



Llywodraeth Cymru
Welsh Government

A55 Junctions 16 and 16A Improvements

Sustainable Development Report

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1. INTRODUCTION

1.1 Purpose of the Report

- 1.1.1 This report considers how the proposed A55 Junction 16 Improvements (hereafter referred to as the scheme) is aligned to the Welsh Governments' principles of sustainable development, particularly in the context of the Well-being of Future Generations (Wales) Act 2015. This Act places a duty on public bodies in Wales to ensure that development is carried out in an economically, socially and environmentally sustainable manner.
- 1.1.2 Historically, the schemes at Junction 15 and 16 have been referred to collectively as the 'Junction 15 and 16 Improvements'. Since the Statutory Processes for each junction are being conducted independently of one another and because of the proposed improvements to the Junction 16A layout, a decision has been taken to rename the draft Orders, associated Environmental Statements and reporting as follows; the Junction 16 Scheme is now known as the Junction 16 and 16A Improvement Scheme. The Junction 15 Scheme is now known as the Junction 14 and 15 Improvement Scheme.
- 1.1.3 This report is based around the framework of the Well-being of Future Generations (Wales) Act 2015, by:
- Providing evidence of how ways of working have influenced, or would influence the schemes progress and delivery;
 - Demonstrating how the scheme aligns with the Well-Being goals.
- 1.1.4 To achieve these objectives, the report is set out in the following way:
- Chapter 2: an introduction to Welsh Government Sustainability Policies and Objectives;
 - Chapter 3: provides context of the baseline environment within which the scheme will exist, and the wider area in which it is located;
 - Chapter 4: provides evidence of how the Sustainable Development principles have influenced, and will influence the decision-making process at all phases of the scheme;
 - Chapter 5: a summary of the key measures adopted to align with each of the 7 Future Generations Act Goals;
 - Chapter 6: Conclusions presented summarising how alignment to the WBFG Act goals has been achieved.

1.2 The Scheme

- 1.2.1 The A55 Junctions 15 and 16 are the only two roundabouts on the mainline of the Euroroute E22 Trans-European Transport Network (TEN-T). This causes problems to the traffic using the A55 travelling along the route. The purpose of the scheme is to remove the two roundabouts at the junctions and replace them with upgraded junctions. The key objective for the scheme is to improve access to regional, national and international markets and employment opportunities; in addition to improving resilience and safety and reducing delays both to local traffic as well as people travelling along the A55. This report covers improvements relating to Junction 16.

2. WELSH SUSTAINABLE DEVELOPMENT POLICIES AND OBJECTIVES

2.1 Background to Welsh Sustainable Development Policy

- 2.1.1 Sustainable development policy in Wales dates back to the beginning of the millennium, when the National Assembly for Wales adopted its first sustainable development scheme, "Learning to Live Differently", in 2000.
- 2.1.2 Government of Wales Act 2006 established the Welsh Assembly Government as a distinct entity from the National Assembly for Wales, bringing Wales in line with other countries in the UK. Among other things, the Act set a legal duty on Welsh ministers to "make a scheme ("the sustainable development scheme") setting out how they propose to promote sustainable development". This was published as "One Wales: One Planet – The Sustainable Development Scheme of the Welsh Assembly Government", which set out the government's vision of a sustainable Wales and confirmed sustainable development as the central organising principle of the Welsh Assembly Government (now known as the Welsh Government).
- 2.1.3 The "A Sustainable Wales, Better Choices for a Better Future – Consultation on proposals for a Sustainable Development Bill" reviewed progress towards embedding sustainable development through the delivery of "One Wales, One Planet", however it was shown that improvements can be made.
- 2.1.4 The Well-being of Future Generations (Wales) Act 2015 was introduced to strengthen the sustainable development framework in Wales, alongside the Planning (Wales) Act 2015, and Environment (Wales) Act. Details of the Well-being of Future Generations (Wales) Act 2015 are highlighted in section 2.2 below.

2.2 Well-being of Future Generations (Wales) Act 2015

- 2.2.1 In May 2015, the Well-being of Future Generations (Wales) Act 2015 was enacted and required "public bodies to do things in pursuit of the economic, social, environmental and cultural well-being of Wales in a way that accords with the sustainable development principle".

Seven Well-being Goals

- 2.2.2 To ensure public bodies are all working towards the same purpose, the Act puts in place seven well-being goals:
 - 1) A Prosperous Wales;
 - 2) A Resilient Wales;
 - 3) A More Equal Wales;
 - 4) A Healthier Wales;
 - 5) A Wales of Cohesive Communities;
 - 6) A Wales of Vibrant Culture & Thriving Welsh Language; and
 - 7) A Globally Responsible Wales.
- 2.2.3 Each of the seven goals contains a number of factors which feed into the main goal and synergise with other goals – these are discussed in more depth in Chapter 5.
- 2.2.4 The Future Generations Act defines Sustainable Development in Wales as: "The process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance

with the sustainable development principle, aimed at achieving the well-being goals.”¹ It sets out five ways of working needed for Public Bodies to achieve the seven well-being goals. This approach provides an opportunity for innovative thinking, reflecting the way we live our lives and what we expect of our public services.

2.2.5 The five ways of working comprise the following:

- 1) **Long-term:** The importance of balancing short-term needs with the needs to safeguard the ability to also meet long-term needs;
- 2) **Integration:** Considering how the public body’s well-being objectives may impact upon each of the well-being goals, on their objectives, or on the objectives of other public bodies;
- 3) **Involvement:** The importance of involving people with an interest in achieving the well-being goals, and ensuring that those people reflect the diversity of the area which the body serves;
- 4) **Collaboration:** Acting in collaboration with any other person (or different parts of the body itself) that could help the body to meet its well-being objectives;
- 5) **Prevention:** How acting to prevent problems occurring or getting worse may help public bodies meet their objectives.

2.3 Additional Policy Considerations

2.3.1 Beyond the considerations of the Well-being of Future Generations (Wales) Act 2015, there are a number of additional key policies, plans and strategies that align with the objectives of the scheme including:

- The ‘One Wales’ agreement published in 2007;
- The Wales Spatial Plan, ‘People, Places, Futures’ which was adopted by the Welsh Government in 2004 (updated in 2013), and sets out strategic spatial planning guidance over a 20-year horizon;
- The Wales Transport Strategy, ‘One Wales: Connecting the Nation’, which was published in 2008;
- The National Transport Finance Plan 2018;
- The North Wales Joint Local Transport Plan, which was published in 2015;
- Planning Policy Wales, 2018; and
- Planning Policy Wales, Technical Note, 18 Transport;
- Local Conwy and Denbighshire Well Being Plan.

2.3.2 How these policies, plans and strategies aligns with the A55 Junctions 15 and 16 Improvement schemes has been explored in greater depth in the WelTAG Stage Two: Outline Business Case Report⁷.

2.4 WelTAG

2.4.1 Welsh Transport Appraisal Guidance (WelTAG) – is a framework for thinking about proposed changes to the transport system in Wales. It contains best practice for the development, appraisal and evaluation of proposed transport interventions in Wales. It has been developed by the Welsh Government to ensure that public funds are invested in a way that ensures they maximise contribution to the well-being of Wales, as set out in the Well-being of Future Generations (Wales) Act 2015 and to deliver the Act’s vision of the Wales we want: a more prosperous Wales, a resilient Wales, which supports healthy, functioning ecosystems and recognises the limits of the global

¹ Future Generations Commissioner for Wales, Well-being of Future Generations (Wales) Act 2015 Website [Available Online at: <https://futuregenerations.wales/about-us/future-generations-act/>] (Last accessed: 23/01/2020)

environment, a healthier Wales, a more equal Wales, a Wales of more cohesive communities, a Wales of vibrant culture and a globally responsible Wales.

2.4.2 The WelTAG Stages align with the Five Case Model for Better Business Cases, as follows:

WelTAG Stages	Five Case Model for Better Business Cases
Stage One	Strategic Outline Case
Stage Two	Outline Business Case
Stage Three	Full Business Case
Stage Four	Implementation
Stage Five	Post Implementation

2.4.3 The scheme is split into six key stages, which align to the WelTAG Stages as follows:

WelTAG Stages	Scheme Key Stages
Stage One	KS2 Appraisal of longlist of options
Stage Two	KS3 Appraisal of shortlist of options
Stage Three	KS3 Outline design of preferred option
Stage Four	KS4 Statutory period
Stage Five	KS5 Procurement
Stage Six	KS6 Detailed design and construction

3. SCHEME OVERVIEW

3.1 Existing Conditions

- 3.1.1 The A55 Junctions 15 and 16 are the only two roundabouts on the mainline of the Euroroute E22 Trans-European Transport Network (TEN-T). This causes problems to the traffic using the A55 travelling along the route, in particular in relation to resilience, delays and safety.
- 3.1.2 A key factor behind both transport and non-transport related issues relates to the fact that the A55 was constructed parallel to the railway in close proximity to the centres of Llanfairfechan, Penmaenmawr and Dwygyfylchi. Consequently, the population has been severed from the coastline and is to a greater extent reliant on the A55 to access services or employment located out of the immediate area. The only other routes out the towns are either on foot or bike, using the railway service (which has infrequent, low capacity services that do not provide much improvement over road travel times²) or (in the case of Penmaenmawr and Dwygyfylchi) via the Sychnant Pass to Conway; something which is particularly an issue if an incident occurs on the A55. These communities have an older population and higher rates of unemployment (compared with the Welsh average), in addition to the associated health issues. This means that vulnerable groups such as children are disproportionately adversely impacted.
- 3.1.3 The purpose of the scheme is to remove the two roundabouts at the junctions and replace them with upgraded junctions, which it has forecast would increase the average annual traffic speed along the mainline A55 in the vicinity of the junctions by between 6% eastbound and 11% westbound. The economic appraisal work has shown that the scheme is forecast to result in a benefit to the wider economy, much of which would be felt by the local communities. All of the options are forecast to reduce the amount of traffic using the Sychnant pass, supporting the argument that the current issues in relation to delays and unreliability of the A55 as a route, would be improved by the removal of the roundabouts.
- 3.1.4 The problems associated with the existing roundabouts were acknowledged in Section 2.9.12 of the Draft National Transport Plan (NTP)³, which was issued for consultation in 2014. This document stated that "There are a number of capacity issues on the North Wales network on the A55, linked with ferry traffic and summer traffic, in particular around Junctions 15 and 16...".
- 3.1.5 Problems identified along the A55 corridor within the vicinity of Junctions 15 and 16 include the following:
- **Transport – safety:** It was identified in an Atkins 2009 Options Report and through key stakeholder engagement at the time that the junctions and A55 mainline between Junctions 14 and 16A do not comply with current design standards. During public consultations during December 2017 and June 2018 members of the public stated that they or someone they knew had experienced a near miss or accident on the roundabouts, and that some people avoided the junctions due to safety concerns;
 - **Transport – delays:** The need to reduce journey times and delays was identified in the WSP 2017 Network Resilience Study⁴, especially during peak periods;
 - **Poor Network Resilience:** A number of issues associated with poor network resilience were identified in WSP's 2017 Network Resilience Study⁴, including the need to reduce the number of incidents; and issues associated with the lack of local and strategic diversion routes, in case of incidents or planned works;

² Ramboll "A55 Junctions 15 & 16 Improvements: Integrated Transport Technical Note", 2020.

