



# A55(T) ABERGWYNGREGYN TO TAI'R MEIBION IMPROVEMENT

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SUSTAINABLE DEVELOPMENT REPORT

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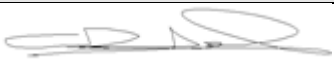
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## CONTENTS

### Page

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Purpose of the Report	1
1.2	The Proposed Improvement	1
<b>2</b>	<b>Welsh Sustainable Development Policies and Objectives</b>	<b>2</b>
2.1	Background to Welsh Sustainable Development Policy	2
2.2	Well-being of Future Generations (Wales) Act (2015)	2
<b>3</b>	<b>The Existing Situation</b>	<b>6</b>
3.1	The Existing Road	6
3.2	The Surrounding Area	6
<b>4</b>	<b>Consideration of sustainability during the decision making process</b>	<b>9</b>
4.1	Introduction	9
4.2	Welsh Government Objectives	9
4.3	Background to the Proposed Improvement	9
4.4	Development of the Proposed Improvement	10
4.5	Summary	13
<b>5</b>	<b>Summary of Key Sustainability Measures of the project against the well-being goals</b>	<b>14</b>
5.1	Introduction	14
5.2	A Prosperous Wales	14
5.3	A Resilient Wales	15
5.4	A Healthier Wales	16
5.5	A More Equal Wales	16
5.6	A Wales of Cohesive Communities	17
5.7	A Wales of Vibrant Culture and Thriving Welsh Language	17
5.8	A Globally Responsible Wales	18
<b>6</b>	<b>Conclusions</b>	<b>19</b>
<b>7</b>	<b>References</b>	<b>20</b>

## **1 INTRODUCTION**

### **1.1 Purpose of the Report**

This report considers how the proposed A55(T) Abergwyngregyn to Tai'r Meibion Improvement (referred to as the Proposed Improvement) aligns to the Welsh Government's principles of sustainable development within the context of the Well-being of Future Generations (Wales) Act 2015 <sup>[1]</sup>. This Act places a duty on public bodies in Wales to carry out development in a sustainable way.

The structure of this report is based on the framework of the Well-Being of Future Generations Act, *i.e.* to provide evidence of how the '*ways of working*' as defined within the Act have influenced, or would influence scheme development and delivery within the stages described; and to demonstrate how the Proposed Improvement would align with the '*well-being goals*' identified within the Act.

It is expected that this report will be part of the package of supporting documents deposited alongside the draft Orders, which are currently expected to be published in January 2017.

The report is organised as follows:

Chapter 2 - an introduction to Welsh Government Sustainability Policies and Objectives.

Chapter 3 – contextual information about the Proposed Improvement and the area within which it is located.

Chapter 4 – information on how the sustainable development principles have influenced, and would influence, the decision making process.

Chapter 5 – a summary of the key sustainability measures of the Proposed Improvement in terms of the Future Generations Act '*Well-being Goals*'.

Finally, conclusions are presented summarising how alignment with the principles has been achieved.

It should be noted that the majority of scheme development up to the publication of this report occurred before the Act came in to force.

### **1.2 The Proposed Improvement**

The Proposed Improvement is located along and adjacent to the A55(T) in Gwynedd, approximately 6.5km (4 miles) east of Bangor and involves on-line improvements to a relatively straight section of dual carriageway. The western extent of the improvement to the A55(T) itself section commences opposite Tai'r Meibion farm and continues eastwards to terminate approximately 300m south-west of the Abergwyngregyn interchange eastbound slip road (Junction 13).

A detailed description of the Scheme is provided in Chapter 2 of the Environmental Statement <sup>[2]</sup>.

The National Transport Finance Plan <sup>[3]</sup> published in July 2015 sets out the timescale for financing and delivery of schemes. The A55(T) Tai'r Meibion to Abergwyngregyn Improvement (Scheme Ref R20) is identified for delivery between 2015 and 2020. An indicative timetable for the proposals is provided and suggests that the Orders could be published by January 2017 with the works starting in Autumn 2017 and being completed by Autumn 2019.

## **2 WELSH SUSTAINABLE DEVELOPMENT POLICIES AND OBJECTIVES**

### **2.1 Background to Welsh Sustainable Development Policy**

The Welsh Government adopted its first sustainable development scheme, “Learning to Live Differently” <sup>[4]</sup> in 2000.

Subsequently, the Government of Wales Act (2006) 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” <sup>[5]</sup>, 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 referred to as the Welsh Government).

In “One Wales: One Planet”, sustainable development is defined as “enhancing the economic, social and environmental well-being of people and communities, achieving a better quality of life for our own and future generations”, and the “Vision of a Sustainable Wales” is “one where Wales;

- lives within its environmental limits, using only its fair share of the earth’s resources so that our ecological footprint is reduced to the global average availability of resources, and we are resilient to the impacts of climate change;
- has healthy, biologically diverse and productive ecosystems that are managed sustainably;
- has a resilient and sustainable economy that is able to develop whilst stabilising, then reducing, its use of natural resources and reducing its contribution to climate change;
- has communities which are safe, sustainable and attractive places for people to live and work, where people have access to services, and enjoy good health;
- is a fair, just and bilingual nation, in which citizens of all ages and backgrounds are empowered to determine their own lives, shape their communities and achieve their full potential”<sup>[6]</sup>.

As stated in “A Sustainable Wales, Better Choices for a Better Future– Consultation on proposals for a Sustainable Development Bill” <sup>[6]</sup> “whilst there has been clear progress in embedding sustainable development since devolution [through the delivery of the principles set out in “One Wales, One Planet”], the independent effectiveness reviews, international best practice and learning and development since devolution highlight that improvements can be made”.

