

**Adran yr Economi a'r Seilwaith
Department for Economy and Infrastructure**



**Llywodraeth Cymru
Welsh Government**

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) Scheme 201-

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) (Amendment) Scheme 201-

The London to Fishguard Trunk Road (East of Magor to Castleton) Order 201-

The M4 Motorway (West of Magor to East of Castleton) and the A48(M) Motorway (West of Castleton to St Mellons)(Variation of Various Schemes) Scheme 201-

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) and The London to Fishguard Trunk Road (east of Magor to Castleton) (Side Roads) Order 201-

The Welsh Ministers (The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) and the London to Fishguard Trunk Road (East of Magor to Castleton)) Compulsory Purchase Order 201-

The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) (Supplementary) Scheme 201-

The Welsh Ministers (The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) and The London to Fishguard Trunk Road (East of Magor to Castleton)) Supplementary Compulsory Purchase Order 201-

Proof of Evidence

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Welsh Government, Planning and Sustainable Development

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Personal Details

1. My name is John Davies. I currently work as a self-employed planning consultant under the title 'John Davies Planning' as a sole trader.
2. I have a BSc Honours degree in Applied Mathematics from Swansea University. I have been a Member of the Royal Town Planning Institute since 1982, having passed the Institute's External Examinations.
3. The first 5 years of my working life were spent as a computer systems analyst, first with Rolls Royce and then with Glamorgan and Mid-Glamorgan County Councils. I joined Cardiff City Council in 1975, working in regeneration, local planning and development management until 1990 when I joined the Planning Inspectorate.
4. In the Planning Inspectorate I dealt with a wide variety of appeal casework, specialising in retail, renewable energy, telecommunications, gypsy cases and enforcement, in both England and Wales. I also undertook several development plan examinations. I was part of a team recruiting and training Inspectors for 2 years, during which time I recruited and trained the first specialist Rights of Way Inspectors. Part of my role as a trainer was to inform Inspectors of new Government policy and provide advice on policy issues related to casework. Similarly, I advised Inspectors on the implications of High Court judgements. Following my time as a trainer I was for several years a specialist adviser on gypsy and enforcement casework, responsible for writing advice for Inspectors on these subjects.
5. In July 2002 I became a Principal Inspector, conducting major casework and managing a group of Inspectors in Wales. In 2005 I was appointed Inspector Manager responsible for managing Welsh casework and all Inspectors working in Wales. In 2006 I was appointed the first Director of the Planning Inspectorate to be given sole responsibility for Wales.

6. A significant part of my role as Director was to advise Inspectors on casework issues, particularly in relation to the interpretation and the handling of Welsh Government policy. I worked closely with the Welsh Government's Planning Division when new policy was being prepared in view of the Inspectorate's experience in applying statements of policy to appeal casework. Thus I advised on the wording of parts of Planning Policy Wales and Technical Advice Notes including No 8: Renewable Energy and No 15: Development and Flood Risk. My advice was not in connection with the making of policy but on the wording of documents to try to avoid ambiguity and make the written policy as clear and understandable as possible.
7. As Director for Wales I was the public face of the Planning Inspectorate in Wales. I spoke at conferences and seminars, and gave training to Planning Committees and local authority officers. I also attended meetings with Welsh Ministers and appeared before Welsh Assembly Committees to answer questions on the work of the Planning Inspectorate in Wales. I retired from the Inspectorate in 2011 and was awarded the MBE in the same year for my work as Director of the Planning Inspectorate Wales.
8. In October 2011 I was asked by John Griffiths, the then Welsh Government Minister for Environment and Sustainable Development, to Chair the Independent Advisory Group (IAG) to advise on options for future delivery of the planning system in Wales. The IAG report 'Towards a Welsh Planning Act' was delivered to the Minister in June 2012. Many of its recommendations were included in the Planning (Wales) Act 2015; others are being taken forward in secondary legislation or administrative change.
9. Other work I have carried out since becoming a self-employed planning consultant includes advising clients on applications and appeals and submitting appeals. I have also carried out further work for the Welsh Government and for the Department of the Environment Northern Ireland.
10. As a Member of the RTPI I must abide by the Institute's Code of Professional Conduct, which sets out the standards, ethics and professional behaviour expected of Members.

11. I am part of the team responsible for the delivery of the M4 Corridor around Newport Project (subsequently described in my Proof of Evidence as ‘the Project’ or ‘the Scheme’) and I am acting as an expert witness at this Public Local Inquiry. The Proof of Evidence which I have prepared and provide in this Proof of Evidence is true and has been prepared and is given in accordance with the guidance of my professional institution. I confirm that the opinions expressed are my true and professional opinions.

Legislative and Policy Background

12. My Proof of Evidence deals with sustainable development and planning policy matters. This is not a planning Public Local Inquiry and the requirement to make the decision in accordance with the development plan, unless material considerations indicate otherwise¹, does not apply. Nonetheless, Section 16(8) of the Highways Act 1980 requires the Welsh Ministers to give due consideration, before making or confirming a special road scheme, to the requirements of local and national planning, including the requirements of agriculture. Some of the representations regarding the Draft Orders also raise planning issues and the Inspectors have asked that the relationship of the Scheme to national and local planning policies is considered.

13. National planning policies relevant to the duty under s.16(8) of the Highways Act 1980 are set out in Planning Policy Wales Edition 9 (PPW)², published in November 2016, supplemented by a series of Technical Advice Notes (TAN). The Welsh Government is preparing a National Development Framework (NDF) for Wales³. A Statement of Public Participation⁴, including a timetable for preparation of the NDF, was published in November 2016; this indicates that consultation on the draft NDF will take place from January-April 2019. In addition, a Call for Evidence and projects⁵ was published in December 2016. Local

¹ Section 38(6) of the Planning and Compulsory Purchase Act 2004 (Document 3.1.33)

² Document 5.1.3

³ Section 60 of the Planning and Compulsory Purchase Act 2004 as inserted by Section 3 of the Planning (Wales) Act 2015 (Document 3.1.20)

⁴ Document 5.2.7

⁵ Document 5.2.8

planning policies relevant to the Highways Act duty are contained in the Local Development Plans (LDP) for Newport and Monmouthshire.

14. PPW was updated in January and November 2016 to ensure national planning policies reflect the requirements of the Well-being of Future Generations (Wales) Act 2015 (the 2015 Act), amongst other things. The 2015 Act is a crucial piece of legislation that seeks to change the way that all public bodies in Wales work, including the Welsh Government. The 2015 Act requires them to carry out sustainable development and makes this a core principle to guide how they operate. It 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 7 Well-being goals set out in Section 4 of the 2015 Act. Section 5 of the 2015 Act defines the sustainable development principle with the aim of making all public bodies in Wales think more about the long term, work better with people, with communities and each other, look to prevent problems and take a more joined-up approach.
15. The last of the Well-being goals defined in the 2015 Act is 'A Globally Responsible Wales'. Part 2 of the Environment (Wales) Act 2016 deals with climate change and places a duty on Welsh Ministers to ensure a reduction of 80% in net Welsh greenhouse gas emissions by 2050.

Scope and Structure of Evidence

16. The 2015 Act and the Environment (Wales) Act 2016 together with the policies in PPW and the TANs create the context for me to consider the Scheme and lead to the following three main issues around which my Proof of Evidence is structured:
- a) Whether the selection of the Plan for the M4 Corridor around Newport and the subsequent development of the Scheme to deliver that Plan was in accordance with the sustainable development principle now set out in the 2015 Act and whether the Scheme accords with the Welsh Government's well-being objectives published on 4 November 2016⁶;

⁶ Document 5.2.5

- b) Whether the Scheme is in accordance with the Welsh Government's policies dealing with climate change and the reduction of emissions of greenhouse gases, with particular reference to Part 2 of the Environment (Wales) Act 2016; and
- c) Whether the Scheme is in accordance with the relevant national and local planning policies for the development and use of land and whether it would meet the sustainable development principle and sustainability objectives set out in PPW Edition 9, thereby contributing to the Well-being goals of the 2015 Act.

17. After considering these three issues individually I respond to the sustainable development and planning policy issues raised in the objections before making a balanced judgement taking account of my conclusions on the main issues and all considerations. I refer to several Public Local Inquiry documents, in particular the Environmental Statement⁷ (ES) and its Supplements⁸, and I rely on the Proof of Evidence of the other expert witnesses. I use their analysis of the Scheme and their assessment of the physical and visual impacts of the new section of motorway in order to reach my conclusions with regard to planning policies and other legislation. Before dealing with the main issues I consider the strategic Plan for the M4 Corridor around Newport in the context of Welsh Government policy.

The Plan for the M4 Corridor around Newport – Policy Context

18. The Planning and Compulsory Purchase Act 2004 placed a duty on the National Assembly for Wales to prepare a spatial plan. The Wales Spatial Plan 2008⁹ sets out a strategic framework to guide future development and policy interventions in Wales. It emphasises the importance of external connections to Cardiff, Bristol and London, and internationally to attract inward investment and a high-skilled, high-paid workforce. It identifies the need to alleviate congestion on the M4 around Newport as a key strategic issue.

⁷ Document 2.3.2

⁸ Documents 2.4.4 & 2.4.14

⁹ Document 5.1.1

19. One Wales: Connecting the Nation¹⁰ sets out the Welsh Government's Transport Strategy. It identifies significant problems on strategic routes, describing the M4 between the Severn Crossings and Swansea as a vital link with traffic levels well above its capacity.
20. The National Transport Plan 2010¹¹ (NTP) describes the M4 between Newport and Swansea as a key corridor for the economy of South Wales, which suffers congestion during peak periods and is vulnerable to closures without available alternatives. The NTP therefore seeks to target investment to improve reliability, journey times and safety along the East-West road corridor in South Wales.
21. The Wales Infrastructure Investment Plan 2012¹² sets out the Welsh Government's strategic investment priorities including improving East-West transport links in South Wales and states that the strategic enhancement of the M4 is being examined for feasibility.
22. The process of developing and testing various alternative options and solutions to the acknowledged problems associated with the M4 around Newport is described in the Proof of Evidence of Mr Matthew Jones¹³. This process identified the construction of a dual 3-lane motorway south of Newport, together with complementary measures, as the solution that would best address the recognised problems and achieve the objectives set for the appraisal of the options. Following public consultation the Welsh Government adopted the identified solution as the M4 Corridor around Newport Plan¹⁴ in July 2014, publishing a TR111 Notice¹⁵ to protect the preferred route.
23. The National Transport Finance Plan¹⁶, July 2015, identifies new road schemes and under the heading 'New Road Infrastructure – Schemes to be Constructed' R8 is described as:

¹⁰ Document 6.1.3

¹¹ Document 6.1.5

¹² Document 5.1.5

¹³ WG 1.1.1

¹⁴ Document 4.5.7

¹⁵ Document 4.6.8

¹⁶ Document 5.1.7

Improvements to the M4 Corridor around Newport - a new section of motorway south of Newport and complementary measures including; reclassification of the existing M4 between Magor and Castleton, a M48-B4245 link and cycling and walking friendly infrastructure.

24. The Plan for the M4 Corridor around Newport (the Plan) is thus identified as a strategic priority Scheme and forms part of the Welsh Government's published, current, infrastructure investment plans, subject to necessary statutory procedures and a Public Local Inquiry into objections (see also Proof of Evidence of Mr Matthew Jones¹⁷). This is confirmed in the Welsh Government's programme for government for the next 5 years, *Taking Wales Forward 2016-21*¹⁸, which states a commitment to "Deliver an M4 relief road" as part of the 'United and Connected' strategy.

25. I note here that the process leading to the adoption of the Plan was found by the courts to have been lawful in the case of *R (Friends of the Earth England, Wales and Northern Ireland Limited) v Welsh Ministers* [CO/4433/2014]¹⁹. The challenge was based on the Strategic Environment Assessment Directive and the requirements of Section 28G of the Wildlife and Countryside Act 1981 in respect of the protection of Sites of Special Scientific Interest (SSSI). I return to the implications of this case later in my Proof of Evidence.

Issue 1: Sustainable Development

26. Sustainable development has been embedded in the actions of successive Welsh Governments since devolution -

- a) Section 121 of the Government of Wales Act 1998 set a legal duty on the National Assembly for Wales to make a Scheme setting out how it proposed to promote sustainable development
- b) The first sustainable development Scheme, *Learning to Live Differently*²⁰, was adopted by the Welsh Government in 2000

¹⁷ WG 1.1.1

¹⁸ Document 5.1.11

¹⁹ Document 4.5.45

²⁰ Document 5.1.8

- c) The Government of Wales Act 2006 set a legal duty on Welsh Ministers to make a Scheme setting out how they propose to promote sustainable development
- d) ‘One Wales: One Planet’²¹ published in 2009 confirmed sustainable development as the central organising principle of the then Welsh Assembly Government.

27. The 2015 Act is hence the next step in the Welsh Government’s commitment to making sustainable development integral to the way that all public bodies in Wales work, including the Welsh Government itself.

28. Although the preparatory work leading to the development of the Plan and the publication of the Draft Orders largely pre-dates the 2015 Act, because of its commitment to carrying out sustainable development, the working practices of the Welsh Government had previously evolved in accordance with sustainable development principles. Of particular relevance is the Welsh Government’s production of the Welsh Transport Planning Appraisal Guidance (WelTAG)²². This assesses transport schemes in terms of Welsh Impact Areas corresponding to the three elements of sustainability underlying policy at that time in Wales - the economy, society and the environment. It gives decision-makers information about significant impacts in respect of each aspect of sustainable development, enabling reasoned decisions to be made using a consistent approach and providing an audit trail.

29. Paragraph 2.4.4 of WelTAG states

The Welsh Assembly Government has a statutory duty under the Government of Wales Act to promote sustainable development and is, therefore, committed to making decisions which are consistent with this aim.

30. The Plan was selected following rigorous testing using, amongst other things, the WelTAG methodology to appraise alternatives against sustainability objectives and criteria. The Plan provided the best fit with the Welsh Impact Areas and the transport planning objectives used to appraise the different options.

²¹ Document 5.1.2

²² Document 6.1.4

31. The influence of the legal duty imposed first on the Welsh Assembly and subsequently on Welsh Ministers to promote sustainable development can be seen in earlier work on the problems associated with the M4 around Newport. In 2006 a leaflet²³ for a series of public exhibitions for the 'New M4 Project' stated the following key objectives, which were clearly based on the three pillars of sustainable development policy at that time:

- a) *Social: to deliver enhanced accessibility to services and employment opportunities for people, whilst retaining a choice for road users.*
- b) *Economic: to deliver a more efficient transport capability for road traffic on the primary economic gateway to South Wales, to facilitate growth in regional and national prosperity.*
- c) *Environmental: to prevent, reduce and where practicable offset any significant adverse effects on environmental receptors.*

32. Whilst PPW was updated in January 2016 to reflect the 2015 Act, sustainable development has been at the heart of the Welsh Government's land-use planning policies for many years. Paragraph 8.1.7 of PPW emphasises the importance of the WelTAG in approaching transport centred projects.

33. Section 5 of the 2015 Act defines five 'ways of working' that make up the sustainable development principle –

- a) Thinking long term
- b) Taking an integrated approach
- c) Involving a diversity of population
- d) Working in a collaborative way
- e) Understanding and prevention.

34. To consider whether the selection of the Plan and subsequent development of the Scheme was in accordance with the sustainable development principle it is necessary to examine each of these five 'ways of working'.

Thinking long term

35. Statutory guidance for the 2015 Act suggests that best practice is to look 25 years ahead. The Scheme addresses the immediate need to alleviate congestion on the motorway but the long term implications were fundamental to the

²³ Document 4.2.8

assessment process. The design year for the Scheme is 2037 for traffic forecasting and other modelling work, but the assessment of flooding issues for example considers a 100 year period to account for climate change. The studies of the economic impact of the Scheme consider a 60 year period. The ES typically assesses environmental impacts both in the short term and in the long term taking account of mitigation.

Taking an integrated approach

36. This refers to the need to make connections between economic, social, environmental and cultural challenges and consider how the well-being objectives set by the public body for the purposes of the Act impact on each of the well-being goals, on their other objectives and on the objectives of other public bodies. In this case the Plan and Scheme were developed prior to the development of the Welsh Government's well-being objectives (which I deal with later), published on 4 November 2016²⁴. Nonetheless, the three pillars of sustainable development policy at that time – the economy, the environment and society - were integral to the WeITAG assessment process. This assessment process is objective-led, starting by identifying problems and opportunities, and then defining what is to be achieved, leading to a set of transport planning objectives²⁵. Specific environmental objectives were also developed based on the National Transport Plan SEA objectives. A comprehensive series of alternatives was assessed against these objectives, which covered the three aspects of sustainable development policy. As part of the WeITAG process, reports on economic impact were prepared together with a Health Impact Assessment, an Equality Impact Assessment and a Strategic Environment Assessment²⁶. These reports were integral to the WeITAG assessment, thus ensuring that the Plan eventually adopted by the Welsh Government resulted from an integrated approach that considered all aspects of sustainable development (see ES Chapter 4).

37. Major public transport improvements and measures to encourage the use of alternatives to road transport were also considered in developing the Plan and Scheme, bearing in mind that one of the objectives is a cultural shift in travel

²⁴ Document 5.2.5

²⁵ WG 1.1.1 – Proof of Evidence of Mr Matthew Jones

²⁶ Document 4.3.10, Document 4.3.11, Document 4.3.12

behaviour. However, it was concluded that new or improved public transport services would not, of themselves, solve the identified problems associated with the M4. Nonetheless, the importance of their wider contribution is recognised and public transport improvements are complementary to the M4 proposals, as demonstrated by the junction strategy for the new section of motorway. The new Junction 23 would improve access to the Severn Tunnel Junction railway station. The proposed Glan Llyn Junction would enable access to the new community at Glan Llyn on part of the former Llanwern steelworks site and a future Llanwern Park and Ride railway station as detailed in the December 2016 Updated Public Transport Overview²⁷. This report deals with the impact of the Llanwern Park and Ride and the South Wales Metro, which is being progressed in parallel with the Scheme as part of a long-term, integrated transport strategy as emphasised by the Economy and Infrastructure Secretary Ken Skates when he announced this Public Local Inquiry in June 2016²⁸. The report confirms, first, that the South Wales Metro would have relatively minor impact on motorway traffic volumes and, second, the complimentary nature of the Scheme and Metro. The Welsh Government's 5 year programme *Taking Wales Forward 2016-21*²⁹ contains a commitment to "Create a South Wales Metro....." as part of the 'United and Connected' strategy.

38. The Glan Llyn Junction would link with the A4810 providing access to the motorway network for the south eastern part of Newport; to the Celtic Business Park on part of the former Llanwern steelworks site; and to Tata Steel and other businesses in the vicinity, such as those operating from the Gwent Euro Park. The proposed junction is on land at one time identified in the Newport LDP for employment use. Following a review of employment land requirements this allocation was removed from the LDP adopted in 2015, and left unallocated. However, access would be facilitated by the Glan Llyn Junction should a future review of the LDP indicate the need to allocate additional employment land.

²⁷ Document 2.4.19

²⁸ WG 1.1.1

²⁹ Document 5.1.11

Involving a diversity of population

39. The Welsh Government's guidance on the 2015 Act states 'effective involvement of people and communities is at the heart of improving well-being'³⁰. The people involved must reflect the diversity of population served. Development of these proposals involved extensive engagement with all sectors at the different stages of the process and extending over a number of years, beginning in earnest in 2010 with the M4 Corridor Enhancement Measures continuing through to 2013 with consultation on the M4 Corridor around Newport draft Plan, as detailed in Chapter 4 of the ES³¹. During each stage of consultation local authorities, access groups, environmental groups, business, schools, and the public were heavily involved. In dealing with the wide range of sectors with an interest in a project of this nature there are bound to be opposing views and there is both considerable opposition to and support for the Welsh Government's proposals. This is inevitable with such a major project. However, opposition does not imply that development of the Scheme failed to adhere to the sustainable development principle in terms of the need to involve a diversity of the population.

Working in a collaborative way

40. The 2015 Act recognises that public bodies play different roles and that they need to ensure their actions are complementary. In developing the Scheme the Welsh Government has worked closely with other public sector bodies and interested organisations to assess the various options to solve the problems associated with the M4 around Newport. Extensive consultation has been carried out on several different occasions in the course of seeking a solution to these problems (see ES Chapter 4 and Proof of Evidence of Mr Matthew Jones³²). Following the adoption of the Plan, statutory consultees and other public bodies have been closely involved in the development of the Scheme, with numerous individual meetings and an Environmental Liaison Group established (see Proof of Evidence of Dr Peter Ireland³³). The Scheme has been reviewed by the Design Commission for Wales on a number of occasions (see Proof of Evidence of Mr

³⁰ Document 5.2.4 - SPSF1: Core Guidance on the Well-being of Future Generations (Wales) Act 2015, Welsh Govt, para 78

³¹ Document 2.3.2

³² WG 1.1.1

³³ WG 1.7.1

Ben Sibert³⁴) most recently in October 2015³⁵. The Commission has been asked to consider the revised design of the bridge over the River Usk and comments are awaited.

