, the ISA appraisals will provide appraisals on an individual-topic basis followed by amore holistic and cumulative

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Even though the consultation document pays attention to the Welsh language in several sections, and that some of the main relevant considerations are outlined on page 31, we believe that the needs of the Welsh language and its speakers should be integrated as a horizontal theme across the strategy, and not treated like a singular matter to be treated separately.	appraisal that treats the topics 'horizontally'.

Q8	Do you support the findings of the initial screening work for the impact assessments?	
The document is almost identical to the ISA for the National Development Framework which was consulted on in 2017. The WTS needs a different approach to that of the NDF.		Comment noted.
To a limited extent, yes. The impact assessments have little reference to rail use and the provision of improved rail services. Further study is required to assess both the existing rail passenger issues and those which can be identified into the future. Without a sustainable plan for rail services it will lag behind demand as has happened in the past. For example, the last rail franchise to Arriva Trains Wales was based on no growth in passenger numbers. It is recognised that COVID-19 may have an impact on future travel but as things stand Government appears to hold the view that life will return to normal at some point in the future few years. It is unlikely to do so with the certainty that commuter travel will be less and that will impact on the revenue from key sectors such as Chester to Manchester, Crewe to Manchester, Shrewsbury to Birmingham and the Valley Lines into Cardiff. Once again, the Town Council has to comment that there is nothing in the ISA about improved rail services and what are the key passenger issues giving the impression that those key user issues are unrecognised.		Comments noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation. Rail, and public transport, is a key consideration. Extensive baseline data is provided on rail in the appendices and it will be an important consideration of the appraisals.
Yes, we do but we notice that there is no mention of the national cycle network which needs to be maintained, developed and improved and which offers social, environmental, economic and cultural benefits. This network has the potential to deliver economic (recreation and tourism) benefits in sparsely populated and economically deprived areas.		Support and comment noted. National Cycle Network is shown on Figure 4.
Yes, subject to the need for further immediate research into the impact of COVID-19, with input from that into impact assessments; and the need to take into account the urgent timescale of climate change and loss of biodiversity, to which the Wales Transport Strategy must contribute.		Support and comment noted.
To a limited extent yes. The impact assessments have little reference to rail use and the provision of improved rail services. Further study is required to assess both the existing rail passenger issues and those which can be identified into the future. Without a sustainable plan for rail services it will lag behind demand as has happened in the past. For example, the last rail franchise to Arriva Trains Wales was based on no growth in passenger numbers). It is recognised that COVID-19 may have an impact on future travel but as things stand Government appears to hold the view that life will return to normal at some point in the future few years.		Comment noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.

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The need for local buses in rural areas is essential, particularly along the west coast of Wales.	Comment noted.
See comments above. Clearly further consideration needs to be given to the role played by the Minerals Industry in supporting the achievement of the well-being goals. A better understanding of the industry would be beneficial.	Comment noted.
The left hand column of Table 2-1 identifies the right overall headings. However the summary of the screening results for 'health' (top line of the table) again fails to mention the range of public health impacts, and the issue of 'health inequalities', as set out in Q7 and previous answers.	Comment noted.
We believe there are some gaps in the initial screening as evidenced above and would welcome the inclusion of the points raised in this response.	Comment noted.
It is not clear the range of options for classifying impact but the WTS will have a definite impact on all aspects rather than 'potential' as stated. This has the potential to be either positive or negative. The summary of issues and opportunities provides a balanced view of issues which evidences the positive and negative impacts that the strategy could address.	Comment noted.
Q9 **Are there additional pieces of baseline data or evidence that the ISA should consider with specific regard to the impact assessments?**	
This seems to be focussed on environmental impact etc, and can be interpreted as against the construction of improved infrastructure and more on better ways to make do with the existing networks.	Comment noted.
Traffic returns from bus and railway companies. I saw no reference - or I forgot it in the fog of uncertainty as to what you mean - to figures from the use of roads. Enough roads have rubber traffic measures on them.	Comment noted.
Has there been any data to confirm if the previous Wales transport strategy met with its objectives? This would help determine where further work was required on Impact assessments.	This is a comment for the WTS itself, and not the ISA.

The impact of reduced capacity on our trains leads to the following:
  i.   People not wanting to use the trains due to it being uncomfortable.
  ii.   Trains being overcrowded to an extent where health and safety are an issue.
  iii.   Fares should be at affordable levels for those on lower incomes and who cannot afford a car. If those in this bracket do not have access to public transport, then they will find themselves in a restricted job market.
  iv.   If a good rail service delivery is not achieved, then people will continue to use private transport.
Public transport (buses, taxis and trains) should be integrated in the centre of major settlements (i.e. Rhyl, Flint, Prestatyn, Bangor, Llandudno and Llandudno Junction) where-ever possible. This to date has not been well achieved anywhere in the UK outside of the major cities.
From the perspective of a North Wales Town Council we would add that if rail ridership numbers are to increase then the cost per mile rail fares in north Wales compared to south Wales should be eliminated.
	This is a comment for the WTS itself, not the ISA specifically.

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Why are services not being used? A few years ago, evening journeys were operated on Lloyds Coaches 28 service between Tywyn and Dolgellau to measure if there was a need. This was conducted in the winter. Surprise, surprise - uptake was low. Was the timing deliberate?	This is a comment for the WTS itself, not the ISA specifically.
Demographics. The WTS should be forward looking, we need to plan for the future.	This is a comment for the WTS itself, not the ISA specifically.
As Q4 and Q8, above. The use of timeline baseline data should be considered and adopted where feasible for all transport modes, without distinction between 'strategic' and other transport modes: this includes active travel modes.	Comment noted.
Studies and reports that have been carried out for specific projects, e.g. GRIP reports and technical assessments that have been or are being prepared for 'New Station Fund' and 'Reversing Beeching/Your Ideas Fund' bids, should be appraised.	This is not within the scope of the ISA.
Please see comments above in relation to the inclusion of National Parks and their contribution toward national health and well-being. The current COVID-19 crisis has prompted the need for instant change of behaviour. Whilst the timescales for taking account of any lessons learned from the lockdown and outcomes post-lockdown, this would be an important consideration in terms of travel impacts and how we recover from such imposed change.	Comment noted. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
The impact of reduced capacity on our trains leads to the following: i. People not wanting to use the trains due to it being uncomfortable. ii. Trains being overcrowded to an extent where health and safety are an issue. iii. Fares should be at affordable levels for those on lower incomes and who cannot afford a car. If those in this bracket do not have access to public transport, then they will find themselves in a restricted job market. iv. If a good rail service delivery is not achieved, then people will continue to use private transport. Public transport (buses, taxis and trains) should be integrated in the centre of major settlements (i.e. Rhyl, Flint, Prestatyn, Bangor, Llandudno and Llandudno Junction) where-ever possible. This to date has not been well achieved anywhere in the UK outside of the major cities.	Comment noted.
The data considered in Appendix B, para 3.1.7 is dated 2014. Whilst this may well be based upon data obtained from the SoNaRR 2016 report, more up to date minerals production data is available from the Regional Aggregate Working Party reports for North and South Wales. Further, and going forward UK Government is in the process of undertaking the AM2019 survey, the results of which should be available later in 2020. Such data should be used in considering aggregate production going forward, if this is available.	Comment noted.
1.We believe it will be important to consider regional variations across Wales.	Comment noted.

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2. We have suggested public health as an area that does not seem to have been sufficiently broadly considered. There is extensive, relevant, public health data that does not seem to have been reviewed. Much of this is available in the health-related (and other) strategies we have listed in our response to question 1. 3. There is a mass of road safety data that has not been adequately reviewed. Road safety, in the broad sense of road danger reduction that we have recommended above (see our answer to Q2), must be a central issue in any new WTS.	Datasets have been reviewed and updated. Public health and safety will be a key consideration of the WTS and the ISA.
In terms of evidence, we note Oxfam Cymru's report 'The Welsh Doughnut 2020' which includes a section on transport. The report points to the lack of data on transport and inclusion which creates a challenge for the delivery of access and inclusion and makes it extremely difficult to assess and tackle transport poverty. We suggest that consideration could be given to a review of transport data to identify ways to strengthen the evidence base to ensure access and inclusion. We have already provided information on gender which we raise again here and we also suggest that further data is sought on safety of access to public transport in addition to that identified for safety on the vehicles. We believe there may be additional indicators to explore on children's access to transport and the impacts of this on their opportunities. For example, we know that in rural areas children may miss out on after-school activities due to bus times if the family does not have access to a private vehicle. Finally, we know that a lack of transport leads to a significant number of missed health appointments and so suggest this is considered as an indicator in the report.	Comments noted. The Welsh Doughnut 2020 added to policies review.
Earlier this year, CTA was involved in the development of 'A Welsh Doughnut 2020: A framework for environmental sustainability and social justice' published by Oxfam Cymru which describes a social floor and environmental ceiling and provides indicators that set boundaries for delivering a decent standard of living whilst remaining within environmental limits. Transport is understood to play a central role in social exclusion and poverty with accessibility in terms of availability and price identified as a critical issue in 'The Wales We Want'. The report points to the lack of data available for transport in Wales which prevents the benchmarking required to identify issues and measure progress. Dr Karen Lucas, a research associate at the Transport Studies Unit at Oxford University, promotes an improvement in data and metrics for transport and inclusion which is something we support. The Oxfam report has identified an indicator from the National Survey for Wales which asks people about services available in their local area whilst recognising that the indicator does not assist with the identification of transport availability. In developing the WTS, Welsh Government may wish to strengthen data collected on transport access and inclusion. In terms of the data provided in the baseline report, we welcome the recognition that community transport offers transport services for older people but stress that services support all those who face barriers to access such as those in rural areas with little or no public transport provision and sometimes long distances to travel; those who	Comment noted. The Welsh Doughnut 2020 added to policies review.

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need to travel out of hours perhaps for hospital visiting or social activities; and those who are marginalised in some way such as people with disabilities, asylum seekers and so on. As identified in the report, WIMD provides data on access to services. In addition, it may be useful to include data on missed medical appointments given that we know a major reason for this is a lack of transport and can evidence projects that have supported hospitals and surgeries to reduce the number of missed appointments and the costs associated with this through community transport support. A project support by CTA's Connecting Communities in Wales project was featured in the NHS Confederation Wales report on community transport and health 'Making Health Accessible to All'. The case study highlights the number of missed appointments due to a lack of accessible transport options and the pressures created by infrequent public transport services, estimating the cost of this to be £9.56m for Betsi Cadwaladr UHB alone.	

We recommend that the following pieces of evidence should be considered by the ISA, with regard to the impact assessments:
Additional Evidence Requirements
WINS Maps
   • We recommend that The WINS maps are evidence that should be considered by the ISA. They aim to promote more holistic management of natural resources through spatial mapping of opportunity areas for land management interventions at a regional scale. The mapping focusses on priorities of the Welsh Government Natural Resources Policy (2017), which puts an emphasis on taking a place-based approach and delivering nature-based solutions.
   • 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
Groundwater
   • Data on groundwater (saline intrusion) in coastal settings as a result of predicted sea-level rise from a changing climate: somewhere in the order of 0.5m to 1m depending on the scenario modelled. For example, this may lead to more corrosion risks of steel infrastructure in coastal settings.
Drainage System Failures
   • Data of failing sewers; drainage and stormwater systems resulting in leakages; capacity and conveyance constraints; treatment limitations and diffuse pollution increases. Some of these risks may be worsened as a result of warmer, wetter winter events arising from a changing climate.
Areas of Hardstanding
	Natural resources will be considered in detail through the ISA. At this stage WINS data has not been included in the data review.

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• Monitoring data on increases in areas of hardstanding over time from infrastructure buildout resulting in greater volumes of stormwater runoff and management requirements and reduced aquifer recharge. **Water Demand in Wales Report** • Reference should be made to the 'Water Demand in Wales' Report from May 2020 (authored by Arup for NRW and Welsh Government) as there are a number of threads associated with various Climate Change Risk Assessment scenarios (CCRA2 and CCRA3) in the report that are relevant to the ISA of the Wales Transport Strategy. **Role of Local Authorities** • Table 4.1: Well-being Goal 2 A Resilient Wales: In the 'Climate and Flood Risk Opportunities' section, local authorities (especially lead local flood authorities) should be identified in addition to NRW as it is likely surface water and localised flood risks could be reduced by working collaboratively. **Coastal Erosion** • Table 4.1: Coastal erosion is a risk to transport infrastructure which can cause lengthy disruption but isn't specifically mentioned. **Landscape/Townscape Character** • Table 4.1 Key Sustainability Issues and Opportunities: We recommend the addition to page 31, 'Landscapes and Townscapes Character'. **National Parks and Areas of Outstanding Natural Beauty** • National Parks and Areas of Outstanding Natural Beauty (AONB) are internationally recognised Designated Landscapes and cover 25% of Wales. In these areas Natural Beauty must be conserved and enhanced, and their special qualities protected. The settings of these areas is also important as a consideration in this WTS. Tranquillity is a special quality of many Designated Landscapes and is important for well-being in the wider landscape. The ISA should consider how it can reduce the negative impacts of transport on tranquillity in its objectives. **Material Assets** • We note that Material Assets are divided throughout the ISA by well-being goals. Nationally significant access routes such as our three National Trails and Wales Coast Path are important well-being assets, impacts upon which should be considered in the ISA. **Ecosystem Resilience** • NRW's recently published CuRVe atlas includes a number of datasets useful for the consideration of ecosystem resilience more generally and combines these to give a relative assessment of ecosystem attributes (diversity, extent, condition and connectivity) across terrestrial Wales (available for download via Lle). Further information is available on request. Consideration of the atlas as part of appendix B would be welcomed.	Agree, local authorities added. Agree, coastal erosion added. Agree, National Parks added to Landscape/Townscape.

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Welsh version Rydych yn cyfeirio at y ffynonellau data a ddefnyddiwyd yn Atodiad B. At hynny, argymhellwn eich bod yn cyfeirio at yr adroddiadau perthnasol canlynol: Adroddiad y Grŵp Gorchwyl a Gorffen ar yr Iaith Gymraeg a Datblygu Economaidd i Weinidog yr Economi, Gwyddoniaeth a Thrafnidiaeth https://llyw.cymru/sites/default/files/publications/2019-05/adroddiad-y-grwp-gorchwyl-a-gorffen-ar-yr-iaith-gymraeg-a-datblygu-economaidd.pdf Y Gymraeg a'r economi: adolygiad o'r dystiolaeth a'r dulliau https://llyw.cymru/sites/default/files/statistics-and-research/2020-02/y-gymraeg-ar-economi-adolygiad-or-dystiolaeth-ar-dulliau.pdf Gweithgor ar yr Iaith Gymraeg ym maes Datblygu Economaidd a Gweinyddu Llywodraeth Leol https://llyw.cymru/sites/default/files/inline-documents/2018-11/datganiad-ysgrifenedig-gweithgor-ar-yr-iaith-gymraeg-ym-maes-datblygu-economaidd-a-gweinyddu-llywodraeth-leol.pdf Ymateb Comisiynydd y Gymraeg i ymgynghoriad ar y Fframwaith Datblygu Cenedlaethol drafft http://www.comisiynyddygymraeg.cymru/Cymraeg/Rhestr%20Cyhoeddiadau/20191115%20LL%20C%20Ymateb%20i%20ymgynghoriad%20y%20Fframwaith%20Datblygu%20Cenedlaethol.pdf **English translated version** You refer to the source data used in Appendix B. Furthermore, we recommend that you refer to the relevant following reports: Report of the Welsh Language and Economic Development Task and Finish Group to the Minister for Economy, Science and Transport https://gov.wales/sites/default/files/publications/2019-05/report-of-the-welsh-language-and-economic-development-task-and-finish-group.pdf The Welsh language and the economy: a review of evidence and methods https://gov.wales/sites/default/files/statistics-and-research/2020-02/the-welsh-language-and-the-economy-a-review-of-evidence-and-methods.pdf Working Group on the Welsh Language in Local Government Administration and Economic Development 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 The Welsh Language Commissioner's response to the draft National Development Framework consultation http://www.comisiynyddygymraeg.cymru/English/Publications%20List/20191115%20LL%20S%20Ymateb%20i%20ymgynghoriad%20y%20Fframwaith%20Datblygu%20Cenedlaethol.pdf	These documents have been included in Appendix B as appropriate.

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There are significant shortcomings in the understanding of existing freight data in the context of section 7 (A Globally Responsible Wales). The statement that there is no data relating to freight transported on roads in Wales is incorrect. Regional figures for road freight can be found here: https://www.gov.uk/government/statistical-data-sets/rfs01-goods-lifted-and-distance-hauled (sets RFS0121 - RFS0124). We acknowledge that rail freight statistics for Wales are not readily available (but could be obtained through working with Network Rail). Air freight statistics could also be included, at least for Cardiff Airport, through Civil Aviation Authority statistics.	Comment noted. Freight data has been included in Appendix B.
Demographics. The WTS should be forward looking, we need to plan for the future.	Comment noted.
Q10 **Do you have any other comments?**	
The use of some roads is highly seasonal - this is the case in North Wales. You can go through the winter months without traffic trouble, but as soon as summer comes, there are traffic jams. My father used to say he was imprisoned for three months; I tend to clear off elsewhere for those same months - even England.	This comment refers to the contents of the WTS rather than the ISA.
I think that transport options and alternatives should be part of the curriculum in schools - so that the next generation can be open to making more ethical choices than everyone having a car each and constantly driving everywhere. It shouldn't be seen as 'only poor people get the bus'. Which is a sad reality at the moment. I could afford a car at age 26 and it has transformed my life - but only because the buses are not sufficient. It's now really hard to go back to my more green younger lifestyle. People are significantly disadvantaged if they are relying on bus services in rural areas - socially and in terms of work.	This comment refers to the contents of the WTS rather than the ISA.
The document is repetitive, with an increasingly complex policy integration picture and we question who the intended audience is?	This comment refers to the contents of the WTS rather than the ISA.

The document is full of words with little substance as to what the overall delivery plan actually means. A summary with the objectives and aims of the scoping plan is recommended so everyone knows what we are actually going to do to achieve the objectives. The Town Council would like to suggest that the following policies should be included in the scoping plan:
  i.   That train services into the future provide not only for existing passenger numbers but future demand. This as a minimum should mean retention of the current number of seats per train.
  ii. The buses for both town and rural areas are an important part of any strategy which removes cars off the roads. A policy of retaining a public transport service to as many areas as possible should be part of the scoping strategy.
	This comment refers to the contents of the WTS rather than the ISA.

At one time, you could travel all over Gwynedd and the surrounding areas with ease. Those in charge of planning services came from the industry and worked hard to provide a cohesive network, backed up with the provision of timetables. They took a holistic approach to planning. This no longer happens. In particular, issues with Padarn, Express and Tacsi Gwynedd has led to crisis management and a further erosion of services. To conclude, work to	This comment refers to the contents of the WTS rather than the ISA.

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create an integrated transport network for the future needs to draw on a highly trained staff with the necessary expertise to move the project forward and not newly trained graduates, fresh from university. Experience matters.	

We need to get the most out of the roads we have, to make our roads safer, to encourage modal shift and to enable more and better use of public transport, active travel and ultra-low emission vehicles (ULEV). Effective planning and development control will need to be applied in order to limit and manage the demand for transport. We should encourage home-working and make more and better use of information technology for business and other purposes.
Your email address given does not work, here is the text from the full response (excluding the specific questions):
 	
Dear Sir or Madam,
We appreciate having this opportunity to comment on the Wales Transport Strategy (WTS) Scoping Report. Our response comes in three parts: firstly, we have some introductory remarks, secondly, we respond to the specific questions that you have posed, and thirdly, we draw some conclusions and make some concluding remarks.
Introductory Remarks
The Institution of Civil Engineers is an independent professional association for civil engineers and a charitable body in the United Kingdom. Based in London, the ICE has over 95,000 members, of whom three-quarters are located in the UK, while the rest are located in more than 150 other countries. We award professional qualifications that are the industry standard, lead debates around infrastructure and the built environment and provide an unmatched level of training, knowledge and thinking on infrastructure.
ICE Wales Cymru supports and represents more than 3,600 civil engineers working and living in Wales. It aims to influence public infrastructure policy, promote the civil engineering profession and provide support, training and networking opportunities for ICE members.
This year's ICE State of the Nation 2020 report: 'Infrastructure and the 2020 Net-Zero Target' builds on the Committee on Climate Change's (CCC) Net Zero - the UK's contribution to stopping global warming by examining the role the UK's infrastructure networks and wider built environment sector can play in meeting the target.
We note that the current WTS, which was published in 2008, set out to achieve social, economic and environmental outcomes. The scoping report for the new (2020) WTS has added a fourth category – cultural outcomes. This, we recognise, is particularly important here in Wales which has a rich cultural heritage which needs to be cherished and protected.
The current (2008) WTS identified five strategic priorities:
    1. Reducing greenhouse gas emissions and other environmental impacts;
    2. Integrating local transport;
    3. Improving access between key settlements and sites;
    4. Enhancing international connectivity; and
	Comments noted.
	
	Much of this comment refers to the contents of the WTS rather than the ISA.

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5. Increasing safety and security. These are all important today but it's probably fair to say that the first two are even more pressing now than they were in 2008. The first because of the climate emergency and the second because of the predominance of the private car recently recognised in the work of the South East Wales Transport Commission. The 2008 WTS identified 3 key actions: 1. Shifting freight from road to rail. Using freight facilities grant, support for intermodal transfer facilities and freight quality partnerships; 2. Encouraging short sea shipping by improving access to ports and support for port development; and 3. Modal shift to public transport, park and ride, walking and cycling. Providing more infrastructure to support that shift. Education and promotion of alternative modes. Rail freight undoubtedly has a part to play but is best suited to the regular shipment of large amounts of heavy materials over long distances. Our motorways and trunk roads on the other hand provide suitable routes for heavy commercial vehicles carrying a wide range of products. The problem is that they are often congested with single occupancy private cars that are used for commuting between home and work at peak periods. Wales' ports continue to be important for passenger and freight movements to and from Ireland and the continent. The third key action listed above is perhaps more important and urgent today than it was 12 years ago. We do need to discourage unnecessary trips, to encourage home-working, peak spreading, modal shift, more and better use of public transport and active travel (walking and cycling) for short purposeful journeys. Closing Remarks The need to mitigate climate change is not new. The impacts of climate change are already being felt. The Earth is warming, rainfall patterns are changing and sea levels are rising resulting in an increased severity and frequency of heatwaves, floods, droughts and fires. Climate change presents a major threat to the world's people, environment, economies and public health. We have long known about the importance of reducing greenhouse gas emissions. The UK has had a statutory target for reducing emissions since 2008. But the establishment of the net-zero target in mid-2019 has refocused this mission and brought a renewed sense of urgency to the task. Achieving the net-zero carbon target by 2050 will require an unprecedented transformation of infrastructure systems. The vital infrastructure systems on which the UK is built – such as energy, transport and utilities – currently contribute the majority of the UK's emissions. Transport and energy alone account for around 60% of the UK's CO2 emissions. Given the urgency of the climate emergency and the long lead times and life cycles of infrastructure, the challenge of transitioning these systems over the next 30 years will be immense. Meeting the net-zero target will require unparalleled innovation across the economy – innovation not just in new technologies and processes, but in new and better ways of deploying existing infrastructure and technologies.	

Integrated Sustainability Appraisal Response Log	Arcadis Response
This will require new business models, new consumer services and, most importantly, new policy, regulation and market design. The new Wales Transport Strategy will have a critical role to play in order to help the UK achieve its net-zero carbon target. Wales has, in recent years, introduced some ground-breaking legislation – the Active Travel Wales Act, the Well-being of Future Generations Act, and Planning Policy Guidance. We now have an opportunity to deliver an effective and forward looking Wales Transport Strategy.	
1. Appendix B – include ERAMMP information and STEAM data. 2. Figure 2 – National Parks are a landscape designation with a public health purpose and not merely a 'landscape feature'. 3. Table 3.2 – last key theme – this could be more ambitious – "The WTS aims to develop world-leading public transport, promoting sustainability, quality, social integration and inclusion to a degree that make it effortlessly preferable over private transport."	Comment noted. The SEA directive takes a proportionate approach with regard to targeted data collection to identify the issues, and it is not necessary to include every data set available, as this would not be efficient.
The document (in our view) is full of words with little substance as to what is the overall delivery plan actually means. A summary with the objectives and aims of the scoping plan is recommended so everyone knows what we are actually going to do to achieve the objectives. The Association would like to suggest that the following policies should be included in the scoping plan: i. That train services into the future provide not only for existing passenger numbers but future demand. This as a minimum should mean retention of the current number of seats per train. ii. That buses for both town and rural areas are an important part of any strategy which removes cars off the roads. A policy of retaining a public transport service to as many areas as possible should be part of the scoping strategy.	Comment noted.
It is important that the resource implications of the Wales Transport Strategy are considered at the earliest opportunity, through the provision of a resource assessment. Further, this should also detail supply chain considerations to ensure materials are available to facilitate the delivery of the strategy. An effective and efficient transport network is essential to ensure minerals and mineral products as well as other goods, can be delivered to market. This transport network is also uniquely reliant on the effective and efficient delivery of minerals and mineral products to ensure roads and rail can be maintained. Recycled and secondary sources of construction aggregates supplied 28% of total demand in Great Britain in 2018, well ahead of the European average. MPA Members are at the forefront of delivering such materials. This includes materials such as road planings and spent ballast, for use in downstream markets. More detail is available in the attached document link. (https://mineralproducts.org/documents/Contribution_of_Recycled_and_Secondary_Materials_to_Total_Aggregat es_Supply_in_GB_in_2018.pdf)	Comment noted.

Integrated Sustainability Appraisal Response Log	Arcadis Response
WG may wish to consider specifications used in the road transport network. Over specification may lead to an unnecessary increase in transport miles associated with a development, when in reality, a lower specification of materials may bring more local sources of material into play. Over specification also increases pressure on the use of those resources that can only be used for high specification end uses.	
The new WTS should fully recognise the importance of the Welsh part of the UK National Cycle Network. The NCN should become an integral part of the national transport infrastructure (it is noticeably missing from the national map at Appendix 4), in accordance with the key themes identified in the scoping report of promoting both well-being and our sustainable tourist industry.	Comment noted. National Cycle Network is shown on Figure 4.
Other issues that may need to be considered: Active travel to school is important, but there needs to be a recognition that much of this occurs within the context of trip chaining. It is only once it is firmly embedded in the context of adult travel that sustainable change will be possible. Please refer to road traffic crashes, rather than accidents. Accident implies that the crash is not preventable, when in reality it is. In relation to inequalities, it is worth noting how narrowing of the inequalities gap is brought about in relation to transport access: 1) Increase access for the most deprived more than the least deprived. 2) Increase access for the most deprived and hold the least deprived constant. 3) Reduce access for the most deprived but reduce access for the least deprived more. 4) Reduce access for the most deprived but hold the least deprived constant. 5) Make no change to the most deprived but reduce least deprived access. It is worth considering whether the WTS needs to make it acceptable to only narrow inequalities by means of the approaches listed in points 1 and / or 2 only. The WTS will be delivered in a Wales where the Active Travel Act is already in place, but there is relatively little recognition here of the scale of ambition and opportunities stated there. It would be useful to see these reinforced in the WTS, as well as show how the WTS will contribute to, and enhance the ambition of, the Active Travel Act.	Comment noted. Active Travel (Wales) Act added to important national documents.
As part of its Get on Board for a Better Bus Service campaign, the NFWI has been gathering case studies of members' views and experiences of local bus services. In addition, during the coming months, the NFWI will be launching a survey to gather further quantitative and qualitative data from WI members, focusing on their access to local bus services, and the impact this has had on their lives.	Comment noted.
We welcome the discussions we have had so far with Welsh Government and repeat our commitment to supporting the development of the WTS in whatever way we can. We would suggest that this engagement should continue as the strategy is implemented to ensure we can support successful delivery.	Comment noted.

Integrated Sustainability Appraisal Response Log	Arcadis Response
The recent COVID-19 pandemic has resulted in a big shift in travel patterns and behaviour (albeit largely temporarily) including a big uptake in active travel. There is an opportunity to gather relevant data from this situation to help inform the WTS to show what is possible, as opposed to a more traditional predict and provide approach.	Agree – continued engagement is important as the strategy develops and is implemented. During the preparation of the WTS careful consideration will be given to the potential impacts of COVID-19 including how it could influence the WTS and its implementation.
In terms of engagement, we would stress the importance of continued engagement as the strategy is implemented, recognizing that the range of expertise that has been contributed in the development stage, is also valuable in the delivery stage. Ensuring those involved in the development of the strategy remain 'in the loop' on an ongoing basis will be important for success.	Comment noted. Agree – continued engagement is important as the strategy develops and is implemented.
Other issues that may need to be considered: Active travel to school is important, but there needs to be a recognition that much of this occurs within the context of trip chaining. It is only once it is firmly embedded in the context of adult travel that sustainable change will be possible. Please refer to road traffic crashes, rather than accidents. Accident implies that the crash is not preventable, when in reality it is. In relation to inequalities, it is worth noting how narrowing of the inequalities gap is brought about in relation to transport access: 1) Increase access for the most deprived more that the least deprived 2) Increase access for the most deprived and hold the least deprived constant 3) Reduce access for the most deprived but reduce access for the least deprived more 4) Reduce access for the most deprived but hold the least deprived constant. 5) Make no change to the most deprived but reduce least deprived access. It is worth considering whether the WTS needs to make it acceptable to only narrow inequalities by means of the approaches listed in points 1 and / or 2 only. The WTS will be delivered in a Wales where the Active Travel Act is already in place, but there is relatively little recognition here of the scale of ambition and opportunities stated there. It would be useful to see these reinforced in the WTS, as well as show how the WTS will contribute to, and enhance the ambition of, the Active Travel Act.	Comment noted.
Section 5 This section should be redrafted to reflect the potential longer-term implications of the COVID-19 pandemic lockdown on the Wales Transport Strategy e.g. increased working from home; need for faster broadband connectivity, increased active travel and consequential implications for future land use and allocation.	Comments noted. Implications of COVID-19 added to Section 5.