The Well-being of Future Generations Act, details of which are explained below, has been introduced to strengthen the sustainable development framework in Wales, alongside the Planning (Wales) Act (2015) (which aims to “improve the existing planning process to ensure the right development is located in the right place”) <sup>[7]</sup>, and Environment (Wales) Act (2016) <sup>[8]</sup>, which brings forward a natural resource management approach.

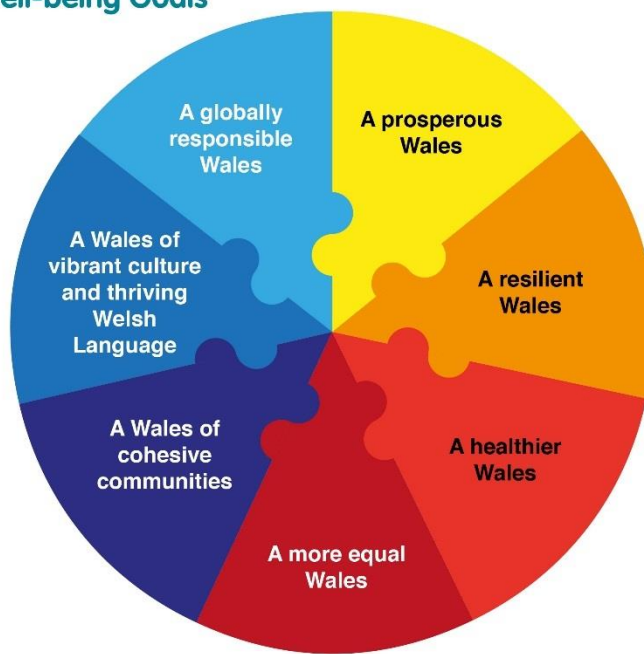
### **2.2 Well-being of Future Generations (Wales) Act (2015)**

In order to strengthen the sustainable development framework in Wales, a pilot National Conversation was launched in February 2014, to define the ‘Wales We Want’, led by a Commissioner for Sustainable Futures. The “Wales We Want” Report <sup>[9]</sup> set out the seven foundations for the well-being of future generations. This resulted in the enactment of the Well-being of Future Generations Act in April 2015, which 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”.

The Act defines sustainable development 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”, and defines seven ‘Well-being Goals’, as set out in Figure 2.1 and Table 2.1 below.

**Figure 2.1: Well-being Goals** (from *Well-being of Future Generations (Wales) Act 2015: The Essentials* <sup>[10]</sup>, Welsh Government)

### Well-being Goals



**Table 2.1: Descriptions of the ‘Well-being Goals’** (from *Well-being of Future Generations (Wales) Act 2015: The Essential*, Welsh Government)

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

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

The Well-being of Future Generations Act requires public bodies in Wales to work towards achieving these 'Well-being Goals' in order for actions to align to the Welsh Government's principles of sustainable development.

Each public body is required under the Act to publish a set of well-being objectives "*designed to maximise their contribution to achieving each of the well-being goals*". The 'Well-being Goals' will form the framework of these objectives, as well as indicators to be used to measure well-being presented to the National Assembly in March 2016. At the time of writing the Welsh Government's objectives had not been published.

The Act also requires public bodies to act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. To act in such a manner means that public bodies need to think about how they have applied the sustainable development principle in five '*ways of working*', which are presented in Figure 2.2 below.

**Figure 2.2: The Sustainable Development Principle consisting of the five 'ways of working'** (from *Well-being of Future Generations (Wales) Act 2015: The Essentials*, Welsh Government)





### **3 THE EXISTING SITUATION**

#### **3.1 The existing road**

The section of the A55(T) in the area of the Proposed Improvement is now around 45 years old and the vertical alignment does not comply with the present-day standards to which the adjacent sections have been built. The existing forward visibility distances are below current requirements and the central reserve gaps, private entrances, field accesses and junction with the county road to Wig Crossing Cottages are often used by slow-moving vehicles, which is a detriment to the free and safe flow of through traffic on the A55(T). The Proposed Improvement would aim to address these deficiencies.

If the Proposed Improvement were not carried out it would be necessary to address relevant items as and when the situation arose in order to ensure the continued safety of road users along this section of the A55(T). The items requiring attention immediately or in the very near future would include:

- Reconstruction of the existing road pavement, which has reached the end of its operational life;
- Upgrading the existing drainage to reduce the risk of flooding of the carriageway;
- Ongoing maintenance (re-tensioning) of the existing central reserve safety barriers in accordance with the Welsh Government Trunk Road Maintenance Manual (WGTRMM); and,
- Improvements to the junction with the county road to Wig Crossing Cottages and the access to the Bryn Meddy properties.

Many of these items would require individual traffic management with associated delays. If they were to be carried out individually there would be unnecessary duplication of the traffic management costs and associated delays.

#### **3.2 The surrounding area**

The following information provides a broad description of the wider context of the areas which would be served by the Proposed Improvement, at different scales. The information can be used to provide the background to some of the Sustainable Development decisions made in relation to the scheme. An indication is given as to whether the information relates to Economic (Ec), Social (S), Environmental (Env) or Cultural (C) aspects of Sustainable Development, as defined by The Well-being of Future Generations Act.

##### **3.2.1 Strategic Context**

The A55(T) Chester to Bangor Trunk Road is an important strategic transport route in North Wales forming a link between the ferry port of Holyhead and the motorway system in Cheshire and Merseyside (Ec/S). It also serves numerous settlements along the North Wales coast, providing a route for commercial, tourist and local traffic (Ec/S).

Under the United Nations Agreement of 1975 on international traffic arteries, the A55(T) forms part of the 5,320km Euroroute E22 between Holyhead and Ishim, Russia. The route is of international importance for commercial vehicles travelling through Continental Europe and the United Kingdom, and the continuing improvement of the highway network is hence vital for the ongoing economic development and social well-being of the area (Ec/S).