³ Welsh Government, "WelTAG 2017 Welsh Transport Guidance, WG29831," 2017.

⁴ WSP "A55/A494 Network Resilience Study, WelTAG Stage 1 Report," 2017

- **Sustainable Travel:** During both stakeholder engagement carried out by Atkins in 2008⁵ and the Public Information Exhibition held in 2017, it was identified that there was a perception that there is a lack of competitive sustainable transport options, poor coastal access for non-motorised users and issues associated with safety of cyclists. This has been confirmed more recently with a number of the respondents to the 2018 WelTAG Stage 2 Public Consultation stating that they did not use public transport due to its unreliability and, particularly in relation to trains, its expense.
- **Environmental Issues:** Previously identified environmental issues are primarily associated with the visual and noise impacts of the A55. The Welsh Government has identified the section along the A55 near Llanfairfechan and Penmaenmawr as being a priority area for intervention in North-West Wales based on the 2007 noise maps⁶. Other environmental constraints include air quality, greenhouse gas emissions, landscape and townscape impacts, biodiversity, soil, heritage and the water environment.
- **Social Issues:** Social issues are associated with the communities' reliance on the A55 plus the impact of the A55 severing the communities from themselves and the coast, such as transport safety, personal security, permeability, physical fitness and social inclusion.

3.1.6 For more detail relating to these issues, refer to the WelTAG Stage Two: Outline Business Case Report (Ramboll, 2018)⁷.

3.2 The Scheme

3.2.1 The Scheme is located at Junction 16 of the A55, which is the primary junction for Llanfairfechan, Conwy. The Scheme lies within the Conwy County Borough Council administrative area.

3.2.2 The scheme involves a number of measures intended to improve the corridor associated with the A55:

- The removal of the existing Junction 16 roundabout and construction of a replacement junction with westbound on and off slip roads only;
- A range of Active Travel measures to enhance the provision made for walkers and cyclists that would promote active travel journeys. These measures would improve the local network within and between the settlements and facilities and connect with established long-distance routes;
- A new link road would be constructed running roughly parallel with the A55 to the south of the Puffin Café linking back into the local road network at Ysguborwen Road, near the Gladstone Hotel;
- On the south side of the A55 a corridor of Green Infrastructure would be created separating the strategic transport routes and the new link road to the north from the residential and agricultural areas to the south. The corridor would contain an active travel route with links to settlements and new and existing crossings to the foreshore;
- Within the green corridor a large earthwork, known as a false cutting, would be formed with tree and shrub planting to provide visual separation of the intrusive transport routes to the north from the existing and possible future residential areas to the south;
- The green corridor would incorporate links to existing facilities such as the football field by Maes-y -Llan, and the Puffin Café and provide a naturalistic landscape barrier of woodland and meadows as a setting for circular cycle and walking routes and safe access to the shore;
- Measures to reduce through traffic using Glan-yr-Afon Road and Ysguborwen Road; and
- A new junction would be constructed further east at Junction 16A Dwygyfylchi with a new overbridge and grade separated junction with slip roads in both directions.

⁵ Atkins, "A55 Junction 15 & 16 Study, Stakeholder Workshop Report," 2008.

⁶ Noise Action Planning Areas were published by the Welsh Government in 2014. These include areas in the vicinity of junctions 15, 15A and 16 <https://gov.wales/docs/desh/publications/140516-north-west-wales-en.pdf> Figure 6 A noise action plan for Wales 2013-2018

⁷ Ramboll, "A55 Junctions 15 & 16 Improvements – WelTAG Stage Two: Outline Business Case Report", 2018.

3.2.3 Full details of the proposed design can be read in section 2.5 of the Environmental Statement⁸.

⁸ Ramboll, "A55 Junction 16 Environmental Statement: Chapter 2", October 2019.

4. CONSIDERATION OF SUSTAINABILITY DURING THE DECISION-MAKING PROCESS

4.1 Introduction

4.1.1 This chapter summarises:

- The objectives developed by the Scheme which have been used to take forward the scheme;
- The decision-making process undertaken to identify the scheme as the preferred way forward, including identifying the sustainability focused appraisals undertaken to inform the Welsh Minister's decision to progress the scheme and the development of objectives;
- How the scheme has evolved;
- How the scheme would be taken forward in the future in the light of the Sustainable Development requirements.
- Further detail on the identification, appraisal and selection of options, and consideration of alternatives up to the publication of this report, is provided in Chapter 3 of the Environmental Statements.

4.2 Scheme Objectives

4.2.1 The objectives for the scheme have evolved over time, primarily to address the need for change, in addition to address specific issues identified for example during the 2008 Stakeholder Workshop⁹ and more recently the December 2017 Public Information Exhibition (PIE)⁹. In addition, the most recent set of scheme objectives were updated to address the need to deliver the scheme in line with the goals of the Well-Being of Future Generations (Wales) Act 2015 and the Active Travel Act 2013. Details of the work carried out to review the Transport Objectives can be found in the WelTAG 2017 Review report¹⁰ and is summarised in the Impact Assessment Report¹¹.

Welsh Government Objectives

4.2.2 The WelTAG 2017 guidance "has been developed by the Welsh Government to ensure that public funds are invested in a way that ensures they maximise contribution to the well-being of Wales, as set out in the Well-being of Future Generations (Wales) Act 2015 and to deliver the Act's vision of the Wales we want: a more prosperous Wales, a resilient Wales, which supports healthy, functioning ecosystems and recognises the limits of the global environment, a healthier Wales, a more equal Wales, a Wales of more cohesive communities, a Wales of vibrant culture and a globally responsible Wales".

Development of Scheme Objectives

4.2.3 The following Transport Planning Objectives (TPOs) for the scheme were developed during the Options Review Stages of the scheme and are reported within the Options Review Report dated October 2011.

- **TPO1** – To improve road safety from A55 Junction 14 to Junction 16A by reducing the risk of road accidents occurring;
- **TPO2** – To improve journey time reliability from A55 Junction 14 to Junction 16A by removing sub-standard junctions and accesses;
- **TPO3** – To improve journey times from A55 Junction 14 to Junction 16A;

⁹ Ramboll, "A55 J15 & J16 December 2017 Public Information Exhibition Consultation Report," 2018.

¹⁰ Ramboll, "A55 Junctions 15 & 16 Improvements, Assignment Model Validation Report," 2018.

¹¹ Ramboll, "A55 Junction 15 & 16 Improvements, Impact Assessment Report," 2018.

- **TP04** – To reduce the incidence of stationary traffic backing up into Pen-y-Clip and Penmaenbach Tunnels;
- **TP05** – To improve maintenance and emergency facilities, to reduce delays to traffic during incidents and planned maintenance operations.

4.2.4 As part of their commission the Employer's Agent was required to review the TPOs for the scheme and following a workshop the following updated TPOs were developed:

- **TPO1** – Improve access to regional, national and international markets and improve access to employment opportunities;
- **TPO2** – Improve road safety on the A55 (TEN-T route) from Junction 14 to Junction 16A;
- **TPO3** – Improve journey times and journey time reliability on the A55 (TEN-T route) from Junction 14 to Junction 16A;
- **TPO4** – Improve resilience on the A55 (TEN-T route) for strategic and local traffic;
- **TPO5** – Improve journey times, journey time reliability and safety for access onto the A55 from Llanfairfechan and Penmaenmawr;
- **TPO6** – Reduce severance between Penmaenmawr / Llanfairfechan and coastal areas for the Non-Motorised Users.

4.2.5 Following the release of WelTAG 2017, a WelTAG 2017 Review Report for the scheme was produced which provided a comparison of the changes against Welsh Transport Planning and Appraisal Guidance (WelTAG) 2008. This included:

- Comparison of the WelTAG Stages;
- Comparison of the Business Model (WelTAG 2008 Steps vs WelTAG 2017 Cases);
- Reporting requirements.

4.2.6 Additionally, under WelTAG 2017 all transport interventions in Wales must now consider the needs of future generations as well as the present in line with the Well-being of Future Generations (Wales) Act 2015. This meant that as the Welsh Government is a named public body under the WBFG Act, scheme goals must be delivered in line with the WBFG Act Goals. The WelTAG 2017 Review Report presented a comparison of the original scheme objectives with the new WBFG Act Goals and identified where these overlapped.

4.2.7 Following a review of the new requirements, a review of the existing objectives the following additional scheme objectives that might be incorporated into the WelTAG process included:

- **OBJ6A** To modify the Active Travel objective to incorporate the requirement "To enhance the provision made for walkers and cyclists" as well as the current target to "reduce severance between Penmaenmawr / Llanfairfechan and coastal areas for the Non-Motorised Users";
- **OBJ7** Adopting the Welsh National Well-Being Objectives as a scheme objective: "Build healthier communities and better environments";
- **OBJ8** Adopting the Welsh Transport Strategy priority to ensure that "Opportunities to provide integrated transport are increased"; and
- **OBJ9** Acknowledging local concerns that the "Visual impact of the scheme should be minimised".