41. The core guidance on the 2015 Act³⁶ in respect of collaboration advises on how the arrangements put in place with other organisations, particularly in the private sector, could encourage them to contribute to the Well-being goals and take account of the five ways of working. The Welsh Government decided to follow an Early Contractor Involvement (ECI) method to procure the Scheme. The tender documents for the Scheme asked a number of questions regarding the management of the Project; how the environmental impacts would be addressed and minimised; how the carbon footprint would be reduced; and how the main challenges would be dealt with (see Proof of Evidence of Mr Matthew Jones³⁷). This was taken forward by the contractors that were awarded the contract by modifications to the design to address the environmental impact of the Scheme and reduce its carbon footprint (see Proof of Evidence of Mr Barry Woodman³⁸).
42. The early involvement of the contractor at the design stage with the ECI contract enabled the design and construction methods to be developed in a collaborative manner that addressed the impact on the SSSIs together with all other environmental, economic and social impacts in a comprehensive and integrated manner (see Proof of Evidence of Mr Ben Sibert and Mr Barry Woodman³⁹). Through its procurement arrangements and early involvement of the contractor the Welsh Government was hence able to influence the way the Scheme was developed in line with the sustainable development principle and the need to maximise its contribution to the Well-being goals.
43. The success of the M4CaN Project Team in applying sustainable development principles to the Scheme has been recognised under the CEEQUAL scheme. This is designed to promote and recognise improvements in sustainability and environmental performance in civil engineering projects. The M4 Corridor around

³⁴ WG 1.5.1

³⁵ Document 4.6.10

³⁶ Document 5.2.4 - SPSF1, para 95

³⁷ WG 1.1.1

³⁸ WG 1.6.1

³⁹ WG 1.5.1 & 1.6.1

Newport Scheme won a CEEQUAL award for the project development phase (see Proof of Evidence of Mr Matthew Jones⁴⁰).

Understanding and prevention

44. The 2015 Act requires public bodies to take account of how deploying resources to prevent problems occurring or getting worse may contribute to well-being objectives. Problems on the M4 around Newport were first identified in the South Wales Area Traffic Survey⁴¹ in 1990. Measures to address the problems associated with the M4 have subsequently been assessed and developed over more than 25 years, as detailed in the Proof of Evidence of Mr Matthew Jones. The Project is the culmination of that work and is the Welsh Government's solution to the identified problems. The Proof of Evidence of Mr Ben Sibert⁴² describes the deficiencies of the existing motorway around Newport compared with normal standards. The Welsh Government is therefore investing in order to prevent the existing problems associated with the M4 around Newport from getting worse.

The Welsh Government's Well-being Objectives (2016)

45. Section 3(2)(a) of the 2015 Act requires each public body to publish well-being objectives to maximise its contribution to achieving the seven well-being goals in the Act. The Welsh Government's 14 well-being objectives were published on 4 November 2016⁴³ alongside the programme for government, *Taking Wales Forward 2016-21*⁴⁴. The accompanying statement by the Cabinet Secretary for Finance and Local Government emphasised the close link between the objectives and the programme for government. The objectives are to help deliver the programme for government and form the foundation for the development of the four cross-cutting strategies set out in *Taking Wales Forward 2016-21*. The Project is a key component of the '*United and Connected*' strategy, which contains a commitment to deliver an M4 relief road.

⁴⁰ WG 1.1.1

⁴¹ Document 4.1.1

⁴² WG 1.5.1

⁴³ Document 5.2.5

⁴⁴ Document 5.1.11

46. I draw attention to three of the Welsh Government's 14 well-being objectives:

- a) *Objective 4: Improve prosperity for all across Wales, helping people into employment and sustaining jobs*

The rationale for this objective stresses the fundamental role of increased employability to tackling poverty and reducing inequalities, and the importance of sustaining long-term employment to reducing the chances of unemployment and poverty. The importance of the Project to the economy to the whole of South Wales is explained in the Proof of Evidence of Mr Matthew Jones and Mr Stephen Bussell⁴⁵ and is dealt with later in my Proof of Evidence where I consider planning and the economy. Objective 4 is identified as contributing to 5 of the well-being goals of the 2015 Act.

- b) *Objective 7: Connect communities through sustainable and resilient infrastructure*

The rationale for this objective emphasises the importance of investment in infrastructure to build resilience for people, communities, the economy and the wider environment. The strong economic, environmental and social reasons for improving infrastructure are emphasised, referring to climate change and the contribution to wider benefits for health and poverty; providing well-connected communities enables people to communicate and supports economic growth. An integrated approach to infrastructure delivery, including transport, can better deliver these benefits. Objective 7 contributes to all 7 well-being goals of the 2015 Act.

- c) *Objective 10: Foster conditions for sustainable economic development and employment, whilst stimulating innovation and growth for a modern low carbon economy*

The rationale for this objective emphasises the importance of supporting infrastructure, including effective transport, to economic success. Objective 10 is identified as contributing to 5 of the well-being goals of the 2015 Act.

⁴⁵ WG 1.1.1 & 1.3.1

47. These objectives emphasise the importance of investment in infrastructure to the economy, environment and society. Bearing in mind that the 14 well-being objectives form the foundation for the four cross-cutting strategies in the programme for government, it is clear that the Scheme, which is part of those strategies, is integral to the achievement of the Welsh Government's well-being objectives and therefore to the well-being goals of the 2015 Act.
48. For these reasons I conclude on the first issue that the process of selecting the M4CaN Plan and the subsequent development of the Scheme to deliver that Plan was in line with the 5 ways of working now set out in the 2015 Act and hence in accordance with the principle of sustainable development. I also conclude, in the light of the commitment to deliver an M4 relief road in the 5-year programme for government, that the Project would contribute to the Welsh Government's well-being objectives and hence to achievement of the well-being goals defined in the 2015 Act.

Issue 2: Climate Change and Greenhouse Gases

49. The 2015 Act defines 7 Well-being goals and the last of these is 'A Globally Responsible Wales. Part 2 of the Environment (Wales) Act 2016 deals with climate change and places a duty on Welsh Ministers to set an emissions reduction target for the year 2050, which shall be at least 80% of baseline Welsh greenhouse gas emissions. Welsh Ministers are also required to establish carbon budgets and interim emissions reduction targets through secondary legislation.
50. A Carbon Report for the Scheme is in Appendix 2.4 of Volume 3 of the ES⁴⁶. This calculates the impact of carbon emissions during construction, amounting to 522,516 tCO₂. The capital and operational carbon are a small component of the total carbon for the Scheme compared with the user carbon during operation from tailpipe emissions. Nonetheless, great attention has been devoted to minimising levels of construction carbon during the design of the Scheme by following the recommendations in Annex B of the Carbon Report on carbon saving actions. In dealing with Issue 1 above (para 41) I have referred to the modifications by the design team to address the environmental impact of the Scheme and reduce its

⁴⁶ Document 2.3.2

carbon footprint (see Proof of Evidence of Mr Barry Woodman⁴⁷). Measures include minimising embankment heights to reduce the overall quantities of earthworks and material required from borrow pits; maximising re-use of material generated on-site including the safe re-use of contaminated soils so as to minimise the need for imported new fill material; minimising waste generated on-site and the need to export unsuitable material off-site. These measures would significantly reduce the number of movements by construction vehicles on local roads (see Proof of Evidence of Mr Matthew Jones, Mr Ben Sibert and Mr Barry Woodman⁴⁸).

51. Mr Tim Chapman⁴⁹ deals specifically with the carbon emissions associated with the Scheme. The SATURN traffic model was used to assess carbon emissions and the results were included in the Carbon Report in the March 2016 ES. The assessment at that time was that total annual user carbon emissions on the South Wales road network would reduce, albeit by less than 1% in 2022, the opening year of the Scheme. The SATURN traffic model was updated using the revised December 2016 traffic forecasts. This is dealt with by Mr Chapman who confirms that the conclusions of the March 2016 Carbon Report remain valid. The updated SATURN model shows that the Scheme would have a positive but small effect annually on User Carbon emissions.

52. A more detailed traffic model recommended by the Department for Transport known as VISSIM, plus the Passenger car and Heavy Duty Emissions Model (PHEM), have been used to estimate tailpipe emissions along the route of the new section of motorway (see Proof of Evidence of Mr Bryan Whittaker and Mr Tim Chapman)⁵⁰. The SATURN model includes the whole South Wales road network, whereas the VISSIM-PHEM model covers only the core route corridor of the existing M4 and the Scheme. Mr Chapman details the output from the two models. Both the SATURN and VISSIM-PHEM models show small user carbon reductions due to the shorter length of the new section of motorway and reduced congestion, enabling smoother, more efficient traffic flows. Mr Chapman

⁴⁷ WG 1.6.1

⁴⁸ WG 1.1.1, WG 1.5.1 & WG 1.6.1

⁴⁹ WG 1.13.1

⁵⁰ WG 1.2.1 & WG 1.13.1

estimates that carbon neutrality could potentially be achieved by 2066⁵¹. He concludes that the Scheme is effectively Whole Life Carbon neutral and would play a minor role in reducing Welsh carbon emissions and would not hinder achievement of the long-term targets to be set by the Welsh Government under the Environment (Wales) Act 2016.

53. Every construction project will involve some expenditure of carbon but the well-being of the people of Wales requires that development takes place, in accordance with sustainable development principles, to provide the houses, jobs, shops, schools, hospitals and other facilities needed by a modern society. The important point is that there is a trajectory of overall emissions reduction, as established for the UK by the Climate Change Act 2008⁵² and most recently for Wales by the Environment (Wales) Act 2016⁵³. Neither Act requires specific projects to be subject to these targets.
54. The Climate Change Strategy for Wales 2010 put in place a 3% reduction target from 2011 for annual emissions and set targets by sector, including transport. It does not suggest that individual projects should be subject to this target, recognising that the response to climate change requires a cross-cutting approach across all sectors. The Explanatory Memorandum for the Environment (Wales) Act⁵⁴ explains (para 162) that the intended effect of the legislation includes flexibility, so that slower transition in one area can be balanced by more rapid progress elsewhere, for example through increasing electrification of transport. This point is also addressed by Mr Matthew Jones and Mr Tim Chapman in their Proof of Evidence.
55. Based on the Proof of Evidence provided by Mr Chapman and others I consider the Scheme to be in line with the Welsh Government's approach to greenhouse gas emissions reductions by virtue of its design and the fact that it would achieve a reduction, albeit small, in annual user carbon emissions both in the opening and design years. The Proof of Evidence shows that the Scheme would potentially be carbon neutral by 2066 in operation. It is therefore in accordance

⁵¹ WG 1.13.1

⁵² Document 3.1.14

⁵³ Document 3.1.16

⁵⁴ Document 3.1.17

with the trajectory of overall emissions reductions required by legislation and policy. The reduction in greenhouse gas emissions would contribute to the final Well-being goal of the 2015 Act, a 'Globally Responsible' Wales and to the Welsh Government's well-being objective 6: *Support the transition to a low carbon and climate resilient society.*

Issue 3: Land-use Planning

Local Planning Policies

56. As part of the development of its M4 proposals, the Welsh Government has served numerous iterations of a Statutory TR111 Notice on the Chief Executives of Newport City and Monmouthshire County Councils, requiring them to protect a route for planning purposes. These were issued under Article 19 of the Town & Country Planning (Development Management Procedure) (Wales) Order 2012 as amended. Following receipt of the Notice the Councils should refer any planning application affecting land within 67 metres of the protected route or its connecting roads to the Welsh Government. They are also required to show the protected route in their published development plans. This included Unitary Development Plans (UDP) and now Local Development Plans (LDP). The protected route should also show up as part of the local authority searches procedure.

57. The history of the protected corridors for the M4 proposals includes:

- a) Following consultation in 1993 and 1994, a Preferred Route for an M4 Relief Road was announced by the Secretary of State for Wales, on 12 July 1995. A TR111 Notice was also published on the same day, which protected a corridor for planning purposes. A revised TR111 Notice was published in 1997 to take into account local developments of importance.
- b) Between 1997 and 2006, studies were undertaken to consider other options such as public transport improvements. A comprehensive route review led to a further revised TR111 Notice being published in 2006. The modified route took into account environmental legislation that increased the protection of Sites of Special Scientific Interest (SSSI) amongst other constraints.

- c) Further appraisal formed the basis for the development of a draft Plan and Strategic Environmental Assessment, which was subject to public consultation between September and December 2013. Taking responses to the consultation and its associated assessments into account, the Welsh Government decided to adopt its Plan for the M4 Corridor around Newport in July 2014. A revised TR111 Notice was published in July 2014 to protect a modified preferred route for a new section of motorway to the south of Newport.
- d) The Newport City Council LDP and the Monmouthshire County Council LDP each set out policies protecting for planning purposes the safeguarded route (SP16/Constraints Plan and MV10 respectively).

58. The Newport LDP, adopted in January 2015, is the development plan for Newport and is the basis for land use planning within the council's administrative area. The LDP states that the proposed 'M4 Relief Road' between Junction 23A at Magor and Junction 29 at Castleton is not being progressed in the Welsh Government's National Transport Plan (2010) but that the direction to consult the Welsh Government on any planning applications affecting the route is still in place. The safeguarded route is identified on its Constraints Map. The Newport UDP, which has been superseded by the LDP, provides useful context. The UDP stated that good accessibility would be essential to the success of plan policies and the M4 Relief Road was identified as a "key element for Newport". It went on to state that "*the M4 Relief Road is part of the national highway network and will ease what will become severe congestion on the existing M4. A decision on the Relief Road is yet to be taken by the National Assembly for Wales.*" The Unitary Development Plan safeguarded land for the development of the then M4 Relief Road.

59. The Monmouthshire LDP was adopted in February 2014. Policy MV10 'Transport Routes and Schemes' states that the 'M4 corridor enhancement Scheme Magor to Castleton' will be safeguarded from development. Its length in Monmouthshire is safeguarded as indicated on the Proposals Map. The safeguarded route was

carried over from the Unitary Development Plan, which safeguarded land for the development of the then M4 Relief Road.

60. The M4 proposals have therefore been afforded safeguarded status throughout their development, protecting the route for planning purposes in its different iterations from 1995 and as modified in 1997, 2006 and 2014. Current local development plan policies continue to protect the line of the M4CaN from any development that would prevent the Scheme's implementation.

National Planning Policies

61. Planning Policy Wales (PPW) Edition 9⁵⁵ sets out the land-use planning policies of the Welsh Government and reflects the requirements of the 2015 Act. Chapter 4: Planning for Sustainability (paragraph 4.3.1) expands the sustainable development principle in the 2015 Act into 11 detailed ways of working to which those involved in the planning system are expected to adhere. PPW paragraph 4.4.3 translates the 7 Well-being goals of the 2015 Act into detailed sustainability objectives for the planning system, so that it can provide the framework to manage the use and development of land in a way which is consistent with key sustainability principles and policy objectives, and hence contributes positively to the achievement of the Well-being goals.

62. I begin by considering the Scheme against the topic-based planning policies in the individual chapters of PPW, examining the extent to which the new section of motorway meets those policies and the sustainability objectives in paragraph 4.4.3 of PPW, and hence would contribute to the Well-being goals in the 2015 Act. I then examine whether the Scheme accords with the sustainable development principle in PPW Chapter 4, paragraph 4.3.1. I relate my Proof of Evidence to the national indicators published under section 10(1) of the 2015 Act, which will be used to measure progress towards the achievement of the Well-

⁵⁵ Document 5.1.3

being goals.⁵⁶ I also refer where appropriate to the Welsh Government's well-being objectives published on 4 November 2016.⁵⁷

PPW Chapter 8: Transport

63. Paragraph 8.1.9 points out that transport emissions contribute significantly to climate change, water pollution and poor local air quality, which can affect people's health. It emphasises that decisions on planning applications should take account of statutory air quality objectives, the results of air quality reviews and Air Quality Management Plans. Paragraph 8.5.7 indicates the need to minimise the adverse impacts of new transport infrastructure on the natural, historic and built environment and on local communities. It refers to the use of landform to reduce noise and visual effects, and the use of mitigation measures to minimise the impacts of construction and subsequent operation. The specific issues raised in this chapter in relation to transport schemes are covered by detailed policies in the topic chapters of PPW, which I now refer to in turn.

PPW Chapter 4: Agriculture

64. Chapter 15 of the ES, its Supplements and the Proof of Evidence of Ms Julia Tindale⁵⁸ deal with the effect on agricultural land and farm holdings. The land permanently lost to agriculture would be that required for construction within the highway boundary (see Proof of Evidence of Mr Ben Sibert⁵⁹) together with land required for mitigation, including landscaping (see Proof of Evidence of Dr Peter Ireland⁶⁰). The agricultural quality of the land required for borrow pits would be reduced following restoration.

65. To ensure that the impact on agricultural land could be accurately assessed detailed survey work was carried out in 2015 and 2016 with the results published in the ES Supplement⁶¹. The majority (over 80%) of the land take for the new section of motorway affects either non-agricultural land (44%) or areas of lower

⁵⁶ Document 5.2.3 - *How to measure a nation's progress? National indicators for Wales*, Welsh Government, Mar 16

⁵⁷ Document 5.2.5

⁵⁸ Documents 2.3.2, 2.4.4 & 2.4.14; WG 1.10.1

⁵⁹ WG 1.5.1

⁶⁰ WG 1.7.1

⁶¹ Document 2.4.4, Figure R 15.7

agricultural quality Grades 3b and 4 (39%). Best practice methods for soil handling would be used during construction for the stripping, storage and replacement of soil on areas temporarily affected to reduce the impact on agricultural land.⁶² Further mitigation would include reinstatement after construction; accommodating crop harvesting; maintaining farm accesses wherever possible; ensuring no cross-contamination; and minimising dust and noise (see Proof of Evidence of Mr Barry Woodman and Ms Julia Tindale)⁶³.

66. The Welsh Government has worked closely with farmers and landowners to reduce the severance of holdings and farm access routes; new private means of access have been included in the Scheme where necessary⁶⁴. Mr Ben Sibert⁶⁵ explains how the design of individual replacement accesses has been modified wherever possible in response to the concerns of farmers and landowners. The Welsh Government is continuing to liaise with farm owners so that their concerns can be addressed wherever possible, as demonstrated by Ms Julia Tindale in her Proof of Evidence. As a result of these on-going discussions it has been possible to include in the Scheme measures to maintain access and to reduce areas required for SSSI mitigation, hence reducing loss of high quality agricultural land.

67. Nonetheless, there would be permanent loss of 67.1 ha of the best and most versatile agricultural land in grades 2 and 3a, with a further potential loss of up to 6.2 ha of Grade 3a land for borrow pits. In total there would be a loss of some 229.3 ha of productive agricultural land. In addition, there would be severance of fields and farm access routes, and changes to reens. A total of 9 farm holdings would be permanently affected in the long term, with a further holding entirely lost. There would therefore be substantial permanent loss of agricultural land and significant long term effects on farm holdings.

68. PPW para 4.10.1 states that land in agricultural grades 1, 2 and 3a, regarded as the best and most versatile, should only be developed where there is an overriding need and land in lower agricultural grades is unavailable or has an

⁶² Document 2.3.2, App 3.2 - pre-Construction Environmental Management Plan

⁶³ WG 1.6.1, WG 1.10.1

⁶⁴ WG 1.10.1

⁶⁵ WG 1.5.1

environmental value which outweighs the agricultural considerations. If land in grades 1, 2 or 3a does need to be developed, and there is a choice between sites of different grades, development should be directed to land of the lowest grade.

69. It is clear that efforts have been made in the design of the Scheme to meet the policy requirements in PPW in view of the fact that over 80% of the land required is either non-agricultural or of lower agricultural value. Serious efforts have also been made to minimise the impact on farm holdings by maintaining access and reducing the areas of land needed for mitigation and working closely with farm owners to overcome their objections and concerns. Although only one agricultural holding would be permanently lost, there would still be a significant long term effect through permanent loss of agricultural land and impact on farm holdings.

70. However, PPW recognises that where there is an overriding need, development of the best quality agricultural land can be justified. In this case I consider there is an overriding need to address the traffic, economic and social problems caused by the serious deficiencies of the M4 around Newport identified in the Proof of Evidence presented at this Public Local Inquiry, which justifies the loss of agricultural land, as permitted by PPW in such exceptional circumstances.

PPW Chapter 4: Landscape and Visual Effects

71. Chapter 9 of the ES and the Proof of Evidence of Mr Nicholas Rowson⁶⁶ deal with the landscape and visual impact of the Scheme. The ES analyses the effect of the Scheme on the basis of 11 landscape character areas (LCA) covering the Gwent Levels, Newport, land to the north and the Severn Estuary. The impact of this major engineering construction project on the landscape both during and after construction would be significant. By 2037, 15 years after opening, mature landscaping would reduce the effect in some LCAs to slight or neutral but across the Gwent Levels the effect would remain of large adverse significance and in Michaelston-y-fedw and Magor and Undy the effect would be of moderate adverse significance.

⁶⁶ WG 1.8.1

72. By its scale and nature, the landscape and visual impact of the Scheme would be greatest during the construction phase. The impact on the landscape would still be significant during operation, but would be considerably mitigated by the proposed landscape design (ES, Chapter 9.5), which retains existing woodland and vegetation wherever possible coupled with extensive new planting. The landscape planting would mature to help integrate the new section of motorway into the landscape. Nevertheless, the landscape impact associated with the physical presence of this new section of motorway, in a landscape currently lacking such infrastructure, would remain by 2037 in a number of Landscape Character Areas of very large, large or moderate adverse significance. The existing elements of the landscape that would be retained together with the new landscaping proposals would mitigate the visual impact of the new section of motorway from many locations across the Caldicot and Wentlooge Levels⁶⁷. By the summer of 2037 it is estimated that there would be no significant views of the new section of motorway from 88% of the representative viewpoints. Nonetheless, there would still be effects of very large, large or moderate adverse significance when viewed from a number of residential areas and properties, and from public rights of way and other areas with public access. The areas suffering these adverse effects would be those within 300 metres of the new section of motorway and their proximity would result in them continuing to experience a significant visual impact.