##### **3.2.2 Regional Context**

As well as forming part of a strategic link to and from Holyhead, the A55(T) also provides an important link for travellers at a regional level and is a gateway towards Gwynedd, Snowdonia and Anglesey from more populated areas further east (Ec/S).

Both Gwynedd and Anglesey are mostly rural counties which are sparsely populated (Ec/S). The percentages of Welsh speakers in Gwynedd and Anglesey are the highest of any counties in Wales, with a high percentage of

those being fluent in the language. The Welsh language is an integral part of the historic background and culture of the area <sup>[11]</sup> (S/C).

Over time, the populations of Gwynedd and Anglesey are likely to see an increase in those who are older, which in turn may lead to increased pressure on demands for appropriate houses, health services, social services and other relevant services. It is predicted that the number of children and young people may decline (S). There is a trend for younger people to move out of the area, while older people move in (S) <sup>[12]</sup>.

The proportion of economically inactive persons is higher in Gwynedd than in Wales as a whole, while the figure for Anglesey is slightly higher than the national average. Median household incomes for Gwynedd and Anglesey are generally lower than the Welsh average, while the unemployment rate for both counties is slightly lower than the Welsh average <sup>[13]</sup> <sup>[14]</sup> (Ec).

Gwynedd has higher levels of employment in Public Administration, Education and Health areas than the average for Wales, whilst the industries providing most employment in Anglesey consist of Manufacturing, Wholesale and Retail Trade, Repair of Motor Vehicles, and Accommodation and Food Service Activities <sup>[13]</sup> <sup>[14]</sup> (Ec).

The natural and historic environment contains protected sites for landscape, heritage and wildlife reasons, including iconic locations such as Snowdonia National Park, the Llyn and Anglesey AONBs, and three existing UNESCO World heritage sites (with an application outstanding for a fourth) (C/Env). Statutory nature conservation designations overlay much of the local landscape; with protected areas ranging from marine and coastal habitats to those associated with montane environments of upland Snowdonia (Env).

Tourism, both general, and that associated with heritage and outdoor activities, plays a significant part in the economy (Ec). Agriculture also plays a significant part in the local economy, and influences both the cultural and natural landscapes (Ec).

Anglesey has the lowest Gross Value Added (GVA) statistic of all UK local authority regions while Gwynedd's is higher than the Welsh average but lower than the UK <sup>[15]</sup> (Ec). Gwynedd and Anglesey are within the area which currently receives funding from the West Wales and the Valleys European Structural Fund (ESF) and the European Rural Development Fund (ERDF) <sup>[16]</sup> (Ec).

### 3.2.3 Local Context

The Proposed Improvement runs through a 1km wide coastal plain bounded to the north by the Menai Straits and to the south by the foothills of the Carneddau of north-west Snowdonia. The area is largely rural, with land immediately north and south of the A55 dominated by agriculture and scattered with individual farm holdings (Ec/C). The small villages of Talybont and Abergwyngregyn abut the A55(T) at each end of the Proposed Improvement, and the setting becomes more urbanised further afield due to the presence of Llanfairfechan and Penmaenmawr to the east and Bangor to the west.

Bangor is the only recognised city in North West Wales and is an important hub in terms of amenities and services (Ec/S). Bangor is located approximately 4.5km to the west of the Proposed Improvement and can be accessed from Junctions 9-12 of the A55(T). The A55(T) is regarded as the main access route towards Bangor from the surrounding area, particularly from Anglesey and towns and villages immediately to the south and east, and therefore contributes substantially to social welfare and economic activity at a local level.

Ysbyty Gwynedd is located in Bangor in the suburb of Penrhosgarnedd; it has over 450 beds and houses the headquarters of the Betsi Cadwaladr University Health Board <sup>[17]</sup> (S). Bangor University has over 11,000 students and over 650 teaching staff based in 23 academic schools grouped into five colleges <sup>[18]</sup> (S). The university has facilities spread across the city including a new arts and innovation centre, sports and recreation facilities as well as accommodation campuses. The presence of the hospital and university make the city one of the main employment centres in North Wales (Ec/S).

Other important amenities and services within Bangor include:

- Both Fire and Ambulance services have stations in Bangor (S)
- A mainline railway station and an important central bus station are located in Bangor (Ec/S)
- 7 primary schools, 2 secondary schools and a secondary education college are located within Bangor (S)
- Bangor also has a range of retail facilities, including out of town retail parks and a superstore (Ec)
- Several important local employers are situated between the Llandygai Industrial Estate south of Bangor and Parc Menai Business Park to the west; both are conveniently located for access from the A55(T)

## **4 CONSIDERATION OF SUSTAINABILITY DURING THE DECISION MAKING PROCESS**

### **4.1 Introduction**

This chapter summarises;

- 1) the objectives of the Proposed Improvement which have been used to take forward scheme development;
- 2) the decision making process undertaken to identify the Proposed Improvement as the preferred way forward;
- 3) how the Proposed Improvement has developed;
- 4) how the Proposed Improvement 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 Statement.

### **4.2 Welsh Government's objectives**

Prepared in accordance with the Transport (Wales) Act (2006) <sup>[19]</sup>, the stated goal of the Wales Transport Strategy (2008) <sup>[20]</sup> is to promote sustainable transport networks that safeguard the environment while strengthening Wales' economic and social life. The Wales Transport Strategy identifies a series of high-level outcomes and sets out the steps to their delivery, including:

- achieving a more effective and efficient transport system;
- achieving greater use of the more sustainable and healthy forms of travel;
- minimising demands on the transport system, and;
- reducing the impact of transport on greenhouse gas emissions.

The Wales Transport Strategy seeks to achieve various social, economic and environmental outcomes through sustainable transport development and replaces The Transport Framework for Wales (2001). The following five key areas have been identified as requiring substantial progress:

- 1) Reducing greenhouse gas emissions and other environmental impacts;
- 2) Integrating local transport;
- 3) Improving access between key settlements and sites;
- 4) Enhancing international connectivity, and;
- 5) Increasing safety and security.