Integrated Sustainability Appraisal Response Log	Arcadis Response
Table 3.2 The key theme around flood risk is missing a word. It should read as "reduce the risk of flooding and/ or coastal erosion…." The 6th key theme in the table (bottom of page 17), we recommend that this should also identify the need for climate change adaptation. Section 4.3.1 This section refers to attributes and aspects inter-changeably. Aspects of ecosystem resilience include diversity, condition, extent, and connectivity, adaptability, recovery and resistance. Ecosystem attributes are those aspects of ecosystem resilience which are well understood and measurable. The ecosystem attributes listed in section 4.3.1 currently only includes diversity, condition, extent, and connectivity. It would be appropriate to make this distinction within the text and to emphasise that resilient ecosystems only arise as a result of an interplay between all four ecosystem attributes, as such they should not be considered in isolation from one another. Table 4.1 Table 4.1 (Resilient Wales section) refers to biodiversity, flora and fauna but given the legislative context in Wales it would be more appropriate to refer to biodiversity and ecosystem resilience. This section should also include reference to Sites of Special Scientific Interest, protected species, section 7 habitats and species, and to resilient ecological networks. It would be appropriate to consider and brigade the key issues and opportunities for biodiversity and ecosystem resilience in Table 4.1 against the ecosystem attributes of diversity, extent, condition and connectivity to reflect and provide a clearer read across from the legislative requirements of the Environment (Wales) Act. The potential impact that fragmentation can have on the commuting, dispersal, movement routes of certain species should be referred to in Table 4.1. The opportunity that active transport links could play in helping to reinforce resilient ecological networks could also be emphasised in Table 4.1. Appendix B It would be appropriate for Appendix B to include an analysis of resilient ecological networks – level II networks developed as part of NRWs Habitat Networks spatial dataset for various terrestrial habitats would be a useful starting point for consideration (available for download via Lle).	Agree - added erosion to 4th theme of Table 3-2. Agree – recovery and resistance added. Agree - added ecosystem resilience.
Welsh Language version Nodwn fod y ddogfen ymgynghorol ar gael yn Gymraeg, ond nid yr atodiadau **English translated version** Please note that this consultation document is available in welsh, but not the appendices.	Noted.
We need to get the most out of the roads we have, to make our roads safer, to encourage modal shift and to enable more and better use of public transport, active travel and ultra-low emission vehicles (ULEV). Effective planning and development control will need to be applied in order to limit and manage the demand for transport. We should encourage home-working and make more and better use of information technology for business and other purposes.	Comment noted.

Consultation Reponses to the ISA Scoping Report, July 2020

Integrated Sustainability Appraisal Response Log		Arcadis Response
Q10A	**Do you think the Integrated Sustainability Appraisal report identifies the most important sustainability effects for transport?**	
For a government looking to reach the targets it sets itself, yes. Not sure if it may not change society in ways we won't like or expect. I think we'll find ourselves trapped locally and becoming far more insular. That will encourage a much more narrow perspective, a localised world view, if you like. I see a return to a fifties world view which in some ways might be pleasant, but in others, like suspicion of non locals, the "us" and "not us" culture would not be good. The loss of the car and the effort of travelling in any other way is likely to have this effect.		This comment is focussed on the contents of the WTS, rather than the ISA.
Trying to please too many masters here.		Comment noted.
Where is the recognition of the large impact of haulage?		This comment is focussed on the contents of the WTS, rather than the ISA.
Again, I would like to see actual practical solutions discussed in the plan and local examples given.		This comment is focussed on the contents of the WTS, rather than the ISA.
Restore the Swansea and Neath canals and the Mon and Brec canal to Newport docks.		This comment is focussed on the contents of the WTS, rather than the ISA.
There is a need to tackle the big issues head on and not only consider the small, active travel needs. These are absolutely important, but the big changes are also absolutely necessary.		Comment noted.
On the whole. It is difficult to remember all the considerations.		Comment noted.
I keep repeating myself. You have not included powered-two-wheelers.		This comment is focussed on the contents of the WTS, rather than the ISA.
Changes happen all the time, jobs movement etc, I was going to say IMMOS or battery factory, but they have disappeared to go elsewhere. Mind you, you could get rid of Cardiff airport, which is no good to the north.		This comment is focussed on the contents of the WTS, rather than the ISA.
Broadly so, though much detail needs to be worked out.		Support noted.

Integrated Sustainability Appraisal Response Log	Arcadis Response
Motorcycles????	This comment is focussed on the contents of the WTS, rather than the ISA.
However, the ISA Objectives make no reference to, or inclusion of, motorcycles.	This comment is focussed on the contents of the WTS, rather than the ISA.
Sustainable forms of transport include motorcyclist journeys!	This comment is focussed on the contents of the WTS, rather than the ISA.
Sustainability involves recognising the makeup of your communities. Rural communities have a large number of young families moving in who rely on a car for example. It's wider than the report covers.	Comment noted.
Disability transport needs to consider guides for those using skating based activities and need a guide.	This comment is focussed on the contents of the WTS, rather than the ISA.
No further suggestions.	Support noted.

Overall it is positive. However, it needs to be strengthened in terms of addressing:
  a. limited references to specific rural connectivity issues
  b. limited regards to the movement of freight and the associated economic benefits
  c. potential/significant difficulties in developing specific land use parcels to support integrated transport aspirations
  d. how disabled groups can practically benefit from active travel opportunities.
	A summary of 'rural proofing' can be found in section 3.4.
	
	A summary of 'economic development' can be found in section 3.4.
	
	Comment noted.
	
	A summary of equality assessment can be found in section 3.3.

Both the ISA and its focus, the LL-N/WTS are products of significant work pieces. The time has surely come for action, to implement strategy and get stuff done.	Comment noted.
PTI Cymru agrees that the most important sustainability effects have been identified in the Integrated Sustainability Appraisal.	Support noted.
In the main yes, but I would focus more on trains and buses than cycling and walking.	Comment noted.

Integrated Sustainability Appraisal Response Log	Arcadis Response
We believe air quality and health inequalities have not been fully tackled in this draft strategy. Transport Poverty is very real across Wales and the strategy has not identified this at all.	This comment is focussed on the contents of the WTS, rather than the ISA.
It fails to go far enough quickly enough.	Comment noted.
Yes, however consideration as to whether there might be any gaps in policy would be valuable. Current policy and legislation are helpful but further iterations may be necessary – areas such as the route to Net Zero suggests there could be additional areas to be addressed in policy and legislation. Clear steps to action on decarbonisation along with ongoing monitoring will be needed for decision making and progress.	It is not the place of the ISA to suggest legislative changes.
Agree with the analysis, particularly regarding greenhouse gas emissions. The appraisal suggests that targets for GHG emissions reduction will not be met without more concrete steps. This supports the points we have made. The point regarding aviation is also interesting: countries all over the world are trying to replace domestic aviation with rail and yet a country the size of Wales has an aviation service between two rail-served locations within Wales (considering that Cardiff airport is supposed to be serving Cardiff). Improvements to the rail network should be made to eliminate this.	This comment is focussed on the contents of the WTS, rather than the ISA.
As noted above in relation to the Strategy, it is unclear what type or level of engagement work with children and young people has taken place. We had repeatedly reminded officials that young people would really welcome being able to influence transport policy and strategy, given how often it is raised with us when we meet children and young people across Wales. We had encouraged the completion of a Children's Rights Impact Assessment (CRIA) and consideration of a young people's advisory group in developing the Strategy. It appears from the ISA that a CRIA was, at some point, completed as part of this work. Whilst this is welcome (and a requirement under the 2011 Measure and associated Children's Rights Scheme 2014), it is unfortunate that the ISA, despite being 354 pages long, makes very limited reference to the CRIA and its findings. The few paragraphs of that document that refer to the CRIA list a number of articles of the UNCRC, but there is no analysis as to how these have been considered and applied. Listing articles of the UNCRC does not represent 'due regard' to children's rights. In addition, the list appears to be missing a number of other relevant articles, for example as a non-exhaustive list: • Article 1 the convention rights apply to all under 18s • Article 3 the duty to act in children's best interests • Article 4 the role of the state to take all measures required to support children's rights • Article 13 the right to receive information	Parts of this comment are focussed on the contents of the WTS, rather than the ISA. The CRIA has been carried out as part of the ISA, not as a separate assessment. A summary can be found at section 3.3. Further consideration of children and young people has been integrated into the appraisal of the WTS as seen in Appendix D.

Integrated Sustainability Appraisal Response Log	Arcadis Response
- Article 15 the right to join clubs/societies and socialise with friends - Article 22 provision for refugee children - Article 26 financial support for families, and - Article 34 protection from sexual abuse Whilst we have simply listed some article numbers here too, we would expect to see a narrative analysis as part of the impact assessment, as to how these, and the rights named in the ISA already, have been considered, balanced, and taken forward by the Strategy. Where there is a potential negative impact on children's rights, we would expect to understand how this is proposed to be mitigated and addressed in future. As just one example of this, the fact that transport subsidies for children apply to the age of 16 only but all children under 18 have the same rights, so how are the needs of 16-18 year olds met by the Strategy? What else could be done to level the playing field perhaps? This is particularly the case for a 20-year Strategy that would provide the opportunity to address some points that may not be achievable in the first few years at least but will expect to be picked up at a latter stage of implementing the Strategy. The ISA states that objectives 1-5 inclusive will take forward identified children's rights issues, without any exploration of these, or any application of those objectives to the specific needs and rights of children. Therefore, arguably the CRIA analysis, and the resultant regard to children's rights that Ministers are legally required to undertake in exercising all of their functions, is incomplete and open to challenge. An ISA is an unfamiliar document format for our office, but it appears that it doesn't easily lend itself to strong consideration of children's rights issues. There is a section on education within the ISA, but the primary focus there is on data related to 16-24 year olds. Some statistics on car usage are referenced, drawn from the National Survey results (2019) but this is adults reporting on behalf of their children; there isn't anything that relates to what, if anything, children might like to change about their travel. Data gaps are noted but there are no corresponding actions to indicate how this might be addressed or rectified. It is notable that there is also no mention within the Strategy of learner travel provisions. This is closely associated to the active travel aims set out in the strategy, but not automatically encompassed by that work. There has also been only limited progress with the Government's stated commitments to review the Learner Travel (Wales) Measure 2008 and associated documents, so it is disappointing to see that this specific issue that affects the vast majority of children does not feature within the Strategy. Where children are recognised as a distinct user group within the ISA, it is only really to emphasise their vulnerability and inexperience in crossing roads. Children need to be recognised as a user group, for example noting that they are dependent on public transport or active travel methods when travelling	

Integrated Sustainability Appraisal Response Log	Arcadis Response
independently from their parents. Previous vision documents that contributed to the development of this Strategy had mentioned young people in relation to learner travel and the need to educate them on safety measures. Young people need to get to work, apprenticeships, leisure activities, and play opportunities as well as education. There is some passing mention of leisure and getting to work but nothing specific on how this will be taken forward with/by/for young people. The narrative focusing on children's vulnerabilities isn't particularly empowering, as it focuses on perceived weaknesses but not any strengths, such as many children's passionate interest in the climate emergency or imaginative ways of seeking solutions to problems that affect them, or of the role of Eco Schools or other such schemes that could feed in to or link up with a Transport Strategy. And despite referring to children's vulnerabilities and needs, there is nevertheless no information or detail on how children will be better supported to address or overcome these vulnerabilities.	
Section 1.6.11 of the ISA recognises the potential impact of the Strategy on the Welsh language. It is recognised that the Welsh Government has a statutory obligation to fully consider the effects of its work on the Welsh language, with appropriate consideration to the Welsh language, Welsh speaking people and communities; it states that this includes children and young people. Once again however there is no indication of whether or how this has been done to date or will be done in measuring the success of the Strategy going forward.	Comment noted. The appraisal of the WTS considered how children and young people will access educational facilities. A summary of the WLIA can be found at section 3.3.
We are unsure how to respond to this question as we cannot see a section or summary of 'sustainability effects' in the ISA report. We note that the Development Strategy has been reviewed and noted, which we welcome, and we are pleased to see the recognition on p22 of the role of the third sector, especially in treating communities as partners.	Comment noted.
Llwybr Newydd is potentially biased to urban areas conurbations or strategic routes. It will inevitably be more difficult to increase active travel schemes and bus services in rural areas – demand response has merits in rural areas. This has been highlighted in the Integrated Sustainability Appraisal Report and should be acted upon.	This comment is focussed on the contents of the WTS, rather than the ISA.
A significant number of the recommendations will provide clarity to Llwybr Newydd and should be included at least as an ambition if they are not feasible in the short term.	This comment is focussed on the contents of the WTS, rather than the ISA.
Also please note, there are errors on page 43 which refers to the NDF instead of Llwybr Newydd under the heading vision.	Comment noted.

Integrated Sustainability Appraisal Response Log	Arcadis Response
Q10B **Are there any gaps?**	
Much more development of train services now.	This comment is focussed on the contents of the WTS, rather than the ISA.
No trains to get to work before 7 in morning... you are making the city out of reach for public transport users...	This comment is focussed on the contents of the WTS, rather than the ISA.
While you look at projects such as putting in more infrastructure for cycle paths you do not have plans for the upkeep and maintenance of those already in place. Most cycle paths are not maintained, have overgrowth, pot holes and grids in the path of cyclists plus vehicles parking over them. You also need to change the attitudes of many towards other road users, many think cyclists should not be on the roads and do not give them the courtesy they deserve. Do learner drivers need a more robust approach when it comes to other road users? Be more holistic in your approach for each and every section you are trying to change.	This comment is focussed on the contents of the WTS, rather than the ISA.
Psychological and emotional narrowing of social and demographic behaviours.	A summary of 'health' can be found in section 3.4.
Lack of concern with train services operating in England.	This comment is focussed on the contents of the WTS, rather than the ISA.
Make it easier to take bikes on trains and buses.	This comment is focussed on the contents of the WTS, rather than the ISA.
Haulage and not pointing out that you own an Airport.	This comment is focussed on the contents of the WTS, rather than the ISA.
Local plans.	Comment noted.
Be more bold. No specific mention of Metros for Swansea Bay or North Wales. No ambition to fully electrify all rail and bus journeys by 2030 (or before).	This comment is focussed on the contents of the WTS, rather than the ISA.
Use of coal for limited industrial processes.	This comment is focussed on the contents of the WTS, rather than the ISA.

Integrated Sustainability Appraisal Response Log	Arcadis Response
You have not been honest and said how you will pay for it and how much it will cost the individual.	This comment is focussed on the contents of the WTS, rather than the ISA.
Aeroplanes and helicopters should make the switch to electric.	This comment is focussed on the contents of the WTS, rather than the ISA.
Bound to be! Guarantees about local transport having plenty of space for cycles and many more buses for those in rural areas.	This comment is focussed on the contents of the WTS, rather than the ISA.
Include equestrians.	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes, yes, yes, yes - motorcycles/scooters.	This comment is focussed on the contents of the WTS, rather than the ISA.
Again powered two wheelers are not included anywhere!	This comment is focussed on the contents of the WTS, rather than the ISA.
There is absolutely no mention at all in the proposal document of motorcycles and the role they play in reducing congestion and therefore reducing emissions as well as easing parking space requirements. Motorcyclists are often not seen by drivers at junctions, sometimes with catastrophic consequences. Are we also invisible here?	This comment is focussed on the contents of the WTS, rather than the ISA.
Motorcycle/scooter use, both ICE & electric. (I do note your mention of "micro mobility", I mean full-size electric scooters).	This comment is focussed on the contents of the WTS, rather than the ISA.
You have made no reference to motorcycles in your policy. Motorcycles are a fantastic way to avoid congestion, avoid pollution, lessen parking issues and generally free up road space. It is also possible to park at least six motorcycles in the space one car takes up. Why has no mention been made to these obvious advantage?	This comment is focussed on the contents of the WTS, rather than the ISA.
Motorcycles.	This comment is focussed on the contents of the WTS, rather than the ISA.

Integrated Sustainability Appraisal Response Log	Arcadis Response
Yes, there are electric motorcycles and, as with cars, there will be more. Supporting use of them will contribute to Objectives 6 & 8, probably more so than electric cars.	This comment is focussed on the contents of the WTS, rather than the ISA.
Sustainable forms of transport include motorcyclist journeys!	This comment is focussed on the contents of the WTS, rather than the ISA.
In-line skating.	This comment is focussed on the contents of the WTS, rather than the ISA.
Greater adoption of walkway concept towards opening new stations as integrated transport hubs to compliment parkway stations/hubs. Thereby, providing 'holistic' sustainable public transport which would be accessible for all. One possible gap or risk might be the lack of recognition that people may change from their current cars (e.g. diesel) to electric vehicles, in preference to public transport, in belief that they are 'doing their bit'.	This comment is focussed on the contents of the WTS, rather than the ISA.

Overall the assessment is positive and responds to the challenges that we face in Wales. However, it needs to be strengthened in terms of addressing:
   a. limited references to specific rural connectivity issues.
   b. limited regards to the movement of freight and the associated economic benefits - both within Wales and beyond (given that some of our routes are of UK and European significance).
   c. potential/significant difficulties in developing specific land use parcels to support integrated transport aspirations - there needs to be greater confidence in how this would work given its importance to the overall success of the strategy.
   d. the references to the NDF need to be much clearer and explained in very simple terms how this will work practically.
   e. how disabled groups can practically benefit from active travel opportunities - there are significant barriers to this happening and the strategy fails to adequately reflect these.
	A summary of 'rural proofing' can be found in section 3.4.
	
	A summary of 'economic development' can be found in section 3.4.
	
	Comment noted.
	
	Comment noted.
	
	A summary of equality assessment can be found in section 3.3.

We need more buses to Gower at peak tourist demand times and an integrated ticket system between rail/bus. We have important heritage sites e.g. Arthur's Stone –which has no car park or bus service. WG needs to know that tourists go to these places and need a bus service as well as carpark and appropriate signage etc.	This comment is focussed on the contents of the WTS, rather than the ISA.

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An implementation strategy that will win minds, educate and convince people from individuals to commercial operators to make their own investments for change, for the better.	This comment is focussed on the contents of the WTS, rather than the ISA.
Equine traffic on roads, the use of public space for exercise of both the rider/driver and the horse. The assumption that Public Rights of Way will in the future be focused on transport use (walking and cycling to this end) rather than for health and leisure. Lack of emphasis on the greening of the infrastructure.	Comment noted.
Inequality.	Equality is considered as part of ISA Objectives 1 and 2.
Need for all main roads to have a footway. On rural bus routes, the infrequency of service can mean that it is attractive to walk. It is also the case that walking is the only option. Just one example is how quickly the roadside footpath / footway runs out on the edge of Corwen - and yet there have been many opportunities during carriageway upgrades and traffic management for this to be remedied. A two mile walk on a paved safe surface is inconsequential for a non-disabled person but 'shared use' with busy high speed vehicles is a different experience.	This comment is focussed on the contents of the WTS, rather than the ISA.
Not that I could see but I feel that it was lacking in supporting statistics for cycling infrastructure. A number of sources could have been used to drive more specific policy about active travel, particularly cycling UK, Sustrans, British cycling, etc...	This comment is focussed on the contents of the WTS, rather than the ISA.
Consideration of actual locations of workplaces.	Comment noted.
Give all young people (for example up to the age of 21) free public transport. Raise the speed limits on electric bikes.	This comment is focussed on the contents of the WTS, rather than the ISA.
Throughout this consultation I have repeatedly mentioned the critical need of our most vulnerable senior and disabled members in Wales to be connected within the development and completion of this strategy. Therefore, although I believe it's an excellent strategy going forward with our future generations heart at its base, I still believe the older citizens of Wales should be included. After all, they have been and continue to be an important source to our local communities and economy. With many skills, vast local knowledge and experience to learn from.	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes, however consideration as to whether there might be any gaps in policy would be valuable. Current policy and legislation are helpful but further iterations may be necessary – areas such as the route to Net Zero suggests there could be additional areas to be addressed in policy and legislation. Clear steps to action on decarbonisation along with ongoing monitoring will be needed for decision making and progress.	Comment noted.

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Not that we can identify at this stage.	Support noted.
The freight measure is a little limited, focusing on low/zero carbon modes. The reality for freight in Wales is that many movements will continue to be by road (as a mode) and that there is a need to convert these vehicles to low/zero carbon. It is unclear if the measure will capture this.	This comment is focussed on the contents of the WTS, rather than the ISA.
There seems to be a very 'insular' approach to this consultation. No cross-referencing to UK, European or Global initiatives. A non-committal 'holding position' which looks very much like 'business as usual' when an Emergency Response is required. Wales comes out of this Consultation looking very bad, lacking in ideas, inspiration, and ambition at a time when the world is looking to the UK and COP 26 to show leadership and expertise. We have the expertise - you only have to read the reports from the Centre for Alternative Technology, CAT, previously mentioned, to see that we have the solutions, and to the Stern Report and subsequent to see that we have the resources. All that is lacking is political leadership - a sad indictment in a time of need.	Some of the comment are focussed on the contents of the WTS, rather than the ISA. The ISA refers to relevant plans, policies and programmes in Appendix A.
It appears to be very thorough.	Support noted.
The ISA appears to provide a sound framework upon which the WTS can be progressed and delivered. Through the monitoring and review process, it will be important to cross-reference back to the issues identified in the ISA to check for ongoing compliance and impact assessments.	Support noted.
We do not currently have the resources to review the Integrated Sustainability report and have prioritised commenting on the draft strategy. We do welcome the intention to consider rurality. Disabled people and older people living in rural communities face additional barriers to accessible and appropriate public transport.	Comment noted.
We have not scrutinised the ISA report in detail. However, we note that points made in our consultation response to the draft report have been taken on board and that, as a result, the framework explicitly recognises the case for motor traffic reduction, as well as being stronger in its recognition of various health impacts and the crucial issue of health inequalities.	Comment noted.
We point out one detail. In the first box of Table NTS-2, the words "Walking and cycling is…" should be amended to "Walking and cycling are…", with other words in this sentence being amended to the plural. Walking and cycling are distinct transport modes.	Agree. Comment noted.
Having been generally supportive of the draft report and noting that several of our comments on that draft have since been incorporated, we do not feel the need to comment further, other than to commend the effort which has clearly gone into it.	Comment noted.
There are gaps in this that could have a detrimental impact on those from ethnic minority communities, those from low income families, female workers among others. We believe an Equality Impact Assessment should indeed be carried out on these proposals.	An Equality Impact Assessment has been integrated into the ISA

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	(see sections 1.6.7 to 1.6.9 of the SA Report).
We support the detailed response that was provided through the consultation on the draft Integrated Sustainability Appraisal by Transform Cymru.	Comment noted.
We welcome further detail in this appraisal report on the role of the third sector and recommend continued discussions with the sector to ensure organisations are positioned effectively to support the successful delivery of this strategy.	Comment noted.
We believe that the section on COVID-19 should highlight the risk of social exclusion and transport poverty caused by the drastic fall in passenger numbers making the financial model for the sector unsustainable. The impact on services and fares in the long term is unclear and this should be continually reviewed to ensure steps are taken to protect transport services for the poor and vulnerable.	This comment is focussed on the contents of the WTS, rather than the ISA.
In the section on 'A Resilient Wales', we believe that a link should be drawn between emissions, climate change and flooding given that extreme weather and flooding has devastated communities and changing our travel behaviour will help to reduce carbon emissions which are continuing to the acceleration of climate change and global warming.	Agreed. Comment noted.
It is good to see the recognition in 1. Third sector and 2. Social cohesion and equality that community transport makes a significant contribution to people's ability to access health services such as GP surgeries, health centres, and hospitals, as this is a particular issue in rural areas within Wales.	Support noted.
With reference to 3. Sustainable economic development and diversity, when considering 'how economically viable do community transport options need to be' it is important to consider wider considerations regarding the contribution community transport makes towards the prevention or delay of costly social care and health care interventions.	Comment noted.
With reference to 6. Reduce greenhouse gas emissions from transport, there is a need to consider the most economic and environmental options for community transport development in future – moving from minibuses to EV MPVs and cars may work better in some rural areas, so the sector needs to review the local geography and population needs and base future vehicle replacement decisions on a clear strategy for reducing greenhouse gas emissions.	This comment is focussed on the contents of the WTS, rather than the ISA.
Under 9. To protect and enhance the local distinctiveness of our landscapes and townscapes – community transport can help mitigate the impact of road traffic and parking on Wales' landscapes as schemes are increasingly looking at how they can provide access to AONB or National Parks to help alleviate some of the problems that have become more apparent during COVID-19 regarding out-of-area visitors using private cars to reach such destinations and potential congestion, parking and environmental issues this causes.	This comment is focussed on the contents of the WTS, rather than the ISA.

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With reference to 13. To enable the protection of tranquil areas and prevention of noise and light pollution, The Third Sector mini plan could state that as more people are travelling together, there will be a reduction in noise pollution due to fewer vehicles on the road. Similarly there could be reference to increasing introduction of EVs into community transport fleets.	This comment is focussed on the contents of the WTS, rather than the ISA.
There are not necessarily gaps in the effects identified but we do not agree with the assessment of some of the effects of the proposed strategy, as set out in our response to Q10C.	Comment noted.
Recognition and consideration of the negative impacts current Active Travel policy and investment has on rural and semi-rural communities, compounded by shift in policy and investment focus away from motorized travel and years of diminishing investment in bus services across Wales.	Comment noted.
Rather than this document being produced in a 'silo' it could be useful for WG to have parallel consultations towards a common net-zero Wales goal in Transport, Buildings, Energy, Land-use and Culture, so commonalities between strategies can become more accessible.	This comment is focussed on the contents of the WTS, rather than the ISA.
Also greater ambition on re-connecting missing rail links could be transformative for Wales. At the moment travel East-West across the country by Wales is possible, but North-South remains difficult/impractical especially by rail.	This comment is focussed on the contents of the WTS, rather than the ISA.
Carbon sequestering? Could we do this on a large scale or encourage people to do this at a local level - gardens, green space and other public areas? Utilize public buildings and the transport estate.	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes, however consideration as to whether there might be any gaps in policy would be valuable. Current policy and legislation are helpful but further iterations may be necessary – areas such as the route to Net Zero suggests there could be additional areas to be addressed in policy and legislation. Clear steps to action on decarbonisation along with ongoing monitoring will be needed for decision making and progress.	The ISA considers relevant plans, policies, and programmes in section 2.1 and Appendix A. It is not the place of the ISA to suggest changes to legislation.
Just to note that there is a discrepancy in referring to the long-term vision. Needs clarification if this is 20 years or 25 years, and this should be reflected throughout.	Noted. Changed throughout ISA.
Document from Arcadia is disappointing and too officer led and with poor linkages.	Comment noted.
The ISAP rewrites the statutory criteria for impact assessments, such as the equality impact assessment, in a way which means that it fails to meet the Welsh Government's statutory responsibilities. ISA Objective 2 "To create the conditions in which an improvement in social cohesion and equality can be achieved" fails to capture the statutory requirement to assess proposals for impact on people with each of the 9 protected characteristics and (from 31st March 2021) to further socio-economic equality. The statement under this objective on p. iv "The Ambitions and Priorities of the WTS, as well as the Mini Plans on Active Travel, Bus, Rail and Community Transport, would help to combat social and economic	An Equality Impact Assessment has been integrated into the ISA process to avoid repetition, and the nine protected characteristics were considered when assessing the WTS against ISA Objectives 1 and 2.

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inequalities through developing a system that is accessible for, and utilised by, all members of society irrespective of background, gender, age, and disability. In doing so it would improve equality of opportunity in terms of access to services, employment, leisure and education facilities" is risible. It assumes the conclusion in the premise – the fact that the proposed transport system is "accessible for all" could be the CONCLUSION of a full equality impact assessment in the very best scenario, but this 'assessment' simply takes the statement in Llwybr Newydd at face value. This approach follows through the whole document. For example, on p. 48 a ++ score for social cohesion and equality is given on the basis of the following assessment: "The Ambitions and Priorities of the WTS, as well as the Mini Plans on Active Travel, Bus, Rail and Community Transport, would help to combat social and economic inequalities through developing a system that is accessible for, and utilised by, all members of society irrespective of background, gender, age, and disability. In doing so it would improve equality of opportunity in terms of access to services, employment, leisure and education facilities". Again, the aspirations of the Strategy are regarded as being fulfilled simply by being stated. There is no assessment as to whether the Strategy meets its own aspirations, still less any objective assessment as to whether the actions outlined in the Strategy would do so.	The effects predicted in the ISA are based on the assumption that the Wales Transport Strategy would be implemented as stated.
NB The Welsh translation of this section is completely different in meaning, suggesting that it is a translation of an earlier draft.	Comment noted.
We are very concerned that WG has clearly spent considerable sums of public money on an assessment by a private company which from its beginning declares that it will not assess against statutory criteria, but rewrite them in line with the Strategy, and then find (hardly surprisingly) that the Strategy meets the newly minted criteria.	Comment noted. The ISA does meet the statutory requirements of the assessment types included.
We wish to see a traditional Equality Impact Assessment produced for the transport strategy – indeed, we believe that it is a statutory requirement that this be done.	An Equality Impact Assessment has been integrated into the ISA process (ISA Objectives 1 and 2). A summary of the findings of the assessment is included in the Main Report for clarity.
We believe there are two significant omissions from the final ISA report: - The strong evidence of the importance of community engagement and community-led change in supporting more sustainable forms of development and sustainable transport behaviours. We fed this into the ISA consultation and see our notes have been included in the table as 'noted' but this	The Third Sector Mini Plan seeks to promote community-led transport and has been appraised in Appendix D. ISA Objective 2 also assesses the

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evidence has not been picked up and considered in the report itself, in terms of its importance to the strategy; - Despite the Welsh Government's commitments to being globally responsibility, sustainability impacts in other countries seem to have been ignored. The ISA report goes so far as to say the WTS must promote ULEVs, without referencing the environmental and social impacts that the production, import and disposal of these vehicles (and their batteries) will have, nor the fact that proactively pushing purchase of new cars means more cars in the world, presumably with cheap second-hand petrol and diesel cars flooding overseas markets.	impact of the WTS on communities and equality. The potential negative effects of electric vehicles have been considered as part of the cumulative effects assessment.
Affordability is a crucial aspect of accessibility. If sustainable choices are unaffordable, unsustainable behaviours and situations are perpetuated, and equality is not achieved.	This comment is focussed on the contents of the WTS, rather than the ISA.
The ISA appears to provide a sound framework upon which the WTS can be progressed and delivered. Through the monitoring and review process, it will be important to cross reference back to the issues identified in the ISA to check for ongoing compliance and impact assessments.	Support noted.
The ISA states the Llwybr Newydd provides 'a long-term vision for transport over the next 25 years' in various places (e.g. 1.1.2 & 1.1.9 in the non-technical summary and 1.1.4 of the introduction) whereas the WTS states a 20-year horizon. The ISA should be corrected accordingly.	Noted. Changed throughout ISA.
1.1.11 & 12: is the reference to NDF correct?	No paragraphs 1.1.11 or 1.1.12 in ISA report.
It needs to include people with disabilities. Both learning and physical. The issues for people with learning disabilities are slightly different to those with physical disabilities and both elements need to be considered.	This comment is focussed on the contents of the WTS, rather than the ISA.
Time constraints have prevented a full review of the ISA Report but, logically, it would seem that the report cannot cover motorcycling nor the impacts on those who use the mode as the proposed plan has no provision for motorcycling to review. This is borne out by the fact that the term motorcycle is used only three times in a 354-page document. When compared to the terms "cycle" or "car" - both of which appear in copious quantities - it would seem that our logic is legitimate.	This comment is focussed on the contents of the WTS, rather than the ISA.
The Sustainability Appraisal is comprehensive and does cover transport sustainability. However, the document does not flow and is difficult to follow.	Comment noted.
We welcome the detail added in the appraisal report on the role of the third sector and recommend continued discussions with the sector to ensure organisations are positioned effectively to support the successful delivery of this strategy. We believe that the role of the third sector could be more effectively set out in the strategy document and recommend the following wording:	This comment is focussed on the contents of the WTS, rather than the ISA.