73. Mr Rowson also points to the potentially considerable visual impact of the new bridge crossing the River Usk, which he likens in scale to the Second Severn Crossing. He refers to the October 2015 review by the Design Commission for Wales (DCfW), who described the concept design as “elegant and well considered”. The DCfW also commended the new bridge for the appreciation it would bring to its users of Newport’s setting and the views it would provide of the City, the estuary and the sea. This comment does not assist in analysing the visual impact of the new bridge since the benefits it describes would be experienced by those crossing the bridge. Nonetheless, bearing in mind the location and the other bridges of impressive scale crossing the River Usk as it

⁶⁷ Document 2.3.2 - ES Appendices 9.6 & 9.7, Figures 9.16-19

flows through Newport I consider the new bridge would be in keeping with its surroundings and because of its modern design it would have a positive visual impact. I do not dispute that some, such as walkers on the Wales Coastal Path, would find the new bridge visually dominant and it would completely change certain views. But others may appreciate the modern design and engineering of the new bridge. Overall I share Mr Rowson's view that the new bridge would in general be beneficial. I deal with the impact of the bridge on the historic environment in paragraphs 101-106 below.

74. Paragraph 4.6.4 of PPW states that the countryside must be conserved for, amongst other things, its historic, archaeological, and agricultural value and landscape resources; the Gwent Levels are designated as a Landscape of Outstanding Historic Interest. However, this paragraph also advises that conservation must be balanced against the economic, social and recreational needs of local communities and visitors. PPW Chapter 5 sets out the Welsh Government's objectives in respect of natural heritage and amongst these is the conservation of the landscape. Paragraph 5.5.1 emphasises the need to consider landscape impact whilst balancing conservation objectives with the wider economic needs of local businesses and communities.

75. The reports prepared in consideration of the Scheme and the Proof of Evidence of other witnesses (Mr Matthew Jones, Mr Stephen Bussell)⁶⁸ demonstrate the impact on Newport and the wider area of the current problems on the M4, and the economic benefits the Scheme would bring (see also Economic Appraisal Report and Wider Economic Impact Assessment)⁶⁹. The route lacks resilience and the continuous congestion that is almost a daily occurrence clearly also has social consequences for the community that would be addressed by the Scheme. Traffic incidents can exacerbate delays and cause disruption, adversely affecting the perception of Wales as a place to visit and to do business.

⁶⁸ WG 1.1.1, WG 1.3.1

⁶⁹ Document 2.3.7 & Document 2.3.8

76. It is clear from the ES and Proof of Evidence of Mr Nicolas Rowson that the impact of the Scheme on the landscape would be severe in the short term, but that mitigation would reduce the impact in the longer term. Nonetheless, as explained by Mr Rowson, in early discussions with the statutory consultees it was agreed that the new section of motorway should not be completely screened because of the adverse impact this would have both physically and visually on the historic landscape and the SSSIs. The Scheme would therefore continue to have a significant effect both in terms of landscape character and visual impact. However, planning policy as set out in PPW requires a balance to be struck between landscape conservation and the benefits the Scheme would bring. Balancing the Scheme's significant impact on this sensitive landscape against its benefits I conclude that the latter are of sufficient weight and extend over such a wide area, well beyond South East Wales, as to justify the construction of the proposed new section of motorway.

PPW Chapter 5: Ecology and Nature Conservation

77. Chapter 10 of the ES, the ES Supplements⁷⁰, and the Proof of Evidence of Dr Keith Jones, Mr Jon Davies, Mr Richard Green and Mr Simon Zisman⁷¹ deal with ecology and nature conservation issues. Dealing first with internationally designated sites, there would be no adverse effect on the integrity of the River Usk Special Area of Conservation (SAC), the only European site directly affected by the Scheme. Although the east pylon of the river crossing would be on an area of salt marsh within the SAC, the land affected would be replaced and is in any event not a key feature for which the SAC is designated. Because of the potential disturbance at the river crossings during construction, there would be a significant effect on some of the wintering birds that are part of the Severn Estuary Special Protection Area/Ramsar Site in the medium term, but not in the long term during operation. Bearing in mind that the land take for the new section of motorway would not impinge on the SPA/Ramsar Site, the integrity of this European site would not be affected.

⁷⁰ Documents 2.3.2, 2.4.4 & 2.4.14

⁷¹ WG 1.18.1, WG 1.19.1, WG 1.20.1, WG 1.21.1

78. There would be no direct impact on the Nature Reserves at Newport Wetlands and Great Traston Meadows. Subsequent to publication of the ES it emerged that part of an area known as Barecroft Fields, which is included in the Magor Marsh Nature Reserve, is within the land take of the Scheme. However the September 2016 ES Supplement⁷² confirms that the effect on the Nature Reserve would not be significant.
79. PPW Chapter 5 sets out the Welsh Government's objectives for the conservation and improvement of Wales' natural heritage. These include promoting the conservation of biodiversity; meeting international responsibilities and obligations for the natural environment; ensuring statutorily designated sites are properly protected; and safeguarding protected species. It advises in paragraph 5.5.1 that conservation objectives must be weighed against wider economic needs and that careful consideration must be given to the effect on natural heritage, which includes biodiversity.
80. The same chapter of PPW refers to the duty imposed on all public bodies by Section 28G of the Wildlife and Countryside Act 1981 to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of the features that make a SSSI of special interest. PPW also refers to the Natural Environment and Rural Communities Act 2006, which places a duty under Section 40(1) on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.
81. The interpretation of the duty under Section 28G of the Wildlife and Countryside Act 1981 was considered in the judicial review brought by Friends of the Earth in respect of the Welsh Government's decision to adopt the Plan for the M4 Corridor around Newport⁷³. The judge explained that Section 28G does not impose a general duty to have particular regard to the desirability of protecting and preserving SSSIs. Nor does the section seek to protect SSSIs by weighing the desirability of their protection against other factors. The judge stated that the question was whether the Minister took reasonable steps to conserve and

⁷² Document 2.4.4

⁷³ Document 4.5.45

enhance the features of the SSSI. He stated that none of the options that did not involve a highway crossing the Gwent Levels SSSIs “*came anything like achieving the objectives, namely.....the relief of the M4 motorway around Newport*”. The evidence presented during that judicial review confirmed that the preferred route for the new section of motorway is as far north as possible to minimise impacts on the SSSIs. The Proof of Evidence of Mr Ben Sibert⁷⁴ explains the modifications to the preferred route published in April 2006 in order to minimise the effect on the Gwent Levels SSSIs. The judge hence accepted that the process leading to the Welsh Government’s decision to adopt the Plan was focussed on the potential harm to the Gwent Levels SSSIs and the mitigation of that harm.

82. Nevertheless, there would be significant impacts on four of the SSSIs on the Gwent Levels due to the permanent loss of 104.98 ha of land from them required to construct the new section of motorway⁷⁵. A further 19.99 ha would be lost temporarily for construction. PPW paragraph 5.5.8 sets out a policy presumption against development likely to damage a SSSI. This is not prescriptive as the following sentence in that paragraph sets out the procedure to be followed before planning permission is granted for operations likely to damage the notified features of a SSSI. PPW paragraph 5.5.5 states:

Statutory designation does not necessarily prohibit development, but proposals for development must be carefully assessed for their effect on those natural heritage interests which the designation is intended to protect.

83. Following this advice, extensive habitat and species survey work has been carried out in response to requests from Natural Resources Wales (NRW) and comments from bodies such as the Gwent Wildlife Trust and others to gather the fullest possible information on the effects of the new section of motorway on natural heritage, paying particular attention to the SSSIs. The team developing the design of the new section of motorway and the measures to mitigate its impact have worked closely with NRW, tailoring the SSSI mitigation to their

⁷⁴ WG 1.5.1

⁷⁵ Document 2.4.4

requirements. The revised SSSI Mitigation Strategy⁷⁶ (see also the Proof of Evidence of Dr Keith Jones and Dr Peter Ireland)⁷⁷ aims to mitigate the permanent loss of some 77.58 ha of coastal grazing marsh habitat and ecologically enhance land within the SSSIs where practicable, in accordance with Section 28G of the Wildlife and Countryside Act 1981. In order to mitigate for this loss the revised Strategy provides for habitat improvements across some 107 ha of land at Maerdy Farm, Tatton Farm and Caldicot Moor. Examples where mitigation could lead to long term enhancement are included in the Proof of Evidence of Dr Keith Jones, such as converting arable land to species diverse grassland; enhancing species diversity of existing grassland; and re-cutting infilled ditches at Maerdy Farm and Caldicot Moor, providing 5,865 metres of new ditch to increase the extent of the ditch habitat.

84. Further, Dr Keith Jones and Mr Ben Sibert⁷⁸ explain how the design of the Scheme has continued to evolve, subsequent to the High Court judgement in March 2015, in ways that wherever possible would minimise the impact on the Gwent Levels SSSIs. This includes minimising the height of the embankment to reduce land take; reduction in the land required for maintenance; and locating water treatment areas north of the new section of motorway where practical (as requested by NRW). The Proof of Evidence of Mr Ben Sibert and Mr Richard Graham⁷⁹ describe how the highway drainage system has been explicitly designed to trap and hold run-off from the carriageway in order to prevent pollution and so maintain the water quality in the reens on the Gwent Levels SSSIs.

85. In the judicial review referred to above the judge accepted that the Welsh Government had focussed its efforts on mitigating the potential harm to the Gwent Levels SSSIs. The steps taken to design the new section of motorway so as to minimise impact on the SSSIs and develop a comprehensive SSSI mitigation strategy confirm that the Welsh Government has continued to act in accordance with its duty under Section 28G of the Wildlife and Countryside Act

⁷⁶ Document 2.4.14 – Dec 2016 ES Supplement, App SR11.35

⁷⁷ WG 1.18.1, WG 1.7.1

⁷⁸ WG 1.5.1

⁷⁹ WG 1.15.1

1981, given that the route crossing the Gwent Levels is, in the Welsh Government's view, the best option for relieving the problems on the M4 around Newport. For the same reasons the Welsh Government has acted in accordance with its duty under Section 40(1) of the Natural Environment and Rural Communities (NERC) Act 2006, to have regard, so far as is consistent with the proper exercise of its functions, to the purpose of conserving biodiversity. The careful analysis of the options that would address the problems on the M4; the selection of a route that minimises the impact on the SSSIs; the development of a highway design that also minimises impact; and the development of a comprehensive mitigation strategy, demonstrate that the Welsh Government has had regard to the conservation of biodiversity consistent with the proper exercise of its responsibility to find a solution to the problems on the motorway network.

86. The duty in respect of biodiversity has been updated in respect of public bodies in Wales by the Environment (Wales) Act 2016. Section 6(1) of that Act states that a public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions. The difference between this duty and that in the NERC Act 2006 is that it includes both maintenance and enhancement. The duty to seek to maintain biodiversity has been met for the same reasons as set out in the previous paragraph in relation to the NERC Act. The duty to seek to enhance biodiversity only came into effect this year and therefore did not apply at the time the Plan for the M4 around Newport was being prepared and the effect on biodiversity was being considered. In any event, in testing options using WelTAG; selecting a route and making highway design choices that would minimise the effect on the SSSIs; and developing a comprehensive SSSI mitigation strategy, the Welsh Government has sought to maintain and enhance biodiversity insofar as that is consistent with the proper exercise of its functions regarding the motorway network.

87. However, in spite of the comprehensive SSSI mitigation strategy, because of the loss of land required to construct the new section of motorway there would continue to be a significant impact on four of the Gwent Levels SSSIs in the long term. Taking account of the mitigation strategy the impact is assessed in the medium to long term as being of slight to moderate significance (see ES and the Proof of Evidence of Dr Keith Jones)⁸⁰. For the same reason there would be significant long term effects on nine Sites of Importance for Nature Conservation designated in development plans.
88. Specific mitigation is included in the SSSI mitigation strategy for the protected species present in the potentially affected area. The evidence shows that this would be successful in ensuring no long term effect on many species. Nonetheless the ES, its Supplements and the Proof of Evidence of Dr Keith Jones and the other specialist ecologists confirms that significant long term impacts will remain, through land take and operation of the new section of motorway, with respect to bats, otters, Cetti's warbler, common crane, terrestrial invertebrates and the shrill carder bee. Dr Keith Jones confirms that it is not possible to entirely mitigate for the loss of complexity of the habitats of the SSSIs.
89. The significant long term impacts of this major construction project on four of the Gwent Levels SSSIs and on protected species are contrary to the Welsh Government's natural heritage policy objectives. Nevertheless, the above extract from PPW paragraph 5.5.5 confirms that national planning policies do not impose a blanket prohibition on such development. Paragraph 5.5.1 refers to the importance of balancing conservation objectives with the wider economic needs of local businesses and communities.
90. The efforts put into mitigation by the team working on the Scheme demonstrate that the Welsh Government has taken "*all reasonable steps to safeguard or enhance the environmental quality of land*"⁸¹. The new section of motorway would take less than 2% of the total area of the Gwent Levels SSSIs and effective mitigation would be provided for the loss of reens, ditches and grazing marsh. As

⁸⁰ Document 2.3.2 & WG 1.18.1

⁸¹ Document 5.1.3 - PPW para 5.5.1

indicated in the September 2016 ES Supplement⁸², 2755 metres of reens infilled to construct the new section of motorway would be replaced by 2826 metres and 9373 metres of drainage ditches lost would be replaced with 10,594 metres of new ditches. As a consequence, balancing conservation objectives against the traffic, economic and social benefits of the Scheme to the wider community, I reach the conclusion that an exception to the Welsh Government's natural heritage planning policies is justified in this case.

PPW Chapter 6: The Historic Environment

91. The impact on cultural heritage, including archaeological sites, historic buildings and historic landscapes is described in Chapter 8 of the ES and the Proof of Evidence of Mr Michael Rawlings⁸³. The Scheme would have a significant adverse impact on a number of historic assets. The Grade II listed Woodland House (known locally as Magor Vicarage) would be demolished, and there would be long term adverse effects as a result of changes within the settings of the Grade II* listed Whitson Court and the Grade II listed Tatton Farm, although in the latter case additional screen planting is proposed⁸⁴ that would reduce the effect from large to moderate. There would be a significant long term impact on the Scheduled Ancient Monument (SAM) known as the Devil's Quoit standing stone at Undy due to changes within its setting and physical works within its boundary. The work necessary has been discussed with Cadw and an application for SAM Consent would be submitted once the detailed design has been prepared and agreed. There would also be a significant effect during construction as a result of changes within the setting of a mediaeval moated site SAM at Undy, although the effect would be reduced to slight in the long term following reinstatement of the land affected and landscaping.

⁸² Document 2.4.4

⁸³ WG 1.9.1

⁸⁴ Document 2.4.4

92. There would be a direct physical impact on the Rogiet Llanfihangel Conservation Area due to the loss of land required to construct the new Magor Interchange and mitigation landscaping. In addition there would be the effect of lighting on the motorway and its junctions and some increased traffic noise, leading to a significant long term impact on the conservation area. The Scheme would have a significant effect on three known sites of archaeological importance and could potentially affect undiscovered sites within the Gwent Levels, although the significance of any such effect cannot yet be assessed. It would be likely to have a significant adverse long term effect on the Gwent Levels Landscape of Outstanding Historic Interest. Demolition of historic but unlisted buildings and groups of buildings within Newport Docks would also have a significant impact.
93. Following comments by Cadw a further assessment was carried out of a barrage balloon tether site of Second World War date at Pye Corner (see ES Supplement and Proof of Evidence of Mr Michael Rawlings)⁸⁵. This assessment found that the site is better preserved than was originally reported and that because of its type and level of preservation it should be regarded as a high value heritage asset. Due to the complete loss of much of this site and changes within the setting of the remainder the impact would be major and of large significance.
94. Turning specifically to the bridges over the River Usk, a beneficial effect is identified in the ES with regard to the Grade II* listed George Street Bridge, but this is classed as slight. However, the ES and the Proof of Evidence of Mr Mick Rawlings identify a minor impact on the Grade I listed Transporter Bridge resulting from changes in its setting, which translates into a long term adverse effect of moderate significance. I have visited the Transporter Bridge to make my own assessment.
95. The Transporter Bridge is an impressive steel structure that dominates the surrounding area because of its scale and the height of the towers and high level steel support, spanning the river, from which the travelling gondola that crosses the river is suspended. Its setting is now characterised by a mixture of older and more modern development along the river and around Newport Docks, all

⁸⁵ Document 2.4.4 and WG 1.9.1

forming part of the urban area of the City. A short distance to the north is a modern bow-string arch bridge opened in 2004 carrying the A48. The most dominant features apart from the towers of the Bridge are the very tall pylons supporting overhead power lines immediately to the south. These pylons would lie between the Transporter Bridge and the new bridge for the new section of motorway. A number of wind turbines, which are located in the docks area, would lie to the south of the new motorway bridge.

96. The new motorway bridge would not appear incongruous bearing in mind the number of bridges crossing the relatively short stretch of the River Usk as it passes through Newport. These bridges are a mix of ages and design, with those closest to the Transporter Bridge being of modern, innovative design. The Design Commission for Wales (DCfW), in reviewing the Scheme in October 2015⁸⁶ commented that the concept design for the Usk Bridge is elegant and well-considered. However, the Transporter Bridge would no longer be the most southerly crossing of the river, which it has been for over a century since its opening in 1906. Comments on the revised design that increases the height of the bridge are awaited.
97. The ES points out that the permeable nature of the viaduct structure and cable-stayed bridge means that views towards the Transporter Bridge would not be blocked. Nor would views south from the Transporter Bridge towards the river mouth and docks be blocked, for the same reason. However, because of its scale and the fact that it is the most southerly river crossing, the Bridge presently stands out in relative isolation against the skyline in views from many parts of the City, in spite of the pylons close by. This would not be the case if the new motorway bridge were built as it would then become the most southerly crossing, providing a backdrop that would visually compete with the Transporter Bridge due to its scale and height. The appreciation of the Transporter Bridge would be diminished as a consequence.

⁸⁶ Document 4.6.10

98. In assessing the effect of development on the setting of a heritage asset the ES identifies the need to consider the impact on the significance of the asset and the ability to appreciate its significance. The ES identifies the communal value of the Transporter Bridge because of its meaning for local residents and as an iconic symbol of the City. If the new motorway and River Usk crossing were to be built, it would become the main motorway route into South Wales. All those travelling along the new motorway would have first class views of the Transporter Bridge and be able to appreciate it in its river-side setting, as it was originally constructed. Visitors to South Wales using the current M4 do not have such views of the Transporter Bridge. This iconic structure would hence be seen by a far greater number of people, many of whom would otherwise not be aware of its existence. The DCfW in its October 2015 review⁸⁷ commented that the proposed Usk bridge structure would create an intriguing pair with the Transporter Bridge. Newport promotes the Bridge as a symbol of the City and a visitor attraction. In my opinion because of its increased visibility from the new motorway bridge the significance and appreciation of the Transporter Bridge would increase substantially.

99. There are therefore likely benefits due to the increased visibility of the Transporter Bridge to travellers on the new section of motorway. But against this must be set the reduction in the former's appreciation when seen from the urban area of Newport due to the visually competing backdrop created by the new crossing. This would lead to a minor impact resulting from a change in the setting of the Transporter Bridge, giving rise to a long term adverse effect of moderate significance, as identified in the ES and the Proof of Evidence of Mr Mick Rawlings.

⁸⁷ Document 4.6.10

100. PPW Edition 9 contains a fully revised Chapter 6 to reflect the changes brought about by the Historic Environment (Wales) Act 2016. Because of its identified impacts on historic assets the Scheme is contrary to the Welsh Government's objectives of conserving and enhancing the historic environment; conserving archaeological remains; safeguarding the character of historic buildings; preserving or enhancing the character or appearance of conservation areas; and conserving areas on the register of historic landscapes. Consultation on a draft TAN24: The Historic Environment closed on 2 October 2016.
101. An application for Listed Building Consent under section 10 of the Planning (Listed Buildings and Conservation Areas) Act 1990⁸⁸ for the demolition of Woodland House was submitted to Monmouthshire County Council by the Welsh Ministers on 2 September 2016. On the 6 December 2016 the Council's Planning Committee requested the Welsh Government to 'call-in' the application for the decision to be taken by Welsh Ministers in view of its close links with the Scheme. The application was called in to be determined by the Welsh Ministers on 22 December 2016 because of its interrelationship with the M4 Project and because it may also raise issues of exceptional significance or controversy.
102. Paragraph 6.5.14 of PPW states that the demolition of any listed building should be considered as exceptional and requires the strongest justification. Consent should not be granted without robust evidence that, amongst other things, redevelopment would produce substantial benefits for the community that would clearly outweigh the loss resulting from demolition. The Welsh Government has demonstrated (see Proof of Evidence of Mr Matthew Jones⁸⁹) that due to a number of significant physical constraints it would not be possible to retain Woodland House if the Scheme were to proceed and its demolition is therefore unavoidable. The circumstances leading to the application to demolish this listed building are exceptional, stemming from the need to address the problems associated with the M4 around Newport. The Scheme is the best option for addressing those problems and achieving the objectives set

⁸⁸ Document 3.1.8

⁸⁹ WG 1.1.1

for the M4 around Newport. The need to deliver the Scheme to address the problems associated with the M4 provides the strongest justification for the demolition of Woodland House. The Proof of Evidence presented to the Public Local Inquiry, in particular by Mr Matthew Jones and Mr Stephen Bussell, confirms the significant economic, social and environmental benefits that would result from the Scheme. The requirements of PPW paragraph 6.5.14 to justify the demolition of this listed building are therefore met in this case. Detail of the historic merit of Woodland House is contained in the Proof of Evidence of Mr Mick Rawlings.