The National Transport Finance Plan (2015) sets out the Welsh Government's investment plans for the transport and services that it is responsible for and how it proposes to deliver the outcomes set out in the Wales Transport Strategy from 2015. The Proposed Improvement is included on list 1(a) which is contained in Annex B of the Plan, and describes the details of the mature projects which are anticipated to start in the first three years of the programming period. The rationale for the Proposed Improvement, as provided within the Plan, is to *'address journey time reliability and improve resilience on a TEN-T Core Route'*.

### **4.3 Background to the Proposed Improvement**

The Welsh Government has statutory powers and responsibility for the maintenance and improvement of the A55(T). The section of the A55(T) between Tai'r Meibion and Abergwyngregyn was one of the first to be improved to dual carriageway standards in the late 1960s and does not comply with current highway standards. The document 'Driving Wales Forward' (The Welsh Office, 1998) identified the A55(T) as part of the core network in Wales and recognised a lack of safe turning arrangements between Tal-y-Bont and Abergwyngregyn.

When the issue of re-construction of the highway pavement initially arose the work was to be undertaken under the Welsh Government's Major Maintenance Programme. However, as the scheme was being developed it was decided that a full upgrade was required to bring the section up to the same standards as the remainder of the A55(T). The scheme was listed as a repair and upgrade scheme in Annex 2 of the Welsh Government's Trunk Road Forward Programme in 2002 and moved to Phase 2 ("could be ready to start by April 2010") in the 2004 supplement (Welsh Assembly Government, 2004).

The overall project aim set for this scheme was to improve safety standards rather than increase the capacity of the existing carriageway for traffic flow. The key objectives included:

- 1) Improving the forward visibility and safety standards along the existing section by adding 1m wide hardstrips and improving the vertical alignment and surfacing of the carriageway,
- 2) Improving the safety for moving vehicles on the carriageway by closing central reservation gaps, private entrances, field accesses and the junction to the Class 3 County Road to Wig Crossing Cottages, and providing suitable alternative means of access for the properties affected,
- 3) Enhancing the existing cattle underpasses to meet current structural standards and remain functional for future use,
- 4) Addressing the problem of flooding by improving the existing drainage system,
- 5) Reducing the likelihood of accidents occurring by improving the safety standards to meet current requirements,

An Environmental Statement and draft Orders for the Proposed Improvement were published in July 2008, but under the 2008 Reprioritisation of the Trunk Road Forward Programme the scheme was moved to Phase 3 ('unlikely to be ready to start before April 2014') and the draft Orders were withdrawn in 2009.

### **4.3 Development of the Proposed Improvement**

The Proposed Improvement has since been identified within the Welsh Government's National Transport Finance Plan to be implemented in the short term. Initially therefore the previously-published design has been reviewed against the current standards and objectives, and new draft Orders are to be published along with an Environmental Statement in January 2017. Completion of statutory procedures would enable appointment of a project team, consisting of a principal contractor and designer, to complete the detailed design and undertake construction of the Proposed Improvement.

Since then flooding events have led, with increasing frequency, to partial or total closure of this section of the A55(T), and the scheme objectives have therefore evolved to include flood risk reduction.

A detailed description of the construction, operation and long term management procedures for the Proposed Improvement are provided in Chapter 2 of the Environmental Statement.

#### **4.3.1 Scheme Assessment and Outline Design (Key Stage 3)**

This initial stage is concerned with the development of the outline design for the Proposed Improvement and the preparation of supporting documents – the Environmental Statement, the Statement to Inform an Appropriate Assessment (SIAA) and the draft Orders. This stage has been carried out by YGC on behalf of Welsh Government since 2015, and is nearing completion at the time of writing this report.

The work involved re-assessing the environmental baseline for the area affected by the Proposed Improvement and re-engaging with relevant stakeholders regarding their expectations. The overall aim of the Proposed Improvement is to improve safety standards and resilience to flooding and potential traffic growth along this section of the A55(T). Following a review of current policy aspirations the overarching scheme

objectives for the Proposed Improvement have been amended to embed the principles of sustainable development, and now comprises the following (see Chapter 1 of the Environmental Statement):

- 1) Improving the standards of a strategically important highway to ensure that it provides efficient future connectivity between communities and economic hubs;
- 2) Alleviating flooding issues to ensure ongoing transport connectivity and resilience to climate change;
- 3) Improving pedestrian and cycling connections to provide alternative, healthier forms of travel;
- 4) Enhancing biodiversity and future connectivity for wildlife at the locality, and;
- 5) Considering the aims of sustainable development within the design, construction and operation of the Proposed Improvement.

Development of the outline design is an iterative process which ensures that all aspects of the Proposed Improvement and its effects can be taken into account, as well as the identification and delivery of multiple benefits for road users, the local community and the environment. During this process the key design measures in response to the scheme objectives are as follows:

- Improvement of a 2.2km length of the A55(T) Chester to Holyhead Trunk Road between Junctions 12 and 13. A 1m wide hard strip would be added to each side of both carriageways. The vertical alignment would be improved to meet current standards and the existing pavement reconstructed (*Objective 1*);
- A new concrete safety barrier would be built in the central reserve to replace the current steel barrier (*Objective 1*);
- Almost all of the existing private accesses, field accesses and gaps in the central reserve would be permanently closed (*Objective 1*);
- A new agricultural access track would be created through fields from Roman Road (Henffordd) north-east to link with the existing Wig farm cattle creep access track, and a 870m section of Roman Road (Henffordd) would be widened to better accommodate agricultural vehicles. Also the existing cattle underpasses at Tai'r Meibion and Wig farms would be extended to allow for the widened highway (*Objective 1*);
- The westbound access junction for Numbers 1 and 2 Bryn Meddyg would be combined with that for Y Glyn and be improved to comply with current standards (*Objective 1*);
- The risk of flooding of the carriageway would be reduced by improving the highway drainage system (*Objective 2*);
- A new culvert would be constructed to accommodate the Afon Wig and a drainage channel/bund would be provided along the south side of the A55(T) to reduce the risk of the road being flooded (*Objective 2*);
- A new Non-Motorised User (NMU) route would run parallel with the eastbound carriageway from the Abergwyngregyn interchange (Junction 13) west to Wig farm. West of Wig farm the NMU route would be combined with a Private Means of Access (PMA) serving Wig Farm. The PMA would then become a County road between the junction with the road to Wig Crossing Cottages and the Tal-y-Bont interchange (Junction 12) (*Objective 3*);
- The Public Rights of Way network would be enhanced by improving connectivity and reducing interface with road traffic (*Objective 3*);
- New wildlife pipes would be installed under the A55(T) near the westbound part of Tal-y-bont interchange and at the site of Wig Bach (*Objective 4*);
- Landscape mitigation would address potential landscape and visual impacts, whilst also maintaining wildlife connectivity (*Objective 4*)

#### **4.3.2 Statutory Processes (Key Stage 4)**

Between the publication of draft Orders and supporting documents and the start of construction there are a number of procedures to be followed which will inform relevant stakeholders, including members of the public, of the final proposals and allow representations to be made prior to a decision on whether the Proposed Improvement should proceed.

A public exhibition will be held on publication of draft Orders which will aim to explain to those attending the various aspects of the Proposed Improvement, including the effects upon the environment, landowners and the local community. Information regarding the Proposed Improvement will also be made available via other means including the Welsh Government website.

Discussions will be held with individuals or organisations which provide representations during the consultation period, with the aim of reaching agreement regarding any objections or outstanding issues. A Public Local Inquiry may be held during which an independent Inspector can consider representations presented by interested parties.

#### **4.3.3 Project Team Appointment (Key Stage 5)**

The Project Team for the eventual design and build contract will be appointed through a competitive tender process which will be assessed according to financial and quality submissions. The tender process will be limited to organisations that can demonstrate competency in management of environmental, quality and health and safety aspects through relevant certification.

The tender instructions will require tenderers to describe intended methods to manage social, economic, and environmental aspects of the scheme and to maximise the benefits of the Proposed Improvement to the local community and wider surrounding areas. This will encourage all tenderers to consider wider impacts and opportunities associated with the Proposed Improvement from the outset, and allow those with the greatest appreciation of sustainable development principles to gain an advantage during the tender process.

#### **4.3.4 Construction and Post-construction Maintenance (Key Stage 6)**

In accordance with modern standard practice for major development works, an Environmental Management Plan (EMP) would be developed and maintained for the Proposed Improvement. An EMP provides the framework for recording environmental risks, commitments and other environmental constraints and clearly identifies the structures and processes that will be used to manage and control these aspects. The EMP also seeks to ensure compliance with relevant environmental legislation, government policy objectives and scheme-specific environmental objectives and principles. It also provides the mechanism for monitoring, reviewing, auditing and managing environmental performance, compliance and change throughout the project's life cycle.

The appointed contractor would be required to operate an Environmental Management System (EMS) certified against ISO14001 and would formulate and maintain a CEMP throughout the construction and aftercare phases of the Proposed Improvement. This would include the prior development of detailed method statements, consultation with statutory consultees, measures to ensure employment of suitably qualified and experienced specialist sub-contractors and the monitoring of mitigation measures. The Welsh Government or its delegated representative would supervise the satisfactory implementation and execution of the CEMP.

In addition, the Proposed Improvement would be subject to a CEEQUAL whole project award application. CEEQUAL is an evidence-based sustainability assessment which aims to deliver improved project specification, design and construction of civil engineering works. As is common for Welsh Government highway improvement projects it is envisaged that the framework provided by the CEEQUAL assessment manual will be used to integrate the principles of sustainable development into the detailed design and construction of the Proposed Improvement. Application of the CEEQUAL assessment process will guide the Project Team towards

best practice measures with regard to sustainable development issues, such as community and stakeholder engagement, resource use, carbon management and waste management, among many others.

During the post-construction maintenance period, work will continue to ensure that the Proposed Improvement as-built delivers the scheme objectives and the commitments contained within the CEMP.

#### **4.3.5 Operation – Welsh Government/Trunk Road Agent**

After the completion of construction and after-care, the Proposed Improvement would be passed to the North and Mid Wales Trunk Road Agent (NMWTRA), who are responsible on behalf of Welsh Government for the day to day management and operation of the A55(T).

The Proposed Improvement would then be managed in line with a Handover Environmental Management Plan (HEMP) and relevant legislation, policies and agreements to ensure that the road is safe and meets the functions for which it was designed.

The management of the road would be influenced by information about it at the time of handover, passed over from the construction team to NMWTRA via the HEMP, and the relevant Well-being of Future Generation Act objectives and indicators in place at the time.

#### **4.4 Summary**

This section has provided a description of how the Proposed Improvement and its objectives have been developed.

Although the majority of the work was done before the Well-being of Future Generations Act was enacted, the information here shows how:

- The four areas involved in sustainable development have been considered from the outset, as demonstrated by policy and scheme objectives set for the Proposed Improvement;
- Involvement and collaboration have and will be used to work with and engage stakeholders to inform the way the Proposed Improvement is progressed;
- An integrated and iterative approach to outline design has taken into account all sustainable development areas, and examples are provided of how design measures enable the Proposed Improvement to meet scheme objectives;
- Finally, information has been provided to demonstrate that sustainable development principles would guide the development of the Proposed Improvement in the future.