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"Third sector organisations have a key role to play in ensuring the successful delivery of this strategy through the provision of specialist information and advice. We recognise the importance of the sector in engaging communities and ensuring local voices are heard. We value the extensive network that the sector is able to utilise in order to ensure communities can feel ownership of local transport services. We also understand that the third sector has a critical role to play in changing behaviour."	
Q10C **Do you have any comments on the findings of the report?**	
The last mile is vital. If you are considering using public transport, especially rail, the last mile is critical. If you live 20-30 minutes' walk from the station, you may not use the train because there is no bus service to the station, or more likely no bus to get you home from the station after 6pm. The taxi fare may be at least £6-£7 in each direction to take you to/from the station. Multiply this by 5 days per week, the extra £30+ per week on top of your rail tickets, may make you use your car for the journey or even prevent you from applying for a job a few miles away.	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes, we need to stop building roads and provide better integrated sustainable transport options for future generations.	This comment is focussed on the contents of the WTS, rather than the ISA.
It needs to be more bold. Tata Steel at Port Talbot is not a long-term sustainable business. It is an ideal location for an airport. Wales International Airport should be based here, decommissioning Rhoose. Benefits? • Already an integrated infrastructure hub both by road and rail. • It will support plans for a 30 minute Swansea to Cardiff train service. • It will significantly take traffic off the road of those flying. • It will support huge business regeneration and can be seen in a net environmental position when compared to the existing steelworks. • It will support a logistics centre and lead to more freight travel by train. • Potential to include a tidal lagoon/carbon sinkholes to service the power and carbon capture needed of a modern airport. • Will prevent long travel journeys of those still using Bristol, Birmingham and Heathrow.	This comment is focussed on the contents of the WTS, rather than the ISA.
Sadly, human psychology is ignored. Great majority of residents in rural areas will simply not accept curtailment of their use of often eco unfriendly vehicles - you do not mention giant lorries, vans and tractors which are the real problem in rural areas and which are associated with the farming industry.	Comment noted.

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It is unworkable and smacks of a dictatorship that has failed to understand the person's right to work, leisure and freedom of movement. It will affect the lowest paid who live in rural areas who need private transport to work.	This comment is focussed on the contents of the WTS, rather than the ISA.
Goes a certain way but I have concerns about those of us who live in rural areas.	Comment noted.

In brief, here is my perspective. I hope that it is helpful....
The draft paper notes that aviation policy is not a devolved matter, and that Wales Government participates in the sector through ownership and operation of Cardiff Airport – "an essential part of Wales' strategic transport infrastructure". The paper also notes the ability of the aviation sector to create high quality jobs, particularly in MRO.
Globally, a burst of innovation is underway, seeking to ensure that air transport is economically viable and environmentally friendly in many new use cases. In a recent speech calling for evidence, UK Transport Minister Rachel Maclean said "small electric aircraft may be able to move goods and people efficiently, particularly in communities".
Wales has a clear and ambitious strategy captured in Prosperity for All: A Low Carbon Wales and in the Well-being of Future Generations Act. Wales Government should convene the "Ministry of Possibilities" to understand the potential contribution of short-range electric aviation to transport strategy and to economic development. It would leverage existing activities, assets and skills in aviation and energy research (e.g., CAPSE, H2Wales). It could secure a good share of Westminster funds to the benefit of Wales.
<u>Industry Context</u>
A number of foundational technologies and priorities have come together to create an explosion of innovative activity. They include environmental imperatives, new structural materials, huge improvements in battery energy density and other propulsion technologies.
  • Uber Elevate's white paper has been a major catalyst with work to enable eVTOL (electric Vertical Take-Off and Landing) air taxis in an environmentally sensitive manner and overcoming urban congestion. This Urban Air Mobility concept will launch in selected cities in 2023.
  • NASA extended this concept to use similar vehicles for other use cases such as air metro and air ambulance, overcoming infrastructure or topographical challenges as well as urban congestion. They coined the phrase Advanced Air Mobility.
  • These use cases demand vehicles with circa 100-150km range. Some projects – notably Lilium - extend this planned range to 250km as Regional Air Mobility.
  • There are many variations on these themes, in propulsion (e.g. hydrogen fuel cells, hybrid vehicles), speed and payload (e.g. hover bikes, slow moving cargo concepts), piloted versus
	This comment is focussed on the contents of the WTS, rather than the ISA.

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drones etc. The umbrella phrase that UKRI used in a recent competition to stimulate UK based innovation was Future Flight. The Vertical Flight Society has catalogued over 300 eVTOL and hybrid projects under way. Some are funded by the likes of Hyundai and Toyota. Many have full size prototypes in operation. Early adopters of the opportunities that these vehicles open up, need to work immediately on the necessary infrastructure (physical, digital, regulatory). <u>Contribution to Wales' Transport Policy</u> The Uber Elevate specification and the announcements of their vehicle partners, are a rough guide to vehicle capabilities at launch in 3-5 years' time. Vehicles will initially be all electric, battery powered, considerably quieter than a helicopter, carry a pilot plus 4 passengers, with a range of 100-250 km, at approximately 250 kph. Lilium's capabilities are here. Opportunities might include: - For multi-modal international journeys, a network of feeder services to Cardiff Airport and/or shuttles to Heathrow. - An enhanced national air ambulance service that goes some way to offset hospital site rationalisation. - Replacement of helicopters for offshore services, monitoring of utilities and other applications with lower environmental impact and operating costs. - Air taxi services to and from key transport nodes and endpoints such as Port Talbot Parkway and Cardiff Bay. <u>Economic Development Activities and Opportunities</u> Welsh entrepreneurs and innovators are hard at work in this space. 2 of the first 20 successful applications for grants under the Future Flight program are based in Wales. D2D will demonstrate an alternative to road transportation between coastal cities, developing a pilot project to deliver goods by air using clean energy: initially between Avonmouth Docks in Bristol and Cardiff Docks in Wales. Gold Dragon (Llanbedr) will develop sensor technology for unmanned drones, prioritising health and emergency services including the police, coastguard, and mountain rescue. It is linked closely with Gwynedd Council and the Welsh Government. Successful development at the Snowdonia Aerospace Centre could contribute over 500 jobs. A leading eVTOL manufacturer, Vertical Aerospace, is conducting test flights in Wales. Globally, Roland Berger (a consultancy) predicts that 160,000 vehicles will be operating in the UAM market alone by 2050. With a strong experience base in aviation MRO, and some well-located assets in	

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Cardiff Airport and St Asaph Business Park, Wales is well positioned to capture some of the jobs this industry will generate. Proposed Next Steps Welsh Government should convene an interest group, and engage industry, to develop the thinking in this area and to demonstrate thought-leadership in its response to the UK Minister's call for evidence. In respect of contribution to transport strategy, this group should benchmark the inclusive, multi-stakeholder approach of Canadian Air Mobility. Their proposed initial focus is on the transport of time-critical medical isotopes to and from islands off the coast of British Columbia. This work would also create a platform for a communication plan to the private sector to position Wales as a great location for economic activity.	
The report is not fit for purpose. An entire transport mode (that fits perfectly between cars and bicycles) has not been included - the motorcycle. Please explain why?	This comment is focussed on the contents of the WTS, rather than the ISA.
In your document you have not mentioned Motorcycles once clearly this is either a gross error on your behalf or a deliberate act to eradicate motorcycling entirely. Perhaps you could tell me which one it is?	This comment is focussed on the contents of the WTS, rather than the ISA.
Yes. Why no mention of motorcycles??	This comment is focussed on the contents of the WTS, rather than the ISA.
I still think that motorcycles need to be included as an alternative means of personal transport. Generally, they take up far less space when moving (and parked) and the indirect emissions from the electricity they take are far less than most cars. And, as there is a recognition that air quality concerns include tyre rubber dust...they generate far less!	This comment is focussed on the contents of the WTS, rather than the ISA.
Complete lack of recognition that motorcycles form part of the transport system and are proven emission reducers; why is the document/instigators so blind/discriminatory towards this mode of transport when statistics show that they can be fundamental to emission reductions and reducing congestion?	This comment is focussed on the contents of the WTS, rather than the ISA.
I think there is insufficient focus on supporting the infrastructure of carbon neutral travel - for example, the introduction of a standard EV battery across all makes and models, the introduction of sufficient and reliable EVCP's across Wales. For example, some local councils have begun introducing EVCP's, but they are not maintained - and if they are out of use, people will not have the confidence to buy, or travel in electric vehicles. And instead will rely on fossil fuel cars. EVCP's need to be as reliable and widespread as petrol stations - and as efficiently maintained - I know this is obvious, but I feel there were elements of this 'underpinning' missing from the report.	This comment is focussed on the contents of the WTS, rather than the ISA.

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Lack of skating.	This comment is focussed on the contents of the WTS, rather than the ISA.
Excellent well researched and presented report. However, the recommendations need to be adopted and implemented without delay to benefit the people and Wales for present and future generations.	This comment is focussed on the contents of the WTS, rather than the ISA.
It is too narrow - and fails to exploit an economic gain for Wales through new policies.	Comment noted.
The ISA is a comprehensive and healthy challenge to the WTS and provides a wide scope of findings and suggestions. The mini-plan format is succinct and informative. Does it have teeth? Can its findings be implemented - otherwise what is the point?	Comment noted.
We believe that the ISA has done a good job of covering most relevant issues and rightly recognises that Llwybr Newydd has the potential to be a highly significant document in terms of transport decarbonisation and more equitable transport provision across Wales. The ISA raises some concerns around how much of an impact Llwybr Newydd will have on rural car use with this being part of the reason for an overall mixed impact on decarbonisation. We recognise that Llwybr Newydd is a high level document, setting out ambitions and priorities for the next two decades, and so the level of detail required to determine the ultimate impacts on rural car use into the future is perhaps not possible. We stress that some of this detail will have to be presented relatively quickly to achieve the 5-year priorities. When dedicated policy papers are published in the near future they should aim to take full account of the challenge of rural transport decarbonisation. The likelihood is that for many people living in rural Wales, a reliance on personal, shared, or community vehicles will continue, with these having to be electric (or powered by another low carbon fuel, such as hydrogen produced from renewable electricity). The provision of supporting infrastructure will therefore be essential, with a significant risk of a market failure in rural chargepoint provision otherwise. Therefore, we welcome the publication of the EV Charging Strategy, the Welsh Government must take steps to ensure that the rollout of infrastructure meets the needs of Welsh rural communities.	This comment is focussed on the contents of the WTS, rather than the ISA.
The latest report represents a significant improvement on the draft, especially in relation to freight transport.	Support noted.
We do not agree with the assessment of some of the effects as summarised in Table NTS-2 because the Strategy as currently proposed would not actually deliver some of the changes that are set out here. We have particular concerns about ISA Objective 9: To protect and enhance the local distinctiveness of our landscapes and townscapes and ISA Objective 13: To enable the protection of tranquil areas and prevention of noise and light pollution. In both cases it is stated that reduced car use would contribute to	Comment noted.

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the achievement of the objective. However, as we have set out in our response to previous questions, while there is an ambition to increase levels of walking, cycling and public transport use by visitors to National Parks, additional measures are needed as part of the priorities and mini plans in order to achieve this. Without such measures, the ISA is not an accurate assessment of the impacts of the Strategy.	
Many thanks for a powerful and ambitious piece of work.	Support noted.
Mini-plan 7.3 on Rail is very good, but could also consider re-connection of key rail links. Mini plan 7.2 on buses could include more research on the transformative effect of making the Traws Cymru bus services free at week-end. This was having a powerful effect on how people thought about bus use on the T2 route. What if for every 4 bus or train journeys the 5th one was free of 50% discounted??	This comment is focussed on the contents of the WTS, rather than the ISA.
Mini-plan 7.1 Support for shifts to active-travel can be very useful, one good example is: https://theaws.co.uk/activities/big-birmingham-bikes/	This comment is focussed on the contents of the WTS, rather than the ISA.
No. We do however attach a copy of our evidence to the Infrastructure Commission which addresses items relevant to this report and consultation.	Comment noted.
The report does not clearly address issues of affordability, particularly regarding public transport. ISA Objectives 1, 2 and 3 – at least - could have incorporated some analysis of this.	Affordability is considered within the full appraisals of the WTS under ISA Objectives 2 and 3.
Re the well-being goals of a healthier Wales and a more equal Wales: The report notes that more women than men do not drive, and that the gender pay gap in Wales is increasing, yet the identified opportunity for the WTS here is simply to ensure that men and women working in the transport system are paid equally. This is a very narrow assessment of the potential for positive change. The strategy can, in fact, improve women's access to opportunities and prosperity, by investing in transport systems preferred and needed by women, addressing issues of access (including affordability), safety and attractiveness, and ensuring that integrated transport planning considers childcare, training and employment locations, and facilitates the trip-chaining that women often need to undertake.	This comment is focussed on the contents of the WTS, rather than the ISA.
The suggestion that "Active travel measures should be focused in areas of deprivation to reduce inequalities" is a little narrow. Unless such active travel measures effectively ban or redirect existing traffic, inviting active travel could lead to greater exposure to traffic and pollution, as local people may adopt active travel through their neighbourhoods but commuters and shoppers passing through from more affluent areas, contributing to the high pollution typical of deprived areas, would not. Green health interventions (which the report is right to note as opportunities to address health inequality) would need to be implemented alongside or preceding active travel measures to provide shielding and mitigation for	Comment noted.

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local people from the high pollution commonly found in deprived neighbourhoods, for active travel interventions to be truly successful in improving health.	
Issues around disability should be considered in their widest sense (e.g. learning disabilities as well as physical disabilities).	This comment is focussed on the contents of the WTS, rather than the ISA.
In its present form the Strategy will not deliver some of the changes set out in Table NTS-2. ISA Objective 9: To protect and enhance the local distinctiveness of our landscapes and townscapes. ISA Objective 13: To enable the protection of tranquil areas and prevention of noise and light pollution. In both cases it is stated that reduced car use will contribute to the achievement of the objective. However, additional priority and Mini-Plan measures are needed to increase walking, cycling and public transport use by visitors to National Parks. Without such measures, the ISA is not an accurate assessment of the impacts of the Strategy.	Comment noted.

APPENDIX D

Consultation Draft WTS Assessment Results

CONTENTS

1 Contents of the Consultation Draft WTS

The WTS is structured in the following way:

- 1. Vision
    - *Sets out what the WTS is, how it fits with wider Welsh Government policy and the structure of the Welsh planning system.*
- 2. Our Long Term Ambitions for Transport in Wales
    - *Good for people and communities*
    - *Good for the environment*
    - *Good for the economy and places in Wales*
    - *Good for Welsh culture and language*
- 3. Our 5-Year Priorities
    - *Priority 1: Planning for better connectivity*
    - *Priority 2: Public transport services*
    - *Priority 3: Safe, accessible, well-maintained and managed transport infrastructure*
    - *Priority 4: Making sustainable transport more attractive and affordable*
    - *Priority 5: Support innovations that deliver more sustainable transport choices*
- 4. What We Will Measure;
- 5. How We Will Deliver;
- 6. The Five Ways of Working; and
- 7. Mini Plans: Transport Modes and Sectors
    - *Mini Plan for Active Travel*
    - *Mini Plan for Bus*
    - *Mini Plan for Rail*
    - *Mini Plan for Roads, Streets and Parking*
    - *Mini Plan for Third Sector*
    - *Mini Plan for Taxis and Private Hire Vehicles*
    - *Mini Plan for Freight and Logistics*
    - *Mini Plan for Ports and Maritime Transport*
    - *Mini Plan for Aviation.*

2 Summary of the B1 Compatibility Tests

The WTS Vision and Ambitions have been tested for their compatibility with each ISA Objective, as per the following key:

Compatible	✓
Incompatible	✗
Neutral	○
Uncertain	?

Table D.1: Compatibility scores recorded during the B1 Compatibility Tests

WTS	1. Health	2. Cohesion & equality	3. Economic development	4. Welsh culture	5. Welsh language	6. GHG emissions	7. Climate change resilience	8. Air quality	9. Landscape & townscapes	10. Heritage	11. Ecosystems	12. Natural Resources	13. Tranquility
Vision	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ambitions													
1. Good for People and Communities	✓	✓	✓	✓	✓	✓	○	✓	○	○	○	○	○
2. Good for the Environment	✓	○	✓	✓	○	✓	✓	✓	✓	✓	✓	✓	✓
3. Good for the Economy and Places in Wales	✓	✓	✓	✓	○	✓	○	✓	○	○	○	✓	○
4. Good for Welsh Language and Culture	✓	✓	✓	✓	✓	○	○	○	✓	✓	○	○	○

3 WTS Vision – B1 Compatibility Test

The WTS presents the following Vision:

> *"Our vision is for*
>
> ***An accessible and sustainable transport system.***
>
> *What does this mean?*
>
> - *'Accessible' – means a transport system that is accessible to all because transport providers are taking action to address the barriers that can prevent people using transport including physical, financial, digital and attitudinal barriers.*
> - *'Sustainable' – means a transport system that is good for people and communities, good for the environment, good for the economy and places and good for culture and the Welsh language, addressing each of the seven national well-being goals.*
> - *'Transport system' – means transport infrastructure (such as footpaths, cycle paths, roads and rail) and transport services (such as public transport, community transport and freight and logistics). The transport system encompasses transport providers and the transport policies that supports these."*

This Vision has been tested for its compatibility with each ISA Objective using the following key:

Compatible	✔️
Incompatible	❌
Neutral	⬤
Uncertain	**?**

ISA Objective	Score	Compatibility Test – WTS Vision
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	✓	Compatible – a transport system which is good for people and the environment would help to improve well-being and is compatible with the Objective. In making public transport accessible for all, more people would be able to use public transport for accessing the services they need, which includes health and social care facilities, exercise/leisure opportunities and outdoor semi-natural habitats. This could help to combat health inequalities, as residents in more deprived areas and older people are generally more likely to be relying on public transport for accessing services. An increase in public transport options and a greater uptake in use could contribute towards combatting the causes of social isolation, as public transport generally allows for more social cohesion and community interactions than other forms of transport. A transport system that is good for the environment would include more low-emission options, which would help to combat adverse effects of air pollution on human health. It would also lead to more and enhanced active travel opportunities that enable an increase in rates of walking and cycling (for both leisure and commuting purposes, including for children travelling to school and back), thereby providing benefits to both physical and mental health for all people. A sustainable system that is good for people and communities would need to reduce danger from road traffic as well as driver stress, such as by reducing traffic flow through town centres and residential areas.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – a transport system that is good for communities would aim to improve social cohesion and so it clearly demonstrates compatibility with the Objective. A system which is accessible for, and utilised by, a diverse range of people across society irrespective of background, gender, age, and disability would help to eradicate inequalities of access and to improve social cohesion. Travel options that are more affordable are likely to be particularly beneficial for residents in more deprived areas of Wales who rely on public transport more. Breaking down attitudinal barriers could also encourage an increase in public transport use by more affluent residents. Combined, this could lead to greater social cohesion and improved equality of opportunity and access, such as more equal access to education opportunities.
3. To support sustainable economic development and diversity	✓	Compatible – compatibility with this ISA Objective is clearly demonstrated through a transport system that is good for the economy and is accessible for all, improving diversity. In making public transport accessible for all, more people could have improved access to a broader range of employment, education and training opportunities. This would help to facilitate more equitable access across society and reduce economic inequalities.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – compatibility with the Objective is clearly demonstrated through the inclusion of a transport system which is good for Welsh language and culture. A better-connected transport system would be likely to enhance the accessibility of recreational spaces and cultural and heritage assets, and the Vision aims to do this in a sustainable way for people of all communities. This could lead to increased numbers of residents and tourists visiting cultural and recreational places, thereby leading to increased income and new investment that helps to enhance their economic viability going forwards.
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – the Vision seeks to ensure that there is a transport system that is good for Welsh language and culture, which clearly is compatible with the Objective. A system that is accessible for all must account for accessibility for Welsh-speaking people, such as through the inclusion of the Welsh language in all station announcements, road signs, and signs within bus and rail stations. Not only would this help to ensure that Welsh speakers have equal access to the transport system, but it could also help to promote the language and to encourage its regular use. An enhanced public transport system could also improve the accessibility of educational facilities, including Welsh-medium education facilities.

ISA Objective	Score	Compatibility Test – WTS Vision
6. To reduce greenhouse gas emissions from transport	✓	Compatible – the Vision is largely compatible with this Objective due to the focus on enhanced infrastructure for low-emission modes of travel, such as public and active transport, as part of a transport system which is good for people and the environment. Increases in the rate of walking, cycling and public transport would help to reduce carbon emissions associated with the transport sector in Wales. It is likely that this would be particularly effective in urban areas where opportunities for walking, cycling, or using public transport are generally greater than they are in more rural areas. In rural areas, local people often need to travel longer distances to access certain key services and amenities and typically have very limited walking, cycling or public transport options for doing so. Freight logistics are essential to the operation of Wales' economy. However, freight vehicles can be particularly large sources of GHG emissions. Improvements to the efficiency of freight movements could help to reduce these emissions.
7. To enable climate change resilience	✓	Compatible – the Vision is compatible with this ISA Objective due to the inclusion of enhanced infrastructure for greener modes of travel, such as public and active transport, as part of a transport system which is good for people and the environment. Transport infrastructure with GI elements could help to more sustainably manage surface run off and reduce flood risk. The Vision encourages the use of greener modes of transport, such cycling, walking and public transport, instead of private cars. Subsequent reductions in GHG emissions could help to limit the effects of climate change on Wales. A system which is accessible for all is likely to recognise the inequalities experienced in relation to access to transport in extreme weather events, such as during heavy snowfall, and would help to tackle this.
8. To protect and improve air quality	✓	Compatible – the Vision is broadly compatible with this Objective due to the inclusion of enhanced infrastructure for low-emission modes of travel, such as public and active transport, as part of a transport system which is good for people and the environment. An increase in the uptake of walking, cycling, and public transport could help to reduce air pollution associated with Wales' transport sector. The only potential conflict, as with ISA Objective 6, relates to the continued commitment to aviation, which is a significant source of air pollution. Achieving air quality improvement targets could therefore be made more difficult as a result of this.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	✓	Compatible – a transport system that is good for the environment and the Welsh culture is likely to be largely compatible with the Objective to protect and enhance local landscapes and townscapes. A transport system that is good for communities and for Welsh culture would be designed in such a way as to preserve local townscape character. Furthermore, an increase in active transport and public transport (alongside better-connected systems) would help to reduce car use and subsequently reduce the effects of large volumes of road traffic (e.g. noise and visual intrusion), particularly in valued, remote landscapes, such as National Parks. The Vision also aims to be good for the environment, which may include the provision of enhanced green infrastructure, such as trees, to further protect the local landscape.
10. To promote the conservation and enhancement of heritage assets	✓	Compatible – compatibility with the Objective is demonstrated through the inclusion of a transport system which is good for Welsh culture, which would aim to preserve historic assets. Some heritage assets may be transport assets themselves, such as historic bridges or railway stations; upgrading these in a historically sensitive way would simultaneously improve transport links whilst enhancing the heritage asset. New investment in existing transport infrastructure would be likely to provide opportunities for ensuring that transport infrastructure makes a positive contribution towards the setting of nearby heritage assets or historic areas.
11. To promote the conservation and enhancement of biodiversity, geodiversity, and ecosystems	✓	Compatible – although there is limited cross-over in this section, the Vision is compatible with this Objective through the inclusion of a sustainable transport system that is good for the environment. In aiming to be good for the environment, the Vision is likely to promote a design of transport infrastructure that would secure biodiversity benefits and conserve designated nature conservation sites. An increase in active travel and public transport, i.e. low-emission modes of travel, would improve air quality which may benefit biodiversity and ecosystems, and reduce habitat

ISA Objective	Score	Compatibility Test – WTS Vision
		disturbance caused by cars. However, whilst the Vision would help to reduce the existing adverse effects of the transport system on biodiversity, it is unlikely it would lead to net gains.
12. To ensure the sustainable use of natural resources	✓	Compatible – although there is limited cross-over in this section, the Vision is compatible with this Objective through the inclusion of a sustainable transport system that is good for the environment. Enhancements to active travel and public transport would be likely have a positive impact on reducing natural resource usage in private cars. A sustainable system should encourage the use of recycled and sustainable materials in the development of transport infrastructure where possible.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	✓	Compatible – in being good for the environment, people and communities, the Vision must aim for a transport system that protects tranquil areas and is therefore compatible with this ISA Objective. For the benefit of people and communities, there would need to be a reduction in, or mitigation of, noise and visual disturbances. Fewer private cars in use due to the increase in rates of active travel and public transport would be likely to lead to some positive effects on the protection of tranquil areas due to decreased disturbances.

4 WTS Ambitions – B1 Compatibility Tests

The Ambitions in the WTS have been tested for their compatibility with each ISA Objective using the following key:

Compatible	✔
Incompatible	✖
Neutral	⬤
Uncertain	?

Chapter 2: Good for People and Communities

ISA Objective	Score	Compatibility Test – Chapter 2: Good for 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	✔	Compatible – this Ambition seeks to improve the uptake of walking and cycling rates, contributing to a healthier lifestyle. Cycling to work is effective at delivering positive health incomes; various studies and datasets show it to be significantly better for health compared to walking and it can significantly reduce obesity/heart disease/premature death arising from sedentary lifestyles. Only around 6% of people in Wales cycle at least once a week for active travel, and therefore, this Ambition could help to deliver positive outcomes for people across Wales. This Ambition also recognizes the need to improve the safety of transport infrastructure. The recent pandemic and lockdowns have reduced people's confidence in using public transport. Making public transport safer and more welcoming would help to combat this.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✔	Compatible – this Ambition seeks to contribute towards a more equal Wales. It would do so by enhancing the safety of public transport and making it more welcoming. It would also achieve this by helping to combat attitudinal, digital, financial, and physical barriers to public transport and active travel links, which would help to combat isolation and inequalities of access. It is somewhat uncertain the extent to which this would be achievable in some of the most isolated rural areas where existing public transport opportunities are severely limited.
3. To support sustainable economic development and diversity	✔	Compatible – more equal access to transport would mean more people, and a more diverse range of people, are able to access employment opportunities and economic areas, having a positive impact on development and the economy. Improved transport infrastructure would also be likely to provide a boost to Wales' tourism industry.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✔	Compatible – more equal access to active travel routes and public transport would improve the accessibility of cultural and recreational spaces.

ISA Objective	Score	Compatibility Test – Chapter 2: Good for People and Communities
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – the focus is on giving all groups access to public transport and making them feel welcome; this includes Welsh speakers so could bring about a wider use of the Welsh language within the transport sector. It is assumed that 'Welsh language', where it is a barrier to people's access (e.g. Welsh speakers not being comfortable using public transport due to communication being in English), falls within 'physical, economic, social and attitudinal barriers' and so combatting these would help to enhance the accessibility of more sustainable travel modes for Welsh speakers.
6. To reduce greenhouse gas emissions from transport	✓	Compatible –an increase in walking and cycling, coupled with an increase in the usage of public transport, would lead to a decrease in GHG emissions associated with the use of private car.
7. To enable climate change resilience	○	Neutral – no direct effect identified.
8. To protect and improve air quality	✓	Compatible – an increase in walking and cycling, coupled with an increase in the usage of public transport, would lead to a decrease in air pollution associated with the transport sector.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	○	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity and geodiversity	○	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	○	Neutral – no direct effect identified.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	○	Neutral – no direct effect identified.

Chapter 2: Good for the Environment

ISA Objective	Score	Compatibility Test – Chapter 2: Good for the Environment
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	✓	Compatible – improvements to the natural environment are likely to be of benefit to people's physical and mental well-being. This could be as a result of improved air quality, enhanced access to open space and semi-natural habitats for outdoor exercise, and health benefits associated with higher rates of walking/cycling. The Ambition also seeks to reduce noise pollution, which can have adverse effects on mental well-being.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	◯	Neutral – no direct effect identified.
3. To support sustainable economic development and diversity	✓	Compatible – reducing waste and the sustainable use of current transport infrastructure will likely help to reduce Government spending on the transport infrastructure. Enhancements to the natural environment would benefit Wales' tourism industry.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – the conservation and enhancement of the natural environment could potentially benefit recreational and cultural spaces, particularly those outdoors.
5. To encourage the protection and promotion of the Welsh language	◯	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – this Ambition seeks to ensure that there is a significant reduction in GHG emissions associated with Wales' transport sector.
7. To enable climate change resilience	✓	Compatible – by improving sustainable land management and future-proofing existing infrastructure, the Welsh transport system could become more resilient to the effects of climate change. In aiming for a shift towards zero and low carbon transport options, the impacts of climate change may also be reduced.
8. To protect and improve air quality	✓	Compatible – transport is clearly outlined as a significant contributor to air quality issues, and the Ambition sets out options to improve them such as active travel and electric vehicle use which will reduce emissions.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	✓	Compatible – improvements to and preservation of the environment could help to protect and enhance natural landscapes. In addition, protecting the historic environment will help protect the distinctiveness of existing townscapes.

ISA Objective	Score	Compatibility Test – Chapter 2: Good for the Environment
10. To promote the conservation and enhancement of heritage assets	✓	Compatible – the conservation and enhancement of the natural environment could potentially benefit sensitive heritage assets and historic areas, such as by enhancing their setting or screening them from the visual impacts of new development. It would also be likely to help benefit historic landscapes.
11. To promote the conservation and enhancement of biodiversity and geodiversity	✓	Compatible – through more sustainable land management strategies and incorporating ecosystem resilience into transport operations there will likely be a positive effect on biodiversity and habitat protection. This Ambition specifically seeks to ensure that transport operations protect and enhance biodiversity, as well as support more resilient ecosystems.
12. To ensure the sustainable use of natural resources	✓	Compatible – natural resources can be used more sustainably through increasing renewable energy opportunities. This Ambition would be likely to help to reduce the consumption of natural resources by reducing waste and increasing the uptake of more efficient forms of transport.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	✓	Compatible – more sustainable land management strategies are likely to have a positive impact on tranquil areas. A reduction in car travel and the electrification of vehicles will likely reduce noise and visual disturbances and pollution associated with transport.

Chapter 2: Good for the Economy and Places in Wales

ISA Objective	Score	Compatibility Test – Chapter 2: Good for places and the economy
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	✓	Compatible – through increasing access to leisure and services, such as health and social care facilities, there would be an improvement in health and well-being. Access to work and training is also proven to be beneficial to people's health and well-being.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – increasing access to work, leisure, education, and services for all communities would increase social cohesion and help to combat inequality. The Ambition also seeks to ensure transport is more affordable, further helping to reduce inequalities.
3. To support sustainable economic development and diversity	✓	Compatible – through a more sustainable supply chain, increased access to work and education, and supporting innovations in the transport sector, the Welsh economy will likely be stimulated and able to grow and diversify.

ISA Objective	Score	Compatibility Test – Chapter 2: Good for places and the economy
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – increased access to leisure will include better access to cultural and recreational spaces, particularly in rural areas.
5. To encourage the protection and promotion of the Welsh language	◯	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – by supporting people and businesses to choose more sustainable transport options, including the development of technological and digital innovations which allow people to work remotely, there will likely be less use of private cars, decreasing GHG emissions.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	✓	Compatible – tackling congestion will improve local air quality, and an increase in sustainable transport modes will help to reduce transport-associated emissions.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	◯	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	◯	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity and geodiversity	◯	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	✓	Compatible – by supporting the use of a more sustainable Welsh supply chain, there will likely be less wastage and an increase in sustainable options that do not deplete natural resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	◯	Neutral – no direct effect identified.