4.2.8 In addition, the following technical objectives were identified by the team:

- **TECH OBJ10** "Minimising technical departures from standards"
- **TECH OBJ11** "Minimising need to reduce speed limits"
- **TECH OBJ12** "Minimising disruption during construction"

4.2.9 The above amended objectives were proposed at the WelTAG Stage Two Transport Working Group meeting (7 February 2018) and it was recommended that the Scheme Objectives applied to WelTAG Stage Two were:

- **OBJ1** Improve access to regional, national and international markets and improve access to employment opportunities;
- **OBJ2** Improve road safety on the A55 from Junction 14 to Junction 16A;
- **OBJ3** Improve journey times and journey time reliability on the A55 from Junction 14 to Junction 16A;
- **OBJ4** Improve resilience on the A55 for strategic and local traffic;
- **OBJ5** Improve journey times, journey time reliability and safety for access onto the A55 from Llanfairfechan and Penmaenmawr;
- **OBJ6** Reduce severance with coastal areas for the Non-Motorised Users and enhance provision made for walkers and cyclists;
- **OBJ7** To take reasonable steps to build healthier communities and better environments; and
- **OBJ8** Opportunities to provide integrated transport are increased.
- **TECH OBJ9** "Minimising technical departures from standards"
- **TECH OBJ10** "Minimising need to reduce speed limits"
- **TECH OBJ11** "Minimising disruption during construction"

4.3 Option Development

KS2 Options

4.3.1 During WelTAG Stage One, Strategic Outline Case (SOC), a long list of options was developed to address the need for intervention, based on a series of studies that had been carried out over the period between 2005 and 2018. The sources of the options ranged from studies to investigate the feasibility of improving the highway geometry and resilience studies, in addition to a review of potential integrated transport and active travel options. Throughout the process, options were sifted and dropped from the long list of options, so that better performing options were taken forward onto WelTAG Stage Two. In particular, options were discarded where it was considered that they would fail to address the objectives presented in section 4.2.1, were unlikely to pass key viability and acceptability criteria. A summary of the long list of options reviewed during Stage One and the reasons why the options were sifted, is presented in the 'WelTAG Stage One – Strategic Outline (SOC) Report'¹²

KS3 Options

Appraisal

4.3.2 Following the sifting process carried out at KS2, as described in section 4.3.1 above, the WelTAG Stage Two report presented an appraisal of a more focused short-list of potential options for Junctions 15 and 16. The Impact Assessment carried out under WelTAG Stage Two was undertaken in line with the WelTAG 2017 guidance, applying the DfT WebTAG for the transport appraisal process in a proportionate manner. Each option on the short-list was assessed either qualitatively or quantitatively, as appropriate for the stage of the process, against the criteria to allow the social and cultural, environmental and economic impacts to be compared.

4.3.3 The main areas against which option performance was assessed are:

- Objectives;
- Economic impacts;
- Environmental, social and cultural impacts; and

¹² Ramboll, "A55 Junctions 15 & 16 Improvements, WelTAG Stage One - Strategic Outline Report," 2018.

- Key viability and acceptability criteria (and risk).

4.3.4 The methodology for the appraisal, as well as the detailed short-list options appraisal can be seen in the WelTAG Stage Two report⁷.

4.3.5 A summary of the short-list options appraisal, highlighting the economic (Ec), social (S), environmental (Env) or cultural (C) influence of each aspect, is presented below in Table 4-1.

Table 4-1 WelTAG Appraisal Summary and Assessment of Influences Against Objectives

Objective Areas	Objective	Influence
Scheme Objectives	OBJ1 – Improve access to regional, national and international markets and improve access to employment opportunities	Ec, S
	OBJ2 – Improve road safety on the A55 from Junction 14 to Junction 16A	Ec, S
	OBJ3 – Improve journey times and journey time reliability on the A55 from Junction 14 to Junction 16A	Ec, S
	OBJ4 – Improve resilience on the A55 for strategic and local traffic	Ec, S
	OBJ5 – Improve journey times, journey times, journey time reliability and safety for access onto the A55	Ec, S
	OBJ6 – Reduce severance with coastal areas for the Non-Motorised Users and enhance provision made for walkers and cyclists	Ec, S
	OBJ7 – Take reasonable steps to build healthier communities and better environments	Ec, S, Env
	OBJ8 – Opportunities to provide integrated transport are increased	Ec, S, Env
Additional technical objectives	TECH OBJ9 – Minimising technical departures from standards	Ec
	TECH OBJ10 – Minimising need to reduce speed limits	Ec
	TECH OBJ11 – Minimising disruption during construction	Ec, S, Env
Social and Cultural Impacts	Physical activity	S
	Journey quality (Delay savings)	Ec, S
	Accident savings	S
	Personal security	S
	Accessibility to employment and services (Journey speed increases)	Ec, S
	Severance	S
	Permeability (walking, cycling)	S
	Equality, diversity and Human Rights	S, C
Environment (mitigated)	Noise	S, Env
	Air Quality	S, Env

Objective Areas	Objective	Influence
	Greenhouse Gases	Env
	Landscape and townscape	S, Env, C
	Historic environment	S, Env, C
	Biodiversity	S, Env, C
	Water environment	S, Env

Environmental Design Principles

- 4.3.6 Additional to the objectives and further criteria applied to the sifting process, a number of Environmental Design Principles were considered throughout the iterative design process.
- 4.3.7 Environmental constraints to be considered during route selection and design were identified through field surveys, consultations with statutory consultees, as well as comments and advice from stakeholders in the community. Environmental constraints identified include:
- Designated nature conservation sites: Marine Special Areas of Conservation (SAC), Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI);
 - Designated heritage assets: Scheduled Ancient Monuments (SAM), sites on the Historic Environment Record (HER), Listed Buildings, Conservation Areas, Historic Landscapes and Registered Parks and Gardens;
 - Snowdonia National Park (the eastern end of the scheme lies within the National Park boundary);
 - Landform: topography, geology and soils;
 - Watercourses, ground water, sea level, flooding;
 - Landownership including agriculture, land use, planning allocations, existing and proposed residential areas;
 - Vegetation cover;
 - Habitat and European Protected Species (EPS).
- 4.3.8 These constraints were considered to develop refinements to the road alignments and structures to minimise or avoid impacts. The residual environmental impacts of the scheme, which remain once the route is fixed, are then considered and measures to compensate or mitigate any adverse impacts are designed. Measures to enhance the scheme, beyond the limits of mitigation were also developed in the interests of future generations.
- 4.3.9 The Scheme would require a link road extending along the south side of the dual carriageway from the proposed A55 Grade-separated Junction at Junction 16A to Ysguborwen Road beside Junction 16. The proposals would bypass Dwygyfylchi but bring traffic closer to some residential areas such as Maes-y-Llan. Proposed mitigation for the likely changes to traffic noise and visual impact would include a false cutting of between 1 and 5 metres height to screen views of traffic and deflect traffic noise. The false cutting would have a conventional highway batter on the north side, facing the A55 and link road, but with a more naturalistic and shallower slope on the south side graded into the existing landform. In combination with new sustainable drainage measures and landscape planting the false cutting would form a corridor of green infrastructure along the south side of the A55. The land taken to provide this green infrastructure would:
- Protect the quality of views, minimise and mitigate any adverse impacts and, where physically achievable, providing some enhancement on the existing situation;
 - Provide visual screening of the link road and traffic (also serving to screen traffic on the existing A55);
 - Retain views from residential areas over the false cutting to the sea;
 - Protect landscape/scenic quality for residents and visitors to Penmaenmawr, Dwygyfylchi and for viewers within Snowdonia National Park;

- iv. Adopt distinctive forms and patterns from the surrounding coastal landscape: to be retained or reinstated within the Scheme using appropriately located hedges, hedge banks, walls, replacement trees, woodland, scrub and grassland, and by selecting species suited to the setting;
- Protect cultural heritage features and their settings on the mountains and within settlements: and mitigate adverse impacts where opportunities fall within the boundary of the Scheme;
- Reduce traffic noise for many residential properties and public areas and provide mitigation with a noise barrier to traffic noise for those properties where existing conditions would be adversely affected;
- Provide landscape separation of a minimum of 15 metres, but up to 70 metres between high-speed traffic on the A55 dual carriageway and existing and future housing to the south;
- Accommodate east to west cycleways and footpaths connecting with existing and proposed new crossings over the A55 to the shoreline and existing footpaths and roads. These would collectively form a network of routes for Active Travel and for leisure;
- Settlement 'Gateways' and other Green Corridor Initiative measures including wildflower rich grassland, and seasonally wet basins.
- Provide a linear public open space parallel with, and connected to the shoreline for informal recreation, active travel and local recreational cycling and walking and circuits connecting to footpaths and roads in Dwygyfylchi;
- Enhance connectivity requirements of indigenous native species and habitat in accordance with the Environment Act 2016: using design of the carriageway, structures, earthworks, boundaries and landscape to maintain existing safe routes across the new road so that natural patterns of movement are not unduly interrupted and casualties from collisions with vehicles are minimised:
 - i. An east - west wildlife corridor for connectivity between established woodland and scrub on the two headlands and the Afon Gyrach corridor;
 - ii. Protecting the Afon Gyrach wildlife corridor and route under the A55 and railway;
 - iii. Specific habitat for relevant local species including birds, bats and otter.

4.3.10 Some further environmental aspects were also considered within the design:

- Dark Skies: to avoid or minimise lighting, where possible, using products that minimise light spillage;
- Minimising changes to existing watercourses, with new crossings designed to retain the existing water course channels capacity and avoid realignment;
- Enhancements of the public realm around the junctions to integrate the scheme and minimise and mitigate for adverse impacts of the scheme on the townscape and the Penmaenmawr Conservation Area; and
- New structures: consideration to the design and integration into the sensitive landscape with careful selection of materials, planting treatments and associated earthworks.

Design Development

4.3.11 The design development for Junctions 15 and 16 has included consideration of (not exclusively):

- Works at adjacent junctions, such as Junctions 14 or 16A;
- Replacement of the existing crossovers, which are located to the east of Junction 15 and east of Junctions 16 and 16A;
- Offline works on the Local Authority highway network, such as the tie-in with Penmaenmawr Road at Junction 15, Ysgurborwen Road at Junction 16 and Glan-y-Afon Road at Junction 16A; and
- Traffic Management opportunities, such as the provision of signal-controlled junctions.