## 5 SUMMARY OF KEY SUSTAINABILITY MEASURES OF THE PROJECT AGAINST THE WELL-BEING GOALS

### 5.1 Introduction

The Well-being of Future Generations Act 2015 has been enacted, which, as explained in Chapter 2 of this report, 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”*

To demonstrate how the Proposed Improvement aligns with the Well-being Goals of the Act, the following sections explore how the scheme has been developed and would be constructed in accordance with the principles defined by the well-being goals.

### 5.2 A Prosperous Wales

The first Well-Being Goal is *“A Prosperous Wales - an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work”*.

This goal encapsulates a number of aspects of sustainability, which have been divided into the sections below.

*“Innovative, productive and low carbon society”*

The Proposed Improvement has been developed to provide a more efficient transport network for the region.

The economic performance of the Proposed Improvement has been assessed by comparing the costs with the benefits that would be achieved. The costs include both the construction costs and the future maintenance costs, while the benefits considered include journey time savings, vehicle operating costs and changes in accident costs. The ‘Do Nothing’ scenario includes ongoing short-term closures of the A55 due to flooding. The economic benefits of the Proposed Improvement, calculated in accordance with Welsh Government methods, outweigh its associated costs thereby demonstrating good value for money.

The NMU facilities provided in the Proposed Improvement to encourage the use of alternative modes of transport, as described above, support the principles of a low carbon society (one aspect of the Prosperous Wales Well-being Goal).

*“Recognising the limits of the global environment, using resources efficiently and proportionately (including acting on climate change)”*

The Proposed Improvement has been developed to minimise or offset potential effects on the environment and provide enhancement opportunities where feasible and appropriate. The topic chapters of the Environmental Statement set out the potential impacts on people and the environment and measures to minimise these effects, and consider where opportunities arise to have a positive or beneficial effect. Further consideration to minimising the impact on the environment is considered below under the section on ‘A Resilient Wales’.

In terms of resource efficiency, decisions and measures to minimise environmental effects would mainly be implemented during detailed design and construction. A series of contractual requirements will provide a framework for sustainable decision making in order to direct the main contractor and detailed designer

towards resource efficient solutions, which are expected to involve the re-use of excavated material from earthworks activities and existing road surfacing to minimise the volume of imported material required for construction and the volume of waste removed from site for disposal.

*“Developing a skilled and well-educated population”*

The schools, colleges and university located in Bangor provide a regional centre for educational and academic facilities. The Proposed Improvement is being developed to improve road safety, accessibility and reliability of journey times along the A55(T), that will improve access towards Bangor in the long term and therefore allow commuters to arrive at these facilities more easily.

*“An economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work”*

The construction phase of the Proposed Improvement is expected to last for 18-24 months and would provide employment opportunities in the construction sector and local commercial opportunities throughout this period. The Welsh Government is committed to ensuring as many construction jobs as possible would be filled by local workers, depending on the availability of suitably-skilled local people, and the ability of tenderers to source a local workforce and supply chain will be considered during the tender process.

It has been established that tourism plays a significant part in the regional economy (Gwynedd and Anglesey) and it is important in the longer term that safe and reliable links are maintained for visitors to these areas, towards which the Proposed Improvement would contribute along with the wider programme of improvements to the A55(T) described within the National Transport Finance Plan (2015).

### **5.3 A Resilient Wales**

The second Well-being Goal is *“A Resilient Wales - a nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change)”*.

The Proposed Improvement has been developed with the objective of *‘Enhancing biodiversity and future connectivity for wildlife at the locality’*.

The Proposed Improvement would provide a significant nett increase in valuable habitat types such as species-rich hedgerow, species-rich grassland and open waterbodies, from which a variety of native species should benefit in time. Connectivity for mammals beneath the A55(T) would be improved by the installation of suitably-sized pipes and ledges which would be reinforced by wildlife proof fencing preventing mammal access onto the carriageway. Landscape mitigation would address potential landscape and visual impacts, whilst also maintaining wildlife connectivity particularly for bats and reptiles. It is expected that the ability of migratory fish to pass through watercourse culverts would be enhanced on completion of the works by stream re-grading and energy dissipation measures.

Sensitive working practices have been identified which would prevent potential construction phase impacts upon the surrounding environment and include measures which, in particular, would limit disturbance to roosting and commuting bats, reptiles, breeding birds and badgers. Measures would be implemented to minimise the risks of affecting the water quality of surrounding watercourses, which connect to statutory designated marine sites, and prevent the spread of Schedule 9 invasive plant species. These measures, as well as measures to manage soils and materials in a way which maintains soil profiles wherever possible, should enable recovery of the landscape and associated biodiversity.

The proposed mitigation, compensation and enhancement measures all help to maintain and enhance biodiversity and ensure ecosystem resilience by maintaining and enhancing habitat connectivity and

accessibility throughout. This is important at a time of increasing pressure from climate change and habitat fragmentation, and complies with the requirements of Section 6 of the Environment (Wales) Act 2016.

#### 5.4 A Healthier Wales

The third Well-being Goal is *“A Healthier Wales - a society in which people’s physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood”*.

The above requirement also supports the objectives of the Active Travel (Wales) Act (2013) <sup>[21]</sup>, which places a duty on the Welsh Government to take reasonable steps to enhance the provision made for walkers and cyclists and to have regard to the needs of walkers and cyclists in the exercise of certain functions.

The Proposed Improvement has been developed with the objective of *‘Improving pedestrian and cycling access connections to provide alternative, healthier forms of travel’*.

The current section of highway is not conducive to use by NMUs and presents a potential hazard to this group. Provision for NMUs, including users of the North Wales Coastal Route (NCN 5), would be improved by the proposed county road/NMU route adjacent to the eastbound carriageway between the Tal-y-Bont Interchange (Junction 12), Wig Farm and Abergwyngregyn (Junction 13). This represents a beneficial impact for NMUs travelling in this area and would also contribute to improving the wider NMU network.