Chapter 2: Good for Welsh Culture and Language

ISA Objective	Score	Compatibility Test – Chapter 2: Good for Welsh Culture and Language
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	✓	Compatible - cultural spaces and events can be highly beneficial to people's mental health and well-being. This Ambition seeks to ensure that such spaces are accessible and protected.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – this Ambition seeks to enhance cohesion for Welsh-speaking communities and to provide access to sporting and cultural events for a wide range of people, thereby improving the equality of opportunity for all.
3. To support sustainable economic development and diversity	✓	Compatible – through improving ease of access to cultural events and historic environment assets, footfall and subsequently spending would likely increase in these nearby centres and high streets. Large cultural events are also an important part of Wales' economy.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – there are clear steps being sought to promote the Welsh culture and improve access to a range of events and recreational areas and activities.
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – by providing bilingual services and encouraging transport providers to meet Welsh language standards, the transport sector would help to protect and promote the Welsh language.
6. To reduce greenhouse gas emissions from transport	◯	Neutral – no direct effect identified.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	◯	Neutral – no direct effect identified.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	✓	Compatible – through the preservation and enhancement of the historic environment and cultural heritage, the traditional townscapes of Wales are more likely to be protected and promoted.

ISA Objective	Score	Compatibility Test – Chapter 2: Good for Welsh Culture and Language
10. To promote the conservation and enhancement of heritage assets	✓	Compatible – in contributing to a Wales of vibrant culture, including Wales' transport heritage, heritage assets and historic areas would be likely to be protected and enhanced.
11. To promote the conservation and enhancement of biodiversity and geodiversity	◯	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	◯	Neutral – no direct effect identified.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	◯	Neutral – no direct effect identified.

5 WTS Priorities – Detailed Appraisals

Priority 1: Planning for better connectivity

ISA Objective	Initial Score	Duration Certainty	Appraisal – Priority 1: Planning for better connectivity It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Low	This priority is highly compatible with ISA Objective 1 and the successful achievement of this priority would make a significant positive contribution towards this ISA Objective. However, there is uncertainty around the extent to which it would be achievable using the measures set out in the WTS and, overall, only a minor reduction in the need for car-use is considered to be likely. Reducing the need to travel by private car would be likely to help deliver improvements to air quality and noise from traffic, with subsequent benefits to people's physical and mental health and well-being. It would be likely to lead to higher rates of walking and cycling, which would be of significant benefit to people's health and well-being. This is set out in the priority, seeking to plan for transport that can reduce sedentary lifestyles. Although not specified, changing the pattern of demand, could lead to a reduction in road building, and therefore, a reduction in the potential for severance from new road building, as well as reducing traffic levels on existing roads, that may form barriers to community interaction. More efficient transport networks with better integrated active travel and public transport links could help to reduce the time it takes to reach places people need to go. This would allow people to better spend their time doing what they want to do, rather than commuting for example, with likely benefits to their mental well-being. The priority provides future proofing measures, and seeks to align with Future Wales, which could support the integration of new developments into the transport system and provisioning them near to essential services, so that active travel can be promoted, and community transport needs are met. Ensuring that people are situated in proximity to essential services would help to ensure that they have good access to necessary health services including hospitals and GP services, including Welsh-medium services, for people who cannot rely on private car use e.g. children and older people, which could help to improve the equality of access to health services. The priority accepts that people in rural areas are less able to travel via modes other than the private car. This is the case for many trips including for work, personal, business and leisure trips. However, instances of walking and cycling for leisure purposes may be more prevalent. It is probable that through planning better physical and digital connectivity, people in rural areas will have increased options of access routes to health and social facilities. By designing policies based around reducing the volume of vehicles on the road and promoting working from home, it is likely that there would be a reduction in driver stress and road traffic accidents, because the frequency of vehicles on the road will be lessened, however, there is a high degree of uncertainty surrounding this. This would also have no distinction as to the type of groups who the risk would be lowered for, it would be an overall reduction in the risk due to statistics. The encouragement for people to work from home would help to reduce car-use, but there is uncertainty around the potential health impacts of this. For many people, walking or cycling to and from work is a key opportunity for exercise.

ISA Objective	Initial Score	Duration Certainty	Appraisal – Priority 1: Planning for better connectivity It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			Working alone at home could also lead to some detrimental effects on people's mental well-being, as a result of isolation. The future impacts of COVID-19 and potential other future pandemics will affect the future of the transport system e.g. more spread-out seating, hand sanitiser stations, mask wearing etc. And whilst private vehicle travel is much safer, steps can be taken to ensure the safety of travellers on public transport. By improving active travel options, the priority could encourage more people to access the open spaces they have available to them, e.g. public parks. Accessing these spaces and community areas will help to build stronger communities, helping to reduce the risk of loneliness and isolation. If improvements are brought to more rural transport services, then these would also extend to the access of the countryside and open spaces for people who live in city and town centres, however, there is a high degree of uncertainty around this.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term Low	This priority is highly compatible with ISA Objective 2 and the successful achievement of this priority would make a significant positive contribution towards this ISA Objective. However, there is uncertainty around the extent to which it would be achievable using the measures set out in the WTS and, overall, only a minor reduction in the need for car-use is likely. Nevertheless, as a supportive document to 'Future Wales', significant benefits could be achieved in combination, particularly in relation to new public sector developments. Improvements to public transport could help to address inequalities in access to bus and rail and ensure that public transport is equitable. By improving access between and within communities the priority may lead to an increase in the rates of satisfaction of the people within those communities, as there may be more options for essential and recreational services. This increase in accessibility could help to create equality of access for all people to health care facilities, employment opportunities and education services, helping to reduce inequalities in all aspects. However, there is a high degree of uncertainty surrounding this. It appears unlikely that this priority would address the limited access to public transport for people in rural locations, and they will be required to continue relying on car use. However, it is probable that through planning better physical and digital connectivity, people in rural areas will have increased options of access routes to community facilities.
3. To support sustainable economic development and diversity	++	Medium to Long term Medium	This priority is compatible with ISA Objective 3, due to the focus on accessibility. Maximising the potential of existing transport infrastructure, such as ports and railway stations, as sites for investment and growth, could lead to positive effects against this objective. Further, encouraging the development of new 'work hubs' through initiatives such as Transforming Towns, as well as supporting the initiatives in Future Wales, could lead to significant positive cumulative effects, in the longer term. Further benefits could be achieved through reducing congestion and a national digitisation strategy. This could lead to increased access to jobs, helping to reduce unemployment in Wales, by increasing access within and to different communities and areas, it will increase the amount of employment opportunities accessible to people of different communities and likely help to reduce employment inequality within Wales. There is also plenty of scope for development with this integrated approach – *"make sure that sustainable transport options are available from the outset in all new developments, including walking, cycling, public transport and electric charging infrastructure"*, and the promotion of economic flexibility, by aiming *to "improve access to fast and reliable*

ISA Objective	Initial Score	Duration Certainty	Appraisal – Priority 1: Planning for better connectivity It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			broadband either at home or for businesses, in order to facilitate home working and reduce the need to travel" and *"facilitate homeworking for as many workers as possible through initiatives such as '20-minute neighbourhoods', Transforming Towns and by implementing the 'Town Centre First' approach set out in Future Wales".* The priority seeks to ensure that land is set aside for future transport hubs (e.g. around stations), but it is uncertain how this would be implemented, as development land in these areas is at a premium. The priority encourages the reduction in need to travel for work by helping to promote working from home through improved digital connectivity and encouraging employer benefits. This will also help to diversify the employee market as location will have less of a bearing on job opportunities; meaning that it may create an employment opportunity equality between rural and urban areas, however there is a high degree of uncertainty surrounding this. Through the increased access and increased equity of access, it is likely that underperforming areas will see growth, due to more employment opportunities for those living in these areas, there is also a level of encouragement towards inward investment and future proofing of the transport system and facilities, however there is a high degree of uncertainty surrounding this.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This priority is generally compatible with ISA Objective 4 as it states, *"ensure that new public sector developments such as education and health services are located near to where people live and make provision for transport that meets the needs of service users, including community transport"*, but there is no mention specifically of promoting access to cultural spaces, even though it may be implied and included in 'public sector developments'. A potential knock-on effect of fewer vehicles on the road is that the setting of many cultural heritage sites and assets will be improved due to less noise and air pollution from that source, however, there is a high degree of uncertainty surrounding this. During peak times, better public transport links and services will likely put less stress on tourism travel as there will be a higher frequency of links and an improved quality of facilities leading to an all-round better experience. Better active travel routes will also help to alleviate the stress on the transport network allowing for easier management in tourist areas.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The increase in sustainable travel access to all facilities, could include Welsh language education facilities, however, this is not specified. As the priority seeks to support the implementation of the measures in Future Wales, some indirect positive effects on the Welsh language may result.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This priority is generally compatible with ISA Objective 6, as it states, *"We will not meet our statutory targets on greenhouse gas emissions unless we reduce emissions from transport. Unless we take bold action now, car use in Wales is forecast to continue to grow"* – by reducing the need for private car and vehicle travel, there will be less greenhouse gas and CO_2 emissions from the transport sector. Under priority 1, cleaner technology for transport is promoted including the use of electric vehicles for public transport and setting aside land for future transport hubs. Promoting working from home will reduce the need for travelling and reduce congestion during peak times. Supporting the implementation of Future Wales, with regards to the development of sustainable places, could also lead to positive effects. However, effects are considered to be minor, due to the lack of specific implementable measures on a national

ISA Objective	Initial Score	Duration Certainty	Appraisal – Priority 1: Planning for better connectivity
			It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
	+		scale, which could have wide ranging effects. These are likely to be included in the National Transport Delivery Plan, which will set out specific investment priorities, and be developed following the publication of the WTS.
7. To enable climate change resilience	+	Long term Low	This priority is generally compatible with ISA Objective 7, as it states, *"make sure that sustainable transport options are available from the outset in all new developments, including walking, cycling, public transport and electric charging infrastructure"*. By investing in more sustainable forms of transport and technology, it will help to future-proof the Welsh transport system from the effects of climate change.
8. To protect and improve air quality	+	Long term Low	This priority is generally compatible with ISA Objective 8, as reduced use of private cars and a reduction of vehicles on the road in general will reduce transport-associated emissions such as PM10, and therefore, improve the air quality of Wales. Limiting car use will help to reduce GHG emissions, but also other forms of pollution e.g. atmospheric nitrogen deposition.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This priority is generally compatible with ISA Objective 9, as reducing vehicle-led access and promoting urban areas to be made more pedestrian friendly will help to retain a more distinctive townscape. Reduced investment in road development may also imply that more landscapes will be protected. There will also likely be knock-on effects of reduced noise and air pollution from traffic, creating a more pleasant setting for landscape and townscape features, as well as tranquil areas.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This could be considered compatible in a very minor way as the reduction of road traffic will likely lead to improvements to air quality and a reduction to noise disturbance, meaning that the setting of these conservation and heritage assets will be improved, however, there is a high degree of uncertainty associated with this. Increasing access by active travel and public transport links could also lead to an increase of visitors to conservation and heritage areas, leading to increased investment, however, there is a larger degree of uncertainty associated with this.
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Low	This priority is generally compatible with ISA Objective 11, as more efficient development and fewer cars encouraged on the road will lead to less habitat disturbance by roadways, however, this is not stated directly. There will likely be indirect positive effects from fewer vehicles on the roads, less air pollution and less noise pollution will lead to less habitat disturbance and cause less stress to flora and fauna providing a better environment for an increase in biodiversity. Fewer developments of roadways and transport infrastructure could possibly mean less development in general and therefore fewer instances of intrusive groundworks, helping to contribute to the protection of geodiversity. However, there is a high degree of uncertainty around this. Improving active travel routes and public transport links will likely grant easier access to wildlife areas and open green spaces, making them more accessible for all people and not only those who have access to a private car.
12. To ensure the sustainable use of natural resources	+	Long term Low	This priority is generally compatible with ISA Objective 12, as it states, *"make sure that sustainable transport options are available from the outset in all new developments, including walking, cycling, public transport and electric charging infrastructure"*. By adapting to more sustainable technologies there will be less reliance on natural (non-renewable) resources.

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	+		Fewer vehicles on the road means fewer pollutants from exhaust or spills falling onto the tarmac, there is then less chance of surface water run off carrying these pollutants into the soil, groundwater and surface water, therefore, enhancing their quality. However, there is a high degree of uncertainty surrounding this. Potentially fewer road network developments mean fewer materials necessary and more scope to use recycled materials as there will be reduced usage of them, and fewer developments will also likely lead to less waste. However, there is a high degree of uncertainty surrounding this.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This priority is generally compatible with ISA Objective 13, as a reduction in the use of private cars and vehicle travel will reduce noise from roads, and therefore, reduce noise pollution, however this is not stated directly. Fewer vehicles on the road will likely lead to less noise and light pollution from traffic and put less stress on tranquil areas.

Priority 2: Public transport services

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 2: Public transport services It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This priority is compatible with ISA Objective 1, as it states, *"if all of us make greater use of public transport, we help to sustain services for those that have no other option".* Having cleaner more reliable transport options will help to contribute to better, physical, mental and social health, through walking, as well as increased community interaction, and improved access to services and facilities. Through continuing to support socially necessary public transport, this will help to reduce inequalities, especially with regards to health. By shaping the public transport services by user feedback, it will help ensure that services are able to provide to those who need it, for example, rural communities. This could be by improving connections via different modes of transport e.g. rail and cycle lanes, increasing the connectivity and ease of access across Wales for all including to health and welfare facilities, employment and education opportunities, and recreational activities, helping to make access equitable for all. By making public transport cleaner and safer it will be more appealing to at risk groups who may need to use public transport to access health services e.g. children and older people, this will likely help reduce health inequality, equally by promoting active travel through improving active travel routes, it will help promote a healthy lifestyle and encourage physical activity. By improving transport connectivity and integrating different modes of transport into journeys, there will likely be increased connectivity between communities and there will be more options for travel and infrastructure implementation, and so the risk of community severance will be reduced.

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			It is likely that with more attractive public transport options, people will be more inclined to use public transport and less likely to use private cars. This could lead to fewer cars on the road, improving road safety, and lessening air pollution and noise pollution from transport, leading to fewer stressors on human health. Improved public transport options will make the act of taking public transport more appealing. This is usually a less isolating experience than private car use and could lead to less isolation in Welsh people as more chances for human interaction would be available to them. However, there is a high degree of uncertainty associated with this.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	This priority is compatible with ISA Objective 2, as it seeks to *"continue to support socially necessary bus and rail services in Wales"* and *"provide more innovative, flexible services that respond to demand"*. This will help to improve social cohesion and equality, having cleaner more reliable transport options will likely also help to harbour a sense of pride in the community, leading to a greater sense of social cohesion. By creating a better sense of community and social cohesion through cleaner and safer public transport there could be a reduced number of cases of crime on public transport services, because if public transport is promoted and more people use it, there will be safety in the large number of people using the transport, but there could also be a statistically higher rate of crime due to there just being more people using it. By improving the reliability, safety and cleanliness of public transport, these transport options may become more accessible for women, Black, Asian and Minority Ethnic and LGBTQ+ people. By connecting active travel routes and integrating them into other transport options it will make active travel more accessible for people who may struggle to walk long distances e.g. children, disabled people or older people. Through supporting community transport options and necessary transport services through funding, it will help to improve equal access without the barrier of income or location. By improving the connectivity of public transport overall, it will make access easier for all people and therefore increase the equitable availability of it. Increasing access to public transport will also likely increase user satisfaction with their own neighbourhood and local environment as they are no longer limited to only accessing the facilities within their local surroundings, this will also help to improve equality as people are not limited to the employment opportunities or educational facilities within their own communities but have access to wider opportunities. Through increased journey connectivity, it will even improve the access of rural communities to the same opportunities, to some degree.
3. To support sustainable economic development and diversity	++	Long term Medium	This priority is compatible with ISA Objective 3, as it states that journeys on public transport *"benefit the economy by reducing congestion in urban areas"*. Public transport use is correlated with a stronger economy, due to spending on the transport service itself and ancillary services such as food and drink outlets in the vicinity of bus and train stations. Further, public transport connectivity means that employers are able to garner a larger employment base, which could mean a more diverse economy and inward investment. All of these factors lead to a more stimulated economy. More attractive public transport options will make people more likely to use these services to access urban centres and shops to spend money, meaning there will likely be an indirect increase to the diversity and development of the economy, it could also provide a boost to underperforming or difficult to access economic areas. Through increased access and connectivity of different communities there will likely be increased access to employment opportunities, this will also make these opportunities more equitable as the transport barrier is reduced.

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			This increased connectivity and integration of different travel modes into journeys could lead to increased access to many facilities including tourist attractions and the countryside. This connectivity could also help rural communities to access more job opportunities. However, this is not stated directly in the text so there is a degree of uncertainty surrounding this. Under this priority, inward investment is encouraged through the improvement of transport infrastructure and investment in low carbon technology for transport infrastructure, this will help to future-proof the industry and could lead to improvements in freight transport and international travel, however, there is a high degree of uncertainty surrounding this.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	Through improving the safety, access and connectivity of the public transport system/active travel options and making them a more appealing option it will likely lead to more people choosing public transport options and less people choosing private vehicles, and lead to fewer vehicles on the roads. This will have a knock-on effect of reduced air pollution and noise pollution, improving the setting of many cultural and recreational spaces. However, there is a high degree of uncertainty surrounding this. Increasing access and connectivity by integrating different transport modes into journey routes will help to increase access for everyone, including to recreational and cultural spaces.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This priority is generally compatible with ISA Objective 5, although it is not stated directly, as by incorporating user feedback into the development of the public transport services there will likely be more Welsh language being spoken on transport providing more accessibility to Welsh speakers and promoting the culture. Increasing access and connectivity by integrating different transport modes into journey routes will help to increase access for everyone, including to Welsh language educational facilities. By making these options safer and cleaner it also means people will be more likely to use them to access these services. However, there is a high degree of uncertainty surrounding this.
6. To reduce greenhouse gas emissions from transport	++	Long term Medium	This priority is compatible with ISA Objective 6, as it states, "*Journeys on public transport are better for the environment as they involve lower carbon emissions per person than cars*". If people are more likely to use public transport then they are less likely to use private cars as transport, which will then likely lead to reduced emissions from the transport sector. The priority also seeks to "invest in more attractive (… low carbon …) public transport services", which would be likely to lead to significant improvements against this objective. By promoting the safety and cleanliness of active travel routes and incorporating these routes into journeys, it will help to promote zero emission travel options and lead to further reductions in CO_2 and greenhouse gas emissions. The use of active travel over public transport will also have a knock-on effect of energy savings from public transport, however, there is uncertainty surrounding this.
7. To enable climate change resilience	+	Long term Medium	This priority states, "*ensure that bus and rail services can adapt effectively to unexpected emergencies (e.g. pandemics, flooding) and major planned events*" and will help to provide climate resilience through the improvement of public transport with regards to flood risk adaption and emergency procedures to protect from flooding in unexpected circumstances. These adaptions will also help to improve equality of climate emergency safety as the public transport system will likely be more accessible to all. Public transport will also be improved through being more adaptable to other kinds of emergencies, both climate related and pandemic related.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 2: Public transport services It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
8. To protect and improve air quality	+	Long term Medium	This priority is generally compatible with ISA Objective 8, as it states: "*Journeys on public transport are better for the environment as they involve lower carbon emissions per person than cars*". If people are more likely to use public transport and active travel options then they are less likely to use private cars as transport, this will then likely lead to reduced emissions from the transport sector and therefore help to improve air quality in Wales. By making improvements to public transport by investing in low carbon or low-emission technology, there will likely be a further reduction in air pollution from the transport sector.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This priority is generally compatible with ISA Objective 9 as lower traffic levels and 'better' public transport, may create a more attractive townscape and less disturbance of natural landscapes, however, there is a high degree of uncertainty associated with this. Through the improvement in cleanliness and safety of public transport and active travel routes, it will likely lead to a cleaner and safer townscape, if this includes the street furniture associated with public transport (such as bus stops). Through improving the safety, reliability and frequency of the public transport system/active travel options and making them a more appealing option it will likely lead to more people choosing public transport options and less people choosing private vehicles, this will lead to fewer vehicles on the roads. This will have a knock-on effect of reduced air pollution and noise pollution, improving the setting of the towns and landscapes. However, there is a high degree of uncertainty surrounding this.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	Through improving the reliability, safety and frequency of the public transport system/active travel options and making them a more appealing option, it will likely lead to more people choosing public transport options and less people choosing private vehicles and will lead to fewer vehicles on the roads. This could have a knock-on effect of reduced air pollution and noise pollution, improving the setting of many heritage assets. However, there is a high degree of uncertainty surrounding this. Improving journey planning to make it easier to switch between different forms of transport will be likely to help increase access for everyone, including to heritage assets.
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Low	This priority is generally compatible with ISA Objective 11, as it states: "*Journeys on public transport are better for the environment as they involve lower carbon emissions per person than cars*", which could have knock on effects of improving habitat quality due to reduced emissions in the local area, and therefore, increasing biodiversity of flora and fauna. With more investment in active travel and public transport there may also be less investment in new road building, which could lead to benefits against this objective. However, there is a high degree of uncertainty associated with this. Fewer road developments may also mean less need for geological resources for construction, helping to preserve geodiversity.
12. To ensure the sustainable use of natural resources	+	Long term Medium	This priority is generally compatible with ISA Objective 12, as it states: "*Journeys on public transport are better for the environment as they involve lower carbon emissions per person than cars*", due to less private car use and more public transport use. The priority also seeks to "*invest in more attractive (reliable, clean, safe, low carbon and frequent) public transport services*". The priority could help to reduce the volume of carbon used in public transport infrastructure, however, investing in more frequent services could lead to a neutral effect overall. Improving the reliability, safety and frequency of the public transport system/active travel options and making them a more appealing option will likely lead to more people choosing public transport options and less people choosing private

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	+		vehicles. Fewer vehicles on the road means fewer pollutants from exhaust or spills falling onto the tarmac, and there is then less chance of surface water run off carrying these pollutants into the soil, groundwater and surface water, and therefore, enhancing their quality. However, there is a high degree of uncertainty surrounding this. Potentially fewer road network developments mean fewer materials necessary and more scope to use recycled materials as there will be reduced usage of them. Fewer developments will also likely lead to less waste. However there is a degree of uncertainty surrounding this.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This priority is generally compatible with ISA Objective 13 "*Journeys on public transport are better for the environment as they involve lower carbon emissions per person than cars*", due to a reduced number of private cars on the road from promoting and improving the active travel and public transport networks. This could mean less disturbance of noise and light from traffic.

Priority 3: Safe, accessible, well-maintained and managed transport infrastructure

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 3: Safe, accessible, well maintained and managed transport infrastructure It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This priority is generally compatible with ISA Objective 1 and seeks to improve the accessibility of transport infrastructure. Through continuing to meet highway authority standards on the road network and improving the management and maintenance of the public transport system, it would help to improve access to health facilities and services for all people, of all backgrounds and even extend to improving access from rural locations due to faster commutes and less congestion. This improved access would help to improve the equality of access for all people. Safe, well-maintained and future proofed public transport would be particularly beneficial to children, older people and people from disadvantaged groups in terms of their access to health facilities. Improving and maintaining cycle paths and active travel routes would help to promote healthy lifestyle choices in citizens and make active travel a more attractive and appropriate option for all people as it will be safer and cleaner e.g. reduced barriers for women, Black, Asian and Minority Ethnic or LGBTQ+ people. By improving accessibility, there would likely be increased connectivity between communities and there would be more options for travel and infrastructure implementation and so the risk of community severance would be reduced. This improved connectivity may also apply to green and open spaces, thereby allowing for more physical exercise options, especially for those who may not have access to private vehicles. This would be particularly important for young people, who benefit greatly from access to sports centres, recreational spaces and opportunities to socialise but are currently

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 3: Safe, accessible, well maintained and managed transport infrastructure It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			too young to drive. Younger people generally have a desire to help protect the environment and would thereby be supportive of reducing emissions and increasing public transport use if the services were safe, well-maintained and accessible. This priority would be likely to lead to higher rates of public transport usage. Public transport is usually a less isolating experience than private car use as there are more chances for human interaction, and so there could be a reduction in loneliness and isolation associated with the transport sector. However, there is a high degree of uncertainty associated with this.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	This priority is generally compatible with ISA Objective 2, as it seeks to improve the accessibility of transport infrastructure. Better management of public and active transport options would be likely to lead to increased safety measures, protecting those most vulnerable in society (including children, women, LGBTQ+, Black, Asian and Minority Ethnic, and older people) from crime and reducing the frequency of unsafe or dangerous events within infrastructure and on public transport/active travel routes. This better management, affordability and maintenance of routes could help to improve the equality within the public transport system as more routes are accessible to people from any background and community. This increase in access would mean greater equality in many factors, as it means people would have more equal access to educational facilities, employment opportunities and health facilities. This increase in accessibility would also allow people a greater satisfaction with their own neighbourhood as they will not be limited to only local amenities and recreational facilities, in their local area. It will help to create conditions where many inequalities can be reduced. Improving the use of data in transport infrastructure would also help to ensure the services are more accessible to young people who rely more heavily on public transport and data access than other age groups.
3. To support sustainable economic development and diversity	++	Long term Medium	This priority is generally compatible with ISA Objective 3, as it sets out to, *inter alia*: *"future-proof current transport infrastructure to make safe and attractive active travel provision, tackle congestion, improve accessibility, embrace innovation and respond to climate change"*. Future proofing is not only good for environmental sustainability but also economic sustainability. Embracing innovation may enable new markets and economies to develop. A better managed and maintained public transport system would be likely to provide better access to education, training, jobs and employment opportunities to all residents. Further, public transport connectivity means that employers are able to garner a larger employment base, which could mean a more diverse economy and inward investment. With the inclusion of active travel routes, the priority would also provide easier access to town and city centres, helping to stimulate the economy. This would then also likely extend to tourist attractions, rural areas and underperforming economic areas. Investing in data solutions would likely lead to a more efficient transport system, as well as the potential to create employment in this sector. Under this priority there is a lot of scope for inward investment through future proofing the transport system and investing in future technologies such as electric vehicle charging points.
4. To protect and promote Welsh culture and	+	Long term Low	Through improved management and maintenance of the public transport system/active travel options and making them a more appealing option, it would be likely that this priority would lead to more people choosing public transport options and less people choosing private vehicles, which would lead to fewer vehicles on the roads. This would have a knock-on

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 3: Safe, accessible, well maintained and managed transport infrastructure It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
improve access to cultural and recreational spaces			effect of reduced air pollution and noise pollution, improving the setting of many cultural and recreational spaces. However, there is a high degree of uncertainty surrounding this, as it depends on the specific location of new investment in relation to cultural and recreational places. Increasing access and connectivity would also likely help to increase access for everyone, including to cultural and recreational spaces, reducing access inequality to these spaces. Improved management and reduction of congestion through promotion of active travel options would help with high peak transport management during major events (such as sporting events) and access to tourist attractions during high peak tourist season.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	Through improved management and maintenance of the public transport system, it should make it easier for people to access Welsh language education facilities, as well as improve the viability and viability of rural Welsh-speaking communities.
6. To reduce greenhouse gas emissions from transport	++	Long term Medium	This priority is generally compatible with ISA Objective 6. It sets out that the WTS will, *inter alia*, *"future-proof current transport infrastructure to make safe and attractive active travel provision, tackle congestion, improve accessibility, embrace innovation and respond to climate change"*. Developing future-proof infrastructure will have long term benefits for the environment, as it will lead to lower greenhouse gas emissions from vehicles. By improving the maintenance of active travel routes and incorporating these routes into journeys and the existing road network, it would help to promote zero emission travel options and lead to further reductions in CO_2 and greenhouse gas emissions. Implementing more electric vehicle charging points and making owning an electric vehicle a more feasible option over petrol or diesel-powered vehicles would also help to contribute to lowering emissions overall. Better management of roads, including working with the UK government on links with England, should ensure better management of the strategic road network, which could reduce emissions in the short or medium term. The investment in data solutions could further increase the significance of positive effects leading to cumulative benefits against this objective.
7. To enable climate change resilience	+	Long term Medium	This priority is generally compatible with ISA Objective 7. It sets out that the WTS will, *inter alia*, *"future-proof current transport infrastructure to make safe and attractive active travel provision, tackle congestion, improve accessibility, embrace innovation and respond to climate change"*. Better management of climate emergencies and flood risk would help protect transport infrastructure and communities from the effects of climate change. However, how this will be implemented is unclear. By supporting the use of electric vehicles through enhancing charging points, this priority would help to reduce petrol and diesel associated transport emissions, helping to improve Wales' resilience to climate change.
8. To protect and improve air quality	+	Long term Medium	This priority is generally compatible with ISA Objective 8. Developing future-proof infrastructure would have long term benefits for the environment, as it would lead to lower carbon emissions from private car use, and therefore, reduce the pollution of air quality from transport. Through improved management and maintenance of the existing transport infrastructure network, which may include increased vegetation, air quality improvements through the reduction in, and sequestration of, pollutants may occur.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 3: Safe, accessible, well maintained and managed transport infrastructure It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
	+		Implementing more electric vehicle charging points and making owning an electric vehicle a more feasible option over a petrol or diesel powered vehicle would also help to contribute to lowering emissions overall and reducing air pollution from transport. Better maintained and safer active travel routes would also be likely to reduce the use of private cars and public transport as they will become more accessible options for all people, this will reduce the volume of vehicles on the road and lead to further reduced air pollution from transport.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This priority is generally compatible with ISA Objective 9, as developing better maintained and managed public transport and active travel solutions could lead to more attractive towns and communities. Improved management and maintenance of the existing transport infrastructure network could lead to benefits for landscapes and townscapes through the implementation of enhancement measures. Through improved management and maintenance of the public transport system/active travel options and making them a more appealing option it would be likely to lead to more people choosing public transport options and less people choosing private vehicles, which would lead to fewer vehicles on the roads. This would have a knock-on effect of reduced air pollution and noise pollution, thereby protecting and potentially enhancing the character of many townscapes and landscapes.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	Through improved management and maintenance of the public transport system/active travel options, they could become a more appealing option, which could lead to more people choosing public transport options and less people choosing private vehicles, leading to fewer vehicles on the roads. This would have a knock-on effect of reduced air pollution and noise pollution, thereby conserving and potentially enhancing the setting of many heritage assets and historic areas. Increasing access and connectivity will also likely help to increase access for everyone, including to conservation and heritage assets, reducing access inequality to these spaces.
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Medium	This priority is generally compatible with ISA Objective 11. A reduction in air pollution associated with transport would help to reduce the adverse effects currently taking place at pollution sensitive habitats, such as those currently experiencing elevated rates of atmospheric nitrogen deposition. Improved management and maintenance of the existing transport infrastructure network could lead to benefits for biodiversity through the implementation of enhancement measures, such as where new green infrastructure elements are incorporated into the design of new or improved transport infrastructure. Increasing access and connectivity would also be likely to help to increase access for everyone, including to conservation and wildlife areas, reducing access inequality to these spaces. A focus on improving the existing transport infrastructure, whilst reducing the number of vehicles on the roads, would help to avoid the risk of new roads being built that fragment habitats and isolate species.
12. To ensure the sustainable use of natural resources	+	Long term Medium	This priority is generally compatible with ISA Objective 12. Improving the management and maintenance of the existing transport network could reduce the need for increased road building. It would also allow road users to travel more efficiently and subsequently consume fewer natural resources. Encouraging the use of electric vehicles, and thereby reducing the number of petrol or diesel-powered cars on the roads, could also enable a reduction in the reliance on fossil fuels.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 3: Safe, accessible, well maintained and managed transport infrastructure It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Medium	This priority is generally compatible with ISA Objective 13. Developing future-proof infrastructure would have long term benefits for the environment, with fewer vehicles on the road if more people are using public transport, resulting in less noise and light pollution coming from transport. Implementing electric vehicle charging points and promoting electric vehicles as a realistic option over petrol or diesel-powered vehicles would lead to quieter vehicles on the road, leading to less noise pollution from transport.

