

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



**Objection Ref OBJ0707**  
**ID/014**

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Llywodraeth Cymru  
Welsh Government

**Response to Objector's Evidence: Robert Waller**

## **1. GROUNDS FOR OBJECTION**

### **1.1. Details**

1.1.1. Robert Waller has submitted a Statement of Evidence dated 7 February 2017 in relation to the draft statutory Orders associated with the Welsh Government's proposals for the M4 Corridor around Newport, which has been received via the Programme Officer.

1.1.2. The Welsh Government understands the evidence submitted within Robert Waller's Statement to be based on the following:

1. Concerned that the new M4 would be constructed at a tremendous cost to the environment;
2. Stated that traffic conditions currently are broadly acceptable and are not likely to deteriorate rapidly. Average peak time speeds of 47mph are acceptable, and total journey speeds are not provided, which exaggerates the data when taking into account the slowing down of traffic for short distances either side of the Brynglas Tunnels. The traffic figures presented reflect travel times at the very busiest time of the day and traffic levels may have been somewhat higher than normal because of road works on the A465 and the closure of the Severn Tunnel. It is of interest to note that a report on 26 October 2016 by RAM tracking (a commercial vehicle tracking firm) highlighting the slowest motorways in Britain, found that the M4 as a whole was amongst the fastest, with no mention of the stretch through Newport. Traffic growth is in part dependent on increases in road capacity, so there is therefore a sense of a self-fulfilling prophecy;
3. Stated that the journey times would increase if there were accidents but there is not any detailed information about the frequency and extent of such disruptions;
4. Concerned that the absence of a hard shoulder, for a relatively short distance, is increasingly a feature of modern motorways in the UK - thus disputes the claim that the motorway is of 'old design standards';
5. Suggested that Junction 27 takes mainly local traffic and could be closed;

6. Suggested that improvements to other junctions, particularly Junction 28 would reduce occasional tail-backs onto the main carriageway, whilst improvements to local roads would be needed to accommodate displaced traffic and in particular a case can be made for major capacity improvements to Junction 28 including further grade separation and bus priority without impinging significantly on Tredegar House and its grounds;
7. Concerned that the new M4 would result in noise pollution across the Gwent Levels;
8. Stated that much of the Welsh Government's case is based on the assumption that the demand for road travel will increase significantly in years to come and there are very good reasons to be highly sceptical of such claims, confirmed by the revised traffic forecasts that show significant reductions to those previously published for the scheme;
9. Concerned that there is a considerable degree of uncertainty over traffic forecasts (provides examples of where traffic forecasts have fallen well short of predicted forecasts). The evidence currently available indicates a continuing flattening-out of previous rates of traffic growth and therefore there is a weakening case for the new M4. The average use of the car by individuals has fallen over the last decade and there has been a consistent growth in car ownership but people are taking fewer trips in the car. It is likely that trip rates in south east Wales have dropped significantly and could well continue to do so. Forecasts should assume a continued decline in trip rates, lower assumptions of GDP growth and higher assumptions of fuel prices;
10. Stated that the number of vehicles on the road in future will partly depend on changes in the size of population and changes in the number of vehicle trips each person makes. Our population is ageing and vehicle use (particularly at peak periods) tends to decline in older age groups (the number of people aged 65 and over is projected to increase by 44% between 2014 and 2039). This alone will tend to reduce the demand for travel particularly at peak times. In order to try and capture the range of uncertainty over traffic forecasts, the Department for Transport has begun to model a range of scenarios and these scenarios seem to show some

signs of bias by ignoring the sustained decline in trip rates. Forecasts for the M4 scheme should be subject to independent stress-testing;

11. Stated that the Welsh Government's forecasts are also deficient because they do not seem to take full account of significant public transport improvements in the pipeline. The Welsh Government's traffic forecasts do not take account of Metro phase 3 and traffic forecasts should be re-worked to take full account of electrification and the full potential of Metro. A combination of the metro and a public transport awareness campaign would reduce car use, making a new M4 unnecessary;
12. Concerned that the benefits to the economy would be limited and there have been general failings in the cost benefit analysis of new roads;
13. Stated that given the whole background of the Wellbeing of Future Generations Act and the need to move towards low-emission travel, this is the time for the Welsh Government to show an imaginative lead;
14. Concerned that the economic case for the scheme has been greatly exaggerated by the Welsh Government. The exaggerated forecasts inevitably lead to exaggerated value for money case, because this hinges crucially on the size of the expected travel time savings (with concerns expressed about values of time and application of WebTAG);
15. Concerned that cost benefit analysis has been presented in a biased way and there is little or no valuation of disbenefits, or indeed scant acknowledgement that there are disbenefits (these include environmental impacts and opportunity costs);
16. Suggested that a strong degree of independent stress testing of the value for money case is essential before a decision is made whether or not to proceed;
17. Stated various studies have identified various values for the elasticity of productivity in respect of agglomeration and questions the productivity assessment and the linked assessment of peripherality;
18. Concerned that the economic benefit that the road would have on South Wales is a myth, as many studies elsewhere show that the economic benefits of new roads are unproven and modest, and that greater impact would be obtained by investment in public transport and in areas such as

skills. The Welsh Government's case for the new M4 lays considerable emphasis on claimed wider benefits to the South Wales economy but the assessment has not taken into account the draft Department for Transport WebTAG guidance;

19. Concerned that the new M4 will seriously damage the environment around Newport and the Welsh Government does not understand the importance of the impact on the Gwent Levels;
20. Concerned that the Welsh Government has wilfully disregarded its own environmental policies and priorities;
21. Suggested public investment in activities other than building new roads is likely to have a greater economic benefit, for example investment in training and skills. In terms of value for money, greater use of public transport and the benefits it brings need to be taken into account in the calculations. The benefits to be taken into account are - time spent on public transport, health benefits as users of public transport usually walk or cycle, and that public transport is far less "land hungry";
22. Suggested that the capacity of several junctions on the Southern Distributor Road could be increased without too many environmental problems;
23. Suggested that proper enforcement of speed limits on the M4 would help significantly, as capacity increases as speeds reduce, and there should be fewer accidents;
24. Concerned that an option to increase capacity at Brynglas, where the motorway reduces from dual 3-lane to dual 2-lane, has not been investigated in detail;
25. Suggested widening of the existing M4 without too much adverse environmental impact, particularly west of the tunnels between Junction 28 and Junction 29;
26. Stated that we cannot go on desecrating our environment for the sake of a possible few minutes saved on our travel time;
27. Concerned about the absence of a valuation of the disbenefits to the environment and the opportunity costs of the planned expenditure;

28. Concerned about the reduction in agglomeration elasticity values because of the productivity benefits to business users already included in direct travel time reductions (concerns about double counting);
29. Concerned about the guidance been used in the calculation of peripherality benefits;
30. Stated that the need for the scheme has been exaggerated by the Welsh Government and its case is not supported by data;
31. Concerned that Newport would be squeezed between two 6 lane motorways and would lose all sense of being a city and opening out to wonderful countryside;
32. Objected to assertions that the existing motorway does not meet modern design standards and that congestion with frequent incidents is currently an everyday occurrence;
33. Stated that integrated transport planning is needed and the Government has fallen down here by not fully integrating M4 studies with Metro studies;
34. Stated that the M4 programme should be put on hold and replaced by a properly integrated public/private/land use study which plans roads and public transport together;
35. Stated that the proposed Metro scheme will tackle the need to move people travelling to work and school in mainly the peak hours;
36. Stated that it is premature to go ahead with an additional motorway capacity before the Metro proposals have been thoroughly evaluated;
37. Suggested that improved quality public transport such as the Metro will help change perceptions so that its use becomes the accepted norm;
38. Stated that the position could be markedly improved by implementing the Metro scheme and associated promotion of public transport. If that is insufficient then improvements to roads within Newport, closure of Junction 27 and improvements to Junction 28 could be considered to reduce further the amount of local traffic using the motorway; and
39. Stated that major motorway construction may never be needed but if it does prove to be the case in years to come, then an additional tunnel at Brynglas should be the first priority option.