4.3.12 The assessment of the benefits and impacts against the conceptual design for each of the options considered up to the Preferred Option announcement on the 5 April 2019, is described in the WelTAG Impact Assessment Report¹³.

4.3.13 Following a 12-week public consultation in the summer of 2018, the following preferred options were announced by the Welsh Transport Minister on the 5 April 2019 (see Appendix A for detail of preferred options):

- Junction 16 Option A was selected as the preferred option to replace the roundabout between Penmaenmawr and Dwygyfylchi.
 - The preferred option comprises of a four-way movement junction, replacing junction 16A. The roundabout at Junction 16 would be removed and replaced by westbound on and off slip roads. A new link road connecting Junctions 16 and 16A runs roughly parallel to the A55, behind the Puffin Café linking back into Ysguborwen Road near to Junction 16. The link road incorporates a new active travel route which connects to the existing Sustrans National Cycle Network Route (NCNR) 5, which runs parallel to the north of the A55. The Junction 16A arrangement consists of an overbridge, located to the north-west of Glan-y-Afon Road. The slip roads would be constructed on raised embankments. The preferred option extends towards the Penmaenbach tunnels to the east of Junction 16A and encompasses the maintenance cross over area.

4.3.14 A number of key elements have undergone further design development since the preferred route announcement. This work has been undertaken for the following reasons:

- Refinement of the design, as part of the preparation of the Preliminary Layout Approval Plans;
- To address concerns and queries raised during the Public Consultation and Public Information Exhibition;
- Assessment and development of Non-Motorised User (NMU) 'Mini-Schemes'; and
- To investigate the feasibility of options identified by the members of the public during the June 2019 Public Information Exhibition.

4.3.15 Each of the key changes to the preferred option following the preferred option announcement have been appraised at a high level against the Scheme Objectives, Technical Objectives and WelTAG criteria. The purpose of this appraisal is to assess whether the changes have had an overall beneficial or detrimental impact on the performance of the preferred option. It should be noted that this appraisal is qualitative, and uses the assessments carried out for WelTAG Stage Two as a baseline. The detail of this appraisal can be found in the WelTAG Live IAR (version P04) and is summarised in the Design Options Report¹⁴.

Active Travel

4.3.16 There has been ongoing consultation through the development of the scheme design. An active travel consultation meeting was held on 7 June 2019 to provide an update on the scheme and

¹³ Ramboll, "A55 Junctions 15 & 16 Improvements: WelTAG Impact Assessment Report", 2018

¹⁴ Ramboll "A55 Junctions 15 & 16 Improvements: Highways Design Options Repot", 2019.

proposed options, and to review walking and cycling opportunities in relation to each of the proposed options.

4.3.17 The meeting was attended by the Scheme Team, representatives from Conwy County Borough Council, Welsh Government, Cycling UK and Sustrans.

4.3.18 In addition, a second PIE was held between Tuesday, 25 June 2019, to Thursday, 27 June 2019, to present the preferred options to the public. A separate presentation was held on Monday, 24 June 2019 to members of the local council.

4.3.19 Following public consultations and in discussion with the Lead Assessor, wider design team and key stakeholders, the following NMU Mini-Schemes relevant to Junction 16 have been identified:

- **NMU Mini Scheme 1: Improvements on Glan-y-Afon Road** - a new 160 m cycle/footway along Glan-y-Afon Road would provide improved connectivity to Dwygyfylchi from the east and to the proposed new segregated route along the new link road towards Penmaenmawr;
- **NMU Mini Scheme 2: Improvements to Conway Road** - consists of a 400 m cycle/footway along Conway Road, providing connectivity between Dwygyfylchi and Penmaenmawr;

Additional mechanisms for design development

4.3.20 Further mechanisms of design development include:

- **Environmental Impact Assessment** - effects highlighted in the course of the impact assessment that require mitigation as well as opportunities for enhancement to be implemented into the design embeds further environmental and social mitigation and enhancement into the scheme;
- **CEEQUAL** - this is an international evidence-based sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and works in public spaces. The assessment covers a broad range of environmental and social topics including air quality, waste management, cultural heritage, community, ecology etc. The scheme also assesses scheme governance with a strong focus on embedding sustainability into the decision making and management process. The scheme is committed to achieving a CEEQUAL award with an Excellent score (over 75% of points achieved) as well as carrying out the 'Section 1' assessment - an optional part of the assessment focused on scheme/contract strategy, and how the scheme team has related their scheme to the wider sustainability agenda. An awareness of CEEQUAL requirements has helped to focus the inclusion of sustainability in the governance process.

4.4 Publication of draft Orders to end of construction maintenance period (Key Stage 4 – Statutory Period and Key Stage 6 – Construction Phase).

4.4.1 At the end of Key Stage 3, the proposed routes were fixed on 5th April 2019, and the Welsh Government will publish a draft Order under the Highways Act 1980 (due to be published May 2020).

Following the publication of the draft Orders, a statutory objection period will take place for stakeholders and members of the public to review and comment on/object to the plans.

- 4.4.2 Depending on the nature and number of any objections and comments received to the published draft Orders, a Public Local Inquiry may be held before an independent Inspector.
- 4.4.3 If a public inquiry is to be held, all those who have responded would normally be notified within 4 weeks of the end of the objection period and the Inquiry held within 22 weeks of that notification. Full details of the Public Inquiry will be confirmed, and notices will appear in the local press.
- 4.4.4 All correspondence will be copied to the Inspector and kept in the Inquiry Library which is available to the public. Publicity would be given to any feasible alternative proposal received within a time limit to be specified in the Public Inquiry Notice. It should be noted that as an application for each junction (Junction 15 and Junction 16) has been submitted separately, a public inquiry will be carried out for each. The process for both will be the same.
- 4.4.5 Following the Public Inquiry, the Inspector will produce a report containing recommendations for whether the scheme should proceed and if so under what conditions, if any.
- 4.4.6 If the Welsh Ministers decide to proceed with the Scheme for which the ES has been published, they then must publish information about the consultation carried out, in compliance with Environmental Impact Assessment (Miscellaneous Amendments relating to Harbours, Highways and Transport) Regulations 2017, the representations received, and any changes made as a result.
- 4.4.7 If the decision is made to allow the scheme to go ahead, the scheme would then move into Key Stage 5 – Procurement. In this stage, design and build tenders would go out to contractors to carry out the construction of the scheme. It is expected that the Welsh Government would assess those bidding for tender against their performance against the Well-being goals as well as other relevant legislation and policy.

4.5 Construction and Post-Construction Maintenance (Key Stage 6)

- 4.5.1 Key Stage 6 – comprising of Construction and Post-Construction Maintenance – would include the development of final designs and methods of working to be completed by the contractor. The contractor would liaise with the relevant stakeholders in the development of these methods of working, which would then allow construction to begin – in line with mitigation commitments made within the Environmental Statement and Register of Environmental Actions and Commitments¹⁵.
- 4.5.2 Management plans to be produced would include (list not exhaustive):
 - Construction Environmental Management Plan;
 - Site Waste Management Plan;
 - Traffic Management Plans;
 - Materials Management Plan; and
 - Communications and Engagement Plan.
- 4.5.3 Further details of required plans can be found in the Professional Services Contract¹⁶. These plans would be produced in line with industry best practice and would establish methods of working to

¹⁵ Register of Environmental Actions and Commitments (REAC) J15. Ramboll, ref: A55J15J16-RML-30-15-RP-X-0062

¹⁶ A55 Junctions 15 and 16 Improvements, Professional Services Contract Volume 2: Scope. Welsh Government, January 2018.

reduce waste, emissions, noise, pollution, etc. from the construction and maintenance activities related to the scheme.

- 4.5.4 The Communications and Engagement Plan would dictate the processes by which the construction team would liaise with the local community such as by newsletter, web-based communications and meetings, which should inform about how the construction process may impact on them e.g. potential road closures, noisy works.
- 4.5.5 Liaison with Key Stakeholders carried out through earlier parts of scheme development, should continue into these stages.
- 4.5.6 During the post-construction maintenance and aftercare period stages, work would continue to ensure that the scheme as built delivers the objectives of the scheme and the commitments made. This should involve working closely with key stakeholders on how to take maintenance forward and manage the results of ongoing monitoring.

4.6 Operation – Welsh Government/Trunk Road Agent

- 4.6.1 After the completion of the post construction maintenance period, the Scheme would be passed to the trunk road agent responsible for the day to day management and operation of the road (eg: North and Mid Wales Trunk Road Agent). This should include a Handover Environmental Management Plan, which would instruct the trunk road agent on how to manage and operate the road in a sustainable way in line with the mitigations and enhancement measures included within the original design.
- 4.6.2 The Scheme would then be managed in line with the relevant legislation, policies and agreements used to ensure that the road is safe and meets the functions for which it was designed.
- 4.6.3 The management of the road would be influenced by information about the road at the time of handover, passed over from the construction team to the Trunk Road Agents and Conwy CBC (and Gwynedd CBC if side road order does not cover Junction 14); and the relevant Future Generation Act objectives and indicators in place at the time.

4.7 Conclusions

- 4.7.1 This section of the report has provided an overview of how the schemes and its objectives have been developed over time. It has also shown that consultation with stakeholders – including the local community – and consideration of sustainability (economic, social, environmental and cultural) have been important drivers in the development of the scheme and its objectives.

5. SUMMARY OF KEY SUSTAINABILITY MEASURES OF THE SCHEME AGAINST THE WELL-BEING GOALS

5.1 Introduction

5.1.1 As previously stated in Chapter 1, the Well-being of Future Generations (Wales) Act 2015 requires:

"public bodies to do things in pursuit of the economic, social, environmental and cultural well-being of Wales in a way that accords with the sustainable development principle"

5.1.2 To demonstrate how the scheme aligns with the Well-being Goals of the WBFG Act 2015, the following chapter explores how the scheme has been developed and would be constructed to meet these objectives following the principles defined by the Well-being Goals and the component factors of each goal.