Priority 4: Making sustainable transport more attractive and affordable

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 4: Making sustainable transport more attractive and affordable It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	The priority demonstrates compatibility with Objective 1 by encouraging people to walk and cycle, which has numerous benefits on physical and mental health and well-being. The WTS supports a range of incentives such as workplace travel schemes, as well as investing in infrastructure to help integrate walking and cycling with other transport modes. This would encourage people to walk and cycle more, which would improve both physical and mental health through the exercise itself but also the increased time spent outdoors. In order to reduce health inequalities across Wales, it is important that these incentives are available to as broad a range of people as possible. By improving the reliability and punctuality of bus and train services, people would be likely to be less stressed by travelling and the prospect of travelling, in particular commutes or long journeys. Likewise, a system that is integrated between modes will be easier to navigate, resulting in a more relaxing journey. The WTS aims to understand customers' experiences in order to make improvements, and these factors together will help transport have a positive impact on mental health. An improved experience when travelling could also encompass ways to bring people together, reducing loneliness and social isolation. A system that is reliable and punctual should also mean users have to spend less time travelling, leaving more time for exercise or leisure activities, improving mental and physical health. The priority addresses potential inequalities, recognising that there may be fewer options in rural areas. The priority includes that disincentives to car use should take into account equality issues.
2. To create the conditions within which an improvement in social cohesion	++	Long term High	The priority demonstrates compatibility with Objective 2 by addressing potential inequalities, recognising that there may be fewer transport options in rural areas. The priority includes that disincentives to car use should take into account equality issues. How the WTS would make car use 'more equitable' is unclear. Investing in infrastructure that integrates walking and cycling with other transport modes would encourage more people to adopt active travel methods. Through an increase in informal community interactions as a result of more people

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 4: Making sustainable transport more attractive and affordable It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
and equality can be achieved			being outside, social cohesion could be improved. Community cohesion could also be improved through an increase in people travelling together on public transport, rather than alone in private cars. In many areas, there is currently a negative general perception of public transport and those who have the choice will often choose not to use it, and these are often the more affluent members of society. Through successful marketing campaigns and an improved service for the customer, as well as effective deterrents on car use, these individuals may be more inclined to use public transport and integrate with other groups in society, which will have a hugely beneficial impact on community cohesion. Better integrated transport systems could make journeys for those who frequently trip-chain easier, more efficient, and more affordable.
3. To support sustainable economic development and diversity	+	Long term Medium	Through improving bus and train reliability and punctuality, this Objective is compatible with the priority. Freight movement and business to business connections will be improved, helping to support sustainable economic development. Through improved connectivity, businesses will be able to operate in a wider market. By improving bus and train reliability and punctuality and transforming transport experiences, individuals are more likely to arrive at work less stressed and will be more productive, having a positive impact on the economy. If journeys can be a more enjoyable experience, individuals may be more inclined to travel where necessary in order to further grow their businesses.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	O	Long term Low	Neutral – no direct effect identified.
5. To encourage the protection and promotion of the Welsh language	+	Long term Medium	The priority seeks to *"provide better information for users"*, which should include information in the Welsh language. This would be likely to further promote the use of the Welsh language and ensure transport services are accessible to all.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The priority is compatible with Objective 6 through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel. By supporting incentives to encourage people to walk, cycle or use public transport and exploring ways to disincentivise car use, use of private vehicles will decrease, subsequently reducing GHG emissions. Incentives to use cleaner vehicles, particularly in areas or for certain individuals where car use is the only viable option, could also help reduce greenhouse gas emissions from transport.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 4: Making sustainable transport more attractive and affordable It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
8. To protect and improve air quality	+	Long term Medium	The priority is compatible with this Objective through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel. By supporting incentives to encourage people to walk, cycle or use public transport and exploring ways to disincentivise car use, use of private vehicles will decrease, subsequently reducing emissions and improving air quality. Incentives to use cleaner vehicles, particularly in areas or for certain individuals where car use is the only viable option, could also help to improve local air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Medium	Although there is little overlap, the priority is compatible with Objective 9 in that it disincentivises car use, and cars tend to have negative impacts on townscape character. Road traffic and parking create noise disturbances and visual intrusions on traditional townscape character. By exploring measures that will deter car use, these negative impacts will be reduced.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity and geodiversity	O	Long term Low	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	+	Long term Medium	Compatibility with this Objective is demonstrated through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel. By supporting incentives to encourage people to walk, cycle or use public transport and exploring ways to disincentivise car use, use of private vehicles will decrease, subsequently reducing fossil fuel use. Incentives to use cleaner vehicles, particularly in areas or for certain individuals where car use is the only viable option, could also help reduce use of fossil fuels.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Medium	The use of electric vehicles as part of "*ultra low emissions vehicles*" and the general reduction of car use with preference for active travel will reduce noise pollution from the transport sector, demonstrating compatibility with Objective 13.

Priority 5: Support innovations that deliver more sustainable transport choices

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 5: Adopt innovations that deliver more sustainable transport choices It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This priority is compatible with Objective 1, as many of the digital initiatives supported by the WTS surrounding data use in transport will be used to ensure a more convenient, efficient, and stress-free journey for the passenger, thereby having a positive impact on their mental health. Real-time public transport information will allow passengers to better plan their journeys, and integrated ticketing across multiple transport modes will make complicated journeys easier with less to worry about. If road congestion can be reduced through smart technology, this will reduce driver stress. The aim of digital initiatives would in part be to produce a more efficient public transport system, which could encourage higher levels of public transport use. This in turn will reduce private car use which will lower emissions and improve air quality, having a cumulative positive impact on people's physical health. Additionally, if the data innovations succeed in producing a shorter journey time, this equates to less time spent on public transport or sat in private cars, and more time for exercise or leisure activities which could improve both physical and mental health. The priority mentions *"operational innovation that can help deliver on wider … social ambitions"* and includes bike sharing, which could encourage active travel and improve physical health. The priority addresses the issue of digital inclusion in transport, which will, in theory, help reduce inequality, including health inequality, by enabling more people to access the same health and social care services in an easier way. However, older people tend to have a greater requirement to access health facilities and rely heavily on public transport, and they are a majority group who, in general, have poorer access to and capability of using mobile technology. By introducing transport systems which rely on digital technologies to plan journeys, older people could find themselves even more isolated from the system and in a worse position to access health and social care facilities – and even more isolated in general. However, the WTS includes the support of initiatives to address *"digital inclusion for users who do not have access to mobile technology"*, which could mitigate this potential effect.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term Medium	The priority is generally compatible with this Objective through supporting *"digital, technological and operational innovations that help more people and businesses adopt more sustainable transport choices"*. The priority also seeks to *"protect individual rights and commercial interests and do so in a way that addresses digital inclusion for users who do not have access to mobile technology"*. This would be likely to help improve equality and social cohesion by enabling more people to access the same services in an easier way, as well as seeking to ensure all users have access to the same information, irrespective of their social-economic status or experience of technology. However, older people are a particular group who tend to rely heavily on public transport, and they are a majority group who, in general, have poorer access to and capability in using mobile technology. By introducing transport systems which incorporate digital innovations, older people could find themselves even more isolated from the system. In addressing the issues of digital inclusion in transport users, particular vulnerable groups need to be given special consideration so as not to increase age inequality in Wales. Additionally, there are inequalities in broadband and mobile data access between rural and urban areas in Wales, and a transport system that leans heavily on data usage could in fact further ostracise those living in rural areas unless this issue is resolved. The priority seeks to ensure digital inclusion for all users but does not provide further detail on how the WTS would achieve this.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 5: Adopt innovations that deliver more sustainable transport choices It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			Innovations such as car and bike sharing and mobility as a service could encourage social cohesion and bring communities together, and innovations in community transport could support rural communities and reduce the inequalities between rural and urban areas, though what specifically this would involve is not clear.
3. To support sustainable economic development and diversity	++	Long term Medium	The priority is compatible with Objective 3 through its support of sharing solutions and innovations in the freight and logistics sector and how they will "*facilitate operational innovation that can help deliver on our wider… economic ambitions*". Data-based solutions and sharing opportunities in the cargo, freight and logistics sectors will benefit businesses in the sector and subsequently the economy in general. More sustainable transport choices such as electrification could end up giving companies an economic advantage. Technologies that will improve the service life, speed of construction and maintenance of the transport system will benefit freight and logistics companies who use this system heavily. Support for sustainable technological innovation will help these sectors grow, supporting sustainable economic development. Digital innovations that allow integrated transport systems across the country could enhance connectivity and allow businesses to expand and function in a wider market more easily and more economically. If journeys are easier and more efficient, people are more likely to be willing to travel further to grow their businesses. By supporting innovations in community transport, rural economies could be improved. Increased accessibility of the transport system, both through community transport and through addressing the issues of digital inclusion, could support equal access to employment, education and training opportunities. The priority addresses more sustainable aviation operations, which could promote international transport links both for business and leisure, potentially opening Wales up to international tourism in a sustainable way. An improved, efficient commute as brought about by the implementation of digital initiatives in the public transport system could mean employees arrive less stressed and able to work more productively, generally improving the economy.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	By improving ease of movement around the country through digital innovation, access to cultural events and recreational spaces would be enhanced, and as such, the priority is generally compatible with this Objective. Currently, people may be put off visiting new or distant areas to access cultural or heritage assets due to the complexity of travel and the lack of knowledge regarding what the transport links will be like closer to the site. This is especially true considering many of these assets are located in cities, which have large, and sometimes complicated, transport systems, or in rural areas, where there may be an apparent lack of or infrequent public transport that requires forward planning. With integrated, digitalised systems in place, people can access transport information from afar and easily plan their journeys, thereby promoting easy access to Wales' cultural and heritage assets. Smart technology will be vital in the efficient management of the transport system during major events, such as sporting or cultural events. The system is put under heavy strain at these times, but with large amounts of data gathered and technologies allowing the system to be managed in real time, the transport system should be resilient to the numbers of users and continue to function efficiently. Similarly, travel in tourist areas during peak times can be monitored and the data used to decide on appropriate modes of travel to be implemented in these locations, with the aims both to improve access for visitors but also to safeguard the location if it is of particular environmental or cultural importance.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 5: Adopt innovations that deliver more sustainable transport choices
			It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
5. To encourage the protection and promotion of the Welsh language	O	Long term Low	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The priority is compatible with this Objective as it says that the WTS will support "*support sustainable transport technology including electrification, new fuels such as hydrogen*". By supporting technologies such as electrification and new fuels such as hydrogen in place of fossil fuels, carbon emissions from transport should be reduced. Aviation is clearly a big source of GHG emissions, and the priority seeks to support "*technology that facilitates more sustainable aviation and cargo operations*", though there is little detail as to what this could entail. The aim of digital initiatives would in part be to produce a more efficient public transport system, which would hopefully encourage higher levels of public transport use. This in turn will reduce private car use which will lower levels of GHG emissions. Additionally, the idea of mobility as a service could also help decrease private car use.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	The priority is compatible with Objective 8 as it says that the WTS will support "*sustainable transport technology*". By supporting technologies such as electrification and new fuels such as hydrogen in place of fossil fuels, carbon emissions from transport should hopefully be reduced, improving air quality locally. Aviation is clearly a big source of emissions, and the priority seeks to support "*technology that facilitates more sustainable aviation and cargo operations*", though there is little detail as to what this could entail. The aim of digital initiatives would in part be to produce a more efficient public transport system, which would hopefully encourage higher levels of public transport use. This and the idea of mobility as a service would also help decrease private car use, leading to a lower level of emissions and improved air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of	+	Long term Medium	By supporting technology that works towards sustainable transport and materials innovation to improve service life, the priority should help reduce environmental impacts, thereby conserving biodiversity and demonstrating compatibility with Objective 11.

ISA Objective	Initial Score	Duration Certainty	Review/appraisal – Priority 5: Adopt innovations that deliver more sustainable transport choices It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
biodiversity and geodiversity			Through sustainable transport choices, GHG emissions will be reduced which will help decrease the negative impacts of the transport sector on the environment, which will have the knock-on effect of improving habitat quality and thereby increasing biodiversity in Wales. In supporting innovation in materials that will increase the service life of physical infrastructure, there is less depletion of natural resources and less waste, which is beneficial to the environment.
12. To ensure the sustainable use of natural resources	+	Long term Medium	The priority is compatible with this Objective in that it supports materials innovation that will increase the service life and maintenance of infrastructure, reducing the need to deplete natural resources to re-build on a more regular basis. This will also reduce waste from old infrastructure. Electrification and the use of new fuels such as hydrogen in vehicles will reduce the requirement on fossil fuels, a natural resource. The aim of digital initiatives would in part be to produce a more efficient public transport system, which would hopefully encourage higher levels of public transport use. This and the idea of mobility as a service would also help decrease private car use, again decreasing fossil fuel use.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Medium	The use of electric vehicles will reduce noise pollution from the transport sector, demonstrating compatibility with Objective 13.

6 WTS Mini Plans – Detailed Appraisals

Mini Plan for Active Travel

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that barriers to walking and cycling will be addressed, and therefore, more people will walk or cycle. By 2040, the Mini Plan states that everyone will feel safer when walking and cycling, through the introduction of 20mph default speed limits in built-up areas, designated cycle tracks and more space for walking and cycling. Improving safety for people may mean there could be less of a barrier for particular groups, including women, children and young people. The plan overall does promote healthy lifestyles; however, it could be improved by being more specific on how it will target reducing particular health inequalities. The plan does mention that new developments, including new health facilities, will make provision for walking and cycling; the plan should also mention improving access to existing health facilities. The Mini Plan also states that it will *"encourage all schools to have an active travel plan and adopt actions to slow traffic and widen pavements around schools"*. This would be likely to increase safety for those walking and cycling around schools, as well as providing an opportunity for children and young people to learn more about the benefits of active travel, and an opportunity for children and young people to voice their own opinions and ideas on how active travel can benefit them.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The active travel Mini Plan is compatible with ISA Objective 2, as it aims to remove the barriers that stop people from cycling and walking, therefore potentially leading to more cohesive communities. It goes some way towards addressing inequality and mentions the need to understand uptake overall for particular groups, although it does not detail how inequalities may be addressed. The Mini Plan states that by 2040, everyone will feel safer when walking and cycling, and seeks to *"involve people in the design of new active travel networks and schemes"* which will help to reduce inequalities experienced by some in relation to active travel.
3. To support sustainable economic development and diversity	+	Long term Medium	The active travel Mini Plan is highly compatible with ISA Objective 3 as it states that by 2040, active travel will deliver benefits to the economy throughout Wales, with more people using active travel to get to work, through the uptake of schemes such as e-bikes. The Mini Plan states that by 2040, the economy of Wales will have benefited from growth in the active travel sector, including from people who visit Wales for walking and cycling, although further detail into how this can be achieved could be provided.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	The Mini Plan is compatible with ISA Objective 4 as it seeks to repurpose former railway lines and redundant transport infrastructure to form active travel routes, thereby encouraging more people to walk and cycle whilst also visiting cultural spaces. This can be particularly beneficial for routes which assist with accessing Wales' historic sites and monuments, national parks and landscapes and coastal areas. However, the priorities and measures do not mention this aspect further, so it is unclear how this will be delivered specifically.

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan, under the heading 'Helped Welsh language and culture thrive', states that *"new bi-lingual interpretation has brought cultural and natural history to life on walking and cycling routes across Wales"*, indicating that signage across active travel routes will be improved and promote the use of the Welsh language.
6. To reduce greenhouse gas emissions from transport	++	Long term Medium	The Mini Plan is highly compatible with ISA Objective 6. Active travel can help to reduce greenhouse gas emissions from transport, particularly for shorter journeys. By 2040, the Mini Plan states that there will be fewer greenhouse gas emissions and air quality will have improved because more people have replaced car journeys with active travel. Decarbonisation will be addressed by replacing car journeys with active travel.
7. To enable climate change resilience	+	Long term Medium	The Mini Plan is compatible with ISA Objective 7 as it states that there will be *"a lower risk of flooding due to effective solutions for surface water on active travel networks"*.
8. To protect and improve air quality	++	Long term Medium	The Mini Plan is highly compatible with ISA Objective 8, as active travel will help to reduce emissions from transport, particularly for shorter journeys. By 2040, the Mini Plan states that air quality will have improved because more people have replaced car journeys with active travel. The five ways of working also state that further problems will be prevented, and decarbonisation will be addressed by replacing car journeys with active travel.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 9. Reducing car usage and making areas more attractive for walking and cycling can help protect and enhance our townscapes and landscapes. Reduced investment in road development may also imply that more landscapes will be protected. The Mini Plan also seeks to ensure that walking and cycling will be used more to visit Wales' national parks, landscapes and coastal area, providing residents with more opportunities to enjoy the local landscape.
10. To promote the conservation and enhancement of heritage assets	+	Long term Medium	This Mini Plan is compatible with ISA Objective 10. Heritage assets including former railway lines can be used as active travel routes. The Mini Plan also seeks to ensure *"more people can use walking and cycling to visit and enjoy Wales' amazing historic sites and monuments"*, helping to increase footfall to historic assets in Wales.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11. The Mini Plan states that by 2040, biodiversity will be in better condition and ecosystems will be more resilient because our active travel networks are managed better. There is, however, no mention of ecosystems services, or net benefit for biodiversity in the development or maintenance of active travel routes.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is generally compatible with ISA Objective 12, as the encouragement of the development of active travel and investments decisions, which prioritise this, may, in turn reduce the need for the development of new roads. However, this effect is uncertain.

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 13, as a reduction in the use of private cars and vehicle travel and an associated increase in active travel will reduce noise and light levels associated with vehicular traffic.

Mini Plan for Bus

ISA Objective	Score	Duration Certainty	Appraisal – Bus It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is compatible with ISA Objective 1, particularly the priority to keep users safe and comfortable using bus services, by ensuring access to contactless payment technology, provision of screens and other measures required to ensure public health is maintained. By making buses cleaner and safer, their use may be more appealing to more vulnerable population groups such as children, older people, and those who may need to use public transport to access health services. A reliable network of bus routes will reduce access inequalities in access to health or social care facilities. By integrating bus routes and services with active travel routes, more people may be encouraged to walk or cycle, with associated physical and mental health and well-being benefits. In addition, by improving transport connectivity and integrating different modes of transport, there will likely be increased connectivity between communities. Fear of crime on public transport can act as a barrier to certain groups of users, notably women, older people and also people in the LGBTQ+ community. The Mini Plan states that bus services should be *"fully-accessible, attractive and safe for everyone"* which may go some way to addressing this issue.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The bus Mini Plan is compatible with ISA Objective 2 as local communities will be better connected. Bus drivers may become more aware of a wider spectrum of disabilities, which are not always physical. By 2040, bus services and facilities will be fully accessible, attractive, and safe for everyone. The Mini Plan also seeks to *"help bus drivers to better understand the spectrum of disabilities which are not always physical, and keep that training up to date"* which would help to ensure everyone feels comfortable and accepted whilst using bus services.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is highly compatible with ISA Objective 3, as the Mini Plan supports the adoption of innovative technology and develops local skills. In addition, by addressing congestion hotspots and supporting reliable and punctual bus services, the economy will be supported, through enhanced connectivity and improved productivity. It also seeks to provide *"high-quality, flexible and reliable bus services [which] get people where they want to go, when they want to get there and integrate with other services"* and support *"innovations including better real time information and integrated,*

ISA Objective	Score	Duration Certainty	Appraisal – Bus It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			smart ticketing for passengers to help them travel confidently across different modes of transport at the best time and cost for them".
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4. It states that by 2040, buses will be a good option for getting to and from major arts and sporting events, and for visiting Wales' fantastic natural and cultural heritage including landscapes, coasts, and open spaces.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, stating that by 2040, Welsh speakers will be able to confidently use Welsh on the buses. The Mini Plan also seeks to *"prepare Welsh language standards for those who deliver bus services in Wales"*, helping to promote the use of the Welsh language.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6, as Welsh Government have already set a commitment that all buses in Wales will be zero tailpipe emissions by 2028 and through the *"roll out [of] the technology and infrastructure to deliver low emissions buses by 2028"*. By 2050, Wales aims to reach net zero and new engine technology will have reduced emissions from existing diesel buses and will have replaced diesel vehicles with electric buses or buses that use alternative fuels.
7. To enable climate change resilience	?	Long term Medium	This Mini Plan could help to provide climate resilience through the improvement of bus services with regards to flood risk adaption and emergency procedures to protect from flooding in unexpected circumstances and major planned events. However, the Mini Plan does not explicitly state this. The encouragement of using bus service instead of personal car use could help to reduce GHG emissions, and therefore, improve Wales' resilience to climate change.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 8, as Welsh Government has already set a commitment that all buses in Wales will be zero tailpipe emissions by 2028 and the Mini Plan seeks *to "roll out the technology and infrastructure to deliver low emissions buses by 2028"*. By 2050, Wales aims to reach net zero and new engine technology will have reduced emissions from existing diesel buses and will have replaced diesel vehicles with electric buses or buses that use alternative fuels.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is indirectly compatible with ISA Objective 9. New residential developments should be accessible by bus; this may result in an indirect improvement to landscape and townscape through fewer private vehicles on the road and a resultant reduction in pollution. The Mini Plan also seeks to ensure bus transport is a good option for visiting Wales' landscape, coasts and open spaces.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10 as it states that by 2040, buses will be a great option for visiting Wales' fantastic natural and cultural heritage including landscapes, coasts and open spaces.

ISA Objective	Score	Duration Certainty	Appraisal – Bus It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as by improving the safety, access and connectivity of bus services and integrating them with other public transport services and active travel, more people may choose buses as a transport option, leading to fewer people choosing private vehicles and ultimately fewer vehicles on the roads. Reductions in air and other forms of pollution may have beneficial impacts on biodiversity and the natural environment. The Mini Plan, however, does not directly refer to biodiversity, geodiversity or ecosystems.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12, as Wales will have adopted innovative technology that helps to reduce emissions from buses and has developed local skills, for example in battery technology and the use of hydrogen fuels. Hydrogen power can be accommodated into bus services, reducing the use of natural resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as improving the safety, access and connectivity of bus services and integrating them with other public transport services and active travel, more people may choose buses as a transport option, leading to less people choosing private vehicles and ultimately fewer vehicles on the roads. This will reduce light pollution and noise pollution, however, there is uncertainty surrounding this.

Mini Plan for Rail

ISA Objective	Score	Duration Certainty	Appraisal – Rail It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	The rail Mini Plan is compatible with ISA Objective 1, as it states that rail travel will be safe and secure for all users. The Mini Plan states that more rail services will be provided together with more stations, getting people to where they want to go. This will improve access to employment, community, and social infrastructure, all of which will have beneficial impacts on health and well-being. Changing people's current perceptions of rail travel (for example barriers relating to cost or accessibility) however, is not mentioned and consideration should be given to what rail travel may look like post COVID-19. Fear of crime on public transport has been identified as an issue for vulnerable population groups such as older people and women. The Mini Plan seeks to ensure that rail travel is safe and secure for all users, which would contribute to addressing this issue, although specific measures are unclear at this stage.
2. To create the conditions within which an	+	Long term High	The rail Mini Plan is compatible with ISA Objective 2, as by 2040, there is anticipated to be a reduction in the barriers that currently prevent people from making best use of rail services. For example, physical accessibility to train services may be improved, affordability addressed, and training provided for staff to ensure that everyone feels welcome.

ISA Objective	Score	Duration Certainty	Appraisal – Rail It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
improvement in social cohesion and equality can be achieved			
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as by 2040, passenger revenue will have increased, thereby encouraging inward investment. This is however somewhat contradicted by 'more people will work locally', suggesting there may not be as much need to use the train to commute (therefore impacting revenue). Railway hubs will be hubs for economic investment and growth and Wales' digital ambitions will be supported for integrated ticketing and improved information for passengers.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, as by 2040 people should be able to confidently use rail to get to and from major sporting and cultural events.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan could go further to ensure that it is compatible with ISA Objective 5. Approximately 30% of the population can speak Welsh. Recommendations below consider how the Welsh language can be better incorporated into the WTS. This Mini Plan seeks to ensure *"prepare Welsh language services for those who provide passenger railway services in Wales"* and to *"recruit more bilingual staff and provide opportunities for existing staff to learn Welsh and to use the Welsh language"*. This would be expected to help protect and promote the Welsh language.
6. To reduce greenhouse gas emissions from transport	+	Long term Low	This Mini Plan is compatible with ISA Objective 6, as rail traction will have been decarbonised. It is hoped that more people will take the train instead of using their cars, reducing vehicle-associated greenhouse gas emissions. Trains will make more use of renewable diesel locomotion by using renewable power sources for trains and the energy performance of stations and Core Valleys Lines (CVL) infrastructure will have been improved. More goods have been moved onto rail thereby avoiding environmentally sensitive lorry miles. However, with capacity and timetabling constraints, there is uncertainty as to how feasible this is over the long term.
7. To enable climate change resilience	?	Long term Medium	This Mini Plan could help to provide climate resilience through the improvement of rail services with regards to flood risk adaption and emergency procedures to protect from flooding in unexpected circumstances and major planned events. However, the Mini Plan does not explicitly state this and therefore there is uncertainty here. The encouragement of using rail services instead of personal car use could help to reduce GHG emissions, and therefore, improve Wales' resilience to climate change.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 8, as rail traction will have been decarbonised. It is hoped that more people will take the train instead of using their cars, reducing vehicle-associated greenhouse gas emissions. Trains will make more use of renewable diesel locomotion by using renewable power sources for trains and the energy performance of stations and CVL infrastructure will have been improved. More goods will have been moved onto rail and so avoiding environmentally sensitive lorry miles. However, with capacity and timetabling constraints, there is uncertainty as to how feasible this is over the long term.

ISA Objective	Score	Duration Certainty	**Appraisal – Rail** It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is compatible with ISA Objective 9. By improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel, more people may choose rail as a transport option, thereby encouraging less reliance on the private car. With fewer vehicles on the road there may be reduced air and noise pollution, improving the setting of both townscapes and landscapes.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	The rail Mini Plan is compatible with ISA Objective 10, as historic environment assets will be protected and sustained in rail improvements and developments. In addition, the Mini Plan states that *"historic environment assets have been protected and sustained in rail improvements and developments"*.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Low	The Mini Plan is compatible with ISA Objective 11, as by 2040, the WTS will *"have protected and enhanced biodiversity and ecosystem resilience in the day-to-day management of the rail soft estate and in future rail improvements"*. Improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel, may encourage more people to use the train as a transport option ultimately leading to fewer vehicles on the roads. This will reduce air pollution and noise pollution, which could improve ecosystems and habitat settings, however, there is uncertainty surrounding this.
12. To ensure the sustainable use of natural resources	+	Long term Low	The Mini Plan is compatible as the energy performance of stations and CVL infrastructure will have been improved. Furthermore, goods will have been moved onto rail thereby avoiding environmentally sensitive lorry miles, which will ensure further sustainable use of natural resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel, may encourage more people to use the train as a transport option ultimately leading to fewer vehicles on the roads. This will reduce noise and light pollution, which could improve ecosystems and habitat settings. Nevertheless, there is uncertainty surrounding this.

Mini Plan for Roads, Streets and Parking

ISA Objective	Score	Duration Certainty	Appraisal – Roads Streets and Parking It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is highly compatible with ISA Objective 1, as lowering the default speed limit to 20mph will improve health outcomes, particularly for vulnerable groups. A default 20mph speed limit will lead to a reduction in road traffic casualties, with case study evidence showing a 22% reduction per year in casualties due to the 20mph limit (Greig et al, 2014). Although there may be health benefits for vulnerable groups as described, 20mph speed limits may increase driver stress due to increased journey times and congestion. In addition, the Mini Plan seeks to give greater priority to active travel, which will help to encourage outdoor exercise and improve health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+/-	Long term High	This Mini Plan is compatible with ISA Objective 2, as it will improve the safety of walking and cycling by incorporating active travel into the road network through the provision of cycle lanes and footways. Default speed limits and action on pavement parking will also makes streets safer. However, if cars park unsafely elsewhere or reduced speed limits increase driver stress, a negative effect may result. 'Road charging' is generally not considered to be equitable as it impacts those on lower incomes more, or those who are more reliant on the car due for example to living in rural areas or because of mobility issues. The Mini Plan describes this as 'equitable road charging', although how this will be implemented is unclear.
3. To support sustainable economic development and diversity	+	Long term Medium	The Mini Plan is compatible with ISA Objective 3, as by 2040, efficient, uncongested roads will make it attractive for businesses to locate to Wales thus supporting the Welsh supply chain and benefiting the economy. By preventing pavement parking, money spent on maintenance of cracked and broken footways may be reduced. Lower journey times could lead to a reduction in accidents and subsequent cost savings relating to this.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, particularly as road use and congestion will be managed around major cultural and sporting events in Wales and the WTS will help to reduce the *"impact of cars on Areas of Outstanding Natural Beauty and National Parks by promoting better local public transport links"*.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as road signage will be bilingual, however this is already a legal requirement. The Mini Plan may also encourage access to and the maintenance of transport related heritage assets in Wales, which could provide some benefits.