## 2. REBUTTAL

### 2.1. Points Raised

2.1.1. Some of the above points have already been addressed in previous correspondence. Others are dealt with by topic by the relevant witness in the following sections, in addition to their general proofs of evidence, to which readers should also make reference in their entirety for a full understanding of the Welsh Government's case. For ease of reference the places where the above points are addressed in this Rebuttal are listed in the table below:

Objector's point reference	Rebuttal paragraph reference	Objector's point reference	Rebuttal paragraph reference
1	2.1.2	21	2.3.5
2	2.5.1	22	2.2.2
3	2.1.2	23	2.1.2
4	2.1.2	24	2.2.2
5	2.2.1	25	2.1.2
6	2.1.2	26	2.1.2
7	2.1.2	27	2.3.6
8	2.5.2	28	2.3.7
9	2.5.3	29	2.3.8
10	2.5.4	30	2.1.2
11	2.5.5	31	2.4.1
12	2.3.4	32	2.1.2
13	2.1.2	33	2.1.2
14	2.3.1	34	2.1.2
15	2.3.2	35	2.1.2
16	2.1.2	36	2.1.2
17	2.3.3	37	2.1.2
18	2.3.4	38	2.1.2
19	2.1.2	39	2.1.2
20	2.1.2		

2.1.2. The Objector's points that have already been covered in previous correspondence and proofs of evidence are as follows:

1. **Points 1 and 19** (Concerned that the new M4 would be constructed at a tremendous cost to the environment), (Concerned that the new M4 will seriously damage the environment around Newport and the Welsh Government does not understand the importance of the impact on the Gwent Levels) / The effect of building and operating the new section of motorway on the environment is set out in the Environmental Statement (Document 2.3.2) and its Supplements (Documents 2.4.4 and 2.4.14). The Environmental Statement acknowledges the importance of the Gwent

Levels and clearly identifies the magnitude and significance of effects on a wide range of environmental features and assets.

2. **Point 3** (Stated that the journey times would increase if there were accidents but there is not any detailed information about the frequency and extent of such disruptions) / Proof of Evidence of Bryan Whittaker WG1.2.1 section 3.5. and 15. Up to date evidence on accidents is provided in the Traffic and Collisions Report 2016 (Document 6.2.16). Some sections of the M4 have a lower collision rate than the WebTAG average link and junction collision rate (0.0561 per million vehicle km). Those sections of M4 which have higher than average collision rates are between Junctions 24 and 25 and Junctions 26 and 27, whilst between Junctions 27-28 the observed accident rate is close to the WebTAG average notwithstanding that the M4 between Junction 24 and Junction 28 benefits from Variable Speed Limits (VSL). WG1.2.1 and the Traffic and Collisions Report (Document 6.2.16) provides the latest available observed accident data post implementation of the VSL system, which recognises that accidents have reduced in the post VSL period in comparison to the pre VSL period.
3. **Point 4** (Concerned that the absence of a hard shoulder, for a relatively short distance, is increasingly a feature of modern motorways in the UK - thus disputes the claim that the motorway is of 'old design standards) / Proof of Evidence of Ben Sibert WG 1.5.1 paragraphs 6.38 to 6.44. Reference is made to the M1 south of Sheffield and to some of the recent deployments of Smart Motorways around the UK, with hard shoulder running. Those motorways are designed to meet a minimum criteria in terms of horizontal and vertical geometry and visibility. The existing M4 around Newport falls short of design standards, particularly in terms of visibility and does not have a continuous hard shoulder. The technology that was installed along the existing M4 in 2008-2009 was provided to a Controlled Motorway standard without the facility to operate the hard shoulder, due to the discontinuities along the hardshoulder and CCTV coverage.

4. **Point 6** (Suggested that improvements to other junctions, particularly Junction 28 would reduce occasional tail-backs onto the main carriageway, whilst improvements to local roads would be needed to accommodate displaced traffic and in particular a case can be made for major capacity improvements to Junction 28 including further grade separation and bus priority without impinging significantly on Tredegar House and its grounds) / Junction 28 works<sup>1</sup> are included in the Scheme traffic forecasts. Further information is available in the Revised Traffic Forecasting Report (Doc. 2.4.13) paragraphs 4.4 - 4.4.19.
5. **Point 7** (Concerned that the new M4 would result in noise pollution across the Gwent Levels) / Proof of Evidence of Phillip Evans WG1.14.1 section 8.3 with cross references to the Environmental Statement and its Supplements (Documents 2.3.2, 2.4.4 and 2.4.14). Noise contours are provided for the area in Appendix R13.12 and R13.13 of Document 2.4.4 for the opening and future years. The spread of noise across the Gwent Levels have been predicted where they lie within 1 km of the Scheme.
6. **Point 13** (Stated that given the whole background of the Wellbeing of Future Generations Act and the need to move towards low-emission travel, this is the time for the Welsh Government to show an imaginative lead) / Proof of Evidence of John Davies WG1.23.1 paragraphs 26-48 deal with the Well-being of Future Generations Act 2015. The Welsh Government's evidence has taken account of the impact of the South Wales Metro, as outlined in the Updated Public Transport Overview dated December 2016 (Document 2.4.19).
7. **Point 16** (Suggested that a strong degree of independent stress testing of the value for money case is essential before a decision is made whether or not to proceed) / The assessment of the value for money of the Scheme is provided in the Revised Economic Appraisal Report (Document 2.4.12). The economic appraisal has been undertaken in accordance with WelTAG and WebTAG appraisal guidance. It is therefore undertaken in a consistent manner with other proposed transport Schemes in Wales and in the UK more generally. Both the economic appraisal and wider economic impact assessment (Document 2.4.11) has been reviewed internally within the

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<sup>1</sup> Please refer to the Welsh Government Project page for details of the Junction 28 Improvements Scheme: <http://gov.wales/topics/transport/roads/schemes/m4/junction-28/?lang=en>

project team and by the then Head of Transport Evidence (Professor Helen Bowkett) at the Welsh Government.

8. **Point 20** (Concerned that the Welsh Government has wilfully disregarded its own environmental policies and priorities) / Chapter 6 of the Environmental Statement (Document 2.3.2) outlines the relevant legislative and policy context for the scheme. Section 9.4 of Peter Ireland's Proof of Evidence, WG1.7.1 sets out how the purpose of the Construction Environmental Management Plan (CEMP) as set out in the Environmental Statement paragraph 18.1.5 is to..."Describe how construction activities would be undertaken and managed in accordance with the obligations and requirements of environmental legislation, policy and environmental regulatory authorities and third parties." In particular, WG1.7.1 section 12 provides a conclusion on the likely environmental impacts of the Scheme and states:

*"A Statement to Inform an Appropriate Assessment (SIAA) (Document 2.3.4) has been undertaken in accordance with legislation and official guidance. This concluded that the M4CaN would not have an adverse effect on the integrity of the River Usk SAC, Severn Estuary SAC, SPA and Ramsar and the Wye Valley and Forest of Dean Bat Sites SAC, either alone or in combination with other projects and plans. Following the provision of further information on the SIAA requested by NRW I believe that there is now no disagreement between NRW and the environment team with respect to the SIAA..."*

*In my opinion therefore, for the purposes of Regulation 61 on the Conservation of Habitats and Species Regulations 2010 (Document 3.1.22), the SIAA together with the subsequent survey reporting demonstrates that, beyond reasonable scientific doubt there would be no adverse effect on the integrity of the European Sites considered in the Habitats Regulations Assessment..."*

*Under the Environment (Wales) Act 2016 and Section 28G of the Wildlife and Countryside Act 1981 (as amended) Welsh Government has a duty to seek and to take reasonable steps to maintain, conserve and enhance biodiversity, not just within the SSSIs of the Gwent Levels but throughout the Scheme footprint and areas affected by the Scheme. Whilst*

*biodiversity is the key environmental asset affected by the Scheme there are many others which are accommodated in the Scheme design. These are described and assessed in the ES and appropriate mitigation measures are incorporated into the Scheme design."*