5.1.3 The WelTAG Stage Two: Outline Business Case (OBC) Report⁷ made an initial examination of how the scheme objectives aligned to each of the WBFG Act Goals, as summarised in Table 5-1 below:

Table 5-1 Scheme objectives linked to Well-being goals

Well-being goal	Links to scheme objectives									TECH OBJ9	TECH OBJ10	TECH OBJ11
	OBJ1	OBJ2	OBJ3	OBJ4	OBJ5	OBJ6	OBJ7	OBJ8				
A prosperous Wales	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
A resilient Wales							✓	✓				
A healthier Wales	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
A more equal Wales	✓		✓	✓	✓			✓				
A Wales of cohesive communities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
A Wales of vibrant culture and Welsh language	✓					✓	✓	✓				
A globally responsible Wales	✓					✓	✓	✓				

5.2 A Prosperous Wales

5.2.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

"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."

5.2.2 There are five topics which feed into the Prosperous Wales goal:

- 1) **Fair and local procurement:** using procurement to promote inclusive growth;
- 2) **Decent work:** driving practices which allows people to take advantage of the wealth generated through securing decent work;
- 3) **Local economies:** supporting inclusive local economies and the foundational economy;
- 4) **Community energy and a low carbon society:** enabling organisations and communities to reduce emissions and use low carbon energy;
- 5) **Skills for the future:** encouraging organisations to develop a skilled population, fit for future technological change.

5.2.3 The WelTAG Stage Two OBC report⁷ states that this goal will be adhered to by improving the resilience, safety, accessibility and reliability of the A55 corridor; thus improving access to services and employment, and potentially creating new employment opportunities (especially during construction). Through collaboration with local schools and colleges encourage young people to enter the construction industry (or study STEM subjects). This will be achieved by promoting the aspiration and ambition for good, sustainable design, that:

- Maximises efficiency and value for money;
- Focuses on users, maximising ease of use;
- Accessibility and inclusiveness;
- Uses resources and energy efficiently;
- Contributing to carbon reduction;
- Reduces maintenance, costly refurbishments and running costs;
- Makes places more attractive; and
- Adds value and enhances public well-being.

5.2.4 For example, these design features will achieve the objectives of this goal by giving consideration to the potential to accommodate space for gateway features, measures to encourage sustainable/active travel, and to encourage tourism/employment in the local area.

Fair and local procurement

5.2.5 The public sector in Wales is expected to adhere to the principles set out in the Wales Procurement Policy Statement (WPPS) – first published in 2012. The later passing of the Well-being of Future Generations (Wales) Act (2015) further cements the Welsh Government's desire to drive local procurement and lead by example in the public sector. The policy covers all aspects of procurement including goods, services, works and utilities. In the 2015 update statement of the WPPS it is made clear that a focus on Welsh based suppliers is a key goal of the Welsh Government. It is expected that local suppliers would be prioritised in contracts set during Stage 5 of the scheme to incentivise and encourage contractors to use materials sourced as locally as possible. Further requirements may include ensuring socially responsible procurement of materials such as those that may be at risk of Modern Slavery within the supply chain.

Decent work

5.2.6 A number of the scheme objectives relate to enabling people to secure decent work. This includes Objective 1 – Improve access to regional, national and international markets and improve access to employment opportunities; Objective 3 – Improve journey times and journey time reliability on the A55 from Junction 14 to Junction 16A; Objective 4 – Improve resilience on the A55 for strategic and local traffic; and Objective 5 – Improve journey times, journey time reliability and safety for access onto the A55 from Llanfairfechan and Penmaenmawr. Working towards these objectives would help to improve accessibility to jobs within and beyond the local area through shorter journey times, reliability and access to improved public transport.

Local economies

- 5.2.7 A Transport Economic Assessment Report¹⁷ was produced to present the economic case development of the A55 junction 15 and 16 improvements. A number of methodologies were used to assess the economic case of the scheme, for the options proposed at WelTAG Stage Two. The Value for Money statement¹⁷ includes the wider economic benefits, accident saving and journey time benefits. Both the Junction 15 and Junction 16 assessments show a moderate Value for Money. This would be expected to have a wide-reaching impact on the local economy as people are more able to access places of work and leisure thanks to the increased reliability and resilience of the road network.
- 5.2.8 During construction there would be an added benefit of creating jobs in the local area. The requirement for employment of local people during the construction phase of the scheme would be implemented during Key Stage 5 (see Paragraph 5.2.5), as part of the requirements to contractors tendering for the design and build contracts. It is anticipated that to compete for these tenders, contractors would need to demonstrate their commitment to improving local employment and skills in line with Welsh Government policy. An example of this is the Wales Procurement Policy statement which sets out that the Welsh Government will “provide routes to training and development” and ensure that “contract opportunities are open to all and smaller, local suppliers”.

Community energy and a low carbon society

- 5.2.9 The Junction 16 Scheme is expected to contribute 0.00046% of the UK’s 3rd carbon budget (2018-2022). IEMA best practice guidance states that all GHG emissions contribute towards climate change and are significant. Therefore, although emissions from the Scheme are considered low in comparison the UK Carbon budget, they are significant.
- 5.2.10 Opportunities to reduce GHG emissions associated with the construction of the scheme will be explored at detailed design (Key Stage 5 – 6), and will follow the PAS2080 carbon emissions reduction hierarchy¹⁸ as follows:
- **Build nothing:** Evaluate the basic need for an asset and/or programme of works and shall explore alternative approaches to achieve outcomes set by the Welsh Government
 - **Build less:** Evaluate the potential for re-using and/or refurbishing existing assets to reduce the extent of new construction required; and re-use or recycle the existing road surface planning’s and demolition materials;
 - **Build clever:** Consider the use of low carbon solutions (including technologies materials and products) to minimise resource consumption during the construction, operation and user’s use stages of the asset or programme of work such as;
 - Substitute construction assets for lower-carbon alternatives (e.g. using low temperature asphalt);
 - As far as possible, incorporating material resource efficiency and waste minimisation best practice into design, in particular improving the cut/fill balance of the Scheme; and,
 - Selection and engagement of suppliers of materials and construction contractors taking into account their proximity to the Scheme in order to reduce transport miles, as well as their inhouse policies and commitments to the ongoing reduction of GHG emissions, including embodied emission in materials -For example, any surplus soils from nearby schemes could be reused and local waste management facilities could be used, with the potential for reducing carbon emissions associated with transport;
 - **Build efficiently:** Use techniques (e.g. construction, operational) that reduce resource consumption during the construction and operation phases of an asset or programme of work; and consider the use of efficient plant, including hybrid and electric machinery and equipment as appropriate;

¹⁷ Ramboll, “A55 Junctions 15 and 16 Improvements Economic Assessment Report,” 2018.

¹⁸ Carbon Management in infrastructure (2019). Available at: <https://www.lr.org/en-gb/pas-2080/> [Accessed 30/01/2020].

- **Compensate:** Consider offsetting of carbon emissions that cannot be eliminated using the previous methods.

- 5.2.11 Further details of the Greenhouse Gas Assessment see Junction 16 Environmental Statement, Chapter 16 Climate Change¹⁹.
- 5.2.12 Junction 16 Environmental Statement, Chapter 15 Materials²⁰ states further mitigation such as the use of life cycle principles. Life cycle principles would be applied, including reducing waste and increasing materials recovery for reuse and recycling. Embodied carbon would be reduced during the construction stage by using materials with lower carbon footprints wherever practicable. Wherever feasible materials would be selected that have low environmental impact and are sourced responsibly. In addition, opportunities would be sought to source materials locally, and use local waste management facilities, with the potential for reducing carbon emissions associated with transport.
- 5.2.13 Whilst the Greenhouse Gas Assessment within the ES did not assess operational emissions the improvement scheme is expected to lead to a reduction in emissions due to improved traffic flow. For example, by removing the existing roundabouts - which typically involves hard acceleration and deceleration - stop-start conditions would be minimised. This improvement in traffic flow would contribute to improved vehicle emissions. Additionally, increased safety and reliability of the network encouraging people to use alternative travel methods such as public transport and cycling.

Skills for the future

- 5.2.14 As previously noted under the decent work factor of the goal, a number of scheme objectives would lead to improved accessibility to jobs within and beyond the local area through shorter journey times, reliability and access to improved public transport. This improved access would also help to facilitate access to local and further-a-field education centres which would lead to improved opportunities to developing skills in the local area.
- 5.2.15 Additionally, contractor commitment to employing locally would also be extended to opportunities for on-the-job training, apprenticeships and partnerships with vocational education centres during the construction period. As well as employment and apprenticeship, collaboration with local schools and colleges encourage young people to enter the construction industry (or study STEM subjects). This would contribute towards training and inspiring the next generation of Welsh construction workers.

5.3 A Resilient Wales

- 5.3.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

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

- 5.3.2 There are five topics which feed into the Resilient Wales goal:

- 1) **Biodiversity and soil:** maintain and enhance the natural environment through managing land appropriately to create healthy functioning ecosystems;
- 2) **Natural green space:** support social resilience and community well-being;
- 3) **Knowledge of nature:** increase awareness of the importance of a biodiverse natural environment with healthy functioning ecosystems;

¹⁹ Ramboll, "A55 Junction 16 Environmental Statement: Chapter 16", October 2019.

²⁰ Ramboll, "A55 Junction 16 Environmental Statement: Chapter 15", October 2019.

- 4) **Water and air quality:** support ecological resilience, making the environment healthier for wildlife and people;
- 5) **Using natural resources:** Be adaptive to a changing environment where there is a need to use resources efficiently.

5.3.3 The WelTAG Stage Two OBC report⁷ states that this goal will be adhered to by promoting sustainable travel, maximising opportunities to create habitat corridors and promote eco-tourism. For example, these benefits may be achieved through the creation of wildlife corridors in addition to the enhancement of local habitats and biodiversity. The scheme could also provide an opportunity to increase awareness of issues such as sustainable development and climate change through engagement with the local community.

Biodiversity

5.3.4 Throughout the design phases of the scheme, environmental constraints have played an important role in determining the appropriate design and route of the improvements. One of the key constraints considered was sites designated for nature which were identified through field surveys, consultations with statutory consultees, as well as comments and advice from stakeholders in the community. Through this consultation and design process, avoidance of land take in any of the designated sites identified was avoided.

