

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



**File Ref WG/REB/OBJ1336 - McDermid**

**Objection Ref OBJ1336**

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Llywodraeth Cymru  
Welsh Government

**Response to Objector's Evidence: Andrew McDermid**

## **1. GROUNDS FOR OBJECTION**

### **1.1. Details**

- 1.1.1. Andrew McDermid has submitted a Statement of Evidence dated 19 January 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 Andrew McDermid's Statement to be based on the following:
1. Challenges that the assessment of carbon emissions indicates that the Scheme would result in a marginal reduction of user carbon emissions when compared to a 'do nothing' scenario;
  2. Concerns that the assertion of a reduction of carbon emissions is made on the basis that yet to be realised technologies will be implemented;
  3. Concerns that the enhancement of road capacity will stimulate increased traffic, and hence give rise to congestion at the new higher level of road capacity;
  4. Concerns that the car ownership model used will be superseded before 2030;
  5. States that driverless cars would effectively increase capacity of the existing motorway, with fewer accidents;
  6. Suggests that the Scheme would lead to rising CO2 levels and that should be taken into account when asserting the Scheme would lead to economic growth;
  7. Concerns that the Scheme would increase the likelihood and extent of flooding;
  8. States that the costs of flooding and its opportunity costs should be taken into account when calculating economic benefits;
  9. States that the links between infrastructure development and economic growth is undisputed, although only to the extent that they generate a sustainable flow of services;

10. Concerns that the economic growth arising from the Scheme would be exported straight out of Wales, into Bristol and other English cities;
11. Concerns that the Scheme would result in the residents of Newport becoming less able to afford houses in their own neighbourhood;
12. Concerns that there would be an adverse impact on the amenity value derived by the local community, especially from the Newport wetlands;
13. Concerns about the impact upon the Gwent Levels and the wider ecosystem, in particular the impact upon the drainage system and the fragmentation of habitats;
14. Concerns about the loss of Magor Marsh Reserve as a result of the draft Compulsory Purchase Order;
15. Concerns about the proposed mitigation to remove and relocate wildlife;
16. Considers the proposal to create new reens or culverts would not be sufficient to support the existing biodiversity;
17. States that the provision of walking infrastructure would not benefit health and wellbeing; and
18. States that the only way to control carbon emissions would be to work on schemes that reduce motor traffic volumes.

## 2. WELSH GOVERNMENT'S VIEW

### 2.1. Points Raised

2.1.1. Some of the above points have already been addressed in proofs of evidence. 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	10	2.4.1
2	2.2.1	11	2.4.2
3	2.3.1	12	2.1.2
4	2.3.2	13	2.5.1
5	2.3.2	14	2.6.1
6	2.1.2	15	2.5.1
7	2.1.2	16	2.5.1
8	2.1.2	17	2.1.2
9	2.4.1	18	2.1.2

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

1. **Point 1** (Challenges that the assessment of carbon emissions indicates that the Scheme would result in a marginal reduction of user carbon emissions when compared to a 'do nothing' scenario) / Proof of Evidence of Tim Chapman WG1.13.1 section 4.3 (to be read alongside WG1.13.3 and WG1.13.4 errata).
2. **Point 6** (Suggests that the Scheme would lead to rising CO2 levels and that should be taken into account when asserting the Scheme would lead to economic growth) / Proof of Evidence of Tim Chapman WG1.13.1 and John Davies WG1.23.1 paragraphs 49-55 deal with greenhouse gases and climate change, setting out how the Scheme would be carbon neutral in operation.