9. **Point 23** (Suggested that proper enforcement of speed limits on the M4 would help significantly, as capacity increases as speeds reduce, and there should be fewer accidents) / Bryan Whittaker's Proof of Evidence, WG 1.2.1 paragraphs 3.2.5 - 3.2.6 and Section 15 on accidents.
10. **Point 26** (Suggested widening of the existing M4 without too much adverse environmental impact, particularly west of the tunnels between Junction 28 and Junction 29) / Proof of Evidence of Peter Ireland WG1.7.1 section 12 provides conclusions on the overall likely impact of the Scheme on the environment. Paragraph 12.8 in particular explains: "The overall mitigation strategy has been to optimise and minimise land take and avoid key environmental assets wherever it has been practicable to do so. Mitigation measures requiring land are primarily for visual screening, landscape integration, and replacement planting for purposes of biodiversity. In my opinion the level and form of the mitigation measures incorporated into the Scheme at the preliminary design stage are appropriate and proportionate." The benefits of the Scheme are outlined in the evidence of others including Matthew Jones in his Proof of Evidence (WG1.1.1).
11. **Point 30** (Stated that the need for the scheme has been exaggerated by the Welsh Government and its case is not supported by data) / WG1.1.1 section 8 sets out the need for the Scheme and cross refers to evidence where appropriate. Section 10 sets out how the problems, aims and objectives of the Scheme were arrived at, including how the Scheme addresses them.
12. **Point 32** (Objected to assertions that the existing motorway does not meet modern design standards and that congestion with frequent incidents is currently an everyday occurrence) / Proof of Evidence of Matthew Jones, WG1.1.1 section 10 and Appendix B.
13. **Points 33, 34 and 38** (Stated that integrated transport planning is needed and the Government has fallen down here by not fully integrating M4

studies with Metro studies), (Stated that the M4 programme should be put on hold and replaced by a properly integrated public/private/land use study which plans roads and public transport together), (Stated that the position could be markedly improved by implementing the Metro scheme and associated promotion of public transport. If that is insufficient then improvements to roads within Newport, closure of Junction 27 and improvements to Junction 28 could be considered to reduce further the amount of local traffic using the motorway) / Proof of Evidence of Matthew Jones, WG1.1.1 section 9.

14. **Points 35, 36 and 37** (Stated that the proposed Metro scheme will tackle the need to move people travelling to work and school in mainly the peak hours), (Stated that it is premature to go ahead with an additional motorway capacity before the Metro proposals have been thoroughly evaluated), (Suggested that improved quality public transport such as the Metro will help change perceptions so that its use becomes the accepted norm) / Proof of Evidence of Matthew Jones, WG1.1.1 section 9.

15. **Point 39** (Stated that major motorway construction may never be needed but if it does prove to be the case in years to come, then an additional tunnel at Brynglas should be the first priority option) / Proof of Evidence of Matthew Jones, WG1.1.1 section 3 and 23.

2.1.3. The other points are responded to by specialist topic in turn in the sections following.

## **2.2. Ben Sibert (Engineering Design)**

2.2.1. Response to **Point 5** (Suggested that Junction 27 takes mainly local traffic and could be closed):

1. The matter of closure of junctions on the existing M4 as an alternative to the Scheme will be addressed in considering Objector's Alternative Route 22 later in the Public Local Inquiry (PLI).

2.2.2. Response to **Points 22, 24 and 25** (Suggested that the capacity of several junctions on the Southern Distributor Road could be increased without too many environmental problems), (Concerned that an option to increase capacity at Brynglas, where the motorway reduces from dual 3-lane to dual 2-lane, has not been investigated in detail), (Suggested widening of the existing

M4 without too much adverse environmental impact, particularly west of the tunnels between Junction 28 and Junction 29):

1. This matter will be addressed in considering Objector's Alternative Route 19 later in the PLI. This was considered during the M4 Corridor Enhancement Measures Programme (CEM), please refer to Document 4.3.3.
- 2.2.3. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

### **2.3. Stephen Bussell (Economics)**

- 2.3.1. Response to **Point 14** (Concerned that the economic case for the scheme has been greatly exaggerated by the Welsh Government. The exaggerated forecasts inevitably lead to exaggerated value for money case, because this hinges crucially on the size of the expected travel time savings (with concerns expressed about values of time and application of WebTAG)):
1. Mr Waller claims that the values of time adopted in the economic appraisal of the Scheme are inaccurate since they are based on:
    - UK-wide rates, when it would be more appropriate to use local valuations; and
    - Willingness-to-pay data that is not backed up by any measurement of people's behaviour in practice.
  2. In accordance with WebTAG and WeITAG guidance, the economic appraisal of the Scheme has been undertaken based on UK average values of time. Regional or local values of time are not published by the Department for Transport or Welsh Government.
  3. Values of travel time were the subject of a major recent review and consultation exercise undertaken by the Department for Transport. The key factor that explained variation in the business values, more than mode or income, was trip distance. The Department for Transport therefore recommends using distance weighted values of travel time for business travel, and continues to recommend average values of travel time for non-

work travel. These values are presented in the WebTAG data book<sup>2</sup> and applied in the economic appraisal through TUBA software.

4. In his evidence, Mr Waller makes specific reference to lower incomes in Wales than the rest of the UK and suggests that lower values of time should be adopted to reflect this. Mr Waller cites the Department for Transport's consultation document which states:

"In certain cases, such as employer's business values of time, we recognise there may be a case for 'local' values of time."

5. However, the above quote, taken in isolation, does not fully reflect the Department for Transport's position on the matter. Later in the same document, the DfT makes clear that:

"For non-work time savings, which typically make up a large proportion of the benefits of transport investment, national average values of time should be applied across the country...WebTAG will continue to recommend the use of the same employers' business values of travel time savings (and associated segmentation) for all scheme appraisals".

6. The definitive position on the implementation of values of time is given in WebTAG (Unit A1-3). In respect of non-work values of time, the DfT states that:

"If values of time for appraisal are based on individuals' willingness to pay (behavioural values) which are related to income, then investment decisions will be biased towards those measures which benefit travellers with higher incomes. Investment would be concentrated into high-income areas or modes, and the interests of those on lower incomes, who may already suffer from relatively lower mobility and accessibility, will be given less weight. For this reason, the first source of variability is controlled for by the use of national average values which should normally be adopted in transport appraisal."

7. In respect of business values of time, the Department for Transport states:

"Employers' business values of time vary significantly over a number of characteristics, such as traveller income, trip time, trip cost and trip

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<sup>2</sup> <https://www.gov.uk/government/publications/webtag-tag-data-book-july-2016>

distance. Overall, a reasonable proportion of the variation in the values can be explained by trip distance, which tends to be correlated with income, time and cost. Based on the recommendation from the 2015 study, employers' business values of time recommended for appraisal vary with distance and mode only." (WebTAG Unit A1-3).

8. It should be noted that the economic appraisal of the Scheme uses distance based values of time recommended in WebTAG. Whilst I would not support the use of 'local' values of time, even if we were to do so, I would question Mr Waller's conclusion that values of time savings should be reduced by 25%. According to the Annual Survey of Hours and Earnings, in 2016, annual average weekly pay (by area of residence) was 90% of the UK average in Newport, 99% of the UK average in Cardiff and 111% of the UK average in Monmouthshire. Therefore, if there is any remaining variation in the values of time of 'local' road users (once differences relating to trip distance have been taken into account) then wage data would suggest that the differences may not be very large.
9. Mr Waller's second point is that, in his opinion, residents of Newport would not be willing to pay for travel time savings to the amount suggested by the values of time. Values of time used in appraisal are based on stated preference data. In other words, transport users are asked to consider how much they would be willing to pay for travel time savings. This is achieved by asking people to weigh up alternative travel options which involve different journey times and costs. Income levels aside, I can see no reason why users of the M4 would respond differently to such questions than users of the highway network more generally.
10. The alternative to 'stated preference' data is to use 'revealed preference' data. Revealed preference data is based on observations of the actual behaviour of travellers and how people respond to financial costs of travel such as tolls and public transport fares. Mr Waller suggests that the Welsh Government should undertake its own local research on willingness to pay supported by direct evidence of revealed preferences.
11. In my opinion such an approach would not be practical. In this respect I would highlight the following statement in WebTAG:

“It is difficult to collect revealed preference data of sufficient quality and quantity to estimate robust values and provide the detail needed to fully populate a framework of values. In the absence of revealed preference evidence of sufficient quality, it is necessary to use alternative methods and techniques to estimate values. The Department’s approach is to take account of all the relevant evidence available and to seek to make reasonable judgments, in light of the best available economic theory and empirical evidence.” (WebTAG Unit A1-3)