103. Some archaeological sites would be adversely affected but every effort has been made through the design and construction methods to preserve archaeological remains in situ; for example by the relocation of a water treatment area at Llandeenny; and avoiding topsoil stripping and use of geotextile matting to preserve archaeological remains. With regard to the two SAMs near Undy, both are preserved in situ, as advised in PPW Edition 9, paragraph 6.5.5. The impacts on the settings of both SAMs have been minimised through design changes, for example by designing retaining walls and embankments to enable the Devil's Quoit SAM to be kept in its original location⁹⁰, but the impacts could not be avoided completely if the Scheme is built. PPW makes it clear that exceptional circumstances are required to justify development that would result in an adverse impact on a scheduled monument or a significantly damaging effect upon its setting. Turning to undiscovered remains, the Cultural Heritage Mitigation Plan (CHMP)⁹¹ describes a programme to examine archaeological potential and the likely impacts from construction of the published Scheme. An archaeological watching brief would be undertaken during construction at locations not covered by other forms of mitigation where impact on unknown sites is possible, in accordance with the requirements of PPW paragraph 6.5.8 (see ES and Proof of Evidence of Mr

⁹⁰ WG 1.9.1

⁹¹ Document 2.3.2 – ES, Appendix 8.10

Mick Rawlings). The Register of Environmental Commitments⁹² update set out in the ES Supplement also identifies the programme of works in the CHMP.

104. Turning to the Llanfihangel Conservation Area, the ES assesses the effect as ‘moderate’. The impact is due to loss of land for construction, woodland planting for mitigation, the visual impact of the new road and associated structures, increased noise and the effect of lighting. The ES states that the loss of land would affect the significance of the Conservation Area and the work would affect its historic core. There would inevitably be an adverse impact on the character and appearance of the Conservation Area. Efforts have been made to reduce and mitigate the impact by revising the design of the Magor Interchange to lower the main part of the junction as part of the proposed Modifications to the Draft Orders⁹³. This would reduce noise and visual impact on the conservation area. However, the revised design requires more land in the conservation area and Mr Michael Rawlings confirms there would continue to be a significant effect. There would therefore continue to be an adverse impact on the conservation area’s character and appearance. PPW paragraph 6.5.21 states that there will be a strong presumption against such development, but also advise that in exceptional cases “*the presumption may be overridden in favour of development deemed desirable on the grounds of some other public interest*”. That is the situation here as the Proof of Evidence of the other witnesses demonstrates that the Scheme is needed because of the public interest in resolving the current and future problems on the existing motorway.
105. A number of mitigation measures have been fundamental to the design of the new section of motorway to minimise its impact on cultural heritage assets, particularly the Gwent Levels Landscape of Outstanding Historic Interest. These include keeping embankments as low as possible; adjusting the number, size and location of water treatment areas; choice of materials and landscaping to minimise visual impact; and thin surfacing to reduce noise impact⁹⁴. However, with this mitigation in place the ES and the Proof of Evidence of Mr Mick Rawlings assess the effect on the Gwent Levels Landscape of

⁹² Document 2.4.4 – Appendix 18.1

⁹³ Documents 2.4.1 & 2.4.4

⁹⁴ Documents 2.3.2, 2.4.4, WG 1.9.1

Outstanding Historic Interest as ‘large adverse’. PPW paragraph 6.5.27 advises that information on the register of historic landscapes should be taken into account for developments requiring Environmental Impact Assessment.

Nonetheless, draft TAN24 states that changes in the historic environment are inevitable and can be the result of, amongst other things, the need to respond to social, cultural, economic and technological changes. This is precisely the reason for this Scheme. The Proof of Evidence⁹⁵ demonstrates that it is needed to address such changes that have caused current and worsening problems on the M4 around Newport, affecting not just South East Wales but spreading much wider.

106. To help offset the adverse effect of the new section of motorway the CHMP proposes a programme of landscape study to examine the historical development and use of the back-fen areas of the Gwent Levels traversed by the new section of motorway. This study would be linked to the programme of archaeological investigation, with the results published and disseminated widely. The CHMP also identifies historic buildings that would be recorded prior to demolition and describes an archaeological watching brief focussing on areas of ground disturbance not addressed through any other form of archaeological investigation. The programme of works in the CHMP is confirmed in the Register of Environmental Commitments⁹⁶ update.

107. Every effort has been made to reduce the impact of the new section of motorway, both in construction and subsequent operation, through design and mitigation, including attention to materials, extensive planting and surfacing that would reduce noise impact. These measures would not overcome all the significant adverse effects on the historic environment and the Scheme remains contrary to a number of planning policy objectives. Nevertheless, national planning policies in Chapter 6 of PPW Edition 9 recognise the need for exceptions in certain circumstances. I consider that the Scheme is needed in the public interest to address the traffic, economic and social problems caused

⁹⁵ WG 1.1.1 and others

⁹⁶ Document 2.4.4 – Appendix 18.1

by the deficiencies of the M4 around Newport, thereby justifying an exception to national planning policies in this case.

PPW Chapter 11: Tourism, Sport and Recreation

108. Chapter 14 of the ES and the Proof of Evidence of Ms Julia Tindale⁹⁷ deal with the effects on all travellers, including the implications for public rights of way. PPW paragraph 11.1.3 emphasises the need to protect and enhance the rights of way network as a recreational and environmental resource, and encourages promotion of the national cycle network, long distance footpaths and bridleways,
109. The new section of motorway would affect a number of rights of way, including the Wales Coast Path and the Newport Coast Path, and the National Cycle Network Route 4. Some of these would need to be stopped up or diverted on a temporary basis during construction; the diversions have been developed in consultation with the local planning authorities. The Wales/Newport Coast Path and the National Cycle Route would also be diverted. However, following construction all diverted or stopped up footpaths would either be reinstated or would follow permanently diverted routes. Because of these measures and other mitigation there would be no significant adverse effect on the public rights of way network or on cycle routes.
110. Four new bridleways and two new public footpaths would be created, totalling 3.14km in length. The new bridleways would be available to walkers, horse riders and cyclists to enhance the provision of active travel facilities. With regard to the Wales Coast Path, NRW has confirmed that subject to the provision of a commitment on construction measures there are no significant issues that cannot be resolved. The Register of Environmental Commitments has been updated accordingly.
111. In my view, having regard to the measures to maintain public rights of way during and after construction, plus the provision of new footpaths and

⁹⁷ WG 1.10.1

bridleways, the Scheme is entirely in accordance with the policies in PPW that seek to protect and enhance the rights of way network.

PPW Chapters 12 & 13: Waste, Environmental Risks and Pollution

112. ES Chapters 11 and 12 and the Proof of Evidence of Mr Andy Clifton⁹⁸ deal with the environmental effects of the use of materials, land contamination and the generation and management of waste resulting from the construction and operation of the Scheme, including the risks to the environment and human health. The treatment and reuse of contaminated soils within the site is part of the wider strategy adopted for the Scheme, in accordance with the proximity principle of sustainable development as explained in PPW paragraph 4.3.1. This is reinforced in Chapter 12 of PPW, which sets out the Welsh Government's overarching waste strategy, and in TAN21: Waste⁹⁹, which sets out the waste hierarchy with the objective of ensuring that waste is managed in a sustainable way, beginning with prevention and reuse.
113. The Scheme's emphasis is on the prevention of waste arising by the reuse of materials that would be won on site; of the estimated 6.5 million cubic metres of material required for embankments and landscaping, over 80% (5.4 million cubic metres) would be won from the site. This strategy would reduce the need to import raw materials, minimise use of mineral resources and reduce use of local roads by heavy construction vehicles.
114. The Scheme has been designed so that contaminated soils excavated during construction can be used as fill within the motorway embankment (subject to compliance with re-use criteria), consistent with the Scheme's objectives of minimising waste and maximising re-use of materials. Studies have identified 27 potential land contamination sites that have to be considered due to the potential risk they represent. These sites have been individually evaluated and specific management and remediation strategies developed. In one case (Solutia Chemical Works) the design of the new motorway viaduct would avoid the need to disturb an area containing buried chemicals. A cap of clean

⁹⁸ WG 1.11.1

⁹⁹ Document 13.2.11

material would cover affected areas to protect workers and the public during construction and future users of the site.

115. Specific criteria would be used to determine whether contaminated soil would be suitable for reuse without causing unacceptable risk to the environment or human health. Some soil, such as that from Llanwern Steelworks lagoons, is expected to require treatment prior to reuse; this will require the approval of NRW and an Environmental Permit. However the ground investigations and risk assessments confirm that the majority of contaminated soils would be suitable for reuse and very little would need to be transported off-site for disposal. Contaminated soil would be placed in the core of the motorway embankment, which would be covered by the hardstanding of the carriageway with clean, uncontaminated soil covering the embankment sides for landscaping and acting as a barrier. Reusing contaminated materials in this way would decrease construction traffic by retaining material within the site; reducing the need to transport such material to landfill; and minimising the need for imported material.
116. The Pre-Construction Environmental Management Plan (Pre-CEMP), which sets out the environmental control measures during construction¹⁰⁰ would be updated and agreed with NRW prior to construction. This would contain the Remediation Strategy Report, setting out procedures to manage land contamination, and a Materials Management Plan, setting out in detail how contaminated material would be managed, including ground gas. It would also contain Groundwater and Surface Water Protection Plans, which would include measures to control the risk of contamination of controlled waters. To protect the SSSIs during construction a temporary bund would be constructed on both sides of the route of the new section of motorway. The CEMP, plans and strategies for controlling environmental risks have been developed in close collaboration with NRW and would be agreed with them prior to the commencement of construction. They have commented that the approach adopted for the Scheme is sustainable and would beneficially address historical land contamination.

¹⁰⁰ Document 2.3.2, App 3.2

117. I therefore consider the Scheme would comply with the Welsh Government's policies that seek to reduce waste by maximising the reuse of materials. The treatment of contaminated material and its reuse within the construction site applies the proximity principle of sustainable development by managing waste locally. The Scheme would also comply with the advice in PPW Chapter 13 that decisions should be taken following thorough investigation of the risks that contamination presents and identification of remedial measures. Management and remedial strategies have been prepared and the CEMP would specify the environmental measures to be adopted during construction.
118. The new section of motorway would hence contribute to the Prosperous Wales sustainability objective of PPW and the same Well-being goal of the 2015 Act, by making maximum use of materials from the site, reducing the need for non-renewable raw materials, recycling contaminated materials and minimising waste. By treating known areas of historical land contamination the Scheme would result in benefits to the environment and human health by reducing the risk of exposure to potential land contamination. As a consequence it would contribute to PPW's Prosperous, Resilient and Healthier Wales sustainability objectives, the same Well-being goals in the 2015 Act and the Welsh Government's well-being objective 3: 'Help people live healthy and independent lives, and support a healthy workforce'. There would be the potential for contributions to national indicators 15: amount of waste not re-cycled, and 45: status of water bodies, which are used to measure progress towards the achievement of the Well-being goals under the 2015 Act.

PPW Chapter 13: Air Quality

119. Chapter 13 deals with environmental risks and pollution, referring in paragraph 13.12.1 to impact on health and amenity, and the need to consider the effect of potential pollution on the use of other land and the environment, referring in particular to Air Quality Management Areas (AQMA) and Special Areas of Conservation (SAC). Currently Newport City Council has declared four AQMAs in the vicinity of the existing M4 due to nitrogen dioxide air pollution. Chapter 7 of the ES and the Proof of Evidence of Dr Michael Bull¹⁰¹ confirm that with the Scheme in place, air quality within those AQMAs would improve significantly and all seven of those assessed would experience improvements.
120. Locally, within 200m of the new section of motorway, increases in air pollutants are predicted but would remain well within the relevant air quality objectives given the existing low level of pollutant concentrations in those areas. There would be increases in annual mean nitrogen oxides concentrations at several designated habitat sites, including the Severn Estuary SSSI/SAC/SPA/Ramsar site, but this is a marine habitat without any vegetation sensitive to such change. At all SSSIs apart from the St Bride's SSSI concentrations are predicted to be below the precautionary annual mean; in the case of St Brides SSSI concentrations would meet the precautionary figure. However, the figures for nitrogen deposition at all designated sites would be within the habitat specific critical loads designed to protect sensitive habitats. Changes in nitrogen oxides concentrations and nitrogen deposition as a result of the Scheme would therefore have no significant effect on designated sites.
121. Overall the Scheme would improve air quality in the more populated areas although there would be some deterioration in less populated areas near the new section of motorway. At a regional level changes in emissions compared with national figures would not be significant. With mitigation during the construction phase the Scheme would have no significant adverse effect on air quality. However, during operation there would be significant benefits across the whole of the road network affected by the Scheme. Dr Michael Bull's Proof

¹⁰¹ WG 1.12.1

of Evidence indicates that, excluding properties where changes in NO₂ concentrations would be negligible, 12,475 would experience a minor beneficial or larger decrease in NO₂ concentrations with only 117 properties experiencing a minor adverse increase. Overall population exposure to NO₂ would therefore reduce significantly as a result of the Scheme, which accords with the Welsh Government's planning policies regarding air quality and human health. By reducing pollution the Scheme would contribute to PPW's Prosperous, Healthier and Globally Responsible Wales sustainability objectives and hence the same Well-being goals in the 2015 Act. The Scheme's contribution would be measurable by national indicator 4: levels of NO₂ pollution and it would contribute to the Welsh Government's well-being objective 3: 'Help people live healthy and independent lives, and support a healthy workforce'.

PPW Chapter 13: Noise and Vibration

122. Chapter 13 of the ES and the Proof of Evidence of Mr Philip Evans¹⁰² deal with noise and vibration impacts caused by the new section of motorway. Mr Evans has assessed the implications of the updated traffic forecasts for the noise assessments in the March 2016 ES and September 2016 Supplement. The difference in predicted noise levels as a result of the change in forecast traffic flows, with and without the Scheme in the opening year, would be a maximum increase of 0.5 dB on the existing M4 and a maximum decrease of 0.8 dB on the M48. For the new section of motorway the difference between the traffic forecasts would result in a decrease of 0.1-0.2 dB in the opening year. He therefore concludes that the effect of the updated traffic forecasts is minimal and the Scheme, including the complementary measures on the existing M4, would still result in a benefit to more people in terms of noise reduction than would result in a disbenefit due to noise increase. The overall conclusions in the March 2016 ES and the September 2016 Supplement are hence not affected. Mr Evans states that as a consequence, bearing in mind the overall uncertainty of noise predictions, the traffic noise model has not been rerun; the previous results are still considered representative and robust.

¹⁰² WG 1.14.1

123. Whilst the traffic noise model shows that the Scheme would have a net benefit, with an average noise level decrease of 1.3 dB in 2022 for 20,708 residential properties, there would be wide variations. Even with mitigation, including noise barriers, in 2022 the opening year, 978 residential properties would experience significant noise increase, reducing to 520 by 2037, the design year. Nonetheless, the number of dwellings experiencing a significant benefit would be 2888 in 2022 and 820 in 2037. The number of properties experiencing any increase in noise would be 3764 in 2022 and 5309 in 2037. The number experiencing a reduction in noise would be 16,165 in 2022 and 14,465 in 2037. On balance therefore the Scheme would be of benefit in terms of noise reduction to a significantly greater number of properties and people.
124. To minimise the impact of noise, extensive mitigation has been included in the design, including a thin road surface system; screening in the form of planting, bunding and retaining walls; and noise barriers. Best practice would be adopted during construction, including temporary noise barriers and monitoring, and the Construction and Environmental Management Plan (see December 2016 ES Supplement¹⁰³ and Proof of Evidence of Dr Peter Ireland)¹⁰⁴ would include controls of construction noise and vibration. From the evidence I conclude that best practice would be adopted to minimise the impact of noise and vibration on the environment and people, in line with the advice in Chapter 13 of PPW to make a careful assessment of noise levels. Some of the properties that experience noise increases may qualify for noise insulation or other compensation, which would be addressed by the Noise Insulation Regulations and Land Compensation Act following construction of the Scheme (ES Appendix 13.1).

¹⁰³ Document 2.4.14

¹⁰⁴ WG 1.7.1

125. Noise is a form of pollution. The overall benefit in terms of noise reduction to a significant number of properties and people is in line with the Prosperous and Healthier Wales sustainability objectives of PPW and the same Well-being goals of the 2015 Act. Due to its overall contribution to noise reduction and consequent protection and improvement of health and well-being the Scheme would contribute to the Welsh Government's well-being objective 3: '*Help people live healthy and independent lives, and support a healthy workforce*'. This does not apply to everyone and many people experiencing a noise increase may consider their well-being diminished, but the impact on individual properties has been minimised as far as practicable. Any remaining adverse impact after mitigation must be balanced against the significant social, economic and other benefits to Newport and wider afield. The overall noise reduction is potentially a contribution to national indicator 26: satisfaction with local area.

PPW Chapters 12 & 13: The Water Environment

126. Chapter 16 of the ES deals with the effect on surface water and groundwater quality, specifically the likely effects on water quality as a result of construction, from the highway drainage system for the new section of motorway, and due to potential spillages following accidents. PPW Chapter 12 sets out objectives for the provision of infrastructure and services, including the protection and improvement of water resources and the provision of appropriate facilities to convey, treat and dispose of waste water. Chapter 13 sets objectives to maximise environmental protection and prevent or manage pollution. Paragraph 13.12.1 emphasises the need to assess the risk and impact of potential pollution from a development.
127. The sensitivity of the area crossed by the new section of motorway was acknowledged at an early stage of the design process, recognising the potential risk from highway run-off to areas designated for their importance to nature conservation and biodiversity. Paragraph 16.15.1 of the ES refers to the Gwent Levels SSSIs and River Usk Special Area of Conservation (SAC), recognising their high sensitivity due to their importance for biodiversity, high water quality

and general absence of pollutants. The Proof of Evidence of Mr Richard Graham¹⁰⁵ explains how protection of the water environment and the Gwent Levels SSSIs in particular was the main driver for the design of the drainage system for the new section of motorway. The Proof of Evidence of Mr Michael Vaughan¹⁰⁶ provides further detail of the design of the highway drainage system.

128. However, protection of the SSSIs begins during construction. Mitigation would include control, storage and treatment of runoff and groundwater following best practice as set out in the Buildability Report and Pre-Construction Environment Plan¹⁰⁷. Regular monitoring of surface water and groundwater would be carried out before and during construction. A containment bund would be constructed along both sides of the route of the new section of motorway to capture and treat drainage water before its release into the water environment; water unfit for discharge would be safely disposed away from the area if necessary. The drainage during construction has essentially been designed to separate the construction area from the surrounding water environment and the SSSIs.
129. Because of sensitivity of the Gwent Levels, the drainage system for the new section of motorway is designed to a considerably higher standard than that normally used for motorways and would cater for flows up to a 100 year storm, including a 30% increase to allow for climate change. As described by Mr Richard Graham in his Proof of Evidence, the drainage and water treatment areas have been designed to capture, settle, filter and biodegrade pollutants from run-off to prevent discharge of polluted water into the reens. Run-off from the new section of motorway would be gathered by grassed channels which, given their very low gradient of 0.05%, would retain and reduce flows, allowing pollutants to be deposited and broken down into less harmful substances and gases. The slowing and storage of run-off would also dilute the high pollutant levels typically contained in the initial drainage flows after periods of dry weather. The grassed channels would transfer the run-off to attenuation areas and water treatment areas, which would include pollution control lagoons,

¹⁰⁵ WG 1.15.1

¹⁰⁶ WG 1.17.1

¹⁰⁷ Documents 2.3.2; 2.4.4; 2.4.14

balancing ponds and reed beds to treat residual pollutants and reduce flow rates to the 'greenfield' equivalent, set by NRW, before discharge to the reens in the SSSIs¹⁰⁸. A pollution control lagoon would intercept runoff to the River Usk to protect the SAC.

130. The efficiency of the highway drainage system has been assessed using the Highways Agency Water Risk Assessment Tool. This has shown that the discharges would meet normally accepted concentration limits as set in the Design Manual for Roads and Bridges. The performance of the water treatment areas was further assessed to establish whether the discharge from them would preserve existing water quality in the reens. This showed some risk in a small number of cases on a worst case assumption of maximum continuous pollution levels entering the treatment areas. However, the assessment was based on conservative assumptions of the effectiveness of the treatment areas in reducing pollution; it did not take account of the length or extremely shallow gradient of the grass lined drainage channels; and it did not allow for dilution effects. The conclusion was that any impact on water quality in the reens would be slight and of short duration and that as a consequence there would be no long term deterioration of water quality within the Gwent Levels SSSIs. The risk assessment was revised following discussions with NRW and published as part of the December 2016 Environmental Statement Supplement¹⁰⁹. This confirmed that the highway drainage system has been designed to have a negligible impact on the water quality within the Gwent Levels SSSI, reinforcing the conclusion in the March 2016 Environmental Statement (see Proof of Evidence of Mr Richard Graham¹¹⁰).
131. Drainage associated with the new crossings of the motorway would improve the existing drainage system, resulting in improved water quality and a reduction in pollution risk from accidents. Similarly, reductions in car and Heavy Goods Vehicle flows on the existing M4 have the potential to reduce spillage risks and pollution in drainage water runoff.