ISA Objective	Score	Duration Certainty	Appraisal – Roads Streets and Parking It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6, as road charging will be implemented where there is poor air quality and/or congestion to help reduce emissions from vehicles. This will be supported by the road network supporting charging for all classes of electric vehicles. In addition, the Mini Plan supports *"using technology to regulate traffic speeds in order to reduce emissions"* and *"road operations and maintenance consume less energy"*. There are however some contradictions and inconsistencies in evidence regarding the 20mph speed limit and air quality. For example, there is an impact on emissions from braking and tyre wear due to a 20mph speed limit. A study by North (2013) found there was a moderate increase in CO_2 and NO_x in petrol cars following a study concerning 20mph restrictions in Central London. The study did however find that particulate matter emissions reduced for both petrol and diesel cars and NO_x and CO_2 emissions reduced for diesel cars.
7. To enable climate change resilience	+	Long term Medium	This Mini Plan is broadly compatible with ISA Objective 7 as it states that the road network will be 'future-proofed' by managing the impact of climate change on road infrastructure by improving surface water drainage, managing flood risk, and ensuring that new residential developments do not create harmful surface water discharges.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 8 as it recognises that the first priority is to reduce the number of car and vehicle journeys in order to reduce associated environmental and air quality effects, yet there is still a need to maintain and manage the existing network of roads and streets. The Mini Plan also seeks to implement road charging to help improve air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is compatible with ISA Objective 9 as it states that people can enjoy scenic landscapes of National Parks and AONBs because there will be a reduced impact of cars. Reducing the number of cars used to access these areas will help improve the aesthetic of such areas by reducing the number of cars parked, sometimes not in appropriate car parks.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10, as the historic environment will be protected in road projects and upgrades and in the management of the soft estate. The Mini Plan also seeks to ensure that *"asset management strategies protect and enhance … historic environment assets"*, but there is little explanation on how the WTS would do this.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11 as it states that the WTS will protect and enhance biodiversity and ecosystem resilience as part of the soft estate. This is a broad statement however and does little to explain how this will be managed.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is broadly compatible with ISA Objective 12, as road operations and maintenance will consume less energy. The Mini Plan also seeks to *"manage the impact of climate change on road infrastructure by improving surface water drainage, managing flood risks and ensuring that new developments do not create harmful surface water discharges"*.

ISA Objective	Score	Duration Certainty	Appraisal – Roads Streets and Parking It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is broadly compatible with ISA Objective 13, as by 2040, there will be less traffic noise on the road network. Again, the Mini Plan does not state how this will be achieved. This could be due to the increased prevalence of electric vehicles, which are quieter than petrol or diesel powered cars. Also, maintenance of the SRN will increase noise levels at receptors nearby; this should be mentioned, together with how noise from construction and maintenance will be mitigated.

Mini Plan for Third Sector

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	This Mini Plan is highly compatible with ISA Objective 1, for several reasons. Firstly, there will be better access to health services which will work towards reducing health inequalities. Other reasons include that more people will be able to access the countryside and areas for outdoor recreation, which has a resultant benefit on both physical and mental health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The vision of the Mini Plan is for a *"thriving, viable third sector [which] fills gaps in provision, meets the needs of local communities"*. The Mini Plan is highly compatible with ISA Objective 2, as by 2040, there will be a reduction in isolation and loneliness and there will be lifeline services for people who would not otherwise be able to access conventional public transport. The Mini Plan will reduce inequalities based on disability and access in addition to reducing inequalities between urban, rural and semi-rural communities. As the plan also seeks to promote an active and engaged network of volunteers, it is likely that significant improvements to social cohesion and equality will be achieved.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as a wider range of people can access employment as well as retail, services, education, work and leisure services. There will also be less fuel poverty in rural areas where the cost of running a car can be high. The Mini Plan also seeks to ensure that the visitor economy and rural jobs are boosted through historic rail services.

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, as there will be more transport services for faith and cultural groups, and better access to sporting and cultural events.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan includes that there will be more services for Welsh-speaking communities, which may provide benefits against this objective.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The Mini Plan is compatible with this ISA Objective, as there will be fewer carbon emissions as more people travel together. Further, community transport has made greater use of alternative vehicle technologies, therefore reducing transport-related greenhouse gas emissions.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	The Mini Plan is compatible with this ISA Objective, as there will be fewer polluting emissions as more people travel together. Further, community transport has made greater use of alternative vehicle technologies, reducing the potential emissions from the sector.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10 as Welsh Government will work with Visit Wales and other partners to continue to promote historic rail experiences in Wales. Wales' rich transport heritage including historic rail infrastructure, canals and rolling stock, will be preserved for future generations.
11. To promote the conservation and enhancement of biodiversity,	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as community transport will provide an improvement in opportunities for people to access wildlife and open green spaces. Promotion of conservation may be achieved by more people understanding and learning about these areas.

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
geodiversity and ecosystems			
12. To ensure the sustainable use of natural resources	+	Long term Low	The Mini Plan is compatible with this ISA Objective, as there will be a lower reliance on fossil fuels, through the greater use of alternative vehicle technologies.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	O	Long term Low	Neutral – no direct effect identified.

Mini Plan for Taxis and Private Hire Vehicles

ISA Objective	Score	Duration Certainty	Appraisal – Taxis and Private Hire Vehicles It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that regardless of where customers live in Wales, they experience a good level of taxi service with readily available, accessible, safe vehicles, and suitable drivers that provide good customer service. This could have a role to play in reducing health inequalities and helping to ensure all residents have good access to healthcare facilities. The Mini Plan also seeks to ensure that public safety will be promoted by the use of national licensing databases.
2. To create the conditions within which an improvement in social cohesion and	+	Long term High	The Mini Plan is compatible with ISA Objective 2 in that everyone, and especially people that share protected characteristics, feel welcome and safe when using taxi services, and have access to a service that meets their needs. Taxis, however, are not accessible for all due to high costs in particular areas or associated with distance (for example people living in rural areas may pay disproportionately). This means that access is not equitable for those on lower incomes, which may also include children, older people and disabled people.

ISA Objective	Score	Duration Certainty	**Appraisal – Taxis and Private Hire Vehicles** It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
equality can be achieved			
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as taxis and PHVs enable will mean more people can access work, services, leisure and education by complementing public transport services. The plan states that *"a thriving PHV sector in Wales benefits from a consistent approach to licensing standards and high standards of driver training and customer service"*.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	The Mini Plan is compatible with ISA Objective 4, as it states that taxi and PHV drivers act as important ambassadors for Wales with a key role in introducing visitors to the country.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as taxi and PHV drivers act as important ambassadors for Wales and can promote the Welsh language. The Mini Plan also seeks to ensure more drivers are able to communicate confidently in Welsh to users of the service.
6. To reduce greenhouse gas emissions from transport	+	Long term Low	This Mini Plan is somewhat compatible with ISA Objective 6, as more zero emissions vehicles will be introduced. Whilst working with TfW to make sure the infrastructure in place is welcomed, this needs to be equitable for both rural and urban areas. The Mini Plan states that *"there is less need for private cars and greater use of public transport"* yet the Mini Plan concerns taxis and private hire vehicles, as opposed to public transport.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Low	This Mini Plan is compatible with ISA Objective 8, as it seeks to introduce more zero emissions vehicles and promote a greater use of public transport, however, the promotion of taxis and PHVs could potentially deter from the use of public transport.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.

ISA Objective	Score	Duration Certainty	**Appraisal – Taxis and Private Hire Vehicles** It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Low	This Mini Plan is compatible with ISA Objective 11 as it seeks to have introduced more zero emissions vehicles, which would help reduce the volume of transport-related GHG emissions, and subsequently, have positive impact on habitats which could be affected by air pollution, such as atmospheric nitrogen deposition. However, the uncertainty of this is high.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12 as it seeks to introduce more zero emissions vehicles. This would help reduce the volume of petrol and diesel powered vehicles used.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as it seeks to introduce more zero emission vehicles. This would help reduce noise pollution, as petrol and diesel powered cars are generally louder.

Mini Plan for Freight and Logistics

ISA Objective	Score	Duration Certainty	**Appraisal – Freight and Logistics** It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that an effective supply chain enables people to access services such as health care and food where and when they need to. The plan recognises that the sector shares infrastructure needs with the public for road, however, does not state how this will be managed in order to reduce driver stress or anxiety. Freight vehicles and the volume of Heavy Goods Vehicles (HGVs) on the road can negatively impact road users, including motorcyclists, cyclists and pedestrians' perceptions of safety and can increase the fear of collisions or casualties. Some of these fears could be mitigated by providing safe, segregated footways and dedicated cycle lanes in appropriate locations.

ISA Objective	Score	Duration Certainty	**Appraisal – Freight and Logistics** It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
inequalities across Wales			
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The Mini Plan is compatible with ISA Objective 2 as it states that the networks which move both goods and people are safe and secure for both kinds of activity without disadvantaging connectivity or capability. This could be explored further to make sure that groups relating to disabilities or gender are not disadvantaged due to perceived anxieties around some routes due to high HGV traffic flows.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3 as freight and logistics will be integrated into wider transport and land-use planning policy at local, regional and national levels. Wales will have the infrastructure, capability and capacity to support a more sustainable freight and logistics sector including innovative business models that encourage commercial growth alongside decarbonisation. This is important, because reducing the need/length of freight travel will benefit Wales greatly. By restructuring the supply chain, encouraging manufacturing and funding the Enterprise Zones in Wales, freight miles can be reduced whilst still providing people with the services and goods they need.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	O	Long term Low	Neutral – no direct effect identified.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as there will be a thriving home-grown supply-chain with a skilled and diverse workforce that helps sustain local communities, including Welsh speaking communities, across Wales.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6 as there will be fewer greenhouse gas emissions from freight and logistics. More goods will be moved by more sustainable forms of transport, including options such as multi-modal hubs. Innovations will be adopted that help create low carbon logistics networks, including demand-management measures to influence consumer behaviour. Freight will be integrated into the Decarbonisation Pathway to reduce emissions from the sector.
7. To enable climate change resilience	O	Long term Medium	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 9 as it states that there will be better air quality from freight and logistics with interventions supported that shift freight from road to rail and water-based transport, whilst supporting future innovations that will help make the sector more sustainable.

ISA Objective	Score	Duration Certainty	Appraisal – Freight and Logistics It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	-	Long term High	Incompatible. Freight transport can create adverse visual impact and can have adverse impacts on the distinctiveness of landscapes and townscapes. Key routes of the SRN go through areas of distinctive landscape, including Snowdonia and the Brecon Beacons National Parks, meaning these National Parks may be disrupted by transport of freight in these areas. The Mini Plan does not recognise this and, although it states that road freight will be moved to rail and water-based transport, this does not go far enough to mitigate the negative impacts.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as improved air quality due to fewer greenhouse gas emissions from freight will lead to higher quality habitats for biodiversity to inhabit.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12, as it will reduce and mitigate the impacts to the environment of moving goods across Wales. The Mini Plan aims to develop a more sustainable supply chain for freight in Wales. There is conflict, however, if freight is shifted to water-based transport, as this would not protect or enhance water quality or promote the conservation of soil.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as it states there will be less environmental noise from freight and logistics. However, the Mini Plan does not go far enough in stating how this would be achieved. Reference could be made to NAPPAs along the SRN and other key freight routes and how noise pollution will be lessened for receptors along these routes.

Mini Plan for Ports and Maritime Transport

ISA Objective	Score	Duration Certainty	Appraisal – Ports and Maritime Transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that ports and harbours increase levels of activity in Wales by supporting leisure, active travel and sporting opportunities, which help to promote both physical health and mental well-being.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The Mini Plan is compatible with ISA Objective 2 as it states that ports and harbours will play a vital role in supporting local communities, including rural communities.
3. To support sustainable economic development and diversity	++	Long term Medium	This Mini Plan is highly compatible with ISA Objective 3, as ports act as hubs for economic activity and investment. It is recognised that Welsh ports will act as international gateways, increasing trade and inward investment opportunities in Wales. Ports and harbours are focal points for investment, delivering local jobs and services and benefits to the wider economy of Wales. Ports are vital sources of Welsh employment and wealth in the wider supply chain.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	++	Long term Medium	The Mini Plan is compatible with ISA Objective 4, as historic environment assets, including Wales' rich maritime history, are protected and sustained in the operation and growth of ports and harbours in Wales.
5. To encourage the protection and promotion of the Welsh language	O	Long term Low	Neutral - This Mini Plan is somewhat compatible with ISA Objective 5; however, it states that visitor services associated with ports and harbours will meet Welsh language standards. This is a statutory obligation.

ISA Objective	Score	Duration Certainty	Appraisal – Ports and Maritime Transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The Mini Plan is generally compatible with ISA Objective 6, as ports and harbours will be more energy efficient and support low carbon logistics networks in Wales. The Mini Plan states that it will prevent and mitigate impacts on the environment that result from ports and maritime transport.
7. To enable climate change resilience	-	Long term Medium	Incompatible. This Mini Plan is incompatible as it does not mention climate change resilience or adaption. Climate change, including increased sea levels and coastal erosion could have significant impacts on ports and harbours as well as the communities that live there.
8. To protect and improve air quality	+	Long term Medium	The Mini Plan is generally compatible with ISA Objective 8, as ports and harbours will be more energy efficient and support low carbon logistics networks in Wales. The Mini Plan states that it will prevent and mitigate impacts on the environment that result from port usage and maritime transport. These factors will help reduce emissions, and thereby, improve air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10, as historic environment assets, including Wales' rich maritime history, will be protected and sustained in the operation and growth of ports and harbours in Wales.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	The Mini Plan is generally compatible with ISA Objective 11, as the operation and development of ports and harbours will support marine conservation and the marine environment.
12. To ensure the sustainable use of natural resources	+	Long term Medium	This Mini Plan is compatible with ISA Objective 12, as ports and harbours will lead a green maritime recovery across Wales, including renewable energy projects and offshore renewables.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	O	Long term Low	Neutral – no direct effect identified.

Mini Plan for Aviation

ISA Objective	Score	Duration Certainty	Appraisal – Aviation It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	-	Long term Medium	Incompatible. This Mini Plan does not contribute towards an improvement in access to health and social care services and does not promote healthy lifestyles. Although the plan states that communities across Wales will benefit from safer local and international connectivity, it is not clear how, as the focus is primarily on Cardiff Airport. A disproportionate benefit may be seen on communities in South Wales, rather than Wales as a whole.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	-	Long term Medium	Incompatible. This Mini Plan does not contribute towards ISA Objective 2, although the plan seeks to provide better local and international connectivity, as the accessibility and availability of air travel is not equitable for Wales as a whole and is disproportionately beneficial to South Wales.
3. To support sustainable economic development and diversity	++	Long term High	This Mini Plan is highly compatible with ISA Objective 3, as it recognises that, by 2040, Cardiff Airport is an international gateway connecting Wales to the world and a key driver within the Welsh economy, supporting businesses and jobs across Wales. Good connectivity will mean that businesses are confident about relocating to Wales and staying in Wales, supporting all aspects of Wales' economy, with Welsh businesses reaching new markets.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, as visitors will be able to discover and enjoy Wales' cultural heritage.
5. To encourage the protection and promotion of the Welsh language	O	Long term Low	Neutral – no direct effect identified.

ISA Objective	Score	Duration Certainty	Appraisal – Aviation It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
6. To reduce greenhouse gas emissions from transport	--	Long term Low	Incompatible. This Mini Plan is incompatible with ISA Objective 6. Aviation is a big source of greenhouse gas emissions, and this could potentially be reduced through technologies that support more sustainable aviation, although certainty around this is low. The Mini Plan states that Cardiff Airport could become a centre for low carbon aviation by 2027, and by 2030 be the lowest carbon per passenger airport in Europe. These ambitious targets are welcomed, however, there is little that states how the airport will achieve this. The Mini Plan sets out that WG will support Cardiff Airport to develop, roll out and monitor a low carbon strategy as well as an associated energy strategy.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	--	Long term Medium	Incompatible. This Mini Plan is incompatible with ISA Objective 8. Aviation is a big source of greenhouse gas emissions, and this could potentially be reduced through technologies that support more sustainable aviation, although certainty around this is low. The Mini Plan states that it wants Cardiff Airport to become a centre for low carbon aviation by 2027, and by 2030 be the lowest carbon per passenger airport in Europe. These ambitious targets are welcomed, however there is little that states how the airport will achieve this.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	O	Long term Low	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	+	Long term Low	The Mini Plan is somewhat compatible with ISA Objective 12, as the priorities over the next five years include developing an energy strategy for Cardiff Airport, looking at options such as onsite generation, energy exporting, carbon-neutral buildings and prioritising low carbon businesses.

ISA Objective	Score	Duration Certainty	Appraisal – Aviation It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
13. To enable the protection of tranquil areas and prevention of noise and light pollution	--	Long term Low	The Mini Plan is not compatible with ISA Objective 13 and outlines no measures to prevent noise and light pollution from aviation.

APPENDIX E
Final WTS Assessment Results

CONTENTS

1 Summary of the B1 Compatibility Tests

The WTS Vision and Ambitions have been tested for their compatibility with each ISA Objective, as per the following key:

Compatible	✓
Incompatible	✖
Neutral	○
Uncertain	?

Table E.1: Compatibility scores recorded during the B1 Compatibility Tests

WTS	1. Health	2. Cohesion & equality	3. Economic development	4. Welsh culture	5. Welsh language	6. GHG emissions	7. Climate change resilience	8. Air quality	9. Landscape & townscapes	10. Heritage	11. Ecosystems	12. Natural Resources	13. Tranquility
Vision	✓	✓	✓	?	✓	✓	○	✓	○	○	○	○	○
Ambitions													
1. Good for People and Communities	✓	✓	✓	✓	✓	✓	○	✓	○	○	✓	✓	✓
2. Good for the Environment	✓	○	✓	✓	○	✓	✓	✓	✓	✓	✓	✓	✓
3. Good for the Economy and Places in Wales	✓	✓	✓	○	○	✓	○	✓	○	○	○	✓	○
4. Good for Welsh Language and Culture	✓	✓	✓	✓	✓	○	○	○	✓	✓	○	○	○

2 WTS Vision – B1 Compatibility Test

The WTS presents the following Vision:

"An accessible, sustainable and efficient transport system.

'Accessible' this means a system that meets the relevant policy and regulatory standards on equality, access, human rights and the Welsh language.

'Sustainable' means a transport system that meets the needs of future generations whilst protecting the ability of future generations to meet their own needs.

'Efficient' means a transport system that gets people where they want to go, when they want to go there, making best use of resources.

'Transport system' means transport infrastructure (such as footpaths, cycle paths, roads and rail as well as the many other structures and systems that support them including digital infrastructure) and transport services (such as bus and rail, taxis, aviation and maritime transport). The wider system encompasses commercial and third sector transport providers. It also includes governance – the legislation, regulation, and policies that govern these".

This Vision has been tested for its compatibility with each ISA Objective using the following key:

Compatible	✔️
Incompatible	❌
Neutral	⬤
Uncertain	?

ISA Objective	Score	Compatibility Test – WTS Vision
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	✓	Compatible – a transport system which is good for people and the environment would help to improve health and well-being and is compatible with the Objective.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – a transport system that is good for communities would aim to improve social cohesion and so demonstrates compatibility with the Objective.
3. To support sustainable economic development and diversity	✓	Compatible – in making public transport accessible for all, more people could have improved access to a broader range of employment, education and training opportunities. This would help to facilitate more equitable access across society and reduce economic inequalities.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	?	Uncertain – the Vision could be compatible with this Objective through the inclusion of a transport system that would be likely to enhance the accessibility of recreational spaces and cultural and heritage assets, although this is not directly stated.
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – the Vision seeks to ensure that there is a transport system that can be used by as many people as possible. A system that is accessible for all must account for accessibility for Welsh-speaking people. This could help to promote the Welsh language and to encourage its regular use. An accessible public transport system could also improve the accessibility of educational facilities, including Welsh-medium education facilities.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – the Vision is broadly compatible with this Objective due to the focus on a sustainable transport system which meets the need of future generations.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	✓	Compatible – the Vision is broadly compatible with this Objective due to the focus on a sustainable transport system which meets the need of future generations.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	◯	Neutral – no direct effect identified.

ISA Objective	Score	Compatibility Test – WTS Vision
10. To promote the conservation and enhancement of heritage assets	◯	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity, and ecosystems	◯	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	◯	Neutral – no direct effect identified.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	◯	Neutral – no direct effect identified.

3 WTS Ambitions – B1 Compatibility Tests

The Ambitions in the WTS have been tested for their compatibility with each ISA Objective using the following key:

Compatible	✓
Incompatible	✖
Neutral	⬤
Uncertain	?

Ambition: Good for people and communities

ISA Objective	Score	Compatibility Test – Ambition: Good for 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	✓	Compatible – this Ambition seeks to improve the uptake of walking and cycling, contributing to a healthier lifestyle. Adults are advised to achieve 150 minutes of moderate to vigorous activity a week to help prevent and manage chronic conditions including coronary heart disease. Increased levels of walking and cycling can have a significant positive effect on activity levels and improve overall health for residents in Wales. This Ambition recognises the need to improve the safety of transport infrastructure. Improving safety will help to encourage the use of footpaths and cycle ways, and lead to health benefits for Wales' population. The Ambition seeks to improve air pollution, including CO_2, NO_2 and particulate matter pollution. By promoting active travel, and the use of public transport and low-emission vehicles, the Ambition seeks to reduce air pollution with benefits for human health. In addition, noise pollution can impact health and quality of life. The Ambition seeks to reduce transport-associated noise pollution. The Ambition specifically sets out that *"Traffic noise can affect quality of life and contribute to poorer health outcomes, from hearing loss to cardio-vascular disease. We will reduce decibels and increase healthier soundscapes, keep noise to an acceptable level in the design of new developments, adopt noise mitigation on motorways and quieter vehicle travel, and grow active travel in line with the actions in our Noise and Soundscape Action Plan".*
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – this Ambition seeks to contribute towards a more equal Wales by addressing physical, economic and social barriers. It would do so by enhancing the safety of public transport and making it more welcoming. It would address these barriers through the *"meeting our legal, regulatory and policy requirements on accessibility, through adopting best practice on inclusive design and through staff training and service standards".* It is somewhat uncertain the extent to which this would be achievable in some of the most isolated rural areas where existing public transport opportunities are severely limited. By ensuring sustainable transport is safe, secure and welcoming, the Ambition would help reduce inequalities and ensure all members of society feel comfortable using transport options. It also seeks to promote connected communities, to help to tackle loneliness and isolation, and ultimately build strong community relationships.
3. To support sustainable economic development and diversity	✓	Compatible – more equal access to transport through improving the safety and security of transport options would mean more people, and a more diverse range of people, are able to access employment opportunities and economic areas, having a positive

ISA Objective	Score	Compatibility Test – Ambition: Good for people and communities
		impact on development and the economy. Improved transport infrastructure would also be likely to provide a boost to Wales' tourism industry.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – more equal access to sustainable transport could improve the accessibility of cultural and recreational spaces.
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – the focus is on giving all groups access to sustainable transport and making them feel welcome; this includes Welsh speakers so could bring about a wider use of the Welsh language within the transport sector. It is assumed that 'Welsh language', where it is a barrier to people's access (e.g. Welsh speakers not being comfortable using public transport due to communication being in English), falls within 'physical, economic, social barriers' and so combatting these would help to enhance the accessibility of more sustainable travel modes for Welsh speakers.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – an increase in walking and cycling, coupled with an increase in the usage of public transport, would lead to a decrease in GHG emissions associated with the use of the private car.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	✓	Compatible – the Ambition seeks to reduce air pollution *"by pursuing modal shift, encouraging more active travel, greater use of public transport and low emissions vehicles, and by creating closer links between land-use planning and transport".* This would lead to a decrease in air pollution associated with the transport sector.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	◯	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	◯	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity and geodiversity	✓	Compatible – by improving air quality through promoting active travel and the use of public transport, this Ambition will benefit surrounding biodiversity features and prevent damage due to poor air quality.
12. To ensure the sustainable use of natural resources	✓	Compatible – the Ambition seeks to promote sustainable travel, including the use of low-emission vehicles. This would be expected to help reduce the number of petrol and diesel powered cars and therefore, reduce the use of fossil fuels.
13. To enable the protection of tranquil areas and	✓	Compatible – by promoting active travel and the use of public transport, this Ambition will benefit noise and light pollution levels through an overall reduction in environmental effects. The Ambition specifically sets out that *"Traffic noise can affect quality of life and contribute to poorer health outcomes from hearing loss to cardio-vascular disease. We will reduce decibels and increase*

ISA Objective	Score	Compatibility Test – Ambition: Good for people and communities
prevention of noise and light pollution		*healthier soundscapes, keep noise to an acceptable level in the design of new developments, adopt noise mitigation on motorways and quieter vehicle travel, and grow active travel in line with the actions in our Noise and Soundscape Action Plan".*

Ambition: Good for the environment

ISA Objective	Score	Compatibility Test – Ambition: Good for the environment
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	✓	Compatible – the Ambition seeks to increase ecosystem resilience and maintain biodiversity. Improvements to the natural environment are likely to be of benefit to people's physical and mental well-being by providing enhanced access to a diverse range of natural habitats for mental well-being, outside space to engage in physical exercise and improving air quality.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	◯	Neutral – no direct effect identified.
3. To support sustainable economic development and diversity	✓	Compatible – reducing waste and the sustainable use of current transport infrastructure will likely help to reduce Government spending on transport infrastructure.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	✓	Compatible – the conservation and enhancement of the natural environment could potentially benefit recreational and cultural spaces, particularly those outdoors.
5. To encourage the protection and promotion of the Welsh language	◯	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – the Welsh Government is committed to net zero emissions by 2050. This Ambition seeks to ensure that there is a significant reduction in GHG emissions associated with Wales' transport sector, by supporting low carbon services and infrastructure and through modal shift.
7. To enable climate change resilience	✓	Compatible – the Ambition seeks to reduce greenhouse gas emissions from transport by reducing demand, supporting low carbon services and infrastructure and through modal shift. The Ambition also seeks to increase ecosystem resilience through transport operations and infrastructure projects. In doing so, the Welsh transport system could become more resilient to the effects of climate change.

ISA Objective	Score	Compatibility Test – Ambition: Good for the environment
8. To protect and improve air quality	✓	Compatible – by seeking to reduce greenhouse gas emissions related to transport, this Ambition would be likely to improve air quality. The Ambition also seeks to increase ecosystem resilience, which could help filter air pollutants.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	✓	Compatible – improvements to and preservation of the environment could help to protect and enhance natural landscapes. The Ambition also seeks to enhance biodiversity during the *"design and delivery of transport interventions including upgrading infrastructure and new infrastructure schemes"* which can help developments be more sympathetic to the landscape.
10. To promote the conservation and enhancement of heritage assets	✓	Compatible – the conservation and enhancement of the natural environment could potentially benefit sensitive heritage assets and historic areas, such as by enhancing their setting or screening them from the visual impacts of new development. It would also be likely to help benefit historic landscapes.
11. To promote the conservation and enhancement of biodiversity and geodiversity	✓	Compatible – this Ambition specifically seeks to ensure that transport operations protect and enhance biodiversity and support more resilient ecosystems. This would be expected to result in increased biodiversity cover across Wales, although the Ambition could be pushed further to ensure biodiversity net gain.
12. To ensure the sustainable use of natural resources	✓	Compatible – natural resources can be used more sustainably through supporting low carbon services. This Ambition would be likely to help to reduce the consumption of natural resources by reducing waste and increasing the uptake of more efficient forms of transport. The Ambition specifically sets out that Welsh Government will make *"best use of existing transport infrastructure [to] avoid the need for new infrastructure and so help meet our ambition to produce roughly 65% of the waste we produce"*.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	✓	Compatible – a reduction in car travel and the electrification of vehicles will likely reduce noise and visual disturbances and pollution associated with transport.

Ambition: Good for the economy and places in Wales

ISA Objective	Score	Compatibility Test – Ambition: Good for the economy and places in Wales
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	✓	Compatible – by creating a sustainable transport system that meets differing needs, this Ambition seeks to consider the wider urban and built environment in new transport infrastructure development including the public realm, open spaces and green streets. Technological and digital innovations would also have a benefit to health, as better maintained and coordinated transport services will make the services easier to navigate and reduce stress for users.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✓	Compatible – the Ambition seeks to meet the differing needs of communities in Wales, in particular rural Wales. The Ambition also seeks to make sustainable transport more affordable, taking into consideration those who live in rural areas who may have fewer transport options available to them. This will further reduce inequalities.
3. To support sustainable economic development and diversity	✓	Compatible – through encouraging a more sustainable supply chain and supporting innovations in the transport sector, the Welsh economy will likely be stimulated and able to grow and diversify.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	◯	Neutral – no direct effect identified.
5. To encourage the protection and promotion of the Welsh language	◯	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	✓	Compatible – by supporting the development of technological and digital innovations which allow people to work remotely, there will likely be less use of private cars, decreasing GHG emissions. The Ambition also supports the development of electric and hydrogen powered vehicles which would further help reduce the number of petrol and diesel powered vehicles and reduce transport-associated emissions.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	✓	Compatible – the promotion of electric and hydrogen powered vehicles and digital innovation leading to more accessible sustainable transport options (for example, allowing for better planning of journeys) will help to reduce the number of vehicles and therefore, reduce transport-associated air pollution.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	◯	Neutral – no direct effect identified.

ISA Objective	Score	Compatibility Test – Ambition: Good for the economy and places in Wales
10. To promote the conservation and enhancement of heritage assets	⚪	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity and geodiversity	⚪	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	✔	Compatible – by supporting the use of a more sustainable Welsh supply chain, there will likely be less wastage and an increase in sustainable options that do not deplete natural resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	⚪	Neutral – no direct effect identified.

Ambition: Good for culture and the Welsh language

ISA Objective	Score	Compatibility Test – Ambition: Good for culture and the Welsh language
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	✔	Compatible – access to, and the enjoyment of, arts, sports, and natural and cultural heritage can be highly beneficial to people's mental health and well-being. This Ambition seeks to ensure that such spaces are accessible and protected.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	✔	Compatible – this Ambition seeks to enhance cohesion for Welsh-speaking communities and to provide access to arts, sports and cultural events for a wide range of people, thereby improving the equality of opportunity for all.
3. To support sustainable economic development and diversity	✔	Compatible – the Ambition will improve access to arts, sporting and cultural events, and subsequently, spending would likely increase in nearby centres and high streets. Large cultural events are also an important part of Wales' economy.
4. To protect and promote Welsh culture and improve access to	✔	Compatible – there are clear steps being sought to promote the Welsh culture and improve access to a range of events and recreational areas and activities.

ISA Objective	Score	Compatibility Test – Ambition: Good for culture and the Welsh language
cultural and recreational spaces		
5. To encourage the protection and promotion of the Welsh language	✓	Compatible – the Ambition will encourage Welsh language to thrive in the transport sector by increasing the use of Welsh in services and in the workplace, in transport information and digital services; as well as equality of provision in transport access to Welsh-language education.
6. To reduce greenhouse gas emissions from transport	◯	Neutral – no direct effect identified.
7. To enable climate change resilience	◯	Neutral – no direct effect identified.
8. To protect and improve air quality	◯	Neutral – no direct effect identified.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	✓	Compatible – through the preservation and enhancement of the historic environment and cultural heritage, the traditional townscapes of Wales are more likely to be protected and promoted.
10. To promote the conservation and enhancement of heritage assets	✓	Compatible – the Ambition seeks to protect and sustain the historic environment, and ensure historic assets are *"identified, protected and enhanced in transport interventions, planning and decision-making"*.
11. To promote the conservation and enhancement of biodiversity and geodiversity	◯	Neutral – no direct effect identified.
12. To ensure the sustainable use of natural resources	◯	Neutral – no direct effect identified.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	◯	Neutral – no direct effect identified.