12. Notwithstanding the practical issues associated with revealed preference data, it is instructive that the recent review of values of time did involve the collection of some revealed preference data for rail travellers. The analysis considered routes where passengers have a choice between faster services with a higher fare and slower services with a low fare. There were a number of methodological challenges with this analysis which are detailed in the Department for Transport’s consultation document. Nevertheless, the overall conclusion was that ‘the revealed preference data provided some reassurance that the stated preference data reflects real-life behaviour’.
- 2.3.2. Response to **Point 15** (Concerned that cost benefit analysis has been presented in a biased way and there is little or no valuation of disbenefits, or indeed scant acknowledgement that there are disbenefits (these include environmental impacts and opportunity costs)):
1. Mr Waller has suggested that there would be economic disbenefits to peripheral areas of the region as a result of a shift in activity to more accessible areas on the coast and in England. There are multiple economic benefits of the Scheme. It would reduce transport costs, increase productivity (through agglomeration effects and by reducing peripherality), improve the functioning of the labour market, and influence business location and investment decisions. Because of the role and importance of the M4 – as the primary route in and out of South Wales – there is good reason to conclude that the benefits of the improvement will be widespread.
  2. It is reasonable to expect that the most visible economic effects of the Scheme would be felt most keenly in Newport and along the M4 Corridor

which benefit most directly from the improvement. However, in practice, economies are not constrained by administrative borders.

3. Data on commuting patterns (2011 Census) shows that 40% of jobs located in Newport are filled by those resident outside of the City. The largest inflows of commuters are from Caerphilly, Torfaen, Cardiff and Monmouthshire. Because of the interconnected nature of the South Wales economy it is misleading suggest that people in other areas of South Wales will be worse off as a result.

2.3.3. Response to **Point 17** (Stated various studies have identified various values for the elasticity of productivity in respect of agglomeration and questions the productivity assessment and the linked assessment of peripherality):

1. Agglomeration effects refers to the productivity benefits that firms derive from being located in areas of dense economic activity. Transport can stimulate agglomeration effects by reducing the effective distance between firms, improving access to markets and increasing the effective pool of labour available to firms. Through these mechanisms, transport can deliver economic benefits which are additional to the direct benefits of reduced transport costs.
2. The assessment of agglomeration effects is well established in transport appraisal in the UK. The presence of agglomeration effects was acknowledged by the Standing Advisory Committee on Trunk Road Appraisal (SACTRA) in 1998. The committee recommended that wider economic impacts be given formal consideration in transport economic appraisal. Further evidence on the scale of agglomeration effects was included in the Eddington Review in 2006.
3. Since 2009, the assessment of wider economic benefits has been included in WebTAG guidance and incorporated into the cost benefit analysis framework. The calculation of agglomeration effects for the Scheme is based on the approach and parameters detailed in WebTAG guidance (TAG Unit A2-1). There is substantial evidence of the relationship between economic scale or density and levels of productivity.

4. The recent TIEP review (Transport Investment and Economic Performance: Implications for Appraisal)<sup>3</sup> provides an overview of this evidence. Whilst the scale of this effect varies, academic studies consistently find a positive and statistically significant relationship between accessibility and productivity. Such relationships have been derived by controlling for other factors that influence productivity levels (such as skills levels, occupational structure, and the presence of particular industrial sectors).
  5. The TIEP review states: “This is an area where the research literature provides quite robust results, indicating that increases in city size (or other measures of economic density) have significant positive effects on productivity”. The relationship between accessibility and productivity employed in WebTAG guidance is based on research undertaken by Professor Dan Graham. Whilst estimates of the size of this relationship vary, evidence provided in the TIEP report demonstrates that the parameters employed in WebTAG are in line with estimates in the literature more generally. The TIEP report also continues to endorse the conclusion that transport improvements can deliver productivity benefits through improved accessibility.
  6. Mr Waller suggests that it should not be assumed that agglomeration effects would happen from day one and that it would take time for such benefits to be realised. I would agree with Mr Waller that, in practice, agglomeration effects would take time to play out as firms and workers adjust to the new transport context. In this respect, the appraisal may overestimate agglomeration effects in the initial years of the appraisal. However, in the absence of empirical data on the timing of agglomeration effects, WebTAG does not suggest that any ramp-up factor should be employed. In this and other respects, the assessment of the agglomeration effects of the M4CaN Scheme will be the same as all other Schemes in the UK.
- 2.3.4. Response to **Points 12 and 18** (Concerned that the benefits to the economy would be limited and there have been general failings in the cost benefit analysis of new roads), (Concerned that the economic benefit that the road would have on South Wales is a myth, as many studies elsewhere show that

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<sup>3</sup> [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/386126/TIEP\\_Report.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/386126/TIEP_Report.pdf)

the economic benefits of new roads are unproven and modest, and that greater impact would be obtained by investment in public transport and in areas such as skills. The Welsh Government's case for the new M4 lays considerable emphasis on claimed wider benefits to the South Wales economy but the assessment has not taken into account the draft Department for Transport WebTAG guidance):

1. The Department for Transport is updating and restructuring its wider economic impacts guidance. A consultation exercise on the proposed changes ran from 22 September 2016 to 22 December 2016. The Department is currently analysing feedback and has yet to publish the outcomes of this consultation exercise. Therefore the draft guidance has yet to be adopted into WebTAG and remains subject to change. Notwithstanding the draft status of this guidance, even if it were to be introduced, the economic appraisal and wider economic impact assessment of the Scheme would continue to be consistent with this guidance. In fact the guidance states that: "We anticipate that for the vast majority of projects, the new guidance will not lead to a material change in the methods used in appraisal as the existing guidance covers the main economic impacts relevant to most transport investments."
2. The review has no implications for the welfare analysis or the calculation of user benefits which are captured as part of the Initial Benefit to Cost Ratio (BCR) for the Scheme. In respect of the Wider Impacts which have been estimated for the Scheme and included in the Adjusted BCR for the Scheme, the calculation of these impacts is unchanged. The primary change resulting from the change in guidance is that it would enable appraisers to include additional economic benefits in the economic appraisal of the Scheme over and above those currently assessed.
3. The guidance proposes that, in some circumstances, the economic appraisal of a Scheme would be reported at three different levels. Level 1 is an assessment of impacts with fixed land use, excluding wider economic benefits. Level 1 is exactly equivalent to the Initial BCR as reported for the Scheme.
4. Level 2 is an assessment of wider economic impacts with fixed land use. Level 2 is exactly equivalent to the Adjusted BCR as reported for the

Scheme. Level 3 is an assessment impacts utilising context specific parameters or variable land use.

5. Level 3 is where the new guidance would depart from current appraisal procedures. The Level 3 appraisal represents a sensitivity test in which it is assumed that land use changes in response to the transport improvement. Notwithstanding the technical challenges of incorporating land use changes into the assessment of wider economic benefits, the effect of this would be to increase the monetised economic benefits of the Scheme leading to a higher Adjusted BCR, albeit one that has the status of a sensitivity test. In response to the other specific changes associated with this guidance:
  - a) The Revised Wider Economic Impact Assessment Report already provides a context specific economic narrative. This sets out the economic context to the Scheme and identifies the transmission mechanisms, through which the M4CaN would impact the economy.
  - b) Clarity on the relationship between the measurement of benefits used in appraisal (welfare) and the economic metrics (such as GDP, GVA and employment), is provided in section 2.3 of the Revised Wider Economic Impact Assessment report. The economic appraisal of the Scheme includes only those economic impacts which also contribute to welfare.
  - c) The draft guidance allows greater flexibility to employ supplementary modelling techniques (as part of the Level 3 sensitivity test described above. The development of such models is in its infancy and there is no requirement under the draft guidance that such models should be employed. It should also be considered that the primary purpose of such models is to capture additional benefits to those currently captured in the Wider Impacts assessment.
  - d) The draft guidance places greater emphasis on the issues of additionality and displacement in the reporting of economic impacts. This is necessary because the draft guidance provides appraisers with greater flexibility to include a wider range of economic impacts in the economic appraisal. It should be noted that all of the impacts included in the economic appraisal of the Scheme are fully additional at a UK level and this is confirmed by the draft guidance.