¹⁰⁸ WG 1.17.1

¹⁰⁹ Document 2.4.14

¹¹⁰ WG 1.15.1

132. The evidence hence demonstrates that the highway drainage system for the new section of motorway would be effective in protecting the water quality within the Gwent Levels SSSIs. Assessments using recommended methodology have demonstrated that the drainage and water treatment areas would preserve water quality and that short term impacts would be within accepted limits. In my view the proposed drainage is robust and has been designed in accordance with best practice. It is in line with the policy objectives in PPW Chapter 12, paragraph 12.1.4, to protect and improve water resources and meets the objectives in Chapter 13 of maximising environmental protection and preventing or managing pollution.
133. The new section of motorway would improve the existing highway drainage within the Gwent Levels at the crossing points of the new section of motorway, thereby reducing pollution and the risk of pollution from accidents. Further, it would reduce vehicle flows on the existing M4 and so decrease risks from accidents to water quality in the highway runoff. The Scheme has been designed to reduce pollution and promote good environmental management and best environmental practice. The benefits outlined above would assist in maintaining the natural environment and a healthy ecosystem, and so would meet the Prosperous and Resilient Wales sustainability objectives of PPW and the same Well-being goals in the 2015 Act. For the same reasons the Scheme would contribute to the Welsh Government's well-being goal 12: Manage, use and enhance Wales' natural resources to support long-term well-being. There would be potential contributions to national indicators 43: areas of healthy ecosystems in Wales, and 44: status of biological diversity in Wales.

PPW Chapter 13: Flood Risk

134. A Statement of Common Ground (SoCG) is being prepared with NRW setting out the agreed technical background and policy issues relating to flood risk. It is anticipated this will be completed by the start of the Public Local Inquiry.

135. Chapter 13 of PPW deals in detail with flood risk and climate change. The Welsh Government's objective is to avoid development in areas of flood hazard (para 13.2.3). Paragraph 13.2.4 states that development proposals should seek to reduce, and certainly not increase, flood risk arising either from river and/or coastal flooding or from additional run-off from development. I have previously outlined how the highway drainage system for the new section of motorway has been designed to retain run-off and reduce flow rates to the 'greenfield' equivalent set by NRW. More detail is contained in the Proof of Evidence of Mr Richard Graham and Mr Michael Vaughan¹¹¹.
136. The new section of motorway would cross an area at risk of flooding. Although that area is defended against tidal flooding, the proposals do not accord with the Welsh Government's overarching policy of directing development away from such areas. However, PPW recognises that there will need to be exceptions to the overarching objective of avoiding areas of flood hazard. Paragraph 13.3.2 states that in such areas built development should be wholly exceptional and limited to essential transport and utilities infrastructure. It adds that such infrastructure should be designed and constructed so as to remain operational even at times of flood; to result in no net loss of floodplain storage; to not impede water flows; and to not increase flood risk elsewhere. Paragraph 13.3.3 refers to the role of Natural Resources Wales (NRW) and to Flood Risk Management Plans.
137. Paragraph 13.3.2 of PPW refers to development plans, since it would be logical to anticipate that the need for and location of essential infrastructure would normally be established through a planning authority's LDP. PPW is designed for use in the operation of the statutory town and country planning system. However, the need for the Scheme cannot be established through an LDP as it is a Welsh Government highway project, which falls to be delivered via the statutory process contained within the Highways Act 1980. Planning policy is a material consideration but is not, of itself, part of the statutory framework, as it is in the case of most other forms of development. But it should be borne in mind that the current Newport and Monmouthshire LDPs protect the line of the

¹¹¹ WG 1.15.1; WG 1.17.1

M4CaN from any development that would prevent the Scheme's implementation.

138. The need for the Scheme has been established in this case by the Welsh Government through the process of identifying the problems associated with the existing motorway and developing and testing options to address them, as outlined earlier in this Proof of Evidence and detailed by Mr Matthew Jones and Mr Bryan Whittaker. This work has led to the adoption of the Plan for the M4 around Newport by the Welsh Government, a process that has been subject to scrutiny by the High Court and found to be lawful. Mr Matthew Jones and Mr Ben Sibert¹¹² demonstrate the need for the new section of motorway to cross the flood plain because this route is the best option for addressing the problems of the M4 motorway. The evidence presented for the Welsh Government thus establishes that the Scheme is an essential piece of highway infrastructure that is needed to address the problems associated with the existing M4 motorway. PPW paragraph 13.3.2 confirms that in such circumstances essential transport infrastructure is acceptable in principle in an area of flood hazard, subject to the requirements set out in the same paragraph, that it is designed and constructed so as to remain operational even at times of flood; it would result in no net loss of floodplain storage; would not impede water flows; and would not increase flood risk elsewhere. These are therefore the relevant tests that PPW stipulates should be applied to the Scheme.
139. However, PPW paragraph 13.4.1 contains other tests that should be applied to planning applications for new development in areas of high flood hazard, stating that such proposals should only be considered where they can be justified in that location; would not intensify existing development that may be at risk of flooding; and would not increase the potential adverse impacts of a flood event. PPW is supplemented by the further guidance in TAN15: *Development and Flood Risk*. Whereas the current Edition 9 of PPW was published in November 2016, TAN15 dates from July 2004 and is currently under review.

¹¹² WG 1.1.1, WG 1.5.1

140. The Scheme crosses land almost wholly designated in Section 4 of TAN15 as Zone C1¹¹³, an area of developed flood plain served by significant infrastructure including flood defences. TAN15 defines transport infrastructure as less vulnerable development that may be acceptable in Zone C1 if it is justified in that location, which is demonstrated by applying the following tests: :

- a) *Its location in zone C is necessary to assist, or be part of, a local authority regeneration initiative or a local authority strategy required to sustain an existing settlement; or*
- b) *Its location in zone C is necessary to contribute to key employment objectives supported by the local authority, and other key partners, to sustain an existing settlement or region; and*
- c) *It concurs with the aims of PPW and meets the definition of previously developed land (PPW fig 2.1); and*
- d) *The potential consequences of a flooding event for the particular type of development have been considered, and in terms of the criteria contained in sections 5 and 7 and appendix 1 found to be acceptable.*

141. In my opinion the correct planning policy tests to apply to the Scheme are those set out in PPW paragraph 13.3.2, which establishes that essential transport infrastructure is acceptable in principle in an area of flood hazard. Be that as it may, paragraph 6.2 of TAN15 applies its justification tests to all development, including transport infrastructure, and so I have also taken these tests into account. Nonetheless, these tests apply to applications for planning permission being considered by local planning authorities, as TAN15 paragraph 6.2 states that development should only be permitted in zones C1 and C2 if “*determined by the planning authority to be justified in that location*”. The TAN15 justification tests must therefore be considered in the light of the fact that this Scheme is being promoted by the Welsh Government under Highways, rather than Town and Country Planning legislation; that it is an infrastructure project of national significance, whose scope and impact extend beyond local authority level; and

¹¹³ A small area of embankment for the new section of motorway, north of the existing M4 adjacent to St Brides Road, Magor, lies in Zone C2.

that paragraph 13.3.2 of the up to date PPW Edition 9 (issued in November 2016) contains an exception for essential transport infrastructure.

142. Beginning with tests (i) and (ii) of TAN 15, these are in the alternative, dealing with local authority regeneration initiatives or strategies to sustain settlements, or to contribute to key employment objectives to sustain a settlement or region. The Newport LDP does not base its strategy, policies or land allocations on the M4CaN Plan even though it protects the line of the new section of motorway. Nonetheless, as explained in the later section of my Proof of Evidence dealing with economic development, and in the Proof of Evidence of Mr Matthew Jones and Mr Stephen Bussell, the Scheme is essential to the Welsh economy. It would give better access to employment opportunities; improve productivity; reduce business costs; stimulate investment; and improve the perception of Wales as a place to visit and do business. The Newport LDP identifies economic decline as a key issue and the Scheme would be of direct assistance to Newport and south-east Wales by making allocated business sites more attractive for companies and investors. The Scheme clearly addresses regeneration and employment objectives at a regional level, as confirmed by its inclusion in the Welsh Government's 5 year programme as part of the *United and Connected* strategy. The Scheme therefore satisfies tests (i) and (ii) of TAN15.
143. Turning to test (iii), only part of the route crosses previously developed land. This test refers to the aims of PPW without specifying which of these aims it is seeking to achieve. Since most of the Scheme is not on previously developed land it does not meet this test. Bearing in mind that TAN 15 is guidance addressed to planning authorities, this test would be relevant to an application to develop a specific site. However, PPW paragraph 13.3.2 recognises that essential transport infrastructure can exceptionally be located on unobstructed flood plain, which must be undeveloped land since previously developed land would by definition obstruct a flood plain. Logically, a lengthy stretch of motorway can never be built wholly or largely on developed land. Therefore this test in my view has little relevance when considering the merits of the Scheme.

144. Test (iv) requires the potential consequences of a flooding event to have been considered against criteria in sections 5 and 7 and Appendix 1 of TAN15 and found acceptable. TAN15 paragraph A1.2 explains that the prime objective of a flood consequences assessment is to develop a full appreciation of a number of factors, which include:

The consequences (ie the overall impacts) of the development on flood risk elsewhere within the catchment for a range of potential flooding scenarios up to that flood having a probability of 0.1%.

145. Further detailed advice in Appendix 1 of TAN15 is also relevant:

- a) Paragraph A1.12 sets out conditions for development to be regarded as acceptable; these include that there should be no flooding elsewhere, similar to the requirements of PPW paragraphs 13.3.2 and 13.4.1
- b) Paragraphs A1.14 and A1.15 give advice regarding the effect of flooding on proposed development and are therefore relevant to the new section of motorway
- c) Paragraph A1.14 requires the Scheme to be flood free in the event of a 0.5% (1:200 year) event
- d) Paragraph A1.15 advises that flooding up to 600mm depth would be acceptable beyond the 0.5% (1:200 year) event.

146. The ES Chapter 16, the updated Flood Consequences Assessment (FCA)¹¹⁴ and the Proof of Evidence of Mr Michael Vaughan¹¹⁵ deal with fluvial and pluvial flood risk. Hydraulic modelling has been carried out using the industry standard software that is preferred by NRW. The modelling takes account of the impact of climate change on fluvial flows and sea level rise over the next 100 years and has tested the impact of a 0.1% (1:1000 year) flood event. The reen mitigation strategy¹¹⁶ would ensure hydraulic connectivity across the Gwent Levels, allowing for the severance and loss of a number of reens and

¹¹⁴ Document 2.4.4 – ES Supplement

¹¹⁵ WG 1.17.1

¹¹⁶ Document 2.3.2 – ES App 2.3

field ditches. The extra length of reens and ditches provided to replace that lost would provide additional flood storage and a slight reduction in local flood risk. The hydraulic model of the reen mitigation confirms that the Scheme would have no impact on fluvial flood risk to property, with only localised impact on agricultural land alongside the Mill Reen. This has been addressed in the Compulsory Purchase Order (CPO) (plots 19/5a, 19/5b and 19/6) by seeking rights to discharge flood and surface water. Overall the evidence demonstrates that no property would experience an increased risk of fluvial or pluvial flooding as a result of the Scheme. Tilting weirs or similar control features would be installed in culverts under the new section of motorway to control water levels and mitigate any minor local impact. The Proof of Evidence of Mr Michael Vaughan¹¹⁷ confirms that the Scheme satisfies the acceptability criteria in TAN15 (paragraphs A1.12, A1.14 and A1.15) for fluvial and pluvial flooding and that it would not cause any unacceptable impacts from fluvial flooding elsewhere, as required by PPW paragraphs 13.3.2 and 13.4.1. The letter from NRW dated 4 May 2016 confirms that the Scheme is in accordance with TAN15 in respect of fluvial and pluvial flood risk.

147. Tidal flooding is dealt with in the updated FCA¹¹⁸ and the Proof of Evidence of Dr Paul Canning¹¹⁹. The new section of motorway would cross an area of flood plain, the Wentlooge and Caldicot Levels, protected by existing tidal flood defences. There is a risk of a tidal flood event if the flood defences for the Levels are not maintained or increased to meet the consequences of climate change and increasing sea levels. The ES, the FCA and the Proof of Evidence of Dr Paul Canning deal with this scenario. He explains that the Severn Estuary Shoreline Management Plan 2¹²⁰ (SESMP2), which has been agreed by the Welsh Government, establishes the policy of 'Hold the Line' for the Wentlooge and Caldicot Levels. The definition of 'Hold the Line', set out in the guidance document published by the Department for Environment, Food and Rural

¹¹⁷ WG 1.17.1

¹¹⁸ Document 2.4.4

¹¹⁹ WG 1.16.1

¹²⁰ Document 17.2.6

Affairs (Defra)¹²¹ is “*Hold the existing defence line by maintaining or changing the standard of protection.*” The guidance states that studies leading to producing or reviewing Shoreline Management Plans (SMP) are essentially studies of coastal processes under the Coast Protection Act 1949 or the Environment Act 1995¹²². Therefore, although the SESMP2 is not a statutory document, the power to produce it has a statutory basis. In addition, it is a component of the Flood Risk Management Plans referred to in PPW paragraph 13.3.3 and the guidance states that agreement of an SMP confirms it meets the principles of sustainable development.

148. The guidance states that SMPs are an important part of the strategy of Defra and the Welsh Government for managing flooding and coastal erosion. They should provide the basis for policies for a length of coast and set the framework for managing risks along the coastline in the future. They must also guide and support the planning system in discouraging inappropriate development in areas at risk from flooding and coastal erosion; this is reinforced by the reference to them in PPW. The guidance states that it is essential that the policies in the SMP are realistic, using existing legislation and likely future funding.
149. The SESMP2 was prepared by the Severn Estuary Coastal Group, formed by local authorities from both sides of the Severn Estuary and included the Environment Agency, Natural Resources Wales and Natural England, with observers from the Welsh Government and Defra. It was subject to extensive consultation with a range of stakeholders and the public. As recommended by Defra in the guidance document, the SESMP2 was subject to Strategic Environmental Assessment (SEA) and an appropriate assessment under the Habitat Regulations 2010. As a consequence, bearing in mind its importance in supporting the planning system, recognised by explicit reference in national planning policy (PPW); the fact that it was prepared under powers emanating from statutes; that the process for its production is set out in Government guidance which expressly requires SMPs to be realistic having regard to future

¹²¹ Document 17.2.3 – *Shoreline management plan guidance, Vol 1: Aims and requirements*, Defra 2006

¹²² Document 3.1.10

funding; and its preparation involved stakeholders and the public, the SESMP2 and the 'Hold the Line' policy for the Wentlooge and Caldicot Levels should be given considerable weight as a material consideration in this Public Local Inquiry. In addition, bearing in mind the process of preparing the SESMP2; that it required a SEA and assessment under the Habitat Regulations; and the fact that it has been agreed by the Welsh Government and Defra, any change to this policy would require a formal review.

150. The SESMP2 is put into effect through the draft Severn Estuary Flood Risk Management Strategy¹²³ (the Strategy) prepared in parallel by the Environment Agency (EA), which sets out the work and projects necessary to implement the SESMP2. Responsibility for the Strategy passed to NRW on the creation of that organisation. Whilst this Strategy is awaiting formal approval Dr Paul Canning confirms that it is being used by both NRW and the EA to guide investment in flood risk management infrastructure around the Severn Estuary in England and Wales. It has also been used to identify and implement priority compensatory habitat schemes to offset inter-tidal habitat loss in the Severn Estuary.
151. The draft Strategy identified three priority flood risk management schemes relevant to the Scheme, at Tabbs Gout, Portland Grounds and Stephenson Street, which were considered necessary to protect the Wentlooge and Caldicot Levels up to 2030 in the event of a 0.1% (1 in 1000 year) flood event (see Proof of Evidence of Dr Paul Canning)¹²⁴. The Flood Consequences Assessments in the March 2016 ES and September 2016 ES Supplement¹²⁵ were prepared on this basis. Two of the three priority schemes identified in the Strategy, at Tabbs Gout and at Portland Grounds, have been carried out. The third, at Stephenson Street in Newport, has a Benefit Cost Ratio (BCR) of 24.8 and has been submitted to the Welsh Government for funding under its Coastal Risk Management Programme. In its letter of 4 May 2016 Natural Resources Wales (NRW) confirmed¹²⁶ that these flood defence improvements would provide the

¹²³ Document 17.2.16

¹²⁴ WG 1.16.1

¹²⁵ Documents 2.3.2 & 2.4.4

¹²⁶ OBJ0268

required level of protection up to 2030 to comply with current planning policy guidance with respect to flood risk. It must be stressed that the need for these flood defence improvements does not arise as a result of the Scheme; they are necessary to maintain the standard of protection against tidal flooding established by the 'Hold the Line' policy for the Wentlooge and Caldicot Levels.

152. The situation changed as a result of the study carried out by NRW in August 2016¹²⁷ as explained by Dr Paul Canning; the study was made available to Dr Paul Canning by NRW on 25 November 2016. This study, which has the benefit of being specific to the Severn Estuary and uses more up to date analysis methods and data, indicates the possible need for further schemes to maintain the flood defences on the Wentlooge and Caldicot Levels prior to 2030. These improvements are required to maintain protection for the Levels against tidal flooding whatever decision is reached on the Scheme as a result of this Public Local Inquiry.
153. Dr Paul Canning has analysed the various studies of tidal flood risk on the Wentlooge and Caldicot Levels, including that by NRW in 2016. He concludes that the new section of motorway would not cause detriment in a 0.1% (1:1000 year) tidal flood event up to 2030 provided the identified Stephenson Street scheme plus improvements at other areas identified as a result of the 2016 NRW study were carried out. These are at Goldcliff Pill; between Coldharbour Pill and Sudbrook Point; and where small scale works are needed because short lengths of the existing tidal defences are slightly lower than recommended.
154. Dr Paul Canning confirms that the range of climate change scenarios assessed in the Strategy encompasses that on which the 2016 NRW study is based. The additional flood protection schemes identified following this study are in accordance with the 'Hold the Line' policy and the Strategy. They would support the Strategy's recommended protection for the Levels against a flood event with a 0.1% (1:1000 year) probability through to 2030. The need for these flood defence improvements is separate from the decision reached on the Scheme

¹²⁷ Document 17.3.6 - Caldicot and Wentlooge Coastal Modelling Final Report August 2016

by Welsh Ministers following this Public Local Inquiry; they should be implemented to maintain the 'Hold the Line' standard of protection for the Wentlooge and Caldicot Levels.

155. As explained above, the 'Hold the Line' policy is a material consideration of considerable weight in this Public Local Inquiry and is implemented through the draft Severn Estuary Flood Risk Management Strategy (the Strategy). The business case for the draft Strategy in the EA's Strategy Appraisal Report¹²⁸ (StAR) is compelling over the 100 year life of the Scheme. The significant benefits include - reduced flood risk to people, properties, urban areas, critical infrastructure and areas designated for development; significant contributions to achievement of the Water Framework Directive; reduced risk to internationally, nationally and locally designated conservation sites, water bodies, historic areas of archaeological potential, and designated landscapes. The infrastructure protected by the flood defences on the Wentlooge and Caldicot Levels includes: over 22,500 homes; the main South Wales railway; the M4 and M48, A48 and B4239; power transmission lines, a power station and sub-stations; Newport Docks; sewage treatment works; and other facilities such as care homes, hospitals and schools.
156. Because of this extensive infrastructure the Benefit Cost Ratios (BCR) of the 'Hold the Line' policy calculated in the SESMP2 were 23 and 19 for the Wentlooge Levels and 31 for the Caldicot Levels. Dr Paul Canning points out that the economic analysis included increasing future maintenance and construction costs and the benefits of avoiding a 0.1% (1:1000 year) tidal flood event. He has reviewed other SMPs relevant to Wales and has found the BCRs for the Wentlooge and Caldicot Levels to be in the top ten of more than two hundred shoreline units. The draft Strategy also calculated BCRs for the Levels, giving figures of 169, 31 and 66 because of the different scales of assessment, geographic areas and climate change guidance. Given that a BCR greater than 1 indicates that the benefits outweigh the costs, the very high value for money indicated by these figures provides an overwhelming case for securing the necessary funds to maintain the 'Hold the Line' policy and

¹²⁸ Document 17.2.16

continue protection for the Wentlooge and Caldicot Levels up to and beyond 2030, whether or not the new section of motorway were built. In my view it is inconceivable that funding would not be provided to maintain the standard of protection for the Levels; the consequences of failing to do so would be unacceptable.

