

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



File Ref WG/REB/OBJ0270.5 – GWT/Whitmarsh

Llywodraeth Cymru
Welsh Government

Objection Ref OBJ0270

Response to Objector's Evidence: Professor Lorraine Whitmarsh

(Gwent Wildlife Trust)

1. GROUNDS FOR OBJECTION

1.1. Details

1.1.1. Professor Lorraine Whitmarsh has submitted a Statement of Evidence dated 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 Professor Lorraine Whitmarsh's Statement to be based on the following:

1. Stated that expanding road capacity results in induced demand which generates more or longer car journeys – either because shorter travel times encourage people to travel further (and people to live further from workplaces, locking them into longer travel distances) or shift travellers from public to private modes. The concept of induced demand is widely accepted, including by the UK Department for Transport.
2. Stated that the Climate Change Commission for Wales has concluded that road building would negatively impact on climate change targets as well as other sustainability goals (now embodied in the WFG Act).
3. Considers that problems of unsustainable transport can best be avoided through finding alternatives to physical transport (i.e. ICT solutions, such as telecommuting, video-conferencing), then by shifting to less damaging modes (e.g., cycling, public transport, car-sharing), and finally by improving vehicle/fuel technologies. Road building, including extending the M4, is likely to lead to increased demand for road transport. This will have negative implications for most or all of the WFG Act goals.
4. Considers that travel behaviour is often habitual, and as such difficult to change: individuals with strong car use habits do not consciously deliberate over travel choices or pay attention to information about alternative modes. Infrastructure is critical to shaping and constraining travel choices. Urban form that has developed around roads and cars has created a strong lock-in to automobiles as the primary form of personal transport in wealthy societies. Policies to encourage sustainable mobility thus require both making car use less attractive ('push' measures) and making the alternatives more attractive ('pull' measures).

2. REBUTTAL

2.1. Points Raised

2.1.1. Some of the above points have already been addressed in previous 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	2.2.1	3	2.3.2
2	2.3.1	4	2.1.2

2.1.2. Some of the Objector's points have already been covered in previous proofs of evidence as follows:

1. **Point 4** (Considers that travel behaviour is often habitual, and as such difficult to change: individuals with strong car use habits do not consciously deliberate over travel choices or pay attention to information about alternative modes. Infrastructure is critical to shaping and constraining travel choices. Urban form that has developed around roads and cars has created a strong lock-in to automobiles as the primary form of personal transport in wealthy societies. Policies to encourage sustainable mobility thus require both making car use less attractive ('push' measures) and making the alternatives more attractive ('pull' measures)) / Matthew Jones' Proof of Evidence WG1.1.1 section 3 provides the 'Background and section 9 'Public Transport and the Metro' explains how public transport has been taken into account.

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

2.2. Bryan Whittaker (Traffic)

2.2.1. Response to **Point 1** (Stated that expanding road capacity results in induced demand which generates more or longer car journeys – either because shorter travel times encourage people to travel further (and people to live further from workplaces, locking them into longer travel distances) or shift travellers from public to private modes. The concept of induced demand is widely accepted, including by the UK Department for Transport):

1. It is recognised that transport schemes that impact on journey times and cost will, in principle, influence the level of demand for travel. The SACTRA (Standing Advisory Committee on Trunk Road Appraisal) assessment in their 1994 report concluded that induced traffic can and does occur, probably quite extensively, through its size and significance is likely to vary widely in different circumstances. In particular the opening of a new road scheme can elicit a number of changes in trip making behaviour including trip reassignment, re-timing redistribution and modal shift. These responses can result in additional trips and additional vehicle mileage on the road network, which is commonly referred to as 'induced traffic'.
2. Conversely, in a 'Do-Minimum' scenario i.e. in the absence of a proposed scheme that provides additional capacity, the effects of forecast growth traffic growth and the subsequent increase in traffic congestion can lead to 'trip suppression' which could manifest itself as modal switching to public transport and or as a reduction in the number, length or frequency of journeys. These responses, as well as redistribution, can lead to reduced vehicle mileage on the road network.
3. The Department for Transport (DfT) WebTAG Unit M2 states that 'the purpose of variable demand modelling is to predict and quantify these changes', and goes on to say that 'there should be a presumption that the effects of variable demand on scheme benefits will be estimated quantitatively unless there is a compelling reason for not doing so'.

4. New road capacity relieves congestion which, in turn, reduces travel costs which can result in more traffic. Some of the additional traffic has reassigned from other roads so relieving them, but it is accepted that there may be some induced traffic. However, this does not simply fill up the additional capacity, but rather a new balance between supply and demand is formed in which there is more traffic than before, but less congestion and thereby making journeys quicker, safer and more reliable. Therefore, induced traffic should not necessarily be interpreted as a negative effect, as users will still benefit from easier access and journeys. The M4CaN model predicts the extent of induced traffic and traffic suppression quantitatively. The results show that average journey times experience a sustained improvement which persist even with higher volumes of traffic in 2037 and 2051 under the Do-Something scenario that is shown in Table 11.1 of my main proof WG 1.2.1.
 5. I have also submitted to the Inquiry a document (ID/043) to provide a consistent measure to quantify the scale of induced traffic projected to occur across various scenarios, focusing on the River Usk screenline. That document shows that the induced traffic across the River Usk screenline would be 4.2% in the Core Scenario over an average day in 2037.
- 2.2.2. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

2.3. John Davies (Sustainable Development)

2.3.1. Response to **Point 2** (Stated that the Climate Change Commission for Wales has concluded that road building would negatively impact on climate change targets as well as other sustainability goals (now embodied in the WFG Act)):

1. The report by the Climate Change Commission was published in 2012, before analysis of the Scheme's impacts were carried out. The Report states that the transport sector is a major emitter of greenhouse gases, which is correct as a broad statement but fails to take into account that the Scheme would be carbon neutral in operation. The Report is based on the principle of avoiding transport demand and shifting to more sustainable transport modes.
2. However many of the suggestions to achieve this will take many years to produce a meaningful impact, particularly those that depend on behavioural change. The Report refers to the reluctance of freight operators to switch to rail, the under-capacity in the rail infrastructure to support such a switch and the increasing trend towards road freight transport. The problems of the M4 around Newport are current and require an urgent solution that can be delivered in the near future. This does not preclude the Welsh Government from taking other actions to deliver an integrated transport system and encourage a switch to transport other than the car or to encourage car sharing. The South Wales Metro is one of the initiatives currently being progressed.

2.3.2. Response to **Point 3** (Considers that problems of unsustainable transport can best be avoided through finding alternatives to physical transport (i.e. ICT solutions, such as telecommuting, video-conferencing), then by shifting to less damaging modes (e.g., cycling, public transport, car-sharing), and finally by improving vehicle/fuel technologies. Road building, including extending the M4, is likely to lead to increased demand for road transport. This will have negative implications for most or all of the WFG Act goals):

1. The suggested alternatives that would avoid the need to travel have had little impact to date. Whilst they may have some impact this will take many years and these alternative strategies can be pursued even if the Scheme is implemented. A shift to public transport due to the Metro and electrification of the main railway line has been taken into account in the transport modelling work, which has shown limited impact, insufficient to properly address the problems on the existing motorway. It is accepted that the Scheme is likely to lead to increased trips, but in my view this would be by people who otherwise would not have journeyed because of the travel difficulties, be it for work or for pleasure. The Proof of Evidence of John Davies (WG1.23.1) deals with the well-being goals as summarised in paragraphs 213-215.
- 2.3.3. I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.