2.3.5. Response to **Point 21** (Suggested public investment in activities other than building new roads is likely to have a greater economic benefit, for example investment in training and skills. In terms of value for money, greater use of public transport and the benefits it brings need to be taken into account in the calculations. The benefits to be taken into account are - time spent on public transport, health benefits as users of public transport usually walk or cycle, and that public transport is far less “land hungry”):

1. The correct approach to assessing the economic appraisal is to compare the benefits of the Scheme with the costs of investment required to deliver it. There is no requirement to take account of any benefits lost by not investing in some other policy which may meet other objectives. As set out in the evidence of Mr Matthew Jones, the Welsh Government is progressing with plans to improve public transport alongside the M4CaN. Furthermore, investment in public transport is not an effective substitute for improving the M4.
2. As set out in the December 2016 Updated Public Transport Overview Report, public transport measures (including those of the Metro) could not significantly address the problems associated with the M4 around Newport, only reducing traffic flows on the motorway by less than 4%. In his evidence, Mr Waller also identifies that investment in training and skills can deliver substantial economic benefits. I do not doubt that this is the case. However, economic success is determined by the confluence of a range of factors. It would be reasonable to expect that any strategy aimed towards economic development would include a range of policy areas, of which transport would be one.

2.3.6. Response to **Point 27** (Concerned about the absence of a valuation of the disbenefits to the environment and the opportunity costs of the planned expenditure):

1. The economic appraisal is a quantitative or monetised assessment of value for money. The economic appraisal of the Scheme is based on those impacts for which WebTAG provides a framework for quantitative assessment. As a result, the economic appraisal is largely focussed on the economic efficiency of the transport system.

2. As I state in my Proof of Evidence (WG1.3.1), the results of the economic assessment need to be balanced against other costs and benefits which cannot be monetised. Very detailed analysis of environmental and social impacts is provided in the Environmental Statement for the Scheme (Document 2.3.2). To the extent that they exist, methodologies for the valuation of impacts on the environment (beyond vehicle emissions) are not sufficiently well-developed to be used in the context of the cost-benefit analysis. This is reflected in the narrow range of environmental impacts included in WebTAG guidance. The impact of the Scheme on the environment is a highly complex and nuanced issue. Trying to reflect these impacts in the cost benefit analysis would be spurious and would not assist decision makers when weighing up the costs and benefits of the Scheme in an overall sense.
- 2.3.7. Response to **Point 28** (Concerned about the reduction in agglomeration elasticity values because of the productivity benefits to business users already included in direct travel time reductions (concerns about double counting)):
1. That agglomeration effects are additional to transport user benefits is well established. Agglomeration effects are an example of an externality. The beneficiaries of agglomeration effects are not necessarily the individuals or firms who benefit directly from the change in transport costs. This is described in detail in the discussion paper, 'Transport, Wider Economic Benefits and GDP'<sup>4</sup>, which was the forerunner of the inclusion of wider economic benefits in WebTAG. It states: "In a cluster of firms, therefore, each firm's productivity depends on the location decisions of the other firms. This is an example of a "positive externality" – when making its decisions on where to locate, a firm would not consider the positive effects its location has on nearby firms. Should rising transport costs lead one firm to relocate away from a cluster, the societal impacts would exceed those faced by the relocating firm."
  2. The values of time that are employed in transport appraisal are based on the value that the transport user attaches to the time spent in transit. This

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<http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/economics/rdg/webia/webmethodology/sportwidereconomicbenefi3137.pdf>

represents the private benefit of a transport improvement. Therefore, values of time do not take into account the wider gains to society of improved interaction between firms. User benefits and agglomeration effects are separate from a theoretical point of view. The way that relationships between agglomeration effects and productivity have been derived also ensure that there is no double counting between agglomeration effects. This is also set out in the discussion paper referenced above.

3. On the empirical relationship between the density of an economy and GDP, the discussion paper sets out: “if this relationship is estimated without correcting for different levels of transport costs (e.g. time and money costs) and transport costs vary systematically with city size, the elasticity of productivity with respect to city size will be wrong. If transport costs are generally lower in larger cities, the elasticity will capture the fact that firms are more productive because of better transport (which we already capture in appraisals as business time savings). If transport costs are generally higher in larger cities, the elasticity will underestimate the true impact of city size or density on productivity. It is not straightforward to assess whether transport costs as viewed by firms are higher or lower in larger cities because it depends on what they use transport for (while transport costs per mile is most likely higher in a big city, transport costs per client could easily be lower). The research by Dr Graham corrects for this effect.”

2.3.8. Response to **Point 29** (Concerned about the guidance been used in the calculation of peripherality benefits):

1. The assessment of agglomeration effects captures the effect of improving transport links within city-regions. The productivity benefits associated with reducing peripherality deals with the benefits of improving inter-city or inter-regional accessibility.
2. The benefits of improving connectivity between cities and regions are related but distinct to the benefits of increased economic density. Improving transport links between regions acts to reduce barriers to trade, enabling firms to expand and take advantage of economies of scale.

3. A further benefit arises from the process of trade and specialisation. Increased trade enables city or regional economies to specialise in the activities for which they have a comparative advantage (in other words, those activities in which they are more productive). This is analogous to the benefits of international trade.
4. The benefits of connecting cities is explored by Rosewell and Venables in relation to high speed rail. They make a distinction between the benefits of 'expanding places' and 'connecting places'. They state: "Increased connectivity increases the potential for trade, whether by improving freight connections or by improving the ease with which meetings can take place, with firms, plants and offices moving to new – and now more efficient – locations". Importantly, Rosewell and Venables make the point that the assessment of agglomeration effects does not capture the benefits of improving connectivity between cities and regions.
5. Their conclusion is: "The key point for present purposes is that the benefit of this 'connecting places' productivity gain is not included in standard CBA [cost benefit analysis]. It arises from an external economy of scale, like the agglomeration arguments (sic), and is a further source of 'wider benefit' from transport improvement." In other words, there are further productivity benefits of improving transport connections between cities which are not captured in the assessment of agglomeration effects. This conclusion supports the findings of the research undertaken in Wales to explain why levels of productivity in the economy are less than the UK average. These studies have consistently found that connectivity between Wales and other UK cities is a material factor in explaining levels of productivity, alongside (and in addition to) agglomeration effects.
6. To summarise, the findings of the productivity research for Wales are as follows:
  - a) Understanding productivity variations between Wales and England. University of the West of England and the University of Bath (2006). This study research estimated that the productivity of the average firm fell by 0.7% for every 10% increase in travel time to London.
  - b) Extending the research on understanding the productivity variations between Wales and the UK. Professor John Hudson, Department of

Economics & International Development, University of Bath (2009). A 10% increase in travel time (by road) to London is associated with a 0.45% reduction in productivity.

- c) Productivity in Wales: the impacts of peripherality on spatial patterns of productivity. University of the West of England (2010). This study found a statistically significant relationship between an 'index of peripherality' and productivity.
- d) Understanding productivity variations between Wales and England. University of the West of England (2016). A 10% increase in the minimum travel time to London or (depending on which is nearest) the next four largest conurbations, leads to a 0.6% reduction in productivity for single plant firms and a 0.2% reduction if multi-plant firms are included.

- 7. I would acknowledge that there is a significant degree of uncertainty over the precise relationship between peripherality and productivity. It is therefore only possible to provide a broad indication of the magnitude of these benefits. Nevertheless, there is sufficient evidence to conclude that the productivity benefits of reducing peripherality are significant and additional to both user benefits and agglomeration effects.

2.3.9. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## **2.4. Matthew Jones (General)**

2.4.1. Response to **Point 31** (Concerned that Newport would be squeezed between two 6 lane motorways and would lose all sense of being a city and opening out to wonderful countryside):

- 1. Wherever reasonably possible the route goes through brownfield land, contaminated land, or areas next to development land. Taking into account various physical constraints, including the Gwent Levels themselves, the alignment is as far north as reasonably possible to minimise impacts on the Sites of Special Scientific Interest, whilst being to the south of Newport and without having a significant detrimental effect on the existing residential areas of Duffryn and those proposed on the former steelworks site at Llanwern.