5.3.5 As stated previously (section 4.3 Option Development) green space incorporated in the development would provide a number of benefits both socially and environmentally, with the key biodiversity aspect being the following:

- Enhance connectivity requirements of indigenous native species and habitat in accordance with the Environment Act 2016: using design of the carriageway, structures, earthworks, boundaries and landscape to maintain existing safe routes across the new road so that natural patterns of movement are not unduly interrupted and casualties from collisions with vehicles are minimised:
 - An east - west wildlife corridor for connectivity between established woodland and scrub on the two headlands and the Afon Gyrach corridor;
 - Protecting the Afon Gyrach wildlife corridor and route under the A55 and railway;
 - Specific habitat for relevant local species including birds, bats and otter.

5.3.6 Final detailed design to refine the links between existing features and the new features would be agreed with Natural Resources Wales and other stakeholders.

5.3.7 The design will be carried out in accordance with the Design Manual for Roads and Bridges. Measures to be included in the design of the scheme to reduce and avoid potential adverse effects on biodiversity include (but not exclusively):

- Planting design which allows movement of species, i.e. linear habitats including shrub and tree planting which provide cover and shelter;
- Sensitive design of lighting to avoid lighting of the river channels and banks of the Afon Gyrach, along with an animal ledge on the Afon Gyrach bridge arch structure to allow passage of otters in times of flood;
- Use silenced and well-maintained plant conforming with the relevant EU directives relating to noise and vibration;
- Removal of vegetation outside of the breeding bird season;
- Installation of bat boxes; and
- Removal of and safe disposal of any Invasive Non-Native plants.

- 5.3.8 Beyond mitigation, The Environment (Wales) Act 2016 introduces a new, enhanced Biodiversity and Resilience of Ecosystem Duty on public bodies to ensure that biodiversity is an integral part of decision making. Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. The resilience of ecosystems is the main driver for Biodiversity Net Gain (BNG) in Wales. The Environmental Statement (Biodiversity, Chapter 8) states that new habitat created as part of the scheme represents a Net Gain of approximately 50% - it should be noted that this does not account for habitats to be replaced (e.g. hedge rows in place of grassland), or the net increase of trees to be planted. Proposed landscape planting would include a greater diversity of species as well as linear belts of species rich wildflower verges and areas managed for biodiversity.
- 5.3.9 For more information on the proposed mitigation measures to avoid impacts on biodiversity as well as further consideration of Biodiversity Net Gain, see Junction 16 Environmental Statement, Chapter 8 (Nature Conservation)²¹.

Soils

- 5.3.10 Well managed landscaping and habitat creation would help to protect and stabilise soils in the area of the scheme. For the construction phase of the development, a Materials Management Plan (MMP) would be developed in accordance with the CL:AIRE Definition of Waste: Development Industry Code of Practice to be implemented as part of the Construction Environmental Management Plan (CEMP) to ensure proper handling of soils during construction. The majority of existing materials would remain in-situ during the construction works and would be covered by the road construction and soft landscaping which would limit infiltration and potential for exposure to underlying soils. Materials excavated from the Scheme would be re-used onsite where possible or otherwise removed off site for recycling, disposal would only be used as a last resort if no beneficial use can be found. For more details on the proposed mitigation measures to avoid impacts to soils, see Junction 16 Environmental Statements, Chapters 6 (Geology and Soils).
- 5.3.11 Additionally, it would be expected of contractors to apply industry best practice throughout the construction phase. This would aim to avoid, reduce and mitigate against potential impacts on biodiversity and soils through a number of means such as: the production and adherence to of a CEMP; Pollution Prevention and Control measures; toolbox talks to educate construction workers about avoiding adverse effects; and Ecological Clerks of Works to supervise sensitive works.

Natural green space

- 5.3.12 As stated previously (section 4.3 Option Development) a number of environmental objectives would be targeted through the inclusion of green space within the scheme. As mitigation for moving the alignment of the road closer to residential areas, a false cutting of between 1 and 5 metres height would be constructed to screen views of traffic and deflect traffic noise. The false cutting would have a conventional highway batter on the north side, facing the A55 and link road, but with a more naturalistic and shallower slope on the south side graded into the existing landform. In combination with new sustainable drainage measures and landscape planting the false cutting would form a corridor of green infrastructure along the south side of the A55. This green corridor would provide an opportunity for local communities to enjoy nature, as well as protect existing landscape amenity such as the surrounding coastal landscape for visitors and residents.

Knowledge of nature

- 5.3.13 A focus on preserving and enhancing local biodiversity through the pursuit of Biodiversity Net Gain would enable the scheme to safeguard and enhance the amenity of green spaces in the local area. This includes reconnecting settlements with the adjacent coastline, which is currently perceived as

²¹ Ramboll, "A55 Junction 16 Environmental Statement: Chapter 8", October 2019.

severed from the local community. Improved access to and more inviting green spaces can contribute to an enhanced knowledge of nature as people become more motivated to spend time in nature.

- 5.3.14 Additional enhancements that may be explored at the detailed design phase include public learning opportunities such as signage on public footpaths or contribution to primary and secondary education on natural history in the local area. It would be the duty of the contractors selected to deliver the scheme to include contributions such as these in their quality submission bid and later implemented into the scheme if selected.

Water

- 5.3.15 Water quality has the potential to be negatively impacted by the scheme. The main receptors are the marine environment (Conwy Bay, the Irish Sea), watercourses (Afon Gyrach, small watercourses, springs and wells) which could be impacted directly by engineering works, by the consequences of construction pollution or accidental spillage during operation. The close proximity of the designated marine SAC and SPA and the presence of watercourses and groundwater mean that there is potential for adverse effects to arise during construction and operation of the road. Effective mitigation during construction and operation would reduce adverse impacts as far as reasonably practicable.
- 5.3.16 An assessment of potential impacts on the water environment, including flooding was carried out to inform WelTAG Stage 2, and it was found that there was no change on sensitive water receptors compared to the existing baseline. Additionally, no increase in flood risk to the A55 was identified. Further assessment has been carried out in the Environmental Impact Assessment and published in the Environmental Statement. Detailed Scheme design would take place following submission of the Environmental Statement (ES), however, the design would be likely to include the following: a range of measures intended to meet the requirements of the statutory standards for sustainable drainage systems (SuDS). These include attenuation measures to receive water from the Scheme and from areas where there are risks of surface water flooding. These would act to attenuate flows to existing rates (allowing for climate change) during the operation of the Scheme prior to discharge to existing outfalls (including those which outfall to the sea).

Air Quality

- 5.3.17 Air quality is also a key environmental aspect highlighted in consultation with stakeholders. During WelTAG Stage 2, a qualitative assessment was carried out, to determine the impact on sensitive receptors including residential properties, public open spaces where members of the public would spend 1 hour, and sensitive areas (such as ecological habitats) to dust and nitrogen. The assessment showed that there was no change in air quality compared to the existing baseline. Further assessment was carried out in the Environmental Impact Assessment and published in the Environmental Statement. The ES stated that no further mitigation outside of the construction phase was required.
- 5.3.18 Construction phase interventions to avoid or reduce potential impacts include (but not exclusively):
- CEMP;
 - Construction Dust Management Plan;
 - Pollution Prevention and Control Measures; and
 - Industry best practice operation and management of plant e.g. specification of low vibration plant, not allowing idling of machinery, avoiding use of diesel generators on site etc.
- 5.3.19 In the operational phase, due to improvements in journey time, reliability and resilience of the network as well as improvements to public transport and walking/cycle routes it is anticipated that the junction improvements would lead to better local air quality. This is particularly the case during

peak times, as improvements to the network should reduce or prevent queuing traffic around residential areas.

Using natural resources

- 5.3.20 As previously discussed in section 5.2 Prosperous Wales – fair and local procurement – it was highlighted that a focus on local procurement would be implemented. This includes the purchase of goods and materials, which can help to reduce the environmental impact of materials by reducing the distances they need to be shipped to the construction site.
- 5.3.21 Site won materials would be used as far as reasonably practicable for example cut-fill balance of materials excavated on site (see section 5.3 A Resilient Wales – biodiversity and soils). This would reduce the need to import inert material from other sites or even virgin material.
- 5.3.22 During the detailed design phase of the development, product and material specification will take place. Wherever feasible materials would be selected that have low environmental impact and are sourced responsibly, such as locally obtained recycled aggregates. In addition, opportunities would be sought to source materials locally (for example, the local Hanson quarry is located between Junctions 15 and 16 on the A55 route), and use local waste management facilities, with the potential for reducing carbon emissions associated with transport. It should be noted that the aspiration to use the most sustainable materials must be balanced against the need to meet safety and performance requirements of the completed development.
- 5.3.23 Junction 16 Environmental Statement, Chapters 15 Materials²⁰ states further mitigation such as the use of life cycle principles. Life cycle principles would be applied, including reducing waste and increasing materials recovery for reuse and recycling. Embodied carbon would be reduced during the construction stage by using materials with lower carbon footprints wherever practicable.

5.4 A More Equal Wales

- 5.4.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

"A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio-economic circumstances)"

- 5.4.2 There are four topics which feed into the More Equal Wales goal:

- 1) **Fair work:** ensuring equal access to decent jobs, recognising everyone's value;
- 2) **Educational opportunities:** enabling people to develop the skills and knowledge to be fulfilled;
- 3) **Participation:** giving people equal opportunities to participate in decision making, to enable equal outcomes;
- 4) **Equality of health outcomes:** understanding the causes and symptoms of health inequalities, including Adverse Childhood Experiences and Violence against Women, Domestic Abuse and Sexual Violence.

- 5.4.3 The WelTAG Stage Two OBC report⁷ states that this goal will be met by ensuring that information is accessible and that everyone's views can be heard, whatever their circumstances. By having regard to the distributional impact of the proposals, people would have access to services and or employment, whatever their circumstances. Similarly, by increasing opportunities for integrated transport, the scheme would improve access to services and employment for a greater cross-section of the population.