The Public Rights of Way network would be enhanced by improving connectivity and reducing interface with road traffic; this would be achieved by closing the existing accesses onto/from the highway for various footpaths, and linking footpaths from the north and south onto the proposed county road/NMU route described above, using existing agricultural underpasses for connectivity from the south. A new footway would also be provided between Tan-yr-Allt cottages and bus stops at Tan-y-lon which would guide pedestrians over the A55(T) by means of the bridge at Junction 12.

One of the main aims of the Proposed Improvement is to improve safety standards for the users of this section of the A55(T). The increased forward visibility, provision of hard strips, closure of the central reserve gaps/accesses, improved westbound access junction and improved access/egress on/from the A55(T) to/from key facilities would all assist in reducing driver stress.

In the short term, it is recognised that there may be some disruption during construction that may have a temporary effect on people’s physical and mental well-being. However, this disruption would be minimised through the control measures including dust management and traffic management.

Additionally, reduced and more reliable journey times and enhanced network resilience will improve access towards health services and enable emergency services to access local communities more easily.

#### 5.5 A More Equal Wales

The fourth Well-being Goal is *“A More Equal Wales - a society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic background and circumstances)”*.

The Proposed Improvement, along with the wider programme of improvements to the A55(T) in North Wales, would improve the resilience of the transport network such that delays caused by traffic incidents, flooding and highway maintenance would be reduced. Road users, whether using private vehicles or other modes

would have better access to facilities both regionally and locally. This would improve the ability of people to access services such as health, education and employment opportunities.

## 5.6 A Wales of Cohesive Communities

The fifth Well-being Goal is *"A Wales of Cohesive Communities - Attractive, viable, safe and well-connected communities"*.

An assessment has been undertaken on the potential impact on communities and private assets as a result of the Proposed Improvement, set out in Chapter 5.9 of the Environmental Statement. The dominant land use affected by the scheme is pastoral agriculture. Agriculture along this section of the A55(T) is based principally around beef and sheep farming and is considered to be of local and not national significance. There will be no loss of land used by the community, effects on developed land or community severance.

The effects on farm businesses, such as the changes to current access arrangements, are not considered to be significant as the viability of the businesses is not threatened by the Proposed Improvement. Beneficial impacts are predicted as a result of the closure of agricultural access onto/off the A55(T) and their replacement with safer alternative access provisions.

On completion of the works the Proposed Improvement is expected to increase safety and convenience for residents of properties within the study area, which would benefit from improved access/egress on/from the A55(T) to/from key facilities on a day to day basis. Also, as discussed above, the facilities for NMUs would be considerably improved as a result of the Proposed Improvement allowing better connections to the wider local NMU network.

## 5.7 A Wales of Vibrant Culture and Thriving Welsh Language

The sixth Well-being Goal is *"A Wales of Vibrant Culture and Thriving Welsh Language - a society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation"*.

As discussed above the Proposed Improvement will enhance reliability and resilience in terms of journeys to and from tourist areas, and other parts of Wales and is therefore likely to support tourism and employment opportunities associated with tourism.

The Welsh Government's policy on the Welsh language "A living language: a language for living" <sup>[22]</sup> identifies 'The Community' as one of 5 strategic areas, with the aim of strengthening the position of the Welsh language in the community:

*"The language renewal task must go hand in hand with the work of improving social infrastructure of these areas to help ensure that better employment opportunities and more affordable housing become available, so that people can remain in their communities" (page 34).*

Accordingly, by supporting tourism and potentially economic regeneration in Welsh speaking areas of North Wales, the Proposed Improvement, along with the wider programme of improvements to the regional highway network, and to the A55(T) in particular, may support the Welsh language. However there is an unquantified risk that better connections to other parts of Wales and the UK could encourage migration out of the Welsh speaking areas.

To assist the promotion and protect the Welsh language, the communication strategies for the Proposed Improvement are being developed and will be refined in accordance with the duties of the Welsh Government, including publication of information to stakeholders provided in both Welsh and English and engagement opportunities provided to bilingual speakers.

An assessment of effects upon surrounding cultural heritage assets as a consequence of the Proposed Improvement has been undertaken and is included in Chapter 5.2 of the Environmental Statement. The assessment identifies several features of interest within the study corridor and concludes that no assets are of sufficient value to require any changes to the general arrangement of the Proposed Improvement. Cultural Heritage assets include archaeological remains associated with Roman Road (Henffordd), which would be directly impacted by the works, and landscapes designated due to their historical significance. The principal mitigation measures are the recording of archaeological remains at an appropriate level in advance of destruction; the use of appropriate materials within the scheme; sympathetic planting using locally common species; reinstatement of field boundaries, and avoidance of outlying sites by access and ancillary works.

The proposed improvements in journey times, reliability and resilience would make it easier and more attractive for people to visit arts and sporting venues in the local area.

## 5.8 A Globally Responsible Wales

The seventh and final Well-Being Goal is *"A Globally Responsible Wales - a nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being"*.

The Proposed Improvement has been proposed by the Welsh Government in order to deliver safety and resilience benefits to the trunk road network of Wales which, along with the wider programme of improvements to the regional highway network and the A55(T) in particular, will support tourism and potentially economic regeneration in the region.

The A55(T) also forms part of the Trans-European Transport Network (TEN-T) and therefore is of international importance for commercial vehicles travelling through Continental Europe and the United Kingdom, and the continuing improvement of the highway network is hence vital for the ongoing economic development and social well-being of a wide catchment.

## 6 CONCLUSIONS

This report summarises the consideration given to the principles of sustainable development, the '*ways of working*' and the '*Well-being Goals*' of the Well-being of Future Generations Act 2015 as far as they are currently developed.