2. There would be changes in the landscape and townscape, resulting in both negative and positive impacts depending on the location and perception of the receptor. For example, the new River Usk bridge crossing would form a new feature in the landscape and feature in views ranging from close proximity to distant views. Once the Scheme is open and the landscape design proposals have taken effect, significant effects would remain at some locations. These would include the Wentlooge Levels and the Caldicot Levels, which are mostly designated as a Special Landscape Area.
  3. The Scheme components that would generate the greatest visual effects include the locations of significant earthworks, such as the Castleton Interchange, the River Ebbw and River Usk Crossings, the Nash Road Overbridge, Docks Junctions and locations where raised embankments, water treatment areas and the motorway itself would be in close proximity to places from where people could see them.
  4. Further information on landscape and visual impact will be provided in the Proof of Evidence of Mr Nick Rowson (WG 1.8.1).
- 2.4.2. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## **2.5. Bryan Whittaker (Traffic)**

- 2.5.1. Response to **Point 2** (Stated that traffic conditions currently are broadly acceptable and are not likely to deteriorate rapidly. Average peak time speeds of 47mph are acceptable, and total journey speeds are not provided, which exaggerates the data when taking into account the slowing down of traffic for short distances either side of the Brynglas Tunnels. The traffic figures presented reflect travel times at the very busiest time of the day and traffic levels may have been somewhat higher than normal because of road works on the A465 and the closure of the Severn Tunnel. It is of interest to note that a report on 26 October 2016 by RAM tracking (a commercial vehicle tracking firm) highlighting the slowest motorways in Britain, found that the M4 as a whole was amongst the fastest, with no mention of the stretch through Newport. Traffic growth is in part dependent on increases in road capacity, so there is therefore a sense of a self-fulfilling prophecy):

1. Mr Waller's measured journey times are consistent with the base year results from the traffic model. Individual's views on acceptable journey times are varied and some to extent will vary according to trip as well as well as time of day. Indications from Highways England from their research into motorway congestion suggests that when speeds drop below 50mph, stop-start conditions begins to occur and speeds drop quickly very quickly compared to free flow conditions that generally occur when travelling at speeds above 50mph. The average journey time quoted by Mr Waller indicate that stop start conditions are likely to occur and that may be unacceptable to a majority of existing users of the motorway.
  2. As demand gets closer to the capacity of the road, each additional vehicle has a bigger impact on the average speed achieved by everybody else. Both the average delay and the variability of journey time increase at an increasing rate as demand approaches capacity. In terms of the relationship between speed and flow on the M4, congestion will not only get worse as demand rises, it will get worse faster.
  3. To some extent that will be offset by drivers choosing alternatives to avoid the congestion – a lower rate of increase in flow. INRIX<sup>5</sup> produced in February 2017 their Global Traffic Scorecard which analysed congestion in 87 cities and large urban areas in the form of peak hours spent in congestion. Newport occupies position 16 in the top 25 cities in the UK, a higher position than Coventry, Leicester and Newcastle upon Tyne. The high level of congestion in Newport is likely to be a result of congestion arising on the M4 and by traffic reassigning to alternative routes as a result especially in those instances where incidents have occurred on the M4.
- 2.5.2. Response to **Point 8** (Stated that much of the Welsh Government's case is based on the assumption that the demand for road travel will increase significantly in years to come and there are very good reasons to be highly sceptical of such claims, confirmed by the revised traffic forecasts that show significant reductions to those previously published for the scheme):
1. Transport Statistics Great Britain shows that between 1985 and 1990, traffic in Britain grew by 33%, greatly exceeding the forecasts. Between 2007 and 2012, traffic in Britain fell by around 3½%, falling short of the forecasts. In

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<sup>5</sup> <http://www2.inrix.com/roadway-analytics-hub?gclid=CMzyxo382tICFVXNGwodI5UAoQ>

both cases, I believe a significant cause to be economic – the credit boom in the first stance and the credit crunch in the second instance.

2. These periods can be seen to be exceptions to the general case in which traffic grows steadily, paralleling long-term growth in the economy.
3. The Department for Transport traffic forecasts are long-term forecasts, used for the appraisal of road schemes over a long period. However the Department for Transport do revise their forecasts when the needs arises. The Department for Transport use a broad range of evidence and data on travel behaviour and the factors that influence it, based on;
  - An understanding of how people make travel choices
  - The expected path of key drivers of travel demand
  - Any assumption of no change in government policy beyond that already announced.
4. National Road Traffic Forecasts 2015 is an update to the earlier version of 2013 recognising a general concern around how the forecasts of significant traffic growth fit with recent data showing a largely flat trend over the last decade. The 2015 forecasts recognise that the factors that are highlighted as being key drivers of road demand – incomes, costs and population - have been important drivers in recent trends, but that other factors such as increasing concentrations of people living in urban areas, increased costs such as company car taxation and insurance, capacity constraints, technological developments which allow for homeworking and online shopping, have contributed.. Related to this is the number and nature of the journeys that people make, which may also be playing a role, as well the relationship between income and car travel.
5. The National Travel Survey (NTS) data has shown that the average numbers of trips have been falling and that there has been a general downward trend in trip rates. The two most common journey purposes (shopping and commuting), exhibit statistically significant downward trends with reductions of 6% and 10% respectively between 2003 and 2010. The trends in this data are not uniform and vary according to purpose and segmentation (e.g. gender, area and household type). For example, the personal and employers'

business purposes are stable while the holiday trip rate is increasing, and the trips that are reducing tend to be shorter trips.

6. The recent decline is also partly due to economic conditions, and as these are forecast to improve in the future, the Department for Transport take the view that there is reason to believe the decline will not continue at its current rate in the long term and this view is reflected in the latest NTEM central growth forecast. The latest NTEM central growth scenario therefore is based on the latest trip rate data collected in the trip rate review assumes a declining trend in trip rates between its base year of 2011 and 2016 and then constant trip rates thereafter.
7. The NTEM forecasts are designed to provide a national view of possible future trends in road traffic. They provide a tool to understand the case for, and impact of, investment in the road network across the country as a whole, and other road transport policies; Analysis of specific schemes use bespoke models fitted to local conditions to inform decisions. As such, it is not the function of the inquiry to examine the merits of these figures, as the inspectors made clear at the Pre Inquiry Meeting.

2.5.3. Response to **Point 9** (Concerned that there is a considerable degree of uncertainty over traffic forecasts (provides examples of where traffic forecasts have fallen well short of predicted forecasts). The evidence currently available indicates a continuing flattening-out of previous rates of traffic growth and therefore there is a weakening case for the new M4. The average use of the car by individuals has fallen over the last decade and there has been a consistent growth in car ownership but people are taking fewer trips in the car. It is likely that trip rates in south east Wales have dropped significantly and could well continue to do so. Forecasts should assume a continued decline in trip rates, lower assumptions of GDP growth and higher assumptions of fuel prices):

1. All forecasting is subject to uncertainty. The response to that uncertainty is to look at a range of probable outcomes, commonly referred to as 'the range within which it is sensible to plan'. The standard forecasting appraisal methodology use three scenarios – a core or Central most-likely forecast, with a Low-growth and High-growth scenario to test how the

economics and the operational performance of the scheme stand up to uncertainty.

2. For the Scheme, WebTAG guidance was followed (WebTAG unit M4), setting the Low and the High scenarios as % reductions and increases on the Central demand growth scenario based on the TEMPRO forecasts. These standard % variations are set with an eye to how much variation there has been in the past – how the year-on-year growth in national traffic levels has varied over time.
3. The ‘low’ and ‘high’ growth forecasts are based on assumptions of GDP and fuel price. ‘Low growth forecasts assume low GDP and high fuel prices, whilst ‘high growth’ forecasts assume high GDP and low fuel prices.

2.5.4. Response to **Point 10** (Stated that the number of vehicles on the road in future will partly depend on changes in the size of population and changes in the number of vehicle trips each person makes. Our population is ageing and vehicle use (particularly at peak periods) tends to decline in older age groups (the number of people aged 65 and over is projected to increase by 44% between 2014 and 2039). This alone will tend to reduce the demand for travel particularly at peak times. In order to try and capture the range of uncertainty over traffic forecasts, the Department for Transport has begun to model a range of scenarios and these scenarios seem to show some signs of bias by ignoring the sustained decline in trip rates. Forecasts for the M4 scheme should be subject to independent stress-testing):

1. Responsibility for forecasting methods rests with DfT. Guidance contained in WebTAG is applied in the case of all schemes, irrespective of the scale of the scheme promoted or indeed the scheme promoter. It should be noted that it was in response to the Standing Advisory Committee for Trunk Road Assessment (SACTRA) report on “induced traffic” that current methods of modelling mode choice and destination choice – as used for the M4CaN scheme - were adopted into guidance.