4 Summary of Detailed Appraisals

The WTS Priorities and Mini Plans have been appraised against each ISA Objective, as per the following key:

Strong positive (significant)	++	*Uncertain outcome*	?
Minor positive	+	*Minor negative*	-
Neutral outcome	O	*Strong negative (significant)*	--
Range of positive and negative outcomes	+/-		

Table E.2: Detailed appraisal scores recorded for the Five Year Priorities and Mini Plans in the Final WTS against each ISA Objective

WTS Section	1. Health	2. Cohesion & equality	3. Economic development	4. Welsh culture	5. Welsh language	6. GHG emissions	7. Climate change resilience	8. Air quality	9. Landscape & townscapes	10. Heritage	11. Ecosystems	12. Natural Resources	13. Tranquility
Priority 1: Bring services to people in order to reduce the need to travel	+	++	+	+	+	+	+	+	+	+	+	+	+
Priority 2: Allow people and goods to move easily from door to door by sustainable transport	++	++	++	+	+	+	+	+	+	+	+	+	+
Priority 3: Encourage people to make the change to more sustainable transport	+	++	+	+	+	+	O	+	+	+	+	+	+
Mini Plan: Active Travel	++	+	+	+	+	++	+	++	+	+	+	+	+
Mini Plan: Bus	++	++	+	+	+	+	?	+	+	+	+	+	+
Mini Plan: Rail	++	++	++	+	+	++	+	+	+	+	+	+	+
Mini Plan: Roads, Streets, and Parking	++	++	+	+	+	+	+	+	+	+	+	+	+
Mini Plan: Third Sector	++	++	+	+	+	+	O	+	O	+	+	+	+
Mini Plan: Taxis and Private Hire Vehicles	+	+/-	+	+	+	+	O	+	O	O	+	+	+
Mini Plan: Freight and Logistics	+	+	+	O	+	+	O	+	-	O	+	+	+
Mini Plan: Ports and Maritime Transport	+	+	++	++	+	+	-	+	O	+	+	+	O
Mini Plan: Aviation	-	+/-	++	+	+	--	O	--	-	O	-	+	--

5 WTS Priorities – Detailed Appraisals

Priority 1: Bring services to people in order to reduce the need to travel

ISA Objective	Score	Duration Certainty	Appraisal – Priority 1: Bring services to people in order to reduce the need to travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Low	This priority is highly compatible with ISA Objective 1 and the successful achievement of this priority would make a significant positive contribution towards this ISA Objective. The priority seeks to adopt a 'Town Centre First' approach to planning public services. This could lead to a reduction in road building, and therefore, a reduction in the potential for severance from new road building, as well as reducing traffic levels on existing roads, that may form barriers to community interaction. By locating new education, health and leisure facilities close to where people live, the priority would be expected to encourage active travel to these services, but also promote the use of such facilities for exercise and community engagement. Ensuring that people are situated in proximity to essential services would help to ensure that they have good access to necessary health services including hospitals and GP services, including Welsh-medium services, for people who cannot rely on private car use (e.g. children and older people), which could help to improve the equality of access to health services. Reducing the need to travel by private car would likely help deliver improvements to air quality and noise from traffic, with subsequent benefits to people's physical and mental health and well-being. The priority would be likely to lead to higher rates of walking and cycling by designing new developments to be walk and cycle friendly, which would be of significant benefit to people's health and well-being. The encouragement for people to work from home and improving access to fast and reliable broadband would help to reduce car-use, but there is uncertainty around the potential health impacts of this. For many people, walking or cycling to and from work is a key opportunity for exercise. Working alone at home could also lead to some detrimental effects on people's mental well-being, as a result of isolation. By designing policies based around reducing the volume of vehicles on the road and promoting working from home, it is likely that there would be a reduction in driver stress and road traffic accidents, because the frequency of vehicles on the road will be lessened, however, there is a high degree of uncertainty surrounding this. This would also have no distinction as to the type of groups who the risk would be lowered for. The priority seeks to *"ensure a joined-up approach to infrastructure investment"* which could result in better integrated active travel and public transport links. This may help to reduce the time it takes to reach places people need to go. This would allow people to better spend their time doing what they want to do, rather than commuting for example, with likely benefits to their mental well-being. By reducing the need to travel, the priority could encourage more people to access the open spaces they have available nearby to them, e.g. public parks. Accessing these spaces and community areas will help to build stronger communities, helping to reduce the risk of loneliness and isolation, however, there is a high degree of uncertainty around this.
2. To create the conditions within which an improvement in	++	Long term High	This priority is highly compatible with ISA Objective 2 and the successful achievement of this priority would make a significant positive contribution towards this ISA Objective. By locating essential services close to where people live and to existing transport routes, this priority could help to address inequalities in access to bus and rail services and ensure that public transport is equitable.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 1: Bring services to people in order to reduce the need to travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
social cohesion and equality can be achieved			Investing in infrastructure that integrates walking and cycling with other transport modes would encourage more people to adopt active travel methods. Through an increase in informal community interactions as a result of more people being outside, social cohesion could be improved. Community cohesion could also be improved through an increase in people travelling together on public transport, rather than alone in private cars. The priority seeks to *"improve access to fast and reliable broadband"*. This would be likely to help improve equality and social cohesion by enabling more people to access the same services in an easier way, as well as seeking to ensure all users have access to the same information, irrespective of their socio-economic status or experience of technology. Increasing the number of employees who work from home could have benefits in relation to equality, as some employees who could not reasonably access employment opportunities would have a greater variety of jobs available to them.
3. To support sustainable economic development and diversity	+	Long term Low	This priority is compatible with ISA Objective 3, due to the focus on accessibility. Maximising the potential of existing transport infrastructure, such as ports and railway stations, as sites for investment and growth, could lead to positive effects against this objective. Further benefits could be achieved through ensuring a 'joined-up' approach to infrastructure investment and reducing congestion through adopting a 'Town Centre First' approach and setting land aside for 'multi-modal hubs'. This could lead to increased access to jobs, helping to reduce unemployment in Wales by increasing access within and to different communities and areas. It will increase the amount of employment opportunities accessible to people of different communities and likely help to reduce employment inequality within Wales. The 'multi-modal hubs' to transfer long haul freight to last-mile deliveries could help improve efficiency, benefiting the economy. The priority encourages the reduction in need to travel for work by helping to promote working from home through improved digital connectivity and encouraging employer benefits. This will help to diversify the employee market as location will have less of a bearing on job opportunities; meaning that it may create equality of employment opportunity between rural and urban areas, however there is a high degree of uncertainty surrounding this.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	This priority is generally compatible with ISA Objective 4 as it states, *"locate new public health services such as education, health and leisure facilities close to where people live, and to existing public transport routes"*; however there is no mention specifically of promoting access to cultural spaces. The priority seeks to adopt a 'Town Centre First' approach, which could improve access to cultural spaces located within town centres. A potential knock-on effect of reduced vehicles on the road is that the setting of many cultural heritage sites and assets will be improved due to less noise and air pollution from that source, however, there is a high degree of uncertainty surrounding this.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The increase in sustainable travel access to education facilities could include Welsh language education facilities. Improving the viability of rural communities in general, including through increased broadband, infrastructure, and the location of education, health and leisure facilities close to where people live, could have positive effects on communities where Welsh is a first language. Some positive effects on the Welsh language may result.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This priority is generally compatible with ISA Objective 6, as by reducing the need for private car and vehicle travel, there will be lower greenhouse gas and CO_2 emissions from the transport sector. Reducing the use of vehicles is proposed through increasing the proportion of people who work from home, improving broadband connectivity, locating essential services near housing and designing developments to be walk and cycle friendly.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 1: Bring services to people in order to reduce the need to travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
7. To enable climate change resilience	+	Long term Low	This priority is generally compatible with ISA Objective 7, as it states, *"build new workplaces and homes close to public transport and design new developments to be walk- and cycle-friendly from the outset"* and seeks to adopt a 'Town Centre First' and 'joined-up' approach to infrastructure investment. By investing in more sustainable forms of transport, it will help to future proof the Welsh transport system from the effects of climate change, however, there is some uncertainty surrounding this.
8. To protect and improve air quality	+	Long term Low	This priority is generally compatible with ISA Objective 8, as reduced use of private cars and a reduction of vehicles on the road in general will reduce transport-associated emissions, such as PM_{10}, and therefore, improve the air quality of Wales. Limiting car use will help to reduce GHG emissions, but also other forms of pollution, e.g. atmospheric nitrogen deposition.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This priority is generally compatible with ISA Objective 9, as reducing vehicle numbers on the road and adopting a 'Town Centre First' approach could help to retain a more distinctive townscape. There will likely be knock-on effects of reduced noise and air pollution from traffic, creating a more pleasant setting for landscape and townscape features, as well as tranquil areas. Furthermore, the use of 'multi-modal hubs' to transfer freight to smaller vans or e-cargo bikes would help to reduce the number of larger vehicles on the roads, reducing congestion but also reducing visual impacts of large freight vehicles.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This could be considered compatible in a very minor way as the reduction of road traffic will likely lead to improvements to air quality and a reduction to noise disturbance, meaning that the setting of these conservation and heritage assets will be improved, however, there is a high degree of uncertainty associated with this. Increasing access by active travel and public transport links and adopting the 'Town Centre First' approach could lead to an increase of visitors to conservation and heritage areas, leading to increased investment, however, there is a high degree of uncertainty associated with this.
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Low	This priority is generally compatible with ISA Objective 11, as fewer cars encouraged on the road will lead to less habitat disturbance by roadways, however, this is not stated directly. There will likely be indirect positive effects from fewer vehicles on the roads, less air pollution and less noise pollution, which will lead to less habitat disturbance and cause less stress to flora and fauna, thereby providing a better environment for an increase in biodiversity. Improving active travel routes and public transport links will likely grant easier access to wildlife areas and open green spaces, making them more accessible for all people and not only those who have access to a private car.
12. To ensure the sustainable use of natural resources	+	Long term Low	This priority is generally compatible with ISA Objective 12, as it states, *"build new workplaces and homes close to public transport and design new developments to be walk- and cycle-friendly from the outset"*. By promoting active travel and public transport over personal car use, there will be less reliance on natural (non-renewable) resources. Fewer vehicles on the road means fewer pollutants from exhaust or spills falling onto the tarmac, there is then less chance of surface water run off carrying these pollutants into the soil, groundwater and surface water, therefore, enhancing their quality. However, there is a high degree of uncertainty surrounding this.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This priority is generally compatible with ISA Objective 13, as a reduction in the use of private cars and use will reduce noise from roads, and therefore, reduce noise pollution, however this is not stated directly. Fewer vehicles on the road will likely lead to less noise and light pollution from traffic and put less stress on tranquil areas.

Priority 2: Allow people and goods to move easily from door to door by sustainable transport

ISA Objective	Score	Duration Certainty	Appraisal – Priority 2: Allow people and goods to move easily from door to door by sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term High	This priority is generally compatible with ISA Objective 1 and seeks to improve the accessibility of transport infrastructure. By improving the reliability, safety and frequency of public transport services, people could be less stressed by travelling and the prospect of travelling, in particular commutes or long journeys. Likewise, a system that is integrated between modes will be easier to navigate, resulting in a more relaxing journey. A system that is reliable and punctual should also mean users have to spend less time travelling, leaving more time for exercise or leisure activities, improving mental and physical health. Through improving the management and maintenance of the public transport system, it would help to improve access to health facilities and services for all people, of all backgrounds and even extend to improving access from rural locations due to faster commutes and less congestion. This improved access would help to improve equality of access for all people. Safe, well-maintained and future proofed public transport would be particularly beneficial to children, older people and people from disadvantaged groups in terms of their access to health facilities. By improving accessibility as part of design principles in infrastructure, there would likely be increased connectivity between communities and more options for travel and infrastructure implementation; therefore the risk of community severance would be reduced. This improved connectivity may also apply to green and open spaces, thereby allowing for more physical exercise options, especially for those who may not have access to private vehicles. This would be particularly important for young people, who may benefit from access to sports centres, recreational spaces and opportunities to socialise, but are too young to drive. In addition, the priority seeks to support digital innovation. Innovations surrounding data use in transport will be used to ensure a more convenient, efficient, and stress-free journey for the passenger, thereby having a positive impact on their mental health. Real-time public transport information will allow passengers to better plan their journeys, and integrated ticketing across multiple transport modes will make complicated journeys easier with less to worry about. If road congestion can be reduced through smart technology, this will reduce driver stress.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The priority demonstrates compatibility with Objective 2 by addressing potential inequalities, recognising that there may be fewer transport options in rural areas. Better management of public and active transport options, and inclusive design principles in infrastructure projects to improve accessibility and safety for everyone, would be likely to lead to increased safety measures, protecting those most vulnerable in society (including children, women, LGBTQ+, Black, Asian and Minority Ethnic, and older people) from crime and reducing the frequency of unsafe or dangerous events within infrastructure and on public transport/active travel routes. This better management, affordability and maintenance of routes could help to improve equality within the public transport system as more routes are accessible to people from any background and community. This increase in access would result in more equal access to educational facilities, employment opportunities and health facilities. Improving the use of data in transport infrastructure would also help to ensure the services are more accessible to young people who rely more heavily on public transport and data access than other age groups.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 2: Allow people and goods to move easily from door to door by sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
	++		The priority seeks to support digital innovation. This would be likely to help improve equality and social cohesion by enabling more people to access the same services in an easier way, as well as seeking to ensure all users have access to the same information, irrespective of their socio-economic status or experience of technology. However, older people are a particular group who tend to rely heavily on public transport, and they are a majority group who, in general, have poorer access to and capability in using mobile technology.
3. To support sustainable economic development and diversity	++	Long term High	Public transport use is correlated with a stronger economy, due to spending on the transport service itself and ancillary services such as food and drink outlets in the vicinity of bus and train stations. The priority also aims to review *"mandatory and voluntary concessionary fares schemes to encourage shift to public transport from cars"*, further boosting public transport use and the income generated by it. A better managed and maintained public transport system would be likely to provide better access to education, training, jobs and employment opportunities to all residents. Further, public transport connectivity means that employers are able to garner a larger employment base, which could mean a more diverse economy. All of these factors lead to a more stimulated economy. More attractive public transport options will make people more likely to use these services to access urban centres and shops to spend money, meaning there will likely be an indirect increase to the diversity and development of the economy, it could also provide a boost to underperforming or difficult to access economic areas. By improving bus and train reliability and punctuality and transforming transport experiences, individuals are more likely to arrive at work less stressed and will be more productive, having a positive impact on the economy. If journeys can be a more enjoyable experience, individuals may be more inclined to travel where necessary in order to further grow their businesses. Investing in digital innovation would likely lead to a more efficient transport system, as well as the potential to create employment in this sector. Under this priority, inward investment is encouraged through the improvement of transport infrastructure and investment in low carbon technology for transport infrastructure, this will help to future proof the industry and could lead to improvements in freight transport and international travel, however, there is a high degree of uncertainty surrounding this effect.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	Through improved management and maintenance of the public transport system and making them a more appealing option, it would be likely that this priority would lead to more people choosing public transport options and less people choosing private vehicles, which would lead to fewer vehicles on the roads. This would have a knock-on effect of reduced air pollution and noise pollution, improving the setting of many cultural and recreational spaces. However, there is a high degree of uncertainty surrounding this, as it depends on the specific location of new investment in relation to cultural and recreational places. Increasing access and connectivity would likely help to increase access for everyone, including to cultural and recreational spaces.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	Increasing access and connectivity by integrating different transport modes into journey routes will help to increase access for everyone, including to Welsh language educational facilities. By making these options safer and more reliable, it also means people will be more likely to use them to access these services. However, there is a high degree of uncertainty surrounding this.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 2: Allow people and goods to move easily from door to door by sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
6. To reduce greenhouse gas emissions from transport	+	Long term Low	This priority is compatible with ISA Objective 6 as it states, *"We will invest in low-carbon, accessible, efficient and sustainable transport services and infrastructure that enable more people to walk, cycle and use public transport, and use low-emission vehicles"*. The priority seeks to *"explore future infrastructure improvements that reduce carbon emissions, including infrastructure for new fuels such as hydrogen, technology that facilitates more sustainable aviation and cargo operations, and materials innovation that improves service life, speed of construction and maintenance and reduces environmental impacts"*. By supporting technologies such as electrification and new fuels such as hydrogen in place of fossil fuels, emissions from transport should be reduced. However, the priority does not provide any detail on how such technology would be used. Aviation is clearly a big source of emissions, and the priority seeks to support *"technology that facilitates more sustainable aviation and cargo operations"*, though there is little detail as to what this could entail. By improving the maintenance of active travel routes and incorporating these routes into journeys and the existing road network, it would lead to further reductions in CO_2 and greenhouse gas emissions.
7. To enable climate change resilience	+	Long term Low	This priority is generally compatible with ISA Objective 7. It sets out that the WTS will, *"future-proof [transport infrastructure] to adapt to climate change and facilitate more sustainable transport choices"* and *"adapt existing infrastructure to climate change by addressing issues such as flooding"*. Better management of flood risk would help protect transport infrastructure and communities from the effects of climate change. However, how this will be implemented is unclear.
8. To protect and improve air quality	+	Long term Low	This priority is generally compatible with ISA Objective 8. Better maintained and safer active travel routes would be likely to reduce the use of private cars and public transport as they will become more accessible options for all people, this will reduce the volume of vehicles on the road and lead to further reduced air pollution from transport. Through improved management and maintenance of the existing transport infrastructure network, which may include increased vegetation, air quality improvements through the reduction in, and sequestration of, pollutants may occur.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	Although there is little overlap, the priority is compatible with Objective 9 in that it disincentivises car use, and cars tend to have negative impacts on townscape character. Road traffic and parking create noise disturbances and visual intrusions on traditional townscape character. By exploring measures that will deter car use, these negative impacts will be reduced. Through improved management and maintenance of the public transport system/active travel options and making them a more appealing option it would be likely to lead to more people choosing public transport options and less people choosing private vehicles, which would lead to fewer vehicles on the roads. This would have a knock-on effect of reduced noise pollution, thereby protecting and potentially enhancing the character of many townscapes and landscapes.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	Through improved management and maintenance of the public transport system/active travel options, they could become a more appealing option, which could lead to more people choosing public transport options and less people choosing private vehicles, leading to fewer vehicles on the roads. This would have a knock-on effect of reduced noise pollution, thereby conserving and potentially enhancing the setting of many heritage assets and historic areas. Increasing access and connectivity will likely help to increase access for everyone, including to conservation and heritage assets.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 2: Allow people and goods to move easily from door to door by sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Low	This priority is generally compatible with ISA Objective 11, as it states: "*We will invest in low-carbon … and use low-emissions vehicles*", which could have knock-on effects of improving habitat quality due to reduced emissions in the local area, and therefore, increasing biodiversity of flora and fauna. With more investment in active travel and public transport there may be less investment in new road building, which could lead to benefits against this objective. However, there is a high degree of uncertainty associated with this. Fewer road developments may mean less need for geological resources for construction, helping to preserve geodiversity.
12. To ensure the sustainable use of natural resources	+	Long term Medium	This priority is generally compatible with ISA Objective 12, as it seeks a "*shift of transport modes away from private car use to more sustainable transport modes for the majority of journeys*". The priority could help to reduce the volume of carbon emissions in transport infrastructure by promoting low carbon transport services. Improving the reliability, safety and frequency of the public transport system and making them a more appealing option will likely lead to more people choosing public transport options and less people choosing private vehicles. Fewer vehicles on the road means fewer pollutants from exhaust or spills falling onto the tarmac, and there is then less chance of surface water run off carrying these pollutants into the soil, groundwater and surface water, and therefore, enhancing their quality. However, there is a high degree of uncertainty surrounding this. Potentially fewer road network developments mean fewer materials necessary and more scope to use recycled materials as there will be reduced usage of them. Fewer developments will likely lead to less waste. However, there is a degree of uncertainty surrounding this.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	The priority seeks to improve the reliability, safety and frequency, as well as the management and maintenance, of the public transport system/active travel options and making them a more appealing option. This would be likely to lead to more people choosing public transport options and less people choosing private vehicles, which would lead to fewer vehicles on the roads. This would have a knock-on effect of reduced noise and light pollution, thereby helping to protect tranquil areas.

Priority 3: Encourage people to make the change to more sustainable transport

ISA Objective	Score	Duration Certainty	Appraisal – Priority 3: Encourage people to make the change to more sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	The priority demonstrates compatibility with Objective 1 by encouraging people to use sustainable transport options, such as walking and cycling, which has numerous benefits on physical and mental health and well-being. The WTS supports a range of incentives such as scrappage schemes for older vehicles, grants towards the cost of electric bikes, and by extending concessionary travel schemes to those who most need it. This would encourage people to walk and cycle more, which would improve both physical and mental health through the exercise itself but also the increased time spent outdoors. In order to reduce health inequalities across Wales, it is important that these incentives are available to as broad a range of people as possible. By improving the reliability and punctuality of transport services, people would be likely to be less stressed by travelling and the prospect of travelling, in particular commutes or long journeys. A system that is reliable and punctual should mean users have to spend less time travelling, leaving more time for exercise or leisure activities, improving mental and physical health. An improved experience when travelling could also encompass ways to bring people together, reducing loneliness and social isolation. The use of shared solutions would encourage more social interaction whilst travelling than occurs whilst using the private car. The priority addresses potential inequalities, recognising that there may be fewer options in rural areas. The priority includes that disincentives to car use should take into account equality issues.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The priority is compatible with ISA Objective 2 by addressing potential inequalities, as it aims to *"develop a framework for fair and equitable road user charging in Wales and explore other disincentives to car use, taking into account equality issues including [the] needs of people in rural areas, people who share protected characteristics and people on low incomes"*. The priority is generally compatible with this Objective through supporting *"digital innovations … improve journey planning and booking, develop integrated ticketing, and improve real-time information for passengers"*. This would be likely to help improve equality and social cohesion by enabling more people to access the same services in an easier way, as well as seeking to ensure all users have access to the same information, irrespective of their socio-economic status or experience of technology. Innovations such as *"shared solutions, including car sharing, car clubs, bike sharing and mobility as a service"* could encourage social cohesion and bring communities together, and innovations in community transport could support rural communities and reduce the inequalities between rural and urban areas, though what specifically this would involve is not clear. The priority seeks to engage *"with communities to design transport interventions that meet local needs and circumstances"* which will help to ensure community transport meets local need. The priority seeks to reduce the cost of sustainable travel through initiatives such as *"scrappage schemes for older vehicles, grants towards the cost of electric bikes, and by extending concessionary travel schemes to those who most need it"*. This will help make all forms of sustainable travel more equitable and further discourage the use of private vehicles. In addition, the promotion of travel schemes will encourage community cohesion. In many areas, there is currently a negative general perception of public transport and those who have the choice will often choose not to use it; these are often more affluent members of society. Through successful marketing campaigns and an improved service for the customer, as well as effective deterrents on car use, these individuals may be more inclined to use public transport and integrate with other groups in society, which will have a beneficial impact on

ISA Objective	Score	Duration Certainty	Appraisal – Priority 3: Encourage people to make the change to more sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			community cohesion. Getting buy-in at a local level by engaging with communities to design transport interventions that meet local needs and circumstances, could enhance the significance of this effect. Better integrated transport systems could make journeys for those who frequently trip-chain easier, more efficient, and more affordable.
3. To support sustainable economic development and diversity	+	Long term Medium	Through improving bus and train reliability and punctuality, this Objective is compatible with the priority. By improving bus and train reliability and punctuality and transforming transport experiences, individuals are more likely to arrive at work less stressed and will be more productive, having a positive impact on the economy. If journeys can be a more enjoyable experience, individuals may be more inclined to travel where necessary in order to further grow their businesses. Digital innovations that allow integrated transport systems across the country could enhance connectivity and allow businesses to expand and function in a wider market more easily and more economically. If journeys are easier and more efficient, people are more likely to be willing to travel further to grow their businesses. The priority also seeks to *"use new revenue sources to fund large improvements in public transport services and active travel facilities"*.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	By improving ease of movement around the country through digital innovation, access to cultural events and recreational spaces would be enhanced, and as such, the priority is generally compatible with this Objective. The priority seeks to *"improve journey planning and booking, develop integrated ticketing, and improve real-time information for passengers"*. Currently, people may be put off visiting new or distant areas to access cultural or heritage assets due to the complexity of travel and the lack of knowledge regarding what the transport links will be like closer to the site. This is especially true considering many of these assets are located in urban areas which have larger and more complicated transport systems; or in rural areas, where there may be an apparent lack of or infrequent public transport that requires forward planning. With integrated, digitalised systems in place, people can access transport information from afar and easily plan their journeys, thereby promoting easy access to Wales' cultural and heritage assets.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The priority seeks to *"transform the customer experience of public transport including … training for staff and drivers, so people are more confident about using services"*, which should include training to ensure drivers and staff of transport services are able to use the Welsh language. This would be likely to further promote the use of the Welsh language and ensure transport services are accessible to all.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The priority is compatible with Objective 6 through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel powered vehicles. By supporting incentives to encourage people to walk, cycle or use public transport and exploring ways to disincentivise car use, use of private vehicles will decrease, subsequently reducing GHG emissions. Incentives to use cleaner vehicles, particularly in areas or for certain individuals where car use is the only viable option, could also help reduce greenhouse gas emissions from transport.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	The priority is compatible with this Objective through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel powered vehicles. By supporting incentives to encourage people to walk, cycle or use public transport and exploring ways to disincentivise car use, use of private vehicles will decrease, subsequently reducing emissions and improving air quality.

ISA Objective	Score	Duration Certainty	Appraisal – Priority 3: Encourage people to make the change to more sustainable transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
			Incentives to use cleaner vehicles, particularly in areas or for certain individuals where car use is the only viable option, could also help to improve local air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	Although there is little overlap, the priority is compatible with Objective 9 in that it disincentivises car use, and cars tend to have negative impacts on townscape character. Road traffic and parking create noise disturbances and visual intrusions on traditional townscape character. By exploring measures that will deter car use, these negative impacts will be reduced.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	Through promoting public transport and active travel options over personal car use, this priority seeks to reduce the volume of cars on the roads. This would have a knock-on effect of reduced noise pollution, thereby conserving and potentially enhancing the setting of many heritage assets and historic areas. Road traffic and parking create visual intrusions on heritage assets. By exploring measures that will deter car use, these negative impacts will be reduced.
11. To promote the conservation and enhancement of biodiversity and geodiversity	+	Long term Low	Through promoting sustainable transport choices, GHG emissions will be reduced. This will help decrease the negative impacts of the transport sector on the environment, which will have the knock-on effect of improving habitat quality and thereby increasing biodiversity in Wales, in particular reducing poor air quality. However, there is a degree of uncertainty surrounding this.
12. To ensure the sustainable use of natural resources	+	Long term Low	Compatibility with this Objective is demonstrated through encouraging an increase in public and active transport modes, and a decrease in private car use, particularly petrol and diesel. The aim of digital initiatives would in part be to produce a more efficient public transport system, which would hopefully encourage higher levels of public transport use. This and the idea of mobility as a service would also help decrease private car use, again decreasing fossil fuel use.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This priority is generally compatible with ISA Objective 13. Developing future proof infrastructure would have long term benefits for the environment, with fewer vehicles on the road if more people are using public transport, resulting in less noise and light pollution coming from transport.

6 WTS Mini Plans – Detailed Appraisals

Mini Plan for Active Travel

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as its intention is for walking and cycling to become a 'normal choice' for shorter journeys, 'because active travel is better for our health'. The priorities for delivering this vision include measures including 'hard' infrastructure development, as well as 'soft' behaviour change measures. The measures included, such as the development of more integrated networks, focusing on consultation with people who do not currently walk or cycle for local trips, and developing local routes to everyday locations, could have a significant effect on this objective. Improving safety, including through changing the default speed limit in built up areas to 20mph from 30mph, and supporting cycle training and safety schemes, may mean there could be less of a barrier to walking and cycling for particular groups, including women, children and young people. The Mini Plan also states that it will *"encourage all schools to have an active travel plan and adopt actions to slow traffic and widen pavements around schools"*. Further, the plan aims to *"include education facilities on Network Maps, including Welsh-medium education".* This would be likely to increase safety and efficiency for those walking and cycling around schools, as well as providing an opportunity for children and young people to learn more about the benefits of active travel, and an opportunity for children and young people to voice their own opinions and ideas on how active travel can benefit them.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The active travel Mini Plan is compatible with ISA Objective 2, as it aims to remove the barriers that stop people from cycling and walking, therefore potentially leading to more cohesive communities. It goes some way towards addressing inequality and mentions the need for extensive consultation with a particular emphasis on people who do not currently walk or cycle for local trips, which may lead to a greater understanding in how inequalities might be addressed. The Mini Plan seeks to work towards 'safe cycling from village to town', to give villages safe cycling access to the nearest town and creating active travel corridors. This could lead to greater equality between urban and rural populations, ensuring that more people have greater equality of opportunity.
3. To support sustainable economic development and diversity	+	Long term Medium	The active travel Mini Plan is compatible with ISA Objective 3 as active travel will deliver benefits to the economy throughout Wales, with more people using active travel to get to work, through the uptake of schemes such as e-bikes and the development of integrated network maps. The maintenance of the National Cycle Network could support the visitor economy.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	The Mini Plan is compatible with ISA Objective 4 as it seeks to repurpose former railway lines and redundant transport infrastructure to form active travel routes, thereby encouraging more people to walk and cycle whilst also visiting cultural spaces. This can be particularly beneficial for routes which assist with accessing Wales' historic sites and monuments, national parks, landscapes and coastal areas. However, the priorities and measures do not mention this aspect further, so it is unclear how this will be delivered specifically.

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan refers to *"include education facilities on Network Maps, including Welsh-medium education"* which would help improve access to Welsh-medium educational facilities and promote the use of the Welsh language.
6. To reduce greenhouse gas emissions from transport	++	Long term Medium	The Mini Plan is highly compatible with ISA Objective 6. Active travel can help to reduce greenhouse gas emissions from transport, particularly for shorter journeys. The Mini Plan states that there will be fewer greenhouse gas emissions and air quality will have improved because more people have replaced car journeys with active travel.
7. To enable climate change resilience	+	Long term Low	The Mini Plan is compatible with ISA Objective 7 as it states that *"active travel networks are well maintained and managed, and upgraded to adapt to climate change"*. However, measures to be included are not specified.
8. To protect and improve air quality	++	Long term Medium	The Mini Plan is highly compatible with ISA Objective 8, as active travel will help to reduce emissions from transport, particularly for shorter journeys. The Mini Plan states that air quality will have improved because more people have replaced car journeys with active travel. The five ways of working also state that further problems will be prevented, and decarbonisation will be addressed by replacing car journeys with active travel.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 9. Reducing car usage and making areas more attractive for walking and cycling can help protect and enhance our townscapes and landscapes. Reduced investment in road development may imply that more landscapes will be protected. The Mini Plan seeks to ensure that walking and cycling will be used more to visit Wales' national parks, landscapes and coastal areas, providing residents with more opportunities to enjoy these areas.
10. To promote the conservation and enhancement of heritage assets	+	Long term Medium	This Mini Plan is compatible with ISA Objective 10. Heritage assets including former railway lines can be used as active travel routes. The Mini Plan also seeks to ensure *"more people can use walking and cycling to visit and enjoy Wales' historic sites and monuments"*, helping to increase footfall to historic assets in Wales.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11. The Mini Plan states that *"biodiversity is maintained and ecosystems are more resilient on existing active travel networks and in the design of new active travel infrastructure"*.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is generally compatible with ISA Objective 12, as the encouragement of the development of active travel and investments decisions, which prioritise this, may, in turn reduce the need for the development of new roads. However, this effect is uncertain.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 13, as a reduction in the use of private cars and vehicle travel and an associated increase in active travel will reduce noise and light levels associated with vehicular traffic.