157. By agreeing the SESMP2 'Hold the Line' policy the Welsh Government has demonstrated its commitment to maintaining the Wentlooge and Caldicot Levels tidal flood defences both in the short and long term. I have explained above why the 'Hold the Line' policy must be given considerable weight. An open ended guarantee of future funding for these flood defences has never been in place, but the serious implications of a tidal flood event have consistently been accepted by past Governments as justification for continued investment to protect the Wentlooge and Caldicot Levels. The Welsh Government's 5 year programme '*Taking Wales Forward 2016-21*' includes, as part of the '*Prosperous and Secure*' strategy, a commitment to continue to invest in flood defence work. This is linked to the Welsh Government's well-being objective 7: '*Connect communities through sustainable and resilient infrastructure*', which contains a similar commitment. 'Hold the Line' is Welsh Government policy for the Wentlooge and Caldicot Levels in respect of tidal flooding and any change to this policy would require a formal review of the SESMP2. Matters related to Welsh Government policy are beyond the scope of this Public Local Inquiry.
158. NRW remains concerned that without an absolute guarantee of funding to implement the 'Hold the Line' policy over the life of the Scheme, the new section of motorway would increase the potential impact of a tidal flooding event on the Wentlooge and Caldicot Levels, contrary to policies in PPW and TAN15. The first point to make is that decisions must be made on the basis of current Welsh Government policy, which is to 'Hold the Line' in respect of tidal defences on the Levels, a policy which is of considerable weight and to which it has demonstrated commitment. Dr Canning confirms that this policy and the Strategy's recommendations will ensure there is continued long-term protection for the Levels against a tidal flood event with a 0.1% (1:1000 years) probability,

taking account of climate change. The new section of motorway would therefore not increase the potential impact of a flood event or the risk of flooding elsewhere and would comply with the requirements of PPW and TAN15.

159. The only exception would be in the period from the start of construction of the Scheme until the completion of any additional flood protection schemes recently identified as a result of the 2016 NRW study. In this period there is a risk that tidal flooding of the Caldicot Levels could be intercepted by the new section of motorway, which would hold back tidal flood water and either increase or decrease the depth of flooding.
160. The period when there may be an increased risk begins in 2018, when construction of the new section of motorway is scheduled to commence, depending on the outcome of this Public Local Inquiry. The Stephenson Street scheme has been submitted to the Welsh Government for grant aid and, subject to funding, Dr Paul Canning considers it likely to be completed in 2019. This was the year by which the Strategy recommended it and the other priority schemes at Tabbs Gout and Portland Grounds should be completed.
161. Dr Paul Canning estimates that the additional flood defence improvements identified as a result of the 2016 NRW study that are relevant to the Scheme could be completed by 2025, so that the maximum period when there is the potential for an increased flood risk would be 2018-2025. It is reasonable to proceed on the basis that this work will be completed by then bearing in mind that the need for it is not dependent on the Scheme and arises from the Welsh Government's 'Hold the Line' policy of maintaining the standard of protection for the Wentlooge and Caldicot Levels.
162. The 2014 study by Arup¹²⁹ modelled the implications of the construction of the Scheme on flooding through to 2113 without the Stephenson Street scheme and assuming no flood defence improvements after 2030. Dr Paul Canning has analysed the flood risk in the period 2013-2030 based on the 2014 Arup and 2016 NRW studies, using the 2014 and 2016 design road levels. He calculates

¹²⁹ Document 17.2.14

that on the Wentlooge Levels, for both the 0.5% (1:200 year) and 0.1% (1:1000 year) events, the Scheme would have no impact on flood levels since the new section of motorway would only extremely marginally intercept flood water. The Scheme would therefore not increase flood risk and would remain flood free in the 0.5% (1:200 year) and 0.1% (1:1000 year) tidal flood events. On the Wentlooge Levels the Scheme would therefore comply with PPW and TAN15.

163. On the Caldicot Levels, using the Arup study and the 2014 design road levels, the Scheme would have no impact on flood depth in the 0.5% (1:200 year) event. In the 0.1% (1:1000 year) event it could increase flood depth by up to 0.2 metres for around 10 properties. Using the 2016 design road levels and the 2016 NRW study Dr Paul Canning is unable to draw firm conclusions because of the different design road levels and the additional flooding identified by the 2016 NRW study. However, for the 0.5% (1:200 year) flood event after the Stephenson Street scheme is completed the Scheme would have no impact on flood depth as flooding from other locations would not reach the new section of motorway. When the additional schemes identified following the NRW study are completed, the Scheme would not cause detriment through increased flood depth in the 0.1% (1:1000 year) event through to 2030.
164. Nevertheless, there is a risk that a small number of properties could be flooded to a limited increased depth in a 0.1% (1:1000 year) tidal flood event from commencement of the Scheme in 2018 up to 2025, when Stephenson Street and any tidal flood protection schemes identified following the 2016 NRW study should be completed. This conflicts with the advice in PPW and TAN15 that there should be no increase in flood risk elsewhere. However, this conflict would only occur for a short period on the Caldicot Levels and for a small number of properties. Following completion of these schemes the new section of motorway would comply with the requirements of PPW and TAN15 not to increase flood risk or the consequences of flooding.
165. To summarise on TAN15, the Scheme meets criteria (i) and (ii) since it addresses regeneration and employment objectives at a regional level. With regard to test (iii), PPW paragraph 13.3.2 does not stipulate that development

should be on previously developed land and a lengthy stretch of motorway can never be built wholly or largely on developed land. In my view this test has little relevance in this case. Test (iv) would not be met between 2018-2025 as there would be a risk that a small number of properties could be flooded to an increased depth in a 0.1% (1:1000 year) event in this period. However, TAN15 paragraph A1.14 would be met after completion of the Stephenson Street scheme, projected to be in 2019. Further, Dr Paul Canning confirms that after completion of the additional tidal defence improvements identified following the 2016 NRW study, the new section of motorway would not cause detriment in the event of a 0.1% (1:1000 year) event to 2030. It would then satisfy the requirements of TAN15 paragraphs A1.12, A1.14 and A1.15. Test (iv) would hence be satisfied upon completion of the Stephenson Street tidal defence improvements and the limited number of other schemes identified following the 2016 NRW study. A reasonable estimate for completion of these schemes is 2025. Beyond 2030 the 'Hold the Line' policy and Strategy recommendations would ensure continued protection for the Wentlooge and Caldicot Levels against a 0.1% (1:1000 year) tidal flood event.

166. To conclude, PPW paragraph 13.3.2 establishes that essential transport infrastructure is, as an exception, acceptable in principle in flood plains subject to it remaining operational even at times of flood; to result in no net loss of floodplain storage; not to impede water flows; and not to increase flood risk elsewhere. The evidence presented at this Public Local Inquiry for the Welsh Government demonstrates conclusively that the new section of motorway is an essential piece of transport infrastructure that is justified in this location since this is the best option for addressing the problems on the M4 around Newport. The need to proceed with the Scheme to relieve the economic, social and environmental problems caused by congestion on the M4 underlines its essential nature. It has also been shown that the carriageway would not be affected by fluvial or pluvial flooding during the 1:1000 year event and there would be no increase in fluvial or pluvial flood risk to properties; compensatory flood storage is therefore not required.

167. In the short term, estimated to be in the period 2018-2025, there is a degree of conflict with test (iv) in TAN15, since there is a risk that a small number of properties could be flooded to an increased depth in a 0.1% (1:1000 year) event. Test (iv) would be satisfied upon completion of the Stephenson Street tidal defence improvements and the limited number of other schemes identified following the 2016 NRW study. These additional schemes are in accordance with the 'Hold the Line' policy and the Strategy would support the recommended protection for the Wentlooge and Caldicot Levels against a flood event with a 0.1% (1:1000 year) probability through to 2030. The 'Hold the Line' policy would also ensure protection of the Levels beyond 2030 against a 0.1% (1:1000 year) tidal flood event, thus ensuring that the new section of motorway would remain operational; would not impede water flows; and would not increase flood risk elsewhere. On balance, whilst further tidal flood defence improvements are required in the early years of the Scheme, I do not consider the limited short-term conflict with one of the TAN15 tests outweighs the benefits of this nationally important scheme. Once the limited short-term conflict has been removed by the implementation of the identified flood defence improvements, there would be no conflict with national planning policies in the longer term on the basis that future funding does occur to comply with the Welsh Government's 'Hold the Line' policy.
168. I therefore conclude that the Scheme is essential highway infrastructure that meets the criteria set in PPW paragraph 13.3.2 for it to be accepted as an exception in this particular case to the Welsh Government's planning policy objective of avoiding areas at risk of flooding.
169. The Scheme is included in the Welsh Government's 5 year programme as a priority measure to deliver its *United and Connected* strategy, which is underpinned by the Welsh Government's well-being objectives. Objective 7 seeks to '*Connect communities through sustainable and resilient infrastructure*' which contributes to all seven well-being goals of the 2015 Act and refers explicitly to improvements in transport infrastructure and continued investment in flood defence works. The Scheme has been designed to be resilient and deal

with the consequences of climate change and so meets the Resilient Wales sustainability objective in PPW and the same Well-being goal of the 2015 Act.

PPW Chapter 7: Economic Development

170. The Welsh Government's economic development policies are set out in PPW Chapter 7. The Proof of Evidence of Mr Stephen Bussell¹³⁰ deals with the economic appraisal and wider economic impact of the new section of motorway. PPW paragraph 7.1.3 states that the planning system should support economic and employment growth alongside social and environmental considerations within the context of sustainable development. The same paragraph refers to the importance of guiding and controlling economic development to facilitate regeneration and promote social and environmental sustainability.
171. The revised December 2016 Economic Appraisal Report¹³¹ concludes that the Scheme would provide value for money, with an initial BCR of 1.62 under the central traffic growth scenario and assuming the Severn Bridge Tolls are halved. When wider economic benefits are included the BCR increases to 2.22; this is termed the adjusted BCR. Since it excludes wider economic benefits, the initial BCR underestimates the true economic benefits of the scheme. The adjusted BCR therefore provides a more realistic measure of the value for money of the Scheme. Calculations based on low and high traffic growth forecasts give initial BCRs of 0.94 and 2.80, respectively, with adjusted BCRs of 1.38 and 3.64 when wider impacts are included. If the Severn Bridge Tolls were to be removed, the initial and adjusted BCRs using the central traffic growth forecast increase to 1.83 and 2.46. Subsequent to the publication of the revised Economic Appraisal Report, the Department for Transport released an update to the parameters used in the assessment of accident benefits. The economic appraisal results set out in my Proof of Evidence and that of Mr Stephen Bussell incorporate this update. As explained by Mr Stephen Bussell, the effects of this change on the results of the economic appraisal are very slight and are not material to its conclusions.

¹³⁰ WG 1.3.1

¹³¹ Document 2.4.12

172. The revised December 2016 Wider Economic Impact Assessment¹³² points out that the M4 is the main route in and out of Wales for 70% of its population and economy and that, for many users, there is no feasible alternative. Mr Ben Sibert¹³³ describes the deficiencies in the highway geometry of the existing motorway around Newport compared with the lower standard of a trunk road, highlighting the poor design of the existing M4 and the need for the new section of motorway to improve safety on the motorway network. Traffic congestion on the M4 around Newport causes delays and disruption, imposing costs on individuals and businesses with a negative impact on the economy. The Bryn Glas Tunnels have been described by the former Prime Minister, David Cameron, as a ‘foot on the windpipe of the Welsh economy’. The CBI and leading Welsh business leaders have pointed out the damage to the Welsh economy and the negative impact on Wales’ standing as a business location. The revised December 2016 Wider Economic Impact Assessment points out that growing traffic demand will exacerbate these problems, reinforcing the negative perception of Wales as a place to visit and do business.
173. Changes in transport conditions can influence decisions of firms and individuals, in turn affecting economic performance and competitiveness at a local and regional level. Benefits to the wider economy include better access to employment opportunities; reduced business costs; improved productivity; stimulating investment; and improving perceptions (see Proof of Evidence of Mr Stephen Bussell). The Scheme would include two new motorway junctions to the south of Newport (Docks Way and Glan Llyn), which would provide improved access and hence encourage investment in both existing employment sites and LDP allocations in Newport and Monmouthshire, in line with the advice in PPW paragraph 7.1.3 to coordinate development with infrastructure provision. The revised December 2016 Wider Economic Impact Assessment reports that sites in close proximity to the Scheme have an estimated capacity for some 15,000 jobs.

¹³² Document 2.4.11

¹³³ WG 1.5.1

174. PPW paragraph 7.6.1 highlights the potential benefits of economic developments which can include: the numbers and types of jobs expected to be created or retained; whether and how far the development will help redress economic disadvantage or support regeneration priorities; and the contribution to wider spatial strategies, for example for the growth or regeneration of certain areas. The Scheme is not of itself an economic development, but it offers all of these benefits and it should be noted that the Newport LDP¹³⁴ identifies economic decline as a key issue (paragraph 1.9).

Newport Docks

175. Nonetheless the Scheme has the potential to impact on certain businesses both during construction and thereafter in the long term. Associated British Ports (ABP), the owners and operators of Newport Docks, object to the proposed new motorway route chiefly on grounds of the headroom restriction resulting from the new bridge across the River Usk and Docks; the loss of land within the operational docks area and division of the Port into three separate areas by the Scheme; and the impact on the draft Port of Newport Master Plan 2015-2035 (M/Plan). Other issues are the protection of the new motorway bridge against the impact of large ships, and the handling of explosives through the Docks.

176. Newport Docks is described in the M/Plan, published for consultation by ABP in 2016¹³⁵, as Wales' leading general cargo port and the second largest conventional steel handling port in the UK. The M/Plan states that in 2014 the port handled in excess of 1.85 million tonnes of cargo, contributing £186m to the Welsh economy and supporting 3000 direct and indirect jobs. In the 20 years up to 2014, cargo handled at the port increased by 40%, although compared with the 2014 figure of 1.85m tonnes, the highest figure was 3.15m tonnes in 2006, prior to the 2008/9 global economic downturn.

¹³⁴ Document 5.3.1

¹³⁵ Document 7.1.2

177. At the time of writing control of port development is not devolved to the Welsh Government. National Government policy on new port development is set out in the *National Policy Statement for Ports*, Department for Transport, January 2012 (NPS)¹³⁶. This recognises the essential role of ports in the UK economy and in local and regional economies. Government policy therefore encourages sustainable port development to cater for long-term forecast growth in volumes of imports and exports.
178. The importance of Newport and the other South Wales ports is recognised in the Wales Spatial Plan and the Wales Transport Strategy 2008. The latter's objectives include increasing "*freight moved over rail and water, which in turn requires effective integration with the road network.*" A key action is to encourage short term sea shipping, moving cargo and passengers by sea to European ports. Linked with this is the provision of better road and rail-freight connections to the main freight ports. The Welsh Government's objective is to increase the movement of cargo and passengers by sea to reduce vehicle movements on the road network.
179. PPW Chapter 8: Transport, deals with ports and paragraph 8.5.3 encourages the carriage of freight by, amongst others, water rather than road. Paragraph 8.5.6 promotes the use of ports by protecting or providing access and retaining or providing appropriate wharf, dock, harbour and rail transfer facilities. TAN18 equally seeks to promote the carriage of freight by water rather than road and encourages retention of wharf and harbour facilities and protection or provision of road and/or rail access.
180. The new motorway bridge would restrict the air draft of ships entering the North Dock to a maximum of 25.86 metres if the dock level remains unchanged or 25.20 metres when the level is raised to account for climate change. Mr Jonathan Vine¹³⁷ has analysed the impact of the headroom restriction due to the new bridge on the operation of the Port. He shows that of the 313 vessels that used the North Dock during the period December 2004-December 2015, 23% would have been prevented from entering the Dock based on 25.20

¹³⁶ Document 7.1.18

¹³⁷ WG 1.22.1

metres air draft or 19% using 25.86 metres. The majority of vessels up to 4000 tonnes deadweight (the largest proportion of vessels using the North Dock in that period) would not have been impeded. Up to 5,000 tonnes deadweight there are vessels designed and built with low air drafts specifically for rivers and docks with draught and air draft restrictions; such vessels are commonly used on the sea trade routes between Europe and the United Kingdom, the routes where the Welsh Government wishes to see an expansion of trade. Mr Jonathan Vine's analysis shows that only 5.6% of visits to the North Dock in the period reviewed exceeded this deadweight. He therefore concludes that only a small proportion of vessels visiting the North Dock may be impeded by the Scheme.

181. Mr Jonathan Vine's analysis of the berth utilisation data provided by ABP shows there is spare berthing capacity within the South Dock most of the time for vessels prevented from entering the North Dock. Vessels bound for the North Dock unable to berth anywhere within the Docks would time their arrival and/or anchor until a berth becomes available. He concludes that the impact of the Scheme on the marine operations at Newport Docks would be limited.
182. However, ABP point out that the size of ships is increasing and their M/Plan sets out their intention to widen the Junction Cut separating the North and South Docks that presently restricts the size of vessels that can use the former. It would be pointless to widen the Junction Cut if the new motorway were to proceed since the bridge would prevent large vessels up to 40,000 tonnes from entering the North Dock. However, the South Dock can accommodate 40,000 tonnes vessels and Mr Jonathan Vine's analysis shows that this dock has spare capacity. The new motorway would not preclude use of the North Dock by the smaller vessels that have used it in the period 2005-15, leaving the South Dock to handle larger vessels with the capacity to deal with increased vessel movements utilising this dock's spare capacity. There is therefore no reason to conclude that the new motorway and its bridge over the Docks would preclude the M/Plan's intention of expanding the Port's capacity to handle larger vessels, albeit this would be dependent on the South Dock and require the draft M/Plan to be revised.

183. The Welsh Government has met ABP to discuss the safety of the new bridge across the Docks and its protection against ship impact, and has carried out a risk assessment. This matter is dealt with by both Mr Matthew Jones and Mr Ben Sibert¹³⁸ in more detail. Measures are required to prevent larger ships getting close to the bridge, to ensure its protection and provide adequate standards of safety. Options have been presented to ABP for discussion that would overcome bridge safety concerns; a supplementary CPO would be required to deliver the necessary protection measures.
184. With regard to the loss of land and alleged division of the Port into three separate areas, there is a considerable amount of vacant and under-utilised land within Newport Docks; the draft M/Plan is based on development of these areas. It is clear that the M/Plan would require revision if the new motorway were to proceed, but the bridge over the Docks would not prevent access to the different parts of the operational area. As Mr Ben Sibert¹³⁹ makes clear in his Proof of Evidence, the Welsh Government's intention would be to agree rights of access to the land under the bridge wherever possible to enable its continued use, provided this would not raise safety or security risks and there is access for maintenance. The land underneath the bridge would hence not be sterilised and the design of the new motorway enables its use and access between the adjoining operational areas of the Port. Mr Ben Sibert describes in his Proof of Evidence a change to the support structure of the new section of motorway from soil embankment to concrete columns, enabling access to more land and facilitating the future construction of a western railway line as outlined in the M/Plan. Therefore, whilst I accept that revisions to the M/Plan for the future development of Newport Docks would be required, the new section of motorway has in my view been designed to minimise its impact.
185. During construction there would be a need to reorganise the use of affected land within the Docks and relocate tenants; this is dealt with by Mr Ben Sibert. Land is available within Newport Docks, in ABP's ownership, that could be used to relocate land uses and tenants either permanently or on a temporary basis

¹³⁸ WG 1.1.1 & WG 1.5.1

¹³⁹ WG 1.5.1

until construction is completed. The Welsh Government has considered how such a reorganisation could be managed and is initially liaising with ABP on the various alternatives for relocation of operations prior to consultation with affected tenants. Therefore, whilst construction of the new bridge and motorway would cause disruption, steps can be taken to enable ABP and its existing tenants to continue to operate and to ensure that the Docks continue to function properly.

186. Mr Andrew Meaney¹⁴⁰ has analysed the impact on ABP and the Port of Newport. He estimates that there would be a temporary land loss of 33.7 ha (18.8%) and a permanent loss of 17.9 ha (9.9%) of the ABP land (179.7 ha). In terms of economic impact he calculates overall detriment to the Port in the range £4.2m to £7.9m, representing 3.1-5.8% of the Port's present value. If alternative vessels are used and berths reallocated the detriment would be £2.2m–£6.0m, equivalent to 1.6–4.3% of the port's present value. He notes that this represents a relatively small proportion of the value of the Port. In his understanding ABP and its tenants would be entitled to statutory compensation that would offset the economic impact.
187. Mr Andrew Meaney also comments¹⁴¹ on the draft Master Plan 2016, pointing out that most of the sites it proposes for development would not be affected by the Scheme. Where sites would be affected, much of the proposed development would be after completion of the Scheme. He comments that the Scheme would have a small impact on the draft Master Plan in terms of loss of land. Most of its proposals could in his view be carried out without any direct negative impact. He also points to the significant amount of unused land identified in the draft Master Plan, which would offset the land lost due to the Scheme.
188. Mr Andrew Meaney points out the aspirational nature of some of the M/Plan's proposals, such as its projection that coal handling would remain stable when it actually reduced by 90% in the period 2008-14. He points to the general optimism bias in the M/Plan, which projects a tonnage growth to 2020 of 3.5%

¹⁴⁰ WG 1.4.1

¹⁴¹ *Ibid.* Appendix4: Future Activities at the North Dock

annually compared with his calculation of a growth of 1.8% 1995-2014. He concludes that the potential land for development is unlikely to be significantly reduced, and that any loss of rental income due to the Scheme impeding future M/Plan projects would probably be small.