3. **Point 7** (Concerns that the Scheme would increase the likelihood and extent of flooding) / Proof of Evidence of Michael Vaughan WG1.17.1 paragraph 5.81 to 5.83 addresses flooding. Further evidence about flooding is provided by Paul Canning (WG1.16.1) and John Davies WG1.23.1).
4. **Point 8** (States that the costs of flooding and its opportunity costs should be taken into account when calculating economic benefits) / Proof of Evidence of John Davies WG1.23.1 paragraphs 134-169 set out flood risk matters, whilst the 'Hold the Line' policy is explained in paragraphs 147-158. This would ensure protection of the Levels whatever decision is reached with regard to the Scheme.
5. **Point 12** (Concerns that there would be an adverse impact on the amenity value derived by the local community, especially from the Newport wetlands) / Phillip Evan's Proof of Evidence WG1.14.1 at paragraph 9.1.9 sets out that the Scheme would result in a positive improvement in the noise environment surrounding the existing M4 through Newport. For the new section of motorway, the published Scheme has been designed to minimise noise effects whilst not resulting in other unacceptable environmental effects. However, it is accepted that, for some areas situated on the Newport Wetlands, significant adverse effects on local amenity will occur and are unavoidable. On balance, however, the assessment indicates that the Scheme results in a considerably greater benefit than disbenefit.
6. **Point 17** (States that the provision of walking infrastructure would not benefit health and wellbeing) / Chapter 14 of the Environmental Statement (Document 2.3.2) describes the physical effects on existing Non-Motorised User routes affected and the provision of additional routes.
7. **Point 18** (States that the only way to control carbon emissions would be to work on schemes that reduce motor traffic volumes) / Proof of Evidence of Matthew Jones WG1.1.1 section 15 addresses carbon matters, whilst section 9 addresses public transport. As explained in response to Point 6 above, Proof of Evidence of Tim Chapman WG1.13.1 and John Davies WG1.23.1 paragraphs 49-55 deal with greenhouse gases and climate

change, setting out how the Scheme would be carbon neutral in operation.

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

## **2.2. Tim Chapman (Carbon)**

2.2.1. In response to **Point 2** (Concerns that the assertion of a reduction of carbon emissions is made on the basis that yet to be realised technologies will be implemented):

1. The assessment of carbon emissions is based on the assumption of some technological improvement until the year 2030, in accordance with the standard methodology provided in the DMRB guidance. Beyond 2030, the assessment conservatively assumes that no further technological improvement takes place because it is difficult to predict beyond that.

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

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

2.3.1. In response to **Point 3** (Concerns that the enhancement of road capacity will stimulate increased traffic, and hence give rise to congestion at the new higher level of road capacity):

1. The scheme will increase the number of vehicle-kilometres driven within the study area. Table 9.3 of the (Revised) Traffic Forecasting Report presents the forecast extent of this increase. In the design year 2037, the increase is 0.3% in the AM peak hour, 0.0% in the average inter-peak hour, and 0.2% in the PM peak hour.

Forecast traffic growth between the base year 2014 and the design year 2037 is in the order of 30%. The scale of this induced traffic is no more than around 1% of the background traffic growth is forecast to occur.

2.3.2. In response to **Points 4 and 5** (Concerns that the car ownership model used will be superseded before 2030; and States that driverless cars would effectively increase capacity of the existing motorway, with fewer accidents):

1. Car occupancy varies by journey purpose. The Department for Transport (DfT) WebTAG data book which provides all the parameter values to be

used in scheme appraisal states that car occupancies that were observed in 2010 will be constant to 2036.

2. The DfT commissioned research into the impacts of connected and Autonomous Vehicles (AV) on traffic flow which was published in May 2016. One of the key conclusions from that research was that there was great potential for substantial improvements in network performance, particularly in high speed, high flow situations. However, there was strong evidence that at low penetrations, any assertive AV's are limited by the behaviour of others, that vehicles are not able to make use of their enhanced capability. This leads to suggestion of a tipping point – the proportion of enhanced vehicles required before benefits are seen.
3. The research suggests that that this may be between 50% and 75% penetration of AV's. Results for the SRN (peak period) indicate improvements in delay of only 7% for a 50% penetration of AV's, increasing to as high as 40% for a fully automated vehicle fleet.
4. A paper was presented at the 2016 European Transport Conference which summarised the outcome of a 'Delphi' survey conducted amongst the leading professionals in the area of autonomous vehicles. The Delphi method is a structured communication technique developed as a systematic, interactive forecasting method which relies on a panel of experts. Delphi is based on the principles that forecasts from a structured group of individuals are more accurate than those from unstructured groups.
5. A total of 45 modelling experts took part. Ten of them were well known academics, 9 worked in Government Agencies and the rest worked in the private sector in different roles, mostly as consultants. They were grouped into 5 regions, the USA and Canada, Western Europe, Australasia, Latin America and the Rest of the World.
6. On when will AV's be available, the mean for all regions was 2023. In response to when would AV's be 10% of the fleet, the mean response was 2032 and 2040 when the percentage of AV's increase to 20%. The mean view arrived at in terms of improvement in capacity, that a 10% improvement in capacity could be achieved when AV's are 20% of the fleet.