2.5.5. Response to **Point 11** (Stated that the Welsh Government’s forecasts are also deficient because they do not seem to take full account of significant public transport improvements in the pipeline. The Welsh Government’s traffic forecasts do not take account of Metro phase 3 and traffic forecasts should be re-worked to take full account of electrification and the full potential of Metro.

A combination of the metro and a public transport awareness campaign would reduce car use, making a new M4 unnecessary):

1. The public transport network that has been modelled in the M4CaN transport model comprises of;
    - Great Western Route Modernisation including the electrification of the Great Western Mainline from London Paddington to Cardiff by 2017
    - opening of new stations on the Valley Lines (Metro Phase 1)
    - Valley Lines electrification (Metro Phase 2)
  2. Outside of the transport model, an alternative approach has been developed which assumes further rail elements of a South Wales Metro and a strategic Park and Ride site at Llanwern (Metro Phase 3) together with Newport Bus Rapid Transit in order to assess the potential effect on traffic flows on the existing M4 corridor.
  3. For this project, we have therefore fully taken account of the planned mainline rail electrification and the committed elements of Cardiff Metro in our core scenario, and have carried out a sensitivity test on a higher level of Metro investment and Newport Rapid Transport.
  4. The results show that the combined effect of these public transport schemes is to reduce M4 traffic by a maximum of 6% and therefore does not resolve the problems on the M4. This does not mean to say that development of an efficient public transport system is not valid. Public transport should be seen as complementary to the M4 proposal and not in competition with it, as is explained further in how public transport has been taken into account by the Welsh Government in the evidence of Matthew Jones in section 9 of WG1.1.1.
- 2.5.6. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

**Annex – Correspondence List**

Date	In/Out	Author	Email/Post/Meeting
10/03/2017	in	Robert Waller	Email
12/07/2016	out	Matthew Jones	Email
01/07/2017	in	Robert Waller	Email
08/11/2017	in	Robert Waller	Email
07/02/2017	in	Robert Waller	Email

**From:** [Kath Sanders](#)  
**To:** [Annwen Laskey](#)  
**Subject:** FW: Draft Orders for new M4 around Newport  
**Date:** 10 March 2017 10:51:27

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**From:** ROBERT WALLER [mailto:r.waller50@ntlworld.com]  
**Sent:** 05 April 2016 20:05  
**To:** Info-m4-can  
**Cc:** John Griffiths  
**Subject:** Draft Orders for new M4 around Newport

I wish to register objections to the draft orders for this proposed new road, published in March.

First, this is not a proper consultation and does not appear on the Welsh Government website as an open consultation. Yet you say that comments can be submitted. This is an under-the-counter approach designed to reduce the number of objections.

Second, the proposed new road runs completely counter to the Welsh Government's stated objectives to promote a sustainable Wales, incorporated in various policy statements and legislation such as the Future Generations Act. A classic case of double-think and "do as I do not as I say".

Third, the road will do irrecoverable harm to very large areas of protected landscape which are of vital importance to wildlife. Rare species such as Shriill Carder Bee and Water Vole will be put in jeopardy.

Fourth, the whole thing is unnecessary and ridiculously expensive. Traffic volumes have stabilised, public transport is improving (and could be improved much more) and, if really needed, more limited road improvements can be undertaken to help relieve the current M4.

And, lastly, if such large amounts of public money are indeed available then there are far more pressing priorities - particularly our education and health services which continue to underperform.

yours faithfully

Robert Waller

34 Kensington Place

Newport

NP19 8GP



Response by email

Our Ref: qA1174612/OBJ0029  
Date: 12th July 2016

Dear Sir/Madam

### **M4 Corridor around Newport**

I refer to your recent correspondence in relation to the draft statutory Orders associated with the Welsh Government's proposals for the M4 Corridor around Newport.

All correspondence is classified as either an objection or a statement of support. Due to the contents of your correspondence, it has been classified as an objection to the draft statutory Orders. I understand your objection to be based on the following:

1. The need to protect our most important places for wildlife such as the Gwent Levels.
2. Building a six-lane motorway through the Gwent Levels ancient landscape is not sustainable.
3. Greener transport options should be provided.
4. Consideration should be given to viable alternatives such as the blue route which is cheaper and will take less time to build.

I shall address each of the above points using the above numbering, where appropriate:

#### **1. Protect the Gwent Levels.**

- 1.1. Whilst SSSIs are legally protected that protection does not provide a blanket ban on development within the SSSI. The Welsh Ministers are required to take reasonable steps to conserve and enhance the SSSIs, consistent with the exercise of their functions. They have given a significant amount of attention to mitigating the impacts on the SSSI, so far as is possible, in order to be able to fulfil this requirement.
- 1.2. Chapter 10 of the Environmental Statement (ES) provides a detailed and comprehensive assessment of the effect of the Scheme on ecology.
- 1.3. The Gwent Levels are designated as a series of Sites of Special Scientific Interest (SSSI) primarily because of their reed and ditch habitats, the insect and invertebrate species that those habitats support, and for the presence of the Shriill carder bee. The Gwent Levels also support a variety of aquatic plants and other wildlife including

badger, birds, bats, dormouse, great crested newt and other amphibians, otter, reptiles and water vole.

- 1.4. It is acknowledged that the construction and/or operation of new section of motorway would have a likely significant adverse long-term effect on the series of SSSIs, and on nine locally designated Sites of Interest for Nature Conservation (SINCs) due to habitat loss of grazing marsh, lowland mixed deciduous woodland, hedgerows, saltmarsh, and open mosaic habitats on previously developed land. Species potentially significantly affected in the long term include the Shrilc carder bee and other terrestrial invertebrates, otter and Cetti's warbler.
- 1.5. Neither the Newport Wetlands National Nature Reserve and RSPB Reserve, nor the Magor Marsh and Great Traston Meadows Gwent Wildlife Trust Nature Reserves would be significantly affected.
- 1.6. Welsh Government is under a legal duty to take reasonable steps to further the conservation and enhancement of the flora and fauna by reason of which the Gwent Levels are designated as SSSI. It recognised that without appropriate mitigation the Scheme could have a significant adverse impact on many habitats and protected species found along the route.
- 1.7. Having consulted with Natural Resources Wales (NRW) strategies have been developed for drainage and reen mitigation to minimise impacts on the SSSIs and a range of mitigation measures have been proposed. These measures are either integral to and embedded within the Scheme design or would be provided as additional mitigation. They include:
  - a) Retention of existing reens by culverting and replacement of reens and ditches lost to the Scheme at a ratio of slightly greater than 1:1 together with measures to encourage colonisation by aquatic plants and invertebrates.
  - b) Minimising land take across the Gwent Levels and where practicable avoiding land take to the south of the line of the new section of motorway.
  - c) Provision of water treatment areas that includes ponds and reed beds to control the volume and quality of water discharged into the reen system.
  - d) Avoidance of lighting other than at junctions and the river crossings and where lighting is required minimisation of light spillage.
  - e) Provision of permanent mammal fencing along the new section of motorway, together with underpasses, oversized culverts and mammal crossings at suitable locations.
  - f) Safe removal of dormouse, water voles, great crested newts and reptiles from the construction area to suitable habitat.
  - g) Removal of bat roosts and the closure of badger setts to be undertaken during the appropriate season and replaced with artificial setts and bat roosts. Eel passes to be provided on all new sluices.
  - h) Creation of areas of new habitat including the creation of a new area of saltmarsh and new areas of reed bed.