189. Mr Matthew Jones¹⁴² explains that ABP holds an explosives licence issued by the Health and Safety Executive. This licence would be subject to revised limits if the Scheme were to proceed and would mean smaller consignments of explosives being allowed at the port¹⁴³. Reduced explosives handling capacity at Newport Docks would not significantly affect the Ministry of Defence's (MoD) ability to import and export munitions to and from the UK as other ports could be used. Therefore any revision of ABP's explosives licence would not have any implications for national security. Mr Matthew Jones also confirms that an alternative site is available within the Docks at sufficient distance from the Scheme to allow a new hazardous substances consent to be issued to ABP to enable the company requiring that consent to continue operating.
190. On the basis of this Proof of Evidence I conclude that Newport Docks would be able to continue to function properly and expand its future capacity if the new motorway were to proceed. Furthermore, the new Docks Way junction would improve access to Newport Docks from the new section of motorway, making the Dock area more attractive for investment in line with the advice in paragraph 8.5.6 of PPW that the use of ports should be promoted by providing access. Mr Andrew Meaney¹⁴⁴ considers the benefits in time savings due to improved access via the Docks Way junction to the new motorway network and states that in his view it is reasonable to expect property prices and rents to increase at the Port as a result of the Scheme. There would therefore be potential benefits to businesses in terms of time savings and efficiency and economic benefits to ABP.
191. ABP recognise that their draft Master Plan 2016 is aspirational and that some of its future plans would require third party funding. Whilst the Department for

¹⁴² WG 1.1.1

¹⁴³ Document 2.4.14, Appendix SS2.2

¹⁴⁴ WG 1.4.1

Transport recommends the preparation of master plans for all major ports such as Newport to aid future planning, these are not statutory documents but essentially business plans for future development. I understand that ABP intends adopting the draft M/Plan prior to the opening of the Public Local Inquiry. Nonetheless, even statutory plans such as LDPs require regular review and revision to respond to changing circumstances. The Scheme does not conflict with the objectives of Policy EM2 of the Newport LDP, which seeks to protect the existing 206 ha employment site at the Docks for B1, B2 and B8 uses. Indeed, the Docks Way junction and link road would make land at Newport Docks more attractive commercially and so would assist in achieving the LDP objectives. Whilst the proposals in the current M/Plan may not be capable of implementation, there is ample scope in terms of available land for revised plans for the future expansion of the Port, as confirmed by Mr Meaney. I therefore consider that the Scheme would not preclude future investment or prevent the expansion of the Port to meet ABP's statutory responsibilities or Welsh Government objectives. Although there would be an economic impact in the range 2.5-9.9%, this represents a relatively small proportion of the Port's value and statutory compensation would be available. As a consequence I conclude that the Scheme does not conflict with Government policy in the NPS for Ports, or with the Welsh Government's objective of promoting the use of ports and increasing movement of cargo and passengers by water rather than by road.

Magor Services

192. Roadchef, the operators of the services at Junction 23A, and Rontec, the landowners, object to the access arrangements to and from the new section of motorway. Mr Ben Sibert and Mr Matthew Jones¹⁴⁵ deal with this issue in more detail. Motorists travelling in some directions on the new section of motorway would take longer and travel further to use the Services than from the existing M4. This could lead to a reduction in visitor numbers and associated revenues (see also Proof of Evidence of Mr Stephen Bussell¹⁴⁶).
193. The disadvantages due to the distance to re-join the new section of motorway from the Services do not justify the economic, social and environmental implications of an additional westbound on-slip, bearing in mind that services are also available at Junction 30 (Cardiff Gate). However, further consideration is being given to the provision of an off-slip road to improve the convenience of access to the Services for eastbound travellers on the new section of motorway. Subject to further information on traffic forecasting, environmental impact and road safety, supplementary Draft Orders may be required. Whilst the Welsh Government considers that Magor Services would continue to be viable, as explained by Mr Stephen Bussell, the addition of an eastbound off-slip road would improve the connectivity with the Services for the benefit of travellers.
194. As demonstrated by the efforts described above to understand and overcome the concerns and issues raised by objectors, the Welsh Government has been, and continues to be, open to discussion with landowners, tenants and objectors on a case by case basis in parallel with the statutory process (see Proof of Evidence of Mr Matthew Jones)¹⁴⁷.

¹⁴⁵ WG 1.5.1, WG 1.1.1

¹⁴⁶ WG 1.3.1

¹⁴⁷ WG 1.1.1

195. The Scheme would have economic benefits spread over a wide area of South and South West Wales, as previously explained. Only some of these benefits can be quantified. The revised December 2016 Wider Economic Impact Assessment¹⁴⁸ uses Gross Value Added (GVA), a measure of the total value of goods and services produced by an economy, to measure the economic impact of the Scheme. It estimates that the Scheme would add £1.6bn to the GVA in the study area (which includes Bristol and its surroundings) and £1.3bn to the GVA of South Wales in particular over the 60 year appraisal period at 2010 values. These estimates relate to the expected impact of the Scheme on transport costs and productivity and exclude the potential impacts related to changes in business location and investment. The revised Wider Economic Impact Assessment also states that the GVA calculations underestimate the total impact of the Scheme since they are based on changes in average journey times under typical conditions on a normal day. Disruption and delays caused by traffic incidents impose further costs. The additional capacity and resilience resulting from the Scheme would further reduce the costs of unreliable journeys and delays due to such incidents. Some 88% of firms surveyed by the Confederation of British Industry in 2014 described the quality and reliability of transport infrastructure as a significant influence on business investment decisions.

196. I recognise however that not every business affected by the Scheme would benefit. I acknowledge the impact on ABP, the effect on other Newport Docks tenants, the potential impact on Magor Services, and the effect on businesses disrupted by the construction of the Scheme. Nevertheless, in my view these adverse impacts are heavily outweighed by the cumulative economic benefits to South and South West Wales detailed in the December 2016 Wider Economic Impact Assessment and the Proof of Evidence of Mr Stephen Bussell.

¹⁴⁸ Document 2.4.11

197. In my view the Scheme therefore meets the Welsh Government's planning policy objectives that seek to support economic and employment growth alongside social and environmental considerations within the context of sustainable development. The economic and social benefits of the new section of motorway would be in accordance with the Prosperous Wales, More Equal Wales and Wales of Cohesive Communities sustainability objectives in PPW and the same Well-being goals of the 2015 Act. Moreover, it would meet the Welsh Government's well-being objectives 4, 7 and 10: "*Improve prosperity for all across Wales, helping people into employment and sustaining jobs*"; "*Connect communities through sustainable and resilient infrastructure*"; and "*Foster conditions for sustainable economic development and employment, whilst stimulating innovation and growth for a modern low-carbon economy*". It could contribute to improvements in the following national indicators

- e) 9: Gross Value Added per hour worked
- f) 10: Gross Disposable Household income per head
- g) 16: Percentage of people in employment etc
- h) 18: Percentage of people in households in income poverty
- i) 19: Percentage of people in households in material deprivation
- j) 21: Percentage of people in employment
- k) 24: Percentage of people satisfied with their ability to get to/access the facilities and services they need
- l) 26: Percentage of people satisfied with local area as a place to live.

PPW Chapter 4: Planning for Sustainability

198. I turn now to the **sustainable development principle** as defined for planning policy purposes in the 11 detailed bullet-points in paragraph 4.3.1 of PPW. In discussing these I draw on the points I have made above in relation to the PPW topic chapters.

- a) ***Putting people, and their quality of life now and in the future, at the centre of decision-making***

199. The Welsh Government's aims for the M4CaN Plan are as follows:

- a) Make it easier and safer for people to access their homes, workplaces and services by walking, cycling, public transport or road;
- b) Deliver a more efficient and sustainable transport network supporting and encouraging long term prosperity in the region, across Wales, and enabling access to international markets; and
- c) To produce positive effects overall on people and the environment, making a positive contribution to the over-arching Welsh Government goals to reduce greenhouse gas emissions and to making Wales more resilient to the effects of climate change¹⁴⁹.

200. These aims confirm that the Welsh Government intentions in adopting the Plan for the new section of motorway are to resolve the daily difficulties faced by people and businesses in travelling around Newport, and improve the quality of life of those affected by the congestion on the M4. A combined Health, Social and Equalities Impact Assessment was carried out for the proposed M4CaN as part of the ES¹⁵⁰. This considers how the Scheme may influence public health and wellbeing in the areas surrounding the proposed new section of motorway and the existing M4 corridor. It also considers the distribution of impacts and any potential disproportionate impacts on sensitive community groups, demonstrating the Welsh Government's concern for people and their quality of life. It concludes that the Scheme's health and wellbeing impacts would not be evenly distributed, with much of the benefit in north Newport around the existing M4 and adverse impacts around the new section of motorway, but that overall it would lead to minor quantifiable health benefits due to a net reduction in noise and air pollution.

b) Engagement and involvement, ensuring that everyone has the chance to obtain information, see how decisions are made and take part in decision-making

¹⁴⁹ WG 1.1.1 – Proof of Evidence of Matthew Jones; Document 4.5.7

¹⁵⁰ Document 2.3.2 - ES Appendix 5.4

201. Involving people is the third part of the sustainable development principle as defined in the 2015 Act and I have considered this in paragraph 39 above where I describe how the development of the Scheme adhered to the sustainable development principle by involving a diversity of the population.

c) Taking a long term perspective to safeguard the interests of future generations, whilst at the same time meeting needs of people today

202. The need to look to the long term is the first part of the sustainable development principle defined in the 2015 Act. I have considered this in paragraph 35 above where I give a number of examples to demonstrate that whilst the Scheme addresses a current issue, congestion on the M4 motorway, the long term implications were fundamental to the assessment process.

d) Respect for environmental limits, so that resources are not irrecoverably depleted or the environment irreversibly damaged. This means, for example, mitigating climate change, protecting and enhancing biodiversity, minimising harmful emissions, and promoting sustainable use of natural resources

203. The ES and the Proof of Evidence of the technical witnesses demonstrates that the new section of motorway has been designed to minimise the need to import raw materials by making use of materials won on site. It would improve air quality, reduce noise levels for many properties and have other health benefits, and it has been designed to deal with climate change in terms of raised sea levels. Although it would cause loss of land within SSSIs, the Welsh Government has fulfilled its legal duties regarding the SSSIs and biodiversity, paying attention to the impact on these and all designated sites at all stages in the testing of options to address the problems on the M4, the selection of the Plan for the M4 around Newport, and the design and development of the Scheme. A comprehensive strategy has been developed to mitigate the effect on the SSSIs and ensure that the features for which they are designated are maintained. The significant impact on the landscape would also be addressed by extensive landscaping and other mitigation measures to reduce the long term impact.

e) *Tackling climate change by reducing the greenhouse gas emissions that cause climate change and ensuring that places are resilient to the consequences of climate change*

204. I have dealt with this subject in paragraphs 49-55 above, where I deal with issue 2 which considers climate change and greenhouse gases. The Scheme would be in line with the Welsh Government's policy, producing a small reduction in annual user carbon emissions both in the opening and design years, potentially achieving carbon neutrality by 2066 in operation. The Scheme would play a minor role in reducing Welsh carbon emissions and would not hinder achievement of the long-term targets to be set by the Welsh Government under the Environment (Wales) Act 2016. It is in accordance with the trajectory of overall emissions reductions required by legislation and policy.
205. The Welsh Government's agreed 'Hold the Line' policy and Strategy in respect of tidal defences for the Wentlooge and Caldicot Levels provides long-term protection for the Levels over the next 100 years against a 0.1% (1:1000 year) event, including allowances for climate change. In such circumstances the new section of motorway would not increase the risk from flooding, thus ensuring places are resilient to the consequences of climate change.

f) *Applying the precautionary principle. Cost-effective measures to prevent possibly serious environmental damage should not be postponed just because of scientific uncertainty about how serious the risk is*

206. The Scheme includes embedded mitigation measures that are integral to the design. They are outlined in ES Chapter 2 and include: avoiding construction in the Rivers Usk and Ebbw channels; minimising land take in the SSSIs; water treatment areas to protect the ree system; maintaining ree connections and replacing reens; replacing ditches and saltmarsh; pollution control measures; diverting and replacing rights of way; minimising lighting; thin surfacing and other noise reduction measures. Additional mitigation is proposed to further reduce the potential effects of the Scheme. The precautionary principle has been applied throughout in deciding what mitigation measures are required.

g) *Using scientific knowledge to aid decision-making, and trying to work out in advance what knowledge will be needed so that appropriate research can be undertaken*

207. The breadth and depth of the studies included in the ES and its Supplements demonstrate the application of the most up to date scientific knowledge and principles to explore the effect of the new section of motorway. Models have been developed and tested for reliability to test the need and effect of the Scheme and to demonstrate its impacts. Numerous surveys have been carried out and repeated to meet the requirements of NRW and ensure the best knowledge is available.

h) *While preventing pollution as far as possible, ensuring that the polluter pays for damage resulting from pollution. In general the Welsh Government will seek to ensure that costs are met by those whose actions incur them*

208. The Scheme would reduce pollution by improving air quality, providing better management of highway run-off and reduce noise levels to many properties. The treatment of existing areas of land contamination would also reduce potential pollution problems.

i) *Applying the proximity principle, especially in managing waste and pollution. This means solving problems locally rather than passing them on to other places or to future generations*

209. The Scheme has been designed to make maximum use of materials won on site and to re-use treated materials from existing land contamination sites in the embankments for the new section of motorway. As a consequence minimal amounts of material would need to be taken away for disposal. The assessment of 27 existing contaminated sites is a clear example of solving problems now and locally rather than leaving them to future generations.

j) *Taking account of the full range of costs and benefits over the lifetime of a development, including those which cannot be easily valued in money terms when making plans and decisions and taking account of timing, risks and uncertainties. This also includes recognition of the climate a development is likely to experience over its intended lifetime*

210. The economic justification for the Scheme is set out in the Economic Appraisal Report and a BCR calculated showing that the Scheme would provide value for money. The Wider Economic Impact Assessment looks at a much wider range of factors and takes account of those that are more difficult to value such as improved perceptions of South and West Wales as places to visit and do business. The studies for the Scheme to assess its costs, benefits and its impact typically look a number of years into the future, for example the economic impact is assessed over a 60 year period and the flood consequences assessment looks at a 100 year period to take account of climate change.

k) *Working in collaboration with others to ensure that information and knowledge is shared to deliver outcomes with wider benefits*

211. Collaboration is the fourth part of the sustainable development principle defined in the 2015 Act and I have dealt with it in paragraphs 40-43 above. I explain how the Welsh Government worked closely with a wide range of organisations, with the public, and with statutory bodies when examining options and seeking solutions to the problems on the M4. In addition the early involvement of the contractor through the ECI contract enabled the design and construction methods to be developed in a collaborative manner that addressed all environmental, economic and social impacts in a comprehensive and integrated manner. The Welsh Government was able to influence the way the Scheme was developed to ensure better design and construction methods that adopted best practice to deliver more sustainable outcomes.

212. The Scheme for the M4 around Newport is therefore fully in accordance with bullet-points 1-3 and 5-11 of the sustainable development principle in paragraph 4.3.1 of PPW. With regard to bullet-point 4, respect for environmental limits, although there are aspects of the Scheme that meet this requirement, there would be long term effects on the SSSI and the landscape. The Scheme does not therefore fully accord with all elements of the sustainable development principle set out in PPW.

213. PPW Chapter 4 also sets out **sustainability objectives** in paragraph 4.4.3, which mirror the Well-being goals in the 2015 Act. In the previous paragraphs I have identified conflicts with several relevant planning policies. However, where the Scheme is in agreement with planning policies I have found that it would also meet the following sustainability objectives in PPW:

- a) Prosperous
- b) Resilient
- c) Healthier
- d) More Equal
- e) Wales of Cohesive Communities
- f) Globally Responsible Wales.

By definition the Scheme would also contribute to the same Well-being goals in the 2015 Act.

214. I have not previously reached a conclusion regarding the sixth sustainability objective, which is 'A Wales of vibrant culture and thriving Welsh language'. Evidence has been given of the negative impact caused by the current problems on the M4 on the perception of South Wales as a place to visit and do business (for example see Mr Stephen Bussell's Proof of Evidence)¹⁵¹. The M4 is the main route into South Wales, providing access for business and visitors, including those going to South West Wales. It is reasonable to assume that the majority of visitors to South and South West Wales use the M4 around Newport and many will experience its congestion. Significant delays are likely to

¹⁵¹ WG 1.3.1

influence a visitor's satisfaction with their visit to Wales, their perception of Wales as a destination and the likelihood of them returning.

215. If such delays are addressed by the Scheme, and the Proof of Evidence shows that they would, improved visitor numbers would help boost the tourist industry and the economy. Improved perceptions of South Wales as a place to do business could attract companies to invest in or locate here, boosting the economy and employment opportunities. The Design Commission for Wales (DCfW) commented in their October 2015 review: "*the scale of the new bridge, and its location, means users will, for the first time, properly understand Newport's setting. Nowhere else will such an expansive view of the city, the river estuary and sea be available.*" The new section of motorway would make it easier for people in the Newport area and anyone needing to use the M4 motorway to travel for jobs or for access to sport and recreation opportunities. A stronger economy with better job prospects may encourage Welsh speakers to remain in their communities, protecting the Welsh language and culture. It could also encourage people to move to the area to take up job opportunities, who may learn Welsh and have their children educated through the medium of Welsh. Whilst this may be speculative, I consider it reasonable to conclude that the Scheme satisfies the sixth sustainability objective and would hence contribute to the sixth Well-being goal in the 2015 Act.
216. To summarise on Issue 3, there are conflicts with national planning policy but other instances where policy objectives would be met. It would conflict with planning policies in respect of cultural heritage, landscape, ecology and nature conservation. Because of this conflict it would not comply with the fourth part of the planning policy definition of the sustainable development principle in PPW paragraph 4.3.1, although it would meet all other parts of the definition. Conversely, it would either satisfy or be recognised as an exception to planning policies regarding air quality, contamination, waste and materials, noise, water quality, flood risk, agriculture, public rights of way and economic development. It would accord with the sustainability objectives in PPW paragraph 4.4.3 and so would contribute to those same Well-being goals of the 2015 Act and would meet the Welsh Government's well-being objectives 4: *Improve prosperity for*

*all across Wales, helping people into employment and sustaining jobs, 7:
Connect communities through sustainable and resilient infrastructure and 10:
Foster conditions for sustainable economic development and employment,
whilst stimulating innovation and growth for a modern low carbon society.*

Conclusions on Main Issues

217. With regard to Issue 1, I have examined the work leading to the development of the Plan for the M4 around Newport against the definition of the sustainable development principle in Section 5 of the 2015 Act. This requires a public body to take account of five ways of working:

- m) Designing for the long term
- n) Working collaboratively
- o) Taking an integrated approach
- p) Involving others, and
- q) Acting to solve the identified problem.

218. I am satisfied that the actions of the Welsh Government when developing and adopting the Plan for the M4 around Newport were in line with the 5 ways of working now set out in the 2015 Act and in accordance with the principle of sustainable development. I conclude on Issue 1 that the principle of sustainable development was integral to the process of selecting the Plan and the subsequent development of the Scheme for its delivery. I also conclude, in the light of the commitment to deliver an M4 relief road in the 5-year programme for government that the M4CaN would contribute to the Welsh Government's well-being objectives and to achievement of the well-being goals of the 2015 Act.

219. On Issue 2, neither the Climate Change Act 2008¹⁵² nor the Environment (Wales) Act 2016¹⁵³ requires specific projects to be subject to emission reduction targets; rather they seek to establish a trajectory of overall emissions reduction, recognising that this requires a cross-cutting approach across all sectors. The Scheme has been designed to minimise construction carbon and

¹⁵² Document 3.1.14

¹⁵³ Document 3.1.16

would show a small reduction in annual user carbon emissions both in the opening and design years, potentially achieving carbon neutrality by 2066. For these reasons I conclude on Issue 2 that the Scheme is in accordance with the Welsh Government's policies for climate change and reduction of greenhouse gas emissions as confirmed by Part 2 of the Environment (Wales) Act 2016.

220. Turning to Issue 3, I note first that the line of the new section of motorway is protected from development that would prevent its implementation in the Newport and Monmouthshire LDPs. With regard to national land use planning policies, the Scheme would either meet or be recognised as an exception to the planning policy objectives in PPW in respect of air quality, contamination, waste and materials, noise, water quality, agriculture, public rights of way and economic development. On flood risk, the limited short-term conflict with TAN15 test (iv) does not outweigh the benefits of this nationally important project. Following implementation of the identified flood defence improvements, there would be no long-term conflict with national planning policies on the basis that funding is provided for flood defence improvements to comply with the Welsh Government's 'Hold the Line' policy. I conclude that the Scheme is essential highway infrastructure that meets the PPW criteria for it to be accepted as an exception in this particular case. The Scheme satisfies the sustainability objectives in PPW paragraph 4.4.3 and would contribute to those same Well-being goals of the 2015 Act. It also satisfies the Welsh Government's well-being objectives 4, 7 and 10.

221. However, the Scheme would conflict with planning policies in respect of cultural heritage, landscape, ecology and nature conservation. It would fail to meet the fourth part of the planning policy definition of the sustainable development principle in PPW paragraph 4.3.1, although it would meet all others.

Responses to general objections to the Draft statutory Orders

222. Individuals and organisations have submitted objections to the Draft Orders in accordance with the statutory process. Whilst the Welsh Government and its project team have considered and taken into account all of the responses, I address the general objections that are relevant to sustainable development

and planning policy issues. Other matters raised are addressed in more detail by other specialist witnesses. I deal with each theme of objection relevant to my Proof of Evidence in turn.