Fair Work

- 5.4.4 As previously highlighted under 5.2 A Prosperous Wales – Decent Work, the scheme would deliver improved accessibility to jobs within and beyond the local area through shorter journey times, as well as reliability and access to improved public transport, which would also support access for those who may be unable to drive. During the construction phase of the scheme, contractor commitment to employing locally would adhere to the relevant regulations regarding equal opportunities employment.

Educational opportunities

- 5.4.5 As previously highlighted under 5.2 A Prosperous Wales – Decent Work and Skills for the Future, a number of scheme objectives would lead to improved accessibility to local and further-afield education centres which would lead to improved opportunities to developing skills in the local area through shorter journey times, reliability and access to improved public transport.
- 5.4.6 Additionally, contractor commitment to employing locally would also be extended to opportunities for on-the-job training, apprenticeships and partnerships with vocational education centres during the construction period. This would contribute towards training the next generation of Welsh construction workers.

Participation

- 5.4.7 To aid the consultation process, a communications plan was produced²². This plan identifies the key stakeholders, stakeholder mapping, key messages, and implementation plan.
- 5.4.8 All non-technical communications material including exhibition display material, publicity and verbal communication where required shall comply with the Welsh Language Standards Regulations 2015 and official guidance. For example, two fluent Welsh speakers capable of discussing technical aspects of the proposals shall be at attendance at all public consultations, exhibitions and public local inquiry.
- 5.4.9 As part of the stakeholder engagement, Public Information Exhibitions (PIE) were held in December 2017. A WelTAG Stage Two Public Consultation (PC) took place concerning alternative solutions for junction improvements during a 12-week consultation period from 5 June 2018 to 28 August 2018. Public exhibitions were held on 12,13 and 14 June 2018. Following the consultation period, further meetings occurred involving local stakeholders and local Councils about impacts for some of the options.
- 5.4.10 As part of the WelTAG Stage Two PC exercise the scheme team consulted not only on the preferred options, but also identified issues to help inform opportunities for enhancement and collaboration (for example by involving people who have an interest in the scheme, such as in relation to active travel) to ensure that the short-term needs are balanced against the need to safeguard the ability to meet the needs in the long-term.
- 5.4.11 The preferred design options were determined following extensive consideration of constraints, public consultation and discussion with the Welsh Government and its advisors (Corderoy/WSP).
- 5.4.12 Following the Minister's decision on the preferred Options for Junction 15 and Junction 16 the next phase is WelTAG Stage 3. The proposals will involve obtaining information to enable draft Orders (Highways Act, Land Acquisition Act and Compulsory Purchase Order) to be published and Environmental Statement in accordance with Welsh Government's legal framework.
- 5.4.13 The scheme team will engage and consult all affected landowners, interested groups, statutory and non-statutory organisations and individuals to ensure their views are considered as part of

²² Ramboll, "A55 Junction 15 & 16 Improvements: Communications Plan (for Key Stages 3 & 4), 2018.

developing the scheme details, draft Orders and mitigation measures; ensuring a smooth passage through the Statutory Process.

- 5.4.14 The Public Liaison Officer will also arrange for suitable venues in Penmaenmawr and Llanfairfechan (plus the venue in Dwygyfichi as requested by the Welsh Government) consulting and seeking advice from the Clerks of the respective Town Councils and other relevant organisations throughout this period.

Equality of health outcomes

- 5.4.15 The scheme is anticipated to lead to improved accessibility within and beyond the local area through shorter journey times, reliability and access to improved public transport. This would enable improved access to health care facilities, including preventative services and better access for those who may not have access to a car.
- 5.4.16 Due to improvements in journey time, reliability and resilience of the network as well as improvements to public transport and walking/cycle routes, it is anticipated that the junction improvements would lead to better local air quality and noise impacts, and thus reduction in associated negative health effects. This is primarily related to an anticipated reduction in queuing traffic, which can cause localised poor air quality, as well as the noise of heavy traffic. An additional benefit of reduced queuing traffic and unreliable journey times is reduced driver stress, which can improve the health and well-being of commuters and non-commuting travellers.

5.5 A Healthier Wales

- 5.5.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

"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"

- 5.5.2 There are four topics which feed into the Healthier Wales goal:

- 1) **A compassionate nation:** support people to act with compassion, to facilitate understanding of mental well-being;
- 2) **An active nation:** increase the benefits of physical activity for everyone;
- 3) **Place-making and designing-in community health and well-being:** enable places to support the health and well-being of people and communities;
- 4) **Seamless, preventative organisations and services:** ensure services support people to understand behaviours and choices that benefit future health.

- 5.5.3 The WelTAG Stage Two OBC report⁷ states that this goal will be adhered to by recognising the importance of the resilience, safety, accessibility and reliability of the A55 corridor for people to access services and employment.
- 5.5.4 The scheme will also contribute to the goal by promoting the use of sustainable travel and healthy lifestyles (for example by improving footpaths, access to the coast, and links to the National Coastal Cycle Route). These could be progressed either as part of the scheme, other transport schemes or, for example in the case of Active Travel, in collaboration with other public bodies.
- 5.5.5 Additionally, this goal has been aligned to by ensuring that stakeholders are involved, and their views are taken into account, in the decision-making process as well as encouraging collaboration, to ensure that opportunities to obtain funding (e.g. for active travel or environmental enhancements) are maximised.

A compassionate nation

- 5.5.6 As discussed previously in 5.4 A more equal Wales – Participation – there has been a series of public consultation events over the initial phases of the scheme’s design, and further consultation will be carried out as part of the statutory period (Key Stage 4). The scheme team is committed to taking account of all stakeholder input, including the concerns of local residents directly impacted by the scheme. In line with the Communications Plan²², the Scheme Team would regularly inform affected residents on the construction process. It is anticipated that regular, transparent communication would help to alleviate concern and anxiety throughout the construction process.
- 5.5.7 Due to improvements in journey time, reliability and resilience of the network as well as improvements to public transport and walking/cycle routes, it is anticipated that the junction improvements would lead to better local air quality and noise impacts, and thus reduction in associated negative health effects. Additionally, a reduction in queuing traffic would improve quality of life for road users currently impacted by build-up of traffic. An additional benefit of reduced queuing traffic and unreliable journey times is reduced driver stress, which can improve the health and well-being of commuters and non-commuting travellers.
- 5.5.8 During construction, there may be short-term negative impacts from disruption to residents living in close proximity to construction sites or impacted by road closures/traffic control measures. However, the contractor would seek to minimise this disruption through control measures (such as dust management and construction traffic management plans) in the CEMP.
- 5.5.9 Additionally, reduced and more reliable journey times, and enhanced network resilience would improve access to health services and enable emergency services to access local communities more easily.
- 5.5.10 Finally, improvement for access of walkers and cyclists as well as the provision of green spaces and connectivity to the beach, would enable local residents to spend more time in nature and active travel. Increased ability to spend time in nature and be active can contribute towards improvements in people’s physical and mental well-being.

An active nation

- 5.5.11 As previously stated, provision of green space, as well as improved access for walkers and cyclists would help to contribute towards active travel and getting out in nature. As part of Key Stage 3, the scheme team produced the Walking, Cycling and Horse-Riding Review (Preliminary Design) report²³, which assesses the performance of the scheme in terms of provision of walking and cycling facilities (no equestrian facilities were identified within the study area). A number of opportunities for improvement were identified in the early stages of the design process and following consultation with key stakeholders several ‘mini schemes’ were identified to include within the design. See section 4.3.18 for details of the mini-schemes.

Place-making and designing-in community health and well-being

- 5.5.12 The design will include gateway features such as an illuminated feature for Penmaenmawr in a prominent location related to the village’s heritage as a quarry village. These features would help to build a sense of place along with improved connectivity to green spaces, the sea front and between settlements in the area – such as an improved link and urban landscaping to be installed at Junction 15 along the Shore Road East corridor, which would improve access to the Promenade.

Seamless, preventative organisations and services

²³ Ramboll “A55 Junctions 15 and 16 Improvements Walking, Cycling & Horse-Riding Review (Preliminary Design)”, February 2020.

5.5.13 The scheme is anticipated to lead to improved accessibility within and beyond the local area through shorter journey times, reliability and access to improved public transport. This would enable improved access to health care facilities, including preventative services and better access for those who may not have access to a car.

5.6 A Wales of Cohesive Communities

5.6.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

"Attractive, safe, viable and well-connected"

5.6.2 There are four topics which feed into the Wales of Cohesive Communities goal:

- 1) **People active in their communities:** Creating the conditions where people and communities can do the things that matter to them;
- 2) **Connected communities:** supporting communities to be well connected and safe;
- 3) **Access to key well-being services:** supporting vibrant foundational economies;
- 4) **Community anchor organisations:** valuing the role and potential that community anchor organisations can play in building cohesive communities.

5.6.3 The WelTAG Stage Two OBC report⁷ states that this goal will be met by improving the resilience, safety, accessibility and reliability of the A55 corridor (both during and after construction). Additionally, cohesion would be enhanced by effectively balancing the needs and impacts on the local communities affected by the works against the wider regional, national and international drivers.

People active in their communities

5.6.4 Throughout the design process of the scheme, extensive stakeholder engagement has empowered local residents to be active in their community to help shape the scheme. Consultees targeted throughout the consultation process include not only statutory consultees (such as local councils, NMWTRA, Network Rail etc.) but also non statutory consultees such as local residents and commuters, local businesses, and Local Action Groups.

Connected communities

5.6.5 When the A55 dual carriageway was constructed in the 1980s it severed the local road network, meaning that local communities were entirely reliant on the A55 for connectivity to access services and employment out of the immediate area. There are no local diversion routes, with the exception of Sychnant Pass for access eastwards from Penmaenmawr and Dwygyfylchi to Conwy. If a traffic incident/accident occurs on the A55, the diversions that must be followed are a significant distance and can add a long time to people's journeys.

5.6.6 By improving active travel modes such as walking and cycling along the A55 corridor and between the towns/villages and the coast as well as improving journey times, reliability and improved access to public transport, connectivity between communities would be improved across the local area. Additionally, connectivity to the strategic trunk road network would also be improved as journey times and reliability improve.

Access to key well-being services

5.6.7 The scheme is anticipated to lead to improved accessibility within and beyond the local area through shorter journey times, reliability and access to improved public transport. This would enable

improved access to health care facilities, including well-being services and better access for those who may not have access to a car.