- i) Conversion of arable land to permanent grassland, enhancement of existing grassland and watercourses at selected locations, and the creation of new grasslands to mitigate for the loss of grazing marsh. Overall some 26ha of species rich grassland suitable as habitat for Shrilc carder bee would be provided.
  - j) Provision of some 83ha of deciduous woodland and another 20ha of linear woodland belts and shrubs; a replacement ratio of 2.1 to 1.
  - k) Reuse of woodland soils and rootstocks in new planting areas.
  - l) Provision of 3.6km of new hedgerow.
  - m) No construction in the wetted channels of the Rivers Usk and Ebbw.
- 1.8. The effect of the proposed new section of motorway on the biodiversity of the Gwent Levels, including taking into consideration all of the proposed mitigation, has to be weighed against the significant social, economic and other environmental benefits that the Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.

## **2. A motorway through the Gwent Levels ancient landscape is not sustainable.**

- 2.1. The effect of the Scheme on the local historic environment has been assessed in accordance with appropriate guidance and is reported in Chapter 8 of the ES. The historic environment includes archaeological sites, historic buildings and historic landscapes.
- 2.2. The assessment has identified that the Scheme would have a long term adverse effect on the Gwent Levels Landscape of Outstanding Historic Interest. There would also be a permanent adverse effect resulting from the demolition of the Grade II listed Magor Vicarage and a long term adverse effect on one Scheduled Monument (a standing stone east of Undy) and on a Grade II listed farmhouse (Tatton Farm) due to changes within their settings. Further, lesser effects are also identified in the assessment in the ES.
- 2.3. A significant volume of remote sensing survey and deposit modelling has been undertaken (ES Appendices 8.4, 8.6, 8.7 & 8.8) to inform an understanding of the archaeological potential along the route and across the Gwent Levels. This has informed a proposed programme of further archaeological investigation which is described in a Cultural Heritage Mitigation Plan (ES Appendix 8.10).
- 2.4. The effect of the proposed new section of motorway on the historic environment, including taking into consideration all of the proposed mitigation, has to be weighed against the significant social, economic and other environmental benefits that the Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.
- 2.5. The Welsh Government is subject to the duties relating to sustainable development set out in the Well-being of Future Generations Act 2015. A Sustainable development report has been prepared, which describes how the proposed Scheme aligns to the Welsh Government's sustainable development principles. That document is available to view at the project website <http://gov.wales/docs/det/report/160310-m4-sustainable-development-report.pdf>.

### **3. Greener transport options.**

- 3.1. As set out within Chapter 4 of the ES 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 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 by Welsh Government to develop proposals for a Cardiff Capital Region Metro system. These are in parallel with the development of a new section of motorway to the south of Newport.
- 3.2. By way of background, since 1989 the Welsh Government has looked in detail at what travel related problems exist on the M4 Corridor around Newport, and asked the public, other stakeholders and those involved in managing transport in and around Newport what they thought the problems amount to. This process has identified 17 problems, relating to capacity, resilience, safety and sustainable development issues. Those problems, and the objectives that aim to address one or more of the problems, have been reaffirmed as part of the development work leading to the adoption of the M4 Corridor around Newport Plan in July 2014.
- 3.3. Between 2010 and 2013 more than 100 possible measures were considered, including network improvements, network management, demand management, alternative modes of transport and smarter sustainable choices. Some of the measures considered avoided road building and/or development on the Gwent Levels. These were subject to consultation. The conclusion of Welsh Government, taking into consideration a variety of factors including the potential effect on the Gwent Levels, was that a new section of motorway to the south of Newport was the sustainable, long term solution that would address the problems. This preferred strategy was set out in the draft Plan for the M4 Corridor around Newport which was consulted upon in 2013. The Plan was adopted in July 2014. Since that time the focus has been on design development.

### **4. Consider viable alternatives such as the blue route.**

- 4.1. As part of the development work that led to the M4 Corridor around Newport Plan, of which the main element is the proposed new section of motorway to the south of Newport, a wide range of transport options were considered and appraised. This included works to the Brynglas Tunnels and works to the Newport A48 Southern Distributor Road.
- 4.2. It was concluded that these options do not sufficiently address the problems or achieve the objectives of the M4 Corridor around Newport (individually or in combination with other identified measures).
- 4.3. You have referred to a suggested alternative referred to as the 'Blue Route', comprising works to the A48 Southern Distributor Road (SDR), and A4810 (also known as the Steelworks Access Road).
- 4.4. The Blue Route was put forward by third parties during a strategic consultation in 2013. As a result, consideration was given to the Blue Route in the 'Strategic Appraisal

of Alternatives Considered During Consultation' report, which helped inform the Welsh Government's decision making on its Plan for the M4 Corridor around Newport.

- 4.5. Assessment at that time considered that the Blue Route would not address the problems on the existing M4 around Newport, and would create further operational problems. Variants of the Blue Route were analysed to see if any of them could provide a feasible alternative to a new section of motorway to the south of Newport. Conclusions were:
- a) Forecasts of future traffic volumes show that operational problems would continue to be experienced on the M4 around Newport with the variants of the Blue Route in place. Furthermore the addition of motorway traffic to the modified SDR and A4810 would cause operational problems on parts of the Blue Route.
  - b) Variants of the Blue Route would require land, beyond current highway boundaries, with associated impacts on businesses and individuals. There would be economic, noise, air quality and social impacts on communities, property and future development land allocations. Whilst disruption on the Gwent Levels would be significantly diminished this must be seen in the context of significantly greater disruption to those living and working along the Blue Route.
  - c) Delivery of the Blue Route could not be achieved quicker than the published scheme. Due to the statutory process requirements strategic and preliminary design work, including consultation, would be required. This would take several years. In addition construction of the Blue Route, whilst keeping the SDR and A4810 operational, has numerous uncertainties and construction risks associated with it, such that delivery quicker than the published scheme would be highly unlikely.
  - d) The cost of the Blue Route, as proposed by third parties, does not include free flowing connections to the existing M4, grade separation at existing junctions, or resolution of access to TATA Steel and future development areas from the A4810 (which are already committed via legal agreements). The variants of the blue route considered include these improvements and taking these into consideration the cost of the Blue Route, excluding land and compensation costs, would be in the order of £600-800m (as assessed in 2013), depending on the scope. Such a scheme however would not create economic benefits of the same order of the published scheme. Neither would it alleviate the existing problems of the M4, as referred to above, and therefore the Blue Route cannot be said to provide value for money.
- 4.6. The Blue Route performed poorly compared to the Black Route when it was appraised at the strategic stage. Overall, it was not considered to provide a sufficient long term solution to the identified problems associated with the M4 around Newport. Consideration of options/alternatives, including the Blue Route is summarised in Chapter 4 of the published Environmental Statement.
- 4.7. Objections received to the March 2016 draft statutory Orders, including yours, have expressed support for the Blue Route. On this basis, should objections remain in place the Blue Route will be considered by an Independent Inspector at a Public Local Inquiry scheduled for this autumn. Consultation on alternatives with those affected, including those affected by the Blue Route, will take place before the Public Local

Inquiry to ensure that all parties perspectives are able to be considered by the Independent Inspector.

Further information, including the Environmental Statement and other reporting, is available at [www.gov.wales/m4newport](http://www.gov.wales/m4newport). Paper copies are also available for inspection at deposit points as set out on the website.

The proposals for the M4 Corridor around Newport are promoted by the Welsh Government as an important part of its Wales Infrastructure Investment Plan (WIIP) which has set a clear direction for capital investment in Wales that supports growth and jobs.

The M4 Corridor around Newport project is considered to be the sustainable, long term solution to the social, environmental and economic problems associated with the main gateway into South Wales.

The Scheme would improve accessibility for people as well as Welsh goods and services to domestic and international markets.

In light of the above I would be grateful if you could advise me if you are now content to withdraw your objection to the draft Statutory Orders. A Public Local Inquiry is scheduled to be held this autumn where an independent inspector will hear any outstanding objections.

Should you require clarification, or wish to discuss the above prior to responding, please do not hesitate to contact me or the project public liaison officer Brian Greaves on [info@m4-can.com](mailto:info@m4-can.com) or 0845 600 2664.

Yours sincerely



Matthew Jones  
Project Engineer

**From:** [ROBERT WALLER](#)  
**To:** [Info-m4-can](#)  
**Subject:** M4 Corridor Around Newport  
**Date:** 14 July 2016 21:15:43

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Thank you for your recent communication attempting to persuade me to withdraw my objection to the above.

I wish to maintain my objection,

yours

Robert Waller