Objections based on concerns about how the Scheme aligns to the principles of sustainable development, and/or the objectives of the Wellbeing of Future Generations Act 2015¹⁵⁴

223. The Welsh Government is subject to the duties relating to sustainable development set out in the 2015 Act. A sustainable development report has been prepared, which describes how the Scheme would align to the Welsh Government's Well-being goals¹⁵⁵. I have addressed the sustainable development principle in detail in paragraphs 26-44 above and I have considered the Welsh Government's well-being objectives in paragraphs 45-48.

Objections based on assertions that rather than invest in roads, Welsh Government money should instead be invested in other regions and services including health, education and industry¹⁵⁶

224. How the Welsh Government spends its budget, on what, and where in Wales, are matters outside of the scope of this Inquiry. The Welsh Government's support for the Scheme, including its need and alignment to Welsh Government transport policy, is considered in detail within the Proof of Evidence of Mr Matthew Jones. The value for money of the Scheme is considered in detail within the Proof of Evidence of Mr Stephen Bussell who demonstrates that the Scheme has a Benefit Cost Ratio of 2.22 when wider economic impacts are included.

¹⁵⁴ OBJ0018, OBJ0024, OBJ0044, OBJ0066, OBJ0070, OBJ0074, OBJ0087, OBJ0102, OBJ0106, OBJ0111, OBJ0129, OBJ0136, OBJ0141, OBJ0150, OBJ0154, OBJ0165, OBJ0168, OBJ0185, OBJ0194, OBJ0198, OBJ0204, OBJ0243, OBJ0244, OBJ0248, OBJ0263, OBJ0282, OBJ0284, OBJ0288, OBJ0307, OBJ0310, OBJ0314

¹⁵⁵ Document 2.3.11

¹⁵⁶ OBJ0002, OBJ0032, OBJ0096, OBJ0251, OBJ0286, OBJ0300, OBJ0164, OBJ0284, OBJ0328

Objections based on assertions that rather than invest in roads, Welsh Government money should instead be invested in public transport and/or other forms of travel¹⁵⁷

225. As set out in Chapter 4 of the M4 Corridor around Newport Environmental Statement, studies have shown that new or improved public transport services would only have minimal impact in terms of reducing traffic on the M4. Investment in public transport measures is therefore aimed at achieving wider benefits to the region rather than relieving motorway traffic. However, potential future public transport enhancement measures are considered to be complementary to a motorway solution. Public transport enhancement measures are being progressed separately by the Welsh Government as part of proposals for a Cardiff Capital Region Metro system; these initiatives are seen as complementary to the Scheme as explained in paragraph 37 above.

Objections based on concerns about the Welsh Government taking into account the National Assembly for Wales Environment and Sustainability Committee's Inquiry into the M4 Proposals¹⁵⁸

226. The history and development of the Scheme is considered in detail in the Proof of Evidence of Mr Matthew Jones. The Environment and Sustainability Committee published their report into the proposals on 21 July 2014. A response to the issues raised was published by the then Minister for Economy, Science and Transport on 1 September 2014. In summary, the letter from the Minister rebutted the points raised by the Committee:

¹⁵⁷ OBJ0014, OBJ0023, OBJ0039, OBJ0040, OBJ0043, OBJ0044, OBJ0050, OBJ0060, OBJ0065, OBJ0073, OBJ0074, OBJ0083, OBJ0085, OBJ0086, OBJ0087, OBJ0091, OBJ0093, OBJ0094, OBJ0096, OBJ0096, OBJ0105, OBJ0106, OBJ0111, OBJ0113, OBJ0126, OBJ0129, OBJ0132, OBJ0142, OBJ0150, OBJ0155, OBJ0170, OBJ0179, OBJ0180, OBJ0181, OBJ0185, OBJ0186, OBJ0191, OBJ0194, OBJ0203, OBJ0243, OBJ0244, OBJ0246, OBJ0247, OBJ0248, OBJ0253, OBJ0258, OBJ0259, OBJ0263, OBJ0265, OBJ0266, OBJ0274, OBJ0282, OBJ0283, OBJ0284, OBJ0288, OBJ0290, OBJ0307, OBJ0310, OBJ0323, OBJ0328, OBJ0330, OBJ0335, OBJ0073, OBJ0275

¹⁵⁸ OBJ0069, OBJ0074, OBJ0142, OBJ0284, OBJ0296

- a) Careful consideration has been given to alternatives to the Plan, including the 'blue route'. Assessment of the 'blue route' showed that, whilst providing a degree of increased resilience, it would not address the problems on the M4, could cost more than £600m, and could not be delivered any sooner than the Plan.
- b) There are clear environmental considerations given the location of the Scheme. A Strategic Environmental Assessment process has been completed following a Strategic Habitats Regulations Assessment and its conclusions have been agreed in principle with NRW.
- c) This project has a strong business case, which shows that for every pound invested there would be a return of £2.29p. (Note: this figure was correct at the time of the Minister's reply but has since been updated in the December 2016 Revised Economic Appraisal Report.) This return on investment is calculated using median traffic growth, in accordance with Department for Transport forecasts.
- d) The Plan is compatible with, and will complement, the Cardiff Capital Region Metro and the electrification of the rail network (see the December 2016 Updated Public Transport Overview¹⁵⁹).

227. These matters are considered in more detail within the Proof of Evidence of other expert witnesses, with their knowledge of the topics relevant to those matters.

Objections based on concerns about the Scheme and its alignment to the National Planning Policy Framework in England, and Planning (Wales) Act 2015¹⁶⁰

228. The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England, but as the Scheme is located in Wales the NPPF and its policies are not applicable. PPW Edition 9 sets out the Welsh Government's land-use planning policies, which are referred to in Issue 3 in my main Proof of Evidence (paragraphs 63-216).

¹⁵⁹ Document 2.4.19

¹⁶⁰ OBJ0161, OBJ0284

229. As noted in Chapter 5 of the Environmental Statement, the Scheme is being taken forward via the Highways Act 1980 as amended, and consequently the Scheme is not governed by planning policy. However, as explained in paragraph 12 above, the Minister must have regard to the requirements of local and national planning in considering whether or not to confirm the Orders.
230. The Planning (Wales) Act 2015 makes changes to the planning system in Wales largely by amending the Town and Country Planning Act 1990 and the Planning and Compulsory Purchase Act 2004. The Welsh Government establishes the overall context for the operation of the planning system through making subordinate legislation and setting the policy framework through PPW, TANs, circulars and guidance. Where relevant, these have been taken into account and Chapter 6 of the Environmental Statement provides an overarching and strategic legislative and policy context for the Scheme.

Objections based on assertions that alternatives to the Scheme would have less impact on human health¹⁶¹

231. As part of the development work that led to the M4 Corridor around Newport Plan a number of health and equalities impact assessments were carried out to inform the different stages of the planning and decision making process, from the strategic level down to the shortlisted options. A wide range of transport options were considered and their health impacts assessed. The M4 Corridor Enhancement Measures Health Impact Assessment 2012¹⁶² assessed several highway options being considered at that time to solve the identified problems on the M4. The M4 Corridor around Newport draft Plan Health Impact Assessment 2013¹⁶³, which formed part of the consultation package on the draft Plan, considered two alternatives to the 'Black Route' together with the 'Do Minimum' scenario, doing nothing above what was already planned.
232. The 2016 Health and Equalities Impact Assessment¹⁶⁴ considers how the Scheme may influence public health and wellbeing in the areas surrounding the

¹⁶¹ OBJ0272

¹⁶² Document 4.3.10

¹⁶³ Document 4.4.4

¹⁶⁴ Document 2.3.2: Vol 3, Appendix 5.4

proposed new section of motorway and the existing M4 around Newport. It finds that the principal environmental pathways by which the Scheme would have direct public health impacts are changes in air pollutant concentrations and change in noise levels.

233. The 2016 Assessment concludes that the Scheme would essentially transfer a large amount of road traffic from the existing M4 corridor in the relatively densely populated area north of Newport to the new section of motorway in the less-populated area south of Newport. It would therefore reduce the number of people exposed to the greatest air pollution and noise impacts.
234. With committed mitigation measures in place, no adverse health impact due to land contamination (including soils, ground gas and ground water) or flood risk is predicted due to the Scheme.
235. Objections received to the March 2016 Draft Statutory Orders have expressed support for alternatives and should objections remain in place, alternatives will be considered at the Public Local Inquiry. Consultation on alternatives will take place during the Public Local Inquiry to ensure that the views of all parties can be considered by the Inspector.

Objections based on concerns about the Scheme not aligning to the Welsh Government's policy commitments to reduce the impact of climate change¹⁶⁵

236. The Welsh Government is aware of the briefing research note prepared by Anderson and Glynn in 2015 for Wildlife Trusts Wales and its concerns with respect to the potential effect of carbon emissions from the Scheme on climate change. I have addressed this matter in dealing with Issue 2 in paragraphs 49-55 above.

¹⁶⁵ OBJ0024, OBJ0142, ONJ0185, OBJ0248, OBJ0307, OBJ0314, OBJ0330, OBJ0335

Overall Conclusions

237. The first of my three main issues deals with the sustainable development principle as defined in the Well-being of Future Generations (Wales) Act 2015. I have concluded that the process of selecting the Plan for the M4 around Newport was in line with the 5 ways of working now set out in the 2015 Act and hence in accordance with the principle of sustainable development, which was also integral to the subsequent development of the Scheme for delivery of the Plan. I also conclude, since the Welsh Government's 14 well-being objectives form the foundation for the strategies in the 5-year Programme for Government and that the delivery of an M4 relief road is integral to the *United and Connected* strategy, that the Scheme would contribute to the Welsh Government's well-being objectives and therefore to the well-being goals of the 2015 Act.
238. The process of examining the Plan against the 2015 Act may be seen by some as retrofitting and an attempt to justify an existing decision, but that would be a misinterpretation of the purpose of my Proof of Evidence. The 'decision' that is relevant here is whether or not to proceed with the construction of the new section of motorway and that will be taken by the Welsh Ministers following receipt of the Inspectors' report after the close of this Public Local Inquiry. My Proof of Evidence examines the extent to which the Welsh Government followed the ways of working that make up the sustainable development principle, as defined in the 2015 Act, when testing alternatives and selecting the Plan, bearing in mind that most of the work involved in that process took place before the current statutory definition had emerged even in draft form. I was not involved in any of the work leading to the development and adoption of the Plan and my conclusions are independent and impartial, based on the documents publicly available and discussions with those involved.

239. Issue 2 deals with climate change and greenhouse gases. The evidence shows that the Scheme has been designed to minimise construction carbon and would show a small reduction in annual user carbon emissions both in the opening and design years, potentially achieving carbon neutrality by 2066. For these reasons I have concluded that the Scheme is in accordance with the Welsh Government's policies for climate change and reduction of greenhouse gas emissions as set out in Part 2 of the Environment (Wales) Act 2016.
240. Issue 3 deals with land use planning policies, the sustainable development principle and the sustainable development objectives in PPW Edition 9, and the Well-being goals of the 2015 Act. Whilst consideration of planning policies is not determinative in this case, the Highways Act 1980 requires the Minister to give due consideration to the requirements of local and national planning. I have concluded that the Scheme would either meet or be recognised as an exception to the planning policy objectives in PPW in respect of air quality, contamination, waste and materials, noise, water quality, agriculture, flood risk, public rights of way and economic development. However, it would conflict with planning policies in respect of cultural heritage, landscape, ecology and nature conservation. Consequently it would fail to meet the fourth part of the planning policy definition of the sustainable development principle in PPW, respect for environmental limits, although it would meet all other parts of the definition.
241. I have also concluded that the Scheme would satisfy the sustainability objectives in PPW paragraph 4.4.3 and so would contribute to those same Well-being goals of the 2015 Act. I recognise that there is some speculation in my conclusions on the sixth goal, '*A Wales of vibrant culture and thriving Welsh language*'. However, it would be impractical for every project or action for which the Welsh Government is responsible to contribute equally to each of the seven Well-being goals of the 2015 Act. The duty under Section 3 of the 2015 Act applies to all of the Welsh Government's wide-ranging functions and the requirement to contribute to each of the Well-being goals must logically apply to the collective impact of its actions as a public body, not to the impact of individual actions. Each of the Welsh Government's decisions and actions across its wide range of functions will contribute in different amounts to

achievement of the individual Well-being goals. A balance has to be struck by the decision maker and the relevant consideration for the Welsh Government is whether the way in which it exercises its functions, when taken as a whole, contributes to the achievement of the Well-being goals. This is demonstrated by the fact that the Welsh Government's well-being objectives contribute individually to some, but in most cases not all, of the well-being goals of the 2015 Act.

242. In summary, the Scheme meets the requirements of a number of national planning policies in PPW, but there is conflict with several others. National policies, by definition, cover all manner and scale of development. It is for this reason that many of these policies explicitly allow for exceptions, recognising that circumstances will arise not envisaged when they were written. Although I have concluded that the need to relieve the economic, social and environmental problems caused by congestion on the existing motorway justifies an exception to individual national policies, to reach an overall conclusion on planning requirements it is necessary to weigh the cumulative impact of the identified policy conflicts against all other considerations, including the need for and benefits of the Scheme.

243. PPW paragraph 7.2.2, dealing with economic development advises as follows:

Local planning authorities are required to ensure that the economic benefits associated with a proposed development are understood and that these are given equal consideration with social and environmental issues in the decision-making process, and should recognise that there will be occasions when the economic benefits will outweigh social and environmental considerations.

244. I attach great weight to the need to address the serious congestion and consequent problems associated with the M4 motorway around Newport and the significant traffic, economic, environmental and social benefits the Scheme would provide. In addition I give some weight to my conclusions, first, that the Scheme would meet all but one part of the planning policy definition of the sustainable development principle and, second, that it would satisfy the sustainability objectives defined in PPW and so would contribute to the Well-being goals in the 2015 Act.
245. Against this I give considerable weight to the impact on the SSSIs, the long term effect on the landscape and the impact on heritage assets. I also attach some weight to the impact on agriculture, including the loss of some 67.1 ha of the best and most versatile agricultural land. However, PPW accepts that overriding need, such as that which the evidence shows exists in this case, is capable of justifying development of the best quality agricultural land.
246. Whilst the new section of motorway would be in an area of flood hazard, it is essential highway infrastructure that meets the criteria set in PPW for it to be recognised as an exception in this particular case. The essential nature of the Scheme is confirmed by the relief it would bring to the economic, social and environmental problems currently caused by congestion on the M4. The Welsh Government's evidence demonstrates that the Scheme is the best option for addressing the problems associated with the existing motorway around Newport; it is consequently justified in this location. I do not consider that the limited short-term conflict with TAN15 test (iv) outweighs the benefits of this nationally important project. Following implementation of the identified flood defence improvements, there would be no long-term conflict with national planning policies on the basis that funding is provided for flood defence improvements to comply with the Welsh Government's 'Hold the Line' policy and recommendations in respect of tidal flooding on the Wentlooge and Caldicot Levels.

247. I recognise the potential adverse impact on businesses including ABP, Newport Docks tenants, Magor Services and those firms disrupted during construction work. I do not underestimate the potential consequences for individual firms. Nonetheless, I consider all such adverse economic effects are heavily outweighed by the cumulative economic benefits the Scheme is likely to bring to South and South West Wales described in the December 2016 Wider Economic Impact Assessment and the Proof of Evidence of other witnesses.
248. On balance I conclude that the benefits the Scheme would bring, by relieving the problems associated with the M4 motorway, provide a compelling case in its favour that outweighs the cumulative policy conflicts. In reaching this conclusion I have taken account of the fact that the Scheme has been developed with embedded and additional mitigation to minimise the adverse effects of the new section of motorway, so that in time the impact on the landscape and natural heritage, and other environmental effects, would significantly reduce.
249. My overall conclusions on the planning requirements are, first, that the Scheme is fully in accordance with a number of national planning policies and, second, that where conflicts exist, the benefits of the Scheme in relieving the existing problems associated with the M4 around Newport are sufficient to justify an exception in this particular case. This conclusion is based on my professional knowledge and the experience gained from making such balanced judgements over 20 years with the Planning Inspectorate.
250. Since taking responsibility for the motorway network the Welsh Government has, in my view, ensured that sustainable development principles have been integral to the process of finding a solution to the problems associated with the M4 around Newport, for example by using the WelTAG to assess options. The Well-being of Future Generations (Wales) Act 2015 marks a crucial step forward in requiring public bodies in Wales to do things differently. However, it should not be used to suggest that work carried out by the Welsh Government prior to the 2015 Act necessarily did not accord with the sustainable development principle. It would be misguided, in my opinion, to use the 2015

Act as a reason to delay essential infrastructure projects designed to address existing problems that threaten the well-being of the people of Wales. The Project is integral to the '*United and Connected*' strategy in the Welsh Government's 5-year programme for Government *Taking Wales Forward* and so is vital to achievement of its well-being objectives and hence progress towards the well-being goals of the 2015 Act.

251. Having considered the ES, its Supplements and all other Proof of Evidence particularly that of the other expert witnesses, the Scheme is in my opinion essential to the well-being of the people of Wales and should proceed.
252. I also bring to this task my personal knowledge and experience of the problems associated with the M4 around Newport from living and working in this part of Wales for over 40 years. Two particular occasions stand out in my memory when I have suffered the consequences of the paralysis that can grip the whole of the highway network. In 2006 I was taking my daughter to Bristol Airport for a flight to Guernsey. Listening to the radio before leaving home I heard that an accident had caused the M4 to come to a standstill. After a lengthy detour via Usk and the M48 original Severn Crossing, it took some 3 hours for a journey that would normally take 1 hour; my daughter missed her flight. In 2011 my wife and I were due to travel to a funeral in Bradford-on-Avon. We again heard on the radio that an accident had closed the motorway resulting in many miles of queuing traffic. After taking a similar lengthy route we arrived just after the start of the funeral; friends who were caught in the queues west of the Brynglas tunnels turned back without attending the funeral.
253. Such problems are a regular occurrence. I routinely listen to traffic reports before leaving home to ensure the motorway around Newport is not closed or suffering delays because of an incident. Even if there has not been an accident, during most rush hours there are reports of queuing and stop-start traffic conditions.

254. The need to solve the problems of congestion on the M4 is widely recognised, including by those opposed to the Project. For example Professor Cole's report¹⁶⁶ on the 'Blue Route' states:

"There is a consensus that additional capacity is required to cope with peak period traffic congestion on the M4 around Newport....:

- a) The Brynglas Tunnels.....are an acute pinch-point, reducing a six-lane motorway to four lanes. There have been many....closures due to traffic incidents at this spot. For instance, in July 2011 the M4 was closed for two days after a lorry caught fire in the Brynglas tunnels.....*
- b) The M4 is used by local traffic as a local distributor road for short journeys within the local urban area."*

255. The internet gives reports of many traffic incidents such as:

- r) 28 Oct 2016: an accident in the morning peak eastbound at J29 caused traffic to queue as far west as J33 until early evening
- s) 12 Oct 2016: an accident in the morning peak caused traffic to queue from J24 to J29, also affecting the A48(M)
- t) 11 Oct 2016: an accident in the morning peak caused 12 mile queues
- u) 26 Sept 2016: a 3 vehicle accident at around 06.45 caused 12 mile queues stretching to J30 Cardiff Gate
- v) 19 Sept 2016: 2 crashes in the morning peak caused queues of stop-start traffic at one point 15 miles long, from J24 to J30, affecting the A48(m) into Cardiff
- w) 3 May 2016: an accident at J27 caused 18 mile tailbacks on the M4 eastbound, causing 2 hour delays with Newport reported as 'gridlocked'
- x) 1 Feb 2016: an accident between J23A and J24 caused 10 mile tailbacks eastbound
- y) 14 Dec 2015: an accident at J28 Tredegar Park at 04.15 caused the closure of the motorway; 13 mile tailbacks occurred, as far as

¹⁶⁶ Document 4.5.4

Llanedeyrn, Cardiff on the A48(M); the motorway was re-opened at 12.15; there were 11 mile queues at 12.30

256. Incidents of less severity regularly occur, causing delays of shorter duration but being no less frustrating for those that rely on the motorway to get to their place of work; for firms trying to run an efficient business; or people simply going about their daily life. In September 2016 I heard a BBC Radio Wales telephone interview of a woman in her car going to work who was in a queue on a rural road, unable to get onto the main road leading into Newport because it was blocked by queuing traffic. She reported that she had not moved for 30 minutes. When such incidents occur it is not just the motorway that comes to a standstill; much of the south east Wales highway network becomes gridlocked, affecting those travelling both by car and by public transport in Newport and the surrounding area. The Appendix to the Proof of Evidence of Mr Matthew Jones¹⁶⁷ contains a list of incidents in 2016 demonstrating the impact that an accident on the M4 has on bus services in Newport, making it difficult for everyone to get around in the City.

257. To quote a BBC Wales News article¹⁶⁸ dated 8 September 2016 -

“.....whether it is your yellow brick road to new horizons or highway from commuting hell, the M4 motorway is culturally and socially ingrained on the lives of the 2.2m people who call south Wales home.if the M4 sneezes, south Wales catches a cold”.

258. I am in no doubt, on the basis of both my professional training, experience of making similar balanced judgements, and from my personal experience, that the Scheme is necessary to solve the inadequacies of the M4 around Newport and should proceed.

¹⁶⁷ WG 1.1.1

¹⁶⁸ Document 5.4.1