The report shows how the Proposed Improvement has considered the safety of road users and the long term resilience of the road along with the need to enhance the economic, social, environmental and cultural context of the immediate area, while seeking positive benefits. As far as practicable, the Proposed Improvement enables multiple benefits to stakeholders and the wider area through fulfilment of the scheme objectives. Additionally, the report shows how involvement and collaboration with stakeholders has informed development and decisions on the progress of the Proposed Improvement, and commitments are given on how the scheme will be taken forward in the future.

The report shows how the '*ways of working*' described within the Act have been adopted and that work has been done, or is in preparation, to support the achievement of the seven '*Well-being Goals*' defined within the Act.

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 way that the scheme is taken forward.

In conclusion, while acknowledging that there are potential impacts of the Proposed Improvement, these need to be considered against the opportunities which align with the '*Well-being Goals*' and the Welsh Government's principles of sustainable development.

## 7 REFERENCES

- [1] Welsh Government, 2015: *Well-being of Future Generations (Wales) Act 2015*. Available from: [http://www.legislation.gov.uk/anaw/2015/2/pdfs/anaw\\_20150002\\_en.pdf](http://www.legislation.gov.uk/anaw/2015/2/pdfs/anaw_20150002_en.pdf). Last accessed: November 2016
- [2] Welsh Government, 2017: *A55 Abergwyngregyn to Tai'r Meibion Improvement Volume 1: Environmental Statement*.
- [3] Welsh Government, 2015. *National Transport Finance Plan*. Available from: <http://gov.wales/topics/transport/planning-strategies/ntp/?lang=en>. Last accessed: November 2016
- [4] National Assembly for Wales, 2000: *Learning to live differently*. Available from: <http://www.assembly.wales/Laid%20Documents/Learning%20to%20Live%20Differently%20-%20The%20Sustainable%20Development%20Scheme%20of%20the%20National%20Assembly%20for%20Wales-09112000-23880/bus-GUIDE-3A0BD19D0006E0AE000061C900000000-English.pdf>. Last accessed: November 2016
- [5] Welsh Assembly Government, 2009: *One Wales: One Planet – The Sustainable Development Scheme of the Welsh Assembly Government*. Available from: <http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>. Last accessed: November 2016
- [6] Welsh Government, 2012: *A Sustainable Wales: Better Choices for a Better Future – Consultation on proposals for a Sustainable Development Bill*. Available from: <http://gov.wales/docs/desh/consultation/121203asusdevwhitepaperen.pdf>. Last accessed: November 2016
- [7] Welsh Government, 2015: *Planning (Wales) Act 2015*. Available from: <http://www.legislation.gov.uk/anaw/2015/4/contents>. Last accessed: November 2016
- [8] Welsh Government, 2016 *The Environment (Wales) Act 2016*. Available from: <http://www.legislation.gov.uk/anaw/2016/3/contents>. Last accessed: November 2016
- [9] Welsh Government/ Sustain Wales, 2015: *The Wales we Want Report*. Available from: <http://thewaleswewant.co.uk/sites/default/files/The%20Wales%20We%20Want%20Report%20ENG.pdf>. Last Accessed: November 2016
- [10] Welsh Government, 2015: *Well-being of Future Generations (Wales) Act 2015: The Essentials*. Available from: <http://gov.wales/docs/dsijlg/publications/150623-guide-to-the-fg-act-en.pdf>. Last accessed: November 2016
- [11] Welsh Government, 2015: *Welsh language use in Wales 2013-15*. Available from: <http://gov.wales/docs/statistics/2016/160301-welsh-language-use-in-wales-2013-15-en.pdf>. Last accessed: November 2016
- [12] Gwynedd Council, 2016: *Gwynedd Equality Report Data Review*. Available from: <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Equality-scheme/Data-Equality-Report-Gwynedd-2016-20-f1.pdf>. Last accessed: November 2016
- [13] Office for National Statistics, 2011: *Labour Market Profile – Gwynedd*. Available from: <https://www.nomisweb.co.uk/reports/lmp/la/1946157384/report.aspx>. Last accessed: November 2016.
- [14] Office for National Statistics, 2011: *Labour Market Profile – Anglesey*. Available from: <https://www.nomisweb.co.uk/reports/lmp/la/1946157383/report.aspx>. Last accessed: November 2016.

[15] House of Commons, 2016: *Regional and local economic growth statistics, August 2016*. Available from: <http://researchbriefings.files.parliament.uk/documents/SN05795/SN05795.pdf> Last accessed: November 2016

[16] Welsh European Funding Office, 2014: *ESF West Wales and the Valleys Operational Programme, December 2014*. Available from: <http://gov.wales/docs/wefo/publications/150603westwalesesfoperationalprogramme.pdf> Last accessed: November 2016

[17] Betsi Cadwaladr University Health Board Website: <http://www.wales.nhs.uk/sitesplus/861/home>

[18] Bangor University Website: <https://www.bangor.ac.uk/>

[19] UK Government, 2006: *Transport (Wales) Act 2006*. Available from: [http://www.legislation.gov.uk/ukpga/2006/5/pdfs/ukpga\\_20060005\\_en.pdf](http://www.legislation.gov.uk/ukpga/2006/5/pdfs/ukpga_20060005_en.pdf) Last accessed: September 2016

[20] Welsh Assembly Government, 2008: *One Wales: Connecting the Nation – The Wales Transport Strategy*. Available from: <http://gov.wales/docs/det/publications/140909-transport-strategy-en.pdf> Last accessed: October 2016

[21] Welsh Government, 2013: *Active Travel (Wales) Act 2013*. Available from: [http://www.legislation.gov.uk/anaw/2013/7/pdfs/anaw\\_20130007\\_en.pdf](http://www.legislation.gov.uk/anaw/2013/7/pdfs/anaw_20130007_en.pdf) Last accessed: November 2016

[22] Welsh Government, 2015: *A living language: a language for living - Welsh language strategy 2012 to 2017*. Available from: <http://gov.wales/docs/dcells/publications/122902wls201217en.pdf> Last accessed: November 2016