7. The conclusion that I would draw from the above is that any effect on the M4 is so far in the future, it does not change the need for the scheme.

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

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

2.4.1. In response to **Points 9 and 10** (States that the links between infrastructure development and economic growth is undisputed, although only to the extent that they generate a sustainable flow of services; and Concerns that the economic growth arising from the Scheme would be exported straight out of Wales, into Bristol and other English cities):

1. There is good reason to conclude that the majority of the economic benefits of the Scheme would be felt within Wales. We can make inferences about the distribution of transport cost savings based on the origins and destinations of trips that would benefit from the new motorway, although even this needs a note of caution because of the way transport cost savings may be 'transmitted' from one firm to another through the supply chain. Notwithstanding this complexity, our analysis indicates that over 70% of direct transport cost savings for business and goods vehicles would accrue in Wales.

2.4.2. In response to **Point 11** (Concerns that the Scheme would result in the residents of Newport becoming less able to afford houses in their own neighbourhood):

1. Mr McDermid makes a specific point regarding the potential for the Scheme to result in higher residential property prices in Newport as a result of those working in Bristol relocating to the Newport area. By improving accessibility, the effect of the Scheme may be to make areas of Newport more attractive as a place to live. This could have some effect on residential property prices although the impact is likely to be very slight given other influences on property prices (such as income levels, supply of housing (which is itself ensured through the strategic planning system), and other factors affecting local attractiveness) are likely to be dominant.

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

## **2.5. Keith Jones (Ecology)**

2.5.1. In response to **Points 13, 15 and 16** (Concerns about the impact upon the Gwent Levels and the wider ecosystem, in particular the impact upon the drainage system and the fragmentation of habitats, Concerns about the proposed mitigation to remove and relocate wildlife and Considers the proposal to create new reens or culverts would not be sufficient to support the existing biodiversity):

1. 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.

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

## **2.6. Matthew Jones (Chief Witness)**

2.6.1. In response to **Point 14** (Concerns about the loss of Magor Marsh Reserve as a result of the draft Compulsory Purchase Order)

1. 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, although a small area of land owned by the Gwent Wildlife Trust would be acquired. Views of the new section of motorway from Magor Marsh Nature Reserve would be screened by the existing woodland and vegetation within and surrounding the nature reserve and residential properties within Magor.
2. The draft CPO (and hence the footprint of the Scheme) covers 3395 sq m (0.34 ha) at the northern corner of this land (excluding the adjacent section of road - 766 sq m) and thus only some 3% of the area (11.3 ha) of the fields Gwent Wildlife Trust purchased in 2012.
3. In relation to the use of the Magor Marsh Nature Reserve, as a recreational and educational resource, the information on the extent of the Reserve on the Trust's web-site and on the information board at the Reserve guides the public towards the 'Dragonfly Trail' and the 'Butterfly

Trail' which are located to the west of the car park, between Whitewall Reen and Blackwall Reen. There is signage to the Nature Reserve from the junction of the B4245 and Newport Road in Magor. The land at Barecroft Fields is within the landholding of Gwent Wildlife Trust and is currently in grassland use with some horse grazing. It lies over 840 metres to the west of the nearest point of the Dragonfly Trail' and the 'Butterfly Trail' and is not signed from the M4 or the A4810. Access into this land is from Barecroft Common via a padlocked gate.