Mini Plan for Bus

ISA Objective	Score	Duration Certainty	Appraisal – Bus It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	This Mini Plan is compatible with ISA Objective 1, particularly the priority to directly manage health by managing post-COVID-19 adaptations to bus services to reflect the needs of the travelling public. By making buses cleaner and safer, their use may be more appealing to more vulnerable population groups such as children, older people, and those who may need to use public transport to access health services. A reliable network of bus routes will reduce inequalities in access to health or social care facilities. The priority to ensure that there "is *training in place to ensure that drivers make everybody feel welcome and safe, and keep that training up to date*" could have direct benefits for health and well-being. By integrating bus routes and services with active travel routes, more people may be encouraged to walk or cycle, with associated physical and mental health and well-being benefits. In addition, by improving transport connectivity and integrating different modes of transport, there will likely be increased connectivity between communities. Fear of crime on public transport can act as a barrier to certain groups of users, notably women, older people and also people in the LGBTQ+ community. The Mini Plan states that bus services should be 'fully-accessible, attractive and safe for everyone' which may go some way to addressing this issue.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The bus Mini Plan is compatible with ISA Objective 2 as local communities will be better connected. The Mini Plan seeks to create a "*faster, more reliable network of bus routes and services, meaning that people will not miss out on access to health, education, job opportunities and social contact, simply because of where they live*", which could have significant beneficial effects against this objective. By 2040, bus services and facilities will be fully accessible, attractive, and safe for everyone. The Mini Plan also seeks to "*ensure that drivers make everybody feel welcome and safe, and keep that training up to date*" which would help to ensure everyone feels comfortable and accepted whilst using bus services.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is highly compatible with ISA Objective 3, as it supports the adoption of innovative technology and develops local skills. By addressing congestion hotspots and supporting reliable and punctual bus services, the economy will be supported through enhanced connectivity and improved productivity. It seeks to provide "*high-quality, flexible and reliable bus services [which] get people where they want to go, when they want to get there and integrate with other services*" and support "*better real time information and integrated, smart ticketing [to] help people travel confidently across different modes of transport at the best time and cost for them*".
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4. It states that buses will be a good option for getting to and from major arts and sporting events, and for enjoying Wales' natural and cultural heritage.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, stating that by 2040, Welsh speakers will be able to confidently use Welsh on the buses. The Mini Plan also seeks to "*prepare Welsh language standards for those who provide bus services in Wales*" and "*work with bus providers to help deliver these priorities and to attract bus group company investment in their Welsh services, with longer term funding horizons.*"
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6, as it sets out that (by 2040) all buses in Wales will be zero tailpipe emissions. A shift from the use of the private car to using public transport would lead to benefits for reducing the effect of transport-related greenhouse gas emissions.

ISA Objective	Score	Duration Certainty	Appraisal – Bus It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
7. To enable climate change resilience	?	Long term Medium	This Mini Plan could help to create climate resilience through the improvement of bus services and bus infrastructure. However, the Mini Plan does not explicitly state this. The encouragement of using bus services instead of personal car use could help to reduce GHG emissions, and therefore, improve Wales' resilience to climate change.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 8; it sets out that (by 2040) all buses in Wales will be zero tailpipe emissions. A shift from the use of the private car to using public transport would lead to benefits for reducing the effect of transport-related emissions.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is indirectly compatible with ISA Objective 9. Improvements to the bus network and resulting modal shift may result in an indirect improvement to landscape and townscape through fewer private vehicles on the road and a resultant reduction in pollution. The Mini Plan seeks to ensure bus transport is a good option for visiting Wales' natural and cultural heritage.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10 as it states that by 2040, buses will be a great option for visiting Wales' natural and cultural heritage. This may improve the viability of conservation initiatives, but also reduce the effect of car traffic on these sites.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as by improving the safety, access and connectivity of bus services and integrating them with other public transport services and active travel, more people may choose buses as a transport option, leading to fewer people choosing private vehicles and ultimately fewer vehicles on the roads. Reductions in air and other forms of pollution may have beneficial impacts on biodiversity and the natural environment. The Mini Plan, however, does not directly refer to biodiversity, geodiversity or ecosystems, reducing the certainty of the assessment.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12, as Wales will have adopted innovative technology that helps to reduce emissions from buses. This could lead to a reduction in the need for natural resources such as fossil fuels. A reduction in the use of the private car could lead to a reduction in the demand for new roads, and therefore a reduction in the need for raw materials for construction.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as by improving the safety, access and connectivity of bus services and integrating them with other public transport services and active travel, more people may choose buses as a transport option, leading to less people choosing private vehicles and ultimately fewer vehicles on the roads. This could reduce light pollution and noise pollution. Further, the use of technology such as electric buses, could lead to lower levels of noise pollution from the buses themselves, creating a cumulative beneficial effect.

Mini Plan for Rail

ISA Objective	Score	Duration Certainty	Appraisal – Rail It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	The rail Mini Plan is compatible with ISA Objective 1, as it states that rail travel will be safe and secure for all users. Improved rail services will improve access to employment, community, and social infrastructure, all of which will have beneficial impacts on health and well-being. The well-being ambitions seek that by 2040, trains and stations will be "*fully accessible, services are more affordable and everyone feels welcome using rail services"*. Fear of crime on public transport has been identified as an issue for vulnerable population groups such as older people and women. The Mini Plan seeks to ensure that rail travel is "*safe and secure for all users"*, which would contribute to addressing this issue, although specific measures are unclear at this stage.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The rail Mini Plan is compatible with ISA Objective 2, as by 2040, trains and stations will be "*fully accessible, services are more affordable and everyone feels welcome using rail services"*. Developing public transport Metro systems in all parts of Wales could lead to greater equality in the provision of transport services nationally. The Mini Plan also specifically sets out that it will involve those "*who share protected characteristics in the design and delivery of services, through the Transport for Wales advisory panel, and also involve communities in developing new community rail schemes"*. This could have significant positive effects against this objective.
3. To support sustainable economic development and diversity	++	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as by 2040 passenger numbers will have increased, thereby encouraging inward investment and making services more viable. Railway hubs will be hubs for economic investment and growth and Wales' digital ambitions will be supported for integrated ticketing and improved real-time information for passengers.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	This Mini Plan is compatible with ISA Objective 4, as by 2040 people should be able to confidently use rail to get to and from major sporting and cultural events. The ambitions of the Mini Plan seek to ensure that "*historic rail attractions make a significant contribution to the wider visitor economy of Wales"*; this Mini Plan specifies the protection of such attractions.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan seeks to "*prepare Welsh language services for those who provide passenger railway services in Wales"* and to "*recruit more bilingual staff and provide opportunities for existing staff to learn Welsh and to use the Welsh language"*. This would be expected to help protect and promote the Welsh language.
6. To reduce greenhouse gas emissions from transport	++	Long term Low	This Mini Plan is compatible with ISA Objective 6. It includes a range of priorities to improve services across Wales, including rolling out rail electrification, developing new stations and re-opening stations. Delivering public transport Metro systems in all parts of Wales to improve services and better integrate other public transport and active travel within the rail system, could lead to a significant positive effect against this objective. Further, moving lorry freight to rail, and improving the energy performance of stations and other infrastructure, could lead to further benefits.
7. To enable climate change resilience	+	Long term Medium	This Mini Plan could help to provide climate resilience through the improvement of rail services with regard to flood risk adaption and emergency procedures to protect from flooding in unexpected circumstances and at major planned events. The encouragement of using rail services instead of personal car use could help to reduce GHG emissions, and therefore, improve Wales' resilience to climate change.

ISA Objective	Score	Duration Certainty	Appraisal – Rail It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6, as rail traction will have been decarbonised. It is hoped that more people will take the train instead of using their cars, reducing vehicle-associated emissions. Trains will make more use of renewable power sources for trains and the energy performance of stations and CVL infrastructure will have been improved. More goods will have been moved onto rail thereby avoiding environmentally sensitive lorry miles. However, with capacity and timetabling constraints, there is uncertainty as to how feasible this is over the long term.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is compatible with ISA Objective 9. By improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel, more people may choose rail as a transport option, thereby encouraging less reliance on the private car. With fewer vehicles on the road there may be reduced air and noise pollution, improving the setting of both townscapes and landscapes.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	The rail Mini Plan is compatible with ISA Objective 10, as historic environment assets will be protected and sustained in rail improvements and developments. In addition, the Mini Plan states that *"historic environment assets have been protected and sustained in rail improvements and developments"*.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Low	The Mini Plan is compatible with ISA Objective 11, as by 2040, the WTS will "*have maintained biodiversity and enhanced ecosystem resilience in the day-to-day management of the rail soft estate and in future rail improvements*". Improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel may encourage more people to use the train as a transport option ultimately leading to fewer vehicles on the roads. This will reduce air pollution and noise pollution, which could improve ecosystems and habitat settings.
12. To ensure the sustainable use of natural resources	+	Short term Low	The Mini Plan is compatible as the Mini Plan seeks to roll out rail electrification, and the energy performance of stations and infrastructure will improve. Further, more freight goods will have been moved from lorries onto rail, ensuring further reduction in the need for fossil fuels. In the short term, however, the construction of new rail infrastructure could lead to an increased need for natural resources, therefore reducing the potential significance of positive effects.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as improving the safety, access and connectivity of rail services and integrating them with other public transport services and active travel may encourage more people to use the train as a transport option ultimately leading to fewer vehicles on the roads. This will reduce noise and light pollution, which could improve ecosystems and habitat settings. Nevertheless, there is uncertainty surrounding this.

Mini Plan for Roads, Streets and Parking

ISA Objective	Score	Duration Certainty	Appraisal – Roads Streets and Parking It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	This Mini Plan is highly compatible with ISA Objective 1, as lowering the default speed limit to 20mph will improve health outcomes, particularly for vulnerable groups. A default 20mph speed limit will lead to a reduction in road traffic casualties, with case study evidence showing a 22% reduction in casualties per year (Greig et al, 2014). In addition, the Mini Plan seeks to give greater priority to active travel, which will help to encourage outdoor exercise and improve health, leading to significant cumulative benefits against this objective.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	This Mini Plan is compatible with ISA Objective 2, as it will improve the safety of walking and cycling by incorporating active travel into the road network through the provision of cycle lanes and footways. The Mini Plan would ensure that fewer people live on poorly maintained unadopted roads. Default speed limits and action on pavement parking will also make streets safer. Delivering a strategy for fair road-user charging in Wales, as part of a broader package of measures to improve travel choices, should help to ensure that those who are reliant on cars will not be unfairly treated.
3. To support sustainable economic development and diversity	+	Long term Medium	The Mini Plan is compatible with ISA Objective 3, as by 2040, efficient, uncongested and well-maintained roads will make it attractive for businesses to locate to Wales thus supporting the Welsh supply chain and benefiting the economy. Maintaining and operating the Strategic Road Network creates employment within Wales.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, particularly as road use and congestion will be managed around major cultural and sporting events in Wales. The WTS will help to reduce the *"impact of cars on Areas of Outstanding Natural Beauty and National Parks by promoting better local public transport links and introducing park and ride provision"*.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as road signage will be bilingual, however this is already a legal requirement. The Mini Plan includes that the historic environment should be protected in road projects and upgrades and in the management of the soft estate, which could provide some benefits against this objective.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6, as equitable road charging will be implemented where there is poor air quality and/or congestion to help reduce emissions from vehicles. This will be supported by the road network supporting the provision of electric vehicle charging points. In addition, the Mini Plan supports using technology to regulate traffic speeds in order to reduce emissions. Overall, there would be fewer cars and private vehicle journeys, leading to an overall decrease in greenhouse gas emissions.
7. To enable climate change resilience	+	Long term Medium	This Mini Plan is broadly compatible with ISA Objective 7 as it states that the road network will be 'future proofed' and that Welsh Government will work with Natural Resources Wales to manage the impact of climate change on road infrastructure by improving surface water drainage, managing flood risk, and ensuring that new residential developments do not create harmful surface water discharges. However, overall benefits may not be significant.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 8 as it recognises that reducing the number of car and vehicle journeys is a high priority in order to reduce associated environmental and air quality effects. There is still a need to maintain and manage the existing network of roads and streets. The Mini Plan seeks to implement equitable road charging to help improve air quality, which could have some benefits against this objective.

ISA Objective	Score	Duration Certainty	Appraisal – Roads Streets and Parking It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long term Low	This Mini Plan is compatible with ISA Objective 9 as it states that people can enjoy scenic landscapes of national parks and AONBs because there will be a reduced impact of cars. Reducing the number of cars used to access these areas will help improve the aesthetic of such areas by reducing the number of cars parked, sometimes not in appropriate car parks.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10, as the historic environment will be protected in road projects and upgrades and in the management of the soft estate.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11 as it states that the WTS will protect and enhance biodiversity and ecosystem resilience as part of the soft estate. This is a broad statement however and does little to explain how this will be managed.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is broadly compatible with ISA Objective 12, as *"road operations and maintenance will consume less energy, produce less waste and use recycled materials if possible"*. Further information about the implementation of how this will be achieved would improve the certainty of positive effects against this objective.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is broadly compatible with ISA Objective 13, as by 2040 there will be less traffic noise on the road network, including quieter urban streets. Measures include the increased prevalence of electric vehicles, which are quieter than petrol or diesel powered cars. However, maintenance of the SRN could increase noise levels at receptors nearby; this should be mentioned, together with how noise from construction and maintenance will be mitigated. The Mini Plan could include measures to seek to reduce the impact of the road network in terms of noise and light pollution, which could include specific road building materials or the use of natural buffers, which could also contribute to improved biodiversity and air quality.

Mini Plan for Third Sector

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	++	Long term Medium	This Mini Plan is highly compatible with ISA Objective 1, for several reasons. Firstly, there will be better access to health services which will work towards reducing health inequalities. 'Lifeline services' for people who would otherwise not be able to access conventional public transport would be provided. Other benefits include that more people will be able to access national parks and outdoor recreation, which has a resultant benefit on both physical and mental health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long term High	The vision of the Mini Plan is for a *"thriving, viable third sector [which] meets the needs of local communities and delivers wider social, economic, environmental and cultural benefits"*. The Mini Plan is highly compatible with ISA Objective 2, as by 2040, there will be a reduction in isolation and loneliness and there will be lifeline services for people who would not otherwise be able to access conventional public transport. The Mini Plan will improve access to health services and education, and effective safeguarding. As the plan also seeks to promote an active and engaged network of volunteers, it is likely that significant improvements to social cohesion and equality will be achieved.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as a wider range of people can access employment as well as retail, services, education, work and leisure services. There will also be less fuel poverty in rural areas where the cost of running a car can be high. The Mini Plan seeks to ensure that the visitor economy and rural jobs are boosted through historic rail services.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, as there will be more transport services for faith and cultural groups, and better access to sporting and cultural events. The Mini Plan is compatible with ISA Objective 10 as Welsh Government will work with Visit Wales and other partners to continue to promote historic rail experiences in Wales. Wales' rich transport heritage including historic rail infrastructure, canals and rolling stock, will be preserved for future generations.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan includes that there will be more services and enhanced volunteering opportunities for Welsh-speaking communities, which may provide benefits against this objective.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	The Mini Plan is compatible with this ISA Objective, as there will be fewer carbon dioxide emissions as more people travel together. Further, community transport has made greater use of alternative vehicle technologies, therefore reducing transport-related greenhouse gas emissions.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	The Mini Plan is compatible with this ISA Objective, as there will be fewer polluting emissions as more people travel together. Further, community transport has made greater use of alternative vehicle technologies, reducing the potential emissions from the sector.

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10 as Welsh Government will work with Visit Wales and other partners to continue to promote historic rail experiences in Wales. Wales' rich transport heritage including historic rail infrastructure, canals and rolling stock, will be preserved for future generations.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as community transport will provide an improvement in opportunities for people to access national parks and outdoor recreation. Promotion of conservation may be achieved by more people understanding and learning about these areas.
12. To ensure the sustainable use of natural resources	+	Long term Low	The Mini Plan is compatible with this ISA Objective, as there will be a lower reliance on fossil fuels, through the greater use of alternative vehicle technologies and increased vehicle sharing.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	The Mini Plan is compatible with this ISA Objective, as there will be a lower reliance on fossil fuels, through the greater use of alternative vehicle technologies and increased vehicle sharing, which may reduce noise and light pollution.

Mini Plan for Taxis and Private Hire Vehicles

ISA Objective	Score	Duration Certainty	Appraisal – Taxis and Private Hire Vehicles It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that regardless of where customers live in Wales, they experience a good level of taxi service with readily available, accessible, safe vehicles, and suitable drivers that provide good customer service. This could have a role to play in reducing health inequalities and helping to ensure all residents have good access to healthcare facilities. The Mini Plan also seeks to ensure that public safety will be promoted by the use of national standards and a national licensing database.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+/-	Long term High	This Mini Plan is generally compatible with ISA Objective 1, as it states that regardless of where customers live in Wales, they experience a good level of taxi service with readily available, accessible, safe vehicles, and suitable drivers that provide good customer service. Taxis, however, may not be accessible for all due to high costs in particular areas or associated with distance (for example people living in rural areas may pay disproportionately more). This means that access is not equitable for those on lower incomes, which may include children, older people and disabled people.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3, as taxis and PHVs mean more people can access work, services, leisure and education by complementing public transport services. The plan states that *"a thriving, professional taxi and PHV sector in Wales benefits from a consistent approach to licensing standards and high standards of driver training and customer service"*.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	The Mini Plan is compatible with ISA Objective 4, as it states that taxi and PHV drivers act as important ambassadors for Wales with a key role in introducing visitors to the country.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as taxi and PHV drivers act as important ambassadors for Wales in introducing visitors to the country. The Mini Plan also seeks to ensure more taxi and PHV drivers are able to greet passengers confidently in Welsh.
6. To reduce greenhouse gas emissions from transport	+	Long term Low	This Mini Plan is somewhat compatible with ISA Objective 6, as more zero emissions vehicles will be introduced. Whilst working with TfW to make sure the infrastructure in place is welcomed, this needs to be equitable for both rural and urban areas.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Low	This Mini Plan is compatible with ISA Objective 8, as it seeks to introduce more zero emissions vehicles and promote a greater use of public transport, however, the promotion of taxis and PHVs could potentially deter from the use of public transport, reducing the potential significance of the effect.

ISA Objective	Score	Duration Certainty	Appraisal – Taxis and Private Hire Vehicles It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Low	This Mini Plan is compatible with ISA Objective 11 as it seeks to introduce more zero emissions vehicles, which would help reduce the volume of transport-related GHG emissions, and subsequently, have a positive impact on habitats which could be affected by air pollution, such as atmospheric nitrogen deposition. However, the uncertainty of this is high.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12 as it seeks to introduce more zero emissions vehicles. This would help reduce the volume of petrol and diesel powered vehicles used.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as it seeks to introduce more zero emission vehicles. This would help reduce noise pollution, as petrol and diesel powered cars are generally louder.

Mini Plan for Freight and Logistics

ISA Objective	Score	Duration Certainty	Appraisal – Freight and Logistics It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that an effective supply chain enables people to access services such as health care and food where and when they need to. The plan recognises that the sector shares infrastructure needs with the public for road, however, does not state how this will be managed in order to reduce driver stress or anxiety. Freight vehicles and the volume of Heavy Goods Vehicles (HGVs) on the road can negatively impact road users, including motorcyclists, cyclists and pedestrians' perceptions of safety and can increase the fear of collisions or casualties. The Mini Plan sets out that Welsh Government will work with the Traffic Commissioner and sector operators to improve understanding of safety issues and compliance. The Mini Plan also sets out that a policy response will be developed with regard to a significant growth in 'last mile' and 'express delivery' and how this will be managed in relation to ambitions to reduce congestion and decarbonisation. This could help to encourage reduced traffic and improved safety.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The Mini Plan is compatible with ISA Objective 2 as it states that the networks which move both goods and people are safe and secure for both kinds of activity without disadvantaging connectivity or capability. This could be explored further to make sure that groups (particularly relating to disabilities or gender) are not disadvantaged as a result of perceived anxieties around high HGV traffic flows along routes.
3. To support sustainable economic development and diversity	+	Long term Medium	This Mini Plan is compatible with ISA Objective 3 as freight and logistics will be integrated into wider transport and land-use planning policy at local, regional and national levels. Wales will have the infrastructure, capability and capacity to support a more sustainable freight and logistics sector including innovative business models that encourage commercial growth alongside decarbonisation. The Mini Plan sets out that a policy response will be developed with regards to a significant growth in 'last mile' and 'express delivery' and how this will be managed in relation to ambitions to reduce congestion and decarbonisation.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	O	Long term Low	Neutral – no direct effect identified.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5, as there will be a thriving home-grown supply-chain with a skilled and diverse workforce that helps sustain local communities, including Welsh-speaking communities.
6. To reduce greenhouse gas emissions from transport	+	Long term Medium	This Mini Plan is compatible with ISA Objective 6 as there will be fewer greenhouse gas emissions from freight and logistics. More goods will be moved by more sustainable forms of transport, including options such as multi-modal hubs. Innovations will be adopted that help create low carbon logistics networks, including demand-management measures to influence consumer behaviour. The Mini Plan sets out that a policy response will be developed with regard to a significant growth in 'last mile' and 'express delivery' and how this will be managed in relation to ambitions to reduce congestion and decarbonisation.

ISA Objective	Score	Duration Certainty	Appraisal – Freight and Logistics It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
7. To enable climate change resilience	O	Long term Medium	Neutral – no direct effect identified.
8. To protect and improve air quality	+	Long term Medium	This Mini Plan is compatible with ISA Objective 9 as it states that there will be improvements in air quality arising from interventions supported that shift freight from road to rail and water-based transport, whilst supporting future innovations that will help make the sector more sustainable. The Mini Plan sets out that a policy response will be developed with regard to a significant growth in 'last mile' and 'express delivery' and how this will be managed in relation to ambitions to reduce congestion and decarbonisation.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	-	Long term High	Freight transport can create adverse visual impact and can have adverse impacts on the distinctiveness of landscapes and townscapes. Key routes of the SRN go through areas of distinctive landscapes, including Snowdonia and the Brecon Beacons National Parks. The Mini Plan does not recognise this and, although it states that road freight will be moved to rail and water-based transport, it is considered that the freight industry and the measures included in the WTS could still result in negative effects, although overall long term environmental effects may reduce.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	This Mini Plan is compatible with ISA Objective 11, as improved air quality due to fewer greenhouse gas emissions from freight will lead to higher quality habitats for biodiversity to inhabit.
12. To ensure the sustainable use of natural resources	+	Long term Low	This Mini Plan is compatible with ISA Objective 12, as it will reduce and mitigate the impacts to the environment of moving goods across Wales. The Mini Plan aims to develop a more sustainable supply chain for freight in Wales. There is conflict, however, if freight is shifted to water-based transport, as this would not protect or enhance water quality.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	This Mini Plan is compatible with ISA Objective 13, as it states there will be less environmental noise from freight and logistics. However, the Mini Plan does not go far enough in stating how this would be achieved. Reference could be made to NAPPAs along the SRN and other key freight routes and how noise pollution will be lessened for receptors along these routes. The Mini Plan sets out that a policy response will be developed with regard to a significant growth in 'last mile' and 'express delivery' and how this will be managed in relation to ambitions to reduce congestion and decarbonisation.

Mini Plan for Ports and Maritime Transport

ISA Objective	Score	Duration Certainty	Appraisal – Ports and Maritime Transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	+	Long term Medium	This Mini Plan is generally compatible with ISA Objective 1, as it states that ports and harbours increase levels of activity in Wales by supporting leisure, active travel and sporting opportunities, which help to promote both physical health and mental well-being.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long term High	The Mini Plan is compatible with ISA Objective 2 as it states that the strategic development of ports and proximal development sites could lead to increased community vitality and viability, through the creation of employment and leisure opportunities.
3. To support sustainable economic development and diversity	++	Long term Medium	This Mini Plan is highly compatible with ISA Objective 3, as ports act as hubs for economic activity and investment. It is recognised that Welsh ports will act as international gateways, increasing trade and inward investment opportunities in Wales. Ports and harbours are focal points for investment, delivering local jobs and services and benefits to the wider economy of Wales. Ports are vital sources of Welsh employment and wealth in the wider supply chain.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	++	Long term Medium	The Mini Plan is compatible with ISA Objective 4, as historic environment assets, including Wales' rich maritime history, are protected and sustained in the operation and growth of ports and harbours.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	This Mini Plan is compatible with ISA Objective 5; as it seeks that Welsh speakers are able to travel using the language of their choice. However, measures (such as working with Port operators to implement this) are not specified. As gateways to Wales, the use of the Welsh language in these areas is particularly important.
6. To reduce greenhouse gas emissions from transport	+	Long term Low	The Mini Plan is generally compatible with ISA Objective 6, as ports and harbours will be more energy efficient and support low carbon logistics networks in Wales. Further, the Mini Plan sets out that it will work with ports in Wales to identify opportunities for development such as offshore renewable energy and innovations in decarbonisation, which could have a positive effect in the long term.
7. To enable climate change resilience	-	Long term Medium	This Mini Plan is incompatible with this ISA objective, as it does not mention climate change resilience or adaption. Climate change, including increased sea levels and coastal erosion could have significant impacts on ports and harbours as well as the communities that live there.
8. To protect and improve air quality	+	Long term Medium	The Mini Plan is generally compatible with ISA Objective 8, as ports and harbours will be more energy efficient and support low carbon logistics networks in Wales. The Mini Plan states that it will prevent and mitigate impacts on the environment that result from port usage and maritime transport. These factors will help reduce emissions and thereby improve air quality.

ISA Objective	Score	Duration Certainty	Appraisal – Ports and Maritime Transport It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	O	Long term Low	Neutral – no direct effect identified.
10. To promote the conservation and enhancement of heritage assets	+	Long term Low	This Mini Plan is compatible with ISA Objective 10, as historic environment assets, including Wales' rich maritime history, will be protected and sustained in the operation and growth of ports and harbours in Wales.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long term Medium	The Mini Plan is generally compatible with ISA Objective 11, as the operation and development of ports and harbours will support marine conservation and the marine environment.
12. To ensure the sustainable use of natural resources	+	Long term Medium	This Mini Plan is compatible with ISA Objective 12, as ports and harbours will lead a green maritime recovery across Wales, including renewable energy projects and offshore renewables.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	O	Long term Low	Neutral – no direct effect identified.

Mini Plan for Aviation

ISA Objective	Score	Duration Certainty	Appraisal – Aviation It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
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	-	Long term Medium	This Mini Plan does not contribute towards an improvement in access to health and social care services and does not promote healthy lifestyles. Although the plan states that communities across Wales will benefit from safer local and international connectivity, it is not clear how, as the focus is primarily on Cardiff Airport. A disproportionate benefit may be seen on communities in South Wales, rather than Wales as a whole.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+/-	Long term Medium	This Mini Plan does not contribute towards ISA Objective 2, although the plan seeks to provide better local and international connectivity, as the accessibility and availability of air travel is not equitable for Wales as a whole and is disproportionately beneficial to South Wales. The Mini Plan sets out that the Welsh Government will *"involve users, including people who share protected characteristics in the design and upgrading of facilities for passengers".* This could have some benefits for the users who are able to access the airport. Further, it is set out that the aviation supply chain and general aviation deliver benefits to economically disadvantaged areas that have traditionally suffered from lack of quality employment.
3. To support sustainable economic development and diversity	++	Long term High	This Mini Plan is highly compatible with ISA Objective 3, as it recognises that, by 2040, Cardiff Airport is an international gateway connecting Wales to the world and a key driver within the Welsh economy, supporting businesses and jobs across Wales. Good connectivity will mean that businesses are confident about relocating to Wales and staying in Wales, supporting all aspects of Wales' economy, with Welsh businesses reaching new markets.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Medium	This Mini Plan is compatible with ISA Objective 4, as visitors will be able to discover and enjoy Wales' cultural heritage.
5. To encourage the protection and promotion of the Welsh language	+	Long term Low	The Mini Plan sets out that more Welsh speakers will be able to travel using the Welsh language, which could have beneficial effects, although there are no implementation measures to address this.
6. To reduce greenhouse gas emissions from transport	--	Long term Low	This Mini Plan is incompatible with ISA Objective 6. Aviation is a big source of greenhouse gas emissions, and this could potentially be reduced through technologies that support more sustainable aviation, a decarbonisation strategy, including onsite generation, energy exporting and carbon neutral buildings. However, certainty around this is low. The Mini Plan states that Welsh Government will work with the UK Government and the Jet Zero initiative, as well as with Cardiff Airport, to reduce the environmental impacts of aviation, although certainty around implementation is low.
7. To enable climate change resilience	O	Long term Low	Neutral – no direct effect identified.

ISA Objective	Score	Duration Certainty	Appraisal – Aviation It is noted that recommendations for mitigation or improvements to the WTS are presented in the ISA Main Report (Table 3.5)
8. To protect and improve air quality	--	Long term Low	Incompatible. This Mini Plan is incompatible with ISA Objective 6. Aviation is a big source of greenhouse gas emissions, and this could potentially be reduced through technologies that support more sustainable aviation, although certainty around this is low. The Mini Plan states that Welsh Government will work with the UK Government and the Jet Zero initiative, as well as with Cardiff Airport, to reduce the environmental impacts of aviation, although certainty around implementation is low.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	-	Long term Low	The presence of an airport brings many environmental effects, including visual, soil, noise, water, air and light pollution, which have negative effects on the landscape. The Mini Plan states that Welsh Government will work with the UK Government and the Jet Zero initiative, as well as with Cardiff Airport, to reduce the environmental impacts of aviation, although certainty around implementation is low.
10. To promote the conservation and enhancement of heritage assets	O	Long term Low	Neutral – no direct effect identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	-	Long term Low	The presence of an airport brings many environmental effects, including from soil, noise, water, air and light pollution, which have negative effects on biodiversity. The Mini Plan states that Welsh Government will work with the UK Government and the Jet Zero initiative, as well as with Cardiff Airport, to reduce the environmental impacts of aviation, although certainty around implementation is low.
12. To ensure the sustainable use of natural resources	+	Long term Low	The Mini Plan is somewhat compatible with ISA Objective 12, as the priorities over the next five years include developing an energy strategy for Cardiff Airport, looking at options such as onsite generation, energy exporting, carbon-neutral buildings, and prioritising low carbon businesses.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	--	Long term Low	The Mini Plan is not compatible with ISA Objective 13 and outlines no measures to prevent noise and light pollution from aviation. The Mini Plan states that Welsh Government will work with the UK Government and the Jet Zero initiative, as well as with Cardiff Airport, to reduce the environmental impacts of aviation, although certainty around implementation is low.