Community anchor organisations

5.6.8 The 12-week public consultation period commenced on the 4th of June 2018 for WelTAG Stage Two. In addition to engaging with local residents, as part of the consultation for WelTAG Stage Two, the organisations detailed in the list below were contacted to provide their opinions regarding the options being presented. At the request of the organisations, meetings have been held with the following community organisations: Bus Users Cymru, Cycling UK, Gwynedd Archaeological Trust, Right to Ride Network, Sustrans.

5.6.9 Key Stakeholder community organisations contacted during the WelTAG Stage Two consultation include:

- | | |
|---|----------------------------------|
| • British Horse Society; | • Oasis Christian Centre; |
| • Bus Users Cymru; | • Open Spaces Society; |
| • Campaign for Protection of Rural Wales; | • Pals of Pen Prom; |
| • Conwy Powys Archaeological Trust; | • Ramblers Association; |
| • Cycling UK; | • Ramblers Cymru; |
| • Federation of Small Businesses; | • Right to Ride Network; |
| • Friends of the Earth Cymru; | • Sustrans; |
| • Gwynedd Archaeological Trust; | • The Clwyd-Powys Archaeological |
| • Local Wildlife Trust; | Trust; and |
| • Lyons Pendyffryn Hall Caravan Park & | • Welsh Cycling |
| Country Club; | |

5.7 A Wales of Vibrant Culture and Thriving Welsh Language

5.7.1 There are five topics which feed into the Wales of Vibrant Culture and Thriving Welsh Language goal:

- 1) **Developing skills:** developing skills, increasing opportunities and respecting our status as a bilingual nation;
- 2) **Supporting people:** supporting people to engage with culture in their daily working and recreational lives, and bringing out the best in our cultural professionals;
- 3) **Addressing wider societal issues:** using cultural and linguistic interventions to access wider societal issues;
- 4) **Culture & the Welsh Language:** using culture and the Welsh language as a driver for economic and environmental change.
- 5) **Engaging with culture:** Enabling our citizens to access and engage with their own and other cultures.

5.7.2 The WelTAG Stage Two OBC report⁸ states that this goal will be adhered to by promoting pride in the local area, making services and amenities more accessibility. For example, by the:

- Creation of open public spaces – to encourage the health benefits of sports;
- Additional links onto the Sustrans National Cycle Route; Creation of new links to existing cycleway and footpath routes; to encourage and promote the healthy benefits of walking and cycling.

Developing skills

- 5.7.3 As previously highlighted under 5.2 A Prosperous Wales – Decent Work and Skills for the Future, a number of scheme objectives would lead to improved accessibility to local and further-afield education centres which would lead to improved opportunities to developing skills in the local area through shorter journey times, reliability and access to improved public transport.

Supporting people

- 5.7.4 Improved journey times, reliability and resilience of the road network as well as improved public transport options would make it easier and more attractive for people to visit arts and sporting venues within and beyond the local area, thus improving engagement in culture. This may have the added benefit of improving opportunities for cultural professionals.
- 5.7.5 Additionally, these improvements may also have a potential positive impact on tourism and economic activity in the area, which may lead to increased opportunities to engage in local culture by enabling people to spend more time and money for example on visiting cultural sites and engaging in the arts.

Addressing wider societal issues

- 5.7.6 Improved access to jobs, education and services due to reduced congestion and increased reliability of the network and availability of public transport options could have the potential to positively impact people in vulnerable situations, poverty, poor health etc.

Culture & the Welsh Language

- 5.7.7 Improved road links to/from the trunk road network into rural areas would help to retain the viability of local businesses and support the Welsh language and culture. This improved accessibility would also help to support tourism into the area and improve exposure to Welsh language and culture.
- 5.7.8 All non-technical communications material including exhibition display material, publicity and verbal communication where required shall comply with the Welsh Language Standards Regulations 2015 and official guidance. For example, two fluent Welsh speakers capable of discussing technical aspects of the proposals shall be at attendance at all public consultations, exhibitions and public local inquiry. Additionally, all new signage to be installed would be bilingual (displaying both Welsh and English).
- 5.7.9 There is a small potential of the erosion of Welsh language due to ease of non-Welsh speaking influence entering the area, and Welsh speakers leaving to non-Welsh speaking areas. However, it is expected that this small negative effect would be outweighed by the positives.

Engaging with culture

- 5.7.10 Archaeology that is encountered during ground clearance and earthworks would be recorded as necessary, thus contributing to knowledge of history in the local area. For further information regarding the consideration of cultural heritage impacts, see the Environmental Statement for Junction 16 Chapter 10²⁴. Additionally, the design will include gateway features such as an illuminated feature for Penmaenmawr in a prominent location related to the village's heritage as a quarry village. Features such as this would highlight the history and culture of the local area.
- 5.7.11 Improved journey times, reliability and resilience of the road network as well as improved public transport options would make it easier and more attractive for people to visit cultural heritage, arts and sports sites within and outside of the area.

5.8 A Globally Responsible Wales

²⁴ Ramboll, "A55 Junction 16 Environmental Statement: Chapter 10", October 2019.

5.8.1 In the Well-being of Future Generations (Wales) Act 2015, this goal is defined as:

"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"

5.8.2 There are five topics which feed into the Globally Responsible Wales goal:

- 1) **Supply chains:** ensuring that our supply chains are fair, ethical and sustainable;
- 2) **Sustainable behaviour:** supporting sustainable behaviour and making the connections;
- 3) **Playing our part:** Playing our part to ensure that Wales is welcoming, safe and fair to all;
- 4) **Efficient use of resources:** ensuring that we understand the importance of using the earth's resources efficiently and contribute to global well-being;
- 5) **Financial decisions:** making the right financial decisions now, to enable future generations to thrive.

5.8.3 The WelTAG Stage Two OBC report⁸ states that this goal will be adhered to by showcasing the scheme as an outstanding example of design, where the well-being of the both the local community and nation are placed at the heart of the scheme, act as a best practice example.

Supply chains

5.8.4 The A55 is part of the UK leg of the Euroroute E22 Trans-European Transport Network (TEN-T), Connecting Holyhead to Hull. As a key strategic route for freight, journey time unreliability can have wide-reaching consequences on supply chains across the UK and Europe. Junction 15 and 16 are the only at-grade roundabouts on the whole UK leg of the TEN-T, and the scheme would remove these, leading to improved journey times, reliability and safety of the network.

5.8.5 As previously discussed in section 5.2 Prosperous Wales – fair and local procurement – it was highlighted that a focus on local procurement would be implemented. This includes the purchase of goods and materials, which can help to reduce the environmental impact of materials by reducing the distances they need to be shipped to the construction site.

Sustainable behaviour

5.8.6 Managing the scheme in alignment with the Well-being of Future Generations (Wales) Act 2015 Goals, with due consideration of the environmental, social, economic and cultural impacts of the development has helped to foster sustainable thinking throughout the development of the scheme. These principles will be carried forward through Key Stages 4, 5 and 6, and into the operational management of the scheme. In addition to the consideration of the Well-being of Future Generations (Wales) Act 2015, the scheme team is committed to achieving a CEEQUAL award with an Excellent score (over 75% of points achieved) as well as carrying out the 'Section 1' assessment – an optional part of the assessment focused on scheme/contract strategy, and how the scheme team has related their scheme to the wider sustainability agenda. An awareness of CEEQUAL requirements has helped to focus the inclusion of sustainability in the governance process.

Playing our part

5.8.7 As discussed throughout this assessment, the scheme aims to improve the experience of the strategic trunk road network not only for long distance haulage along the TEN-T, but also the local people who must use the A55 on a daily basis to commute, access services and for leisure. Throughout the process, consideration of the views, concerns and queries of a varied selection of key

statutory and non-statutory stakeholders from local government to residents have been and would be considered, enabling a fair process.

Efficient use of resources

- 5.8.8 Site won materials would be used as far as reasonably practicable for example cut-fill balance of materials excavated on site (see section 5.3 A Resilient Wales – biodiversity and soils). This would reduce the need to import inert material from other sites or even virgin material.
- 5.8.9 During the detailed design phase of the development, product and material specification would take place and would include a consideration of the most sustainable materials available as well as consideration of using recycled material such as re-used aggregates. It should be noted that the aspiration to use the most sustainable materials must be balanced against the need to meet safety and performance requirements of the completed development.

Financial decisions

- 5.8.10 A Transport Economic Assessment Report¹⁷ was produced to present the economic case development of the A55 junction 15 and 16 improvements. A number of methodologies were used to assess the economic case of the scheme, for the options proposed at WelTAG Stage Two. The Value for Money statement includes the wider economic benefits, accident saving and journey time benefits. The assessment shows a moderate Value for Money (Benefit to Cost Ratio of 3.087). The greatest value is seen in the journey time benefits. This would be expected to have a wide-reaching impact on the local economy as people are more able to access places of work and leisure thanks to the increased reliability and resilience of the road network. By considering the Value for Money achieved by the scheme, current spending needs are balanced against the needs of the future.

6. CONCLUSIONS

- 6.0.1 This report has summarised the consideration during the Junction 16 Improvements design process given to the principles of sustainable development, the ways of working and the Well-being Goals of the Well-being of Future Generations (Wales) Act 2015.
- 6.0.2 Chapter 4 shows how sustainability was considered throughout the decision-making process, development of the scheme objectives, and how the objectives and environmental, social, cultural and economic aspects shaped the option selection and design development process.
- 6.0.3 Chapter 5 explores how the scheme meets each of the seven Well-being Goals, as well as aligning to the factors within each goal.
- 6.0.4 Mitigation for environmental impacts has been developed and where practicable enhancement provided to ensure ecosystem resilience in the longer term. Cultural issues, both historic and current, have influenced the Scheme design and the way that the Scheme is taken forward.
- 6.0.5 In conclusion, while acknowledging there are potential impacts of the Scheme, these need to be considered against the opportunities which align with the Well-being Goals. On this basis, the Scheme is considered to align with the Welsh Government's principles of sustainable development.

APPENDIX A

JUNCTION 16 PREFERRED OPTION

