July 2012

Submission to the Welsh Government

in response to

Consultation Document WG14775: M4 Corridor Enhancement Measures

cyfeillion y ddaear cymru
friends of the earth cymru

Summary

Friends of the Earth Cymru considers the consultation itself to be fundamentally and fatally flawed, and consequently that either:

- The consultation should be re-issued with substantially revised data, or
- The consultation should be abandoned

Should the Welsh Government proceed with the consultation in its present form, Friends of the Earth Cymru considers that insufficient justification is provided for any of the four highway infrastructure options presented. The 'do nothing' option – in combination with existing, planned and proposed improvements to traffic management and sustainable transport – will achieve the Welsh Government's aims.

Introduction

The Welsh Government's stated aims in this process are to:

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

Friends of the Earth Cymru will demonstrate that all of these aims can be achieved at low or no cost through adopting the 'do nothing' highway infrastructure option that is standard in Environmental Impact Assessments and many other government consultations but that is absent from this consultation. We are also concerned that the Welsh Government's failure to apply a Strategic Environmental Assessment to this transport plan renders the process vulnerable to legal challenge.

We also note that the Climate Change Commission for Wales recently published a position paper on transport and climate change in Wales. That document states the transport hierarchy – accepted by planning policy and guidance – to be:

- Avoid transport demand, then
- Shift to more sustainable modes, then
- Improve efficiency

The position paper further:

> "highlights the need for integrated, long-term and target-focussed transport and spatial planning which address – though a range of measures – the multiple drivers of demand".

It hardly needs stating that the current consultation, with its focus on highway infrastructure interventions and no 'do nothing' option, strays a very long way from what is needed in order to tackle "the multiple drivers of demand".

Objections to Highway Infrastructure Options Presented

Highway Option A raises the following concerns:

- Significantly reduced air quality along the proposed route
- Additional traffic being generated in total, leading to increased greenhouse gas emissions and negative impacts on water quality on waterbodies draining the new highway. Both of these negative impacts run counter to Welsh Government environment commitments
- Very substantial land take, resulting in negative impacts to biodiversity and habitat connectivity
- Substantial modification of the Gwent Levels SSSI, resulting in negative impacts to a site of national biodiversity significance
- The potential for infilling development between the proposed line of motorway and the city of Newport

Highway Option B raises the following concerns:

- Some increase in traffic along this route, leading to worsening local air quality
- Additional traffic being generated in total (as opposed to the 'do nothing' scenario), leading to increased greenhouse gas emissions and negative impacts on water quality on waterbodies draining the modified highway. Both of these negative impacts run counter to Welsh Government environment commitments
- Land take, resulting in negative impacts to local biodiversity
- Modification of the Gwent Levels SSSI, resulting in negative impacts to a site of national biodiversity significance

Highway Option C raises the following concerns:

- All concerns raised by Highway Option B, but with greater proportional impact to the scale of increased traffic and construction impacts

Highway Option D raises the following concerns:

- Additional traffic being generated in total, leading to increased greenhouse gas emissions, negative impacts on water quality on waterbodies draining the modified highway (including the River Usk Special Area of Conservation) and worsened air quality along this stretch of motorway. All of these negative impacts run counter to Welsh Government environment commitments
- Very substantial land take, resulting in negative impacts to biodiversity and habitat connectivity

Friends of the Earth Cymru considers that all the Welsh Government's objectives can be met through a combination of existing, planned and proposed improvements to traffic management and sustainable transport. None of the highway infrastructure options is therefore appropriate or necessary.

Flaws in the consultation document

Ministerial Foreword

One of the major serial uncorrected biases in this document appears early on and makes frequent reappearances. The Ministerial Foreword tells us:

> "Many of us seem addicted to using our cars. No wonder then that growing congestion is widely acknowledged as one of the most serious transport problems facing us, and action to improve road and rail networks is regarded as crucial to sustaining productivity and competitiveness".

We will show in this consultation response that the term 'growing congestion' is factually incorrect, and that the whole premise for the consultation is fundamentally and fatally flawed. Furthermore, the Minister's contention that "…congestion is widely acknowledged as one of the most serious transport problems…" is made without reference and is wholly unsubstantiated. That leads the impartial observer to conclude that the Minister is minded to proceed with congestion reduction measures in the absence of evidence that it is in fact a "serious transport problem".

The Minister goes on to say:

> "This document contains a description of the relevant history and context of the M4 Corridor and the way in which travel and transport patterns have changed. It takes you through an exploration of problems, goals and a range of different approaches to achieving the goals".

While what is provided could generously be described as 'an exploration of problems…', the exploration is not thorough, authoritative or comprehensive.

Background

The principal serial uncorrected bias – that of "increasing traffic" – recurs on page 6, and is used to explain why "problems with congestion and unreliable journey times have been a fact of life on the M4 around Newport for many years". The phrase "fact of life" is a statement of opinion deliberately used to suppress challenge of its baseline assumption and is unsupported by data.

Yet again, on page 6, we see "as the number of users on the network increase, [issues] are set to worsen". In 2006, when the M4 relief road was under consideration, an assumption of increasing traffic would not have been irrational. However, data from recent years have shown the assumption of never-ending increases in road traffic to be a fallacy (Figure 1)[1]. Traffic volumes in south Wales (as defined on page 55 of the consultation document) were 4.3% lower in 2010 (the most recent year for which data are available) than in 2007.

[1] Department for Transport, 2012, *Motor vehicle traffic (vehicle kilometres) by local authority in Great Britain, annual from 1993*

Observers will note that the decrease in vehicle traffic volumes predates the 2008-2012 recession. Thus, while there may be an additional recessionary component to the decrease in traffic volumes, the decreasing trend itself is independent of the economic fortunes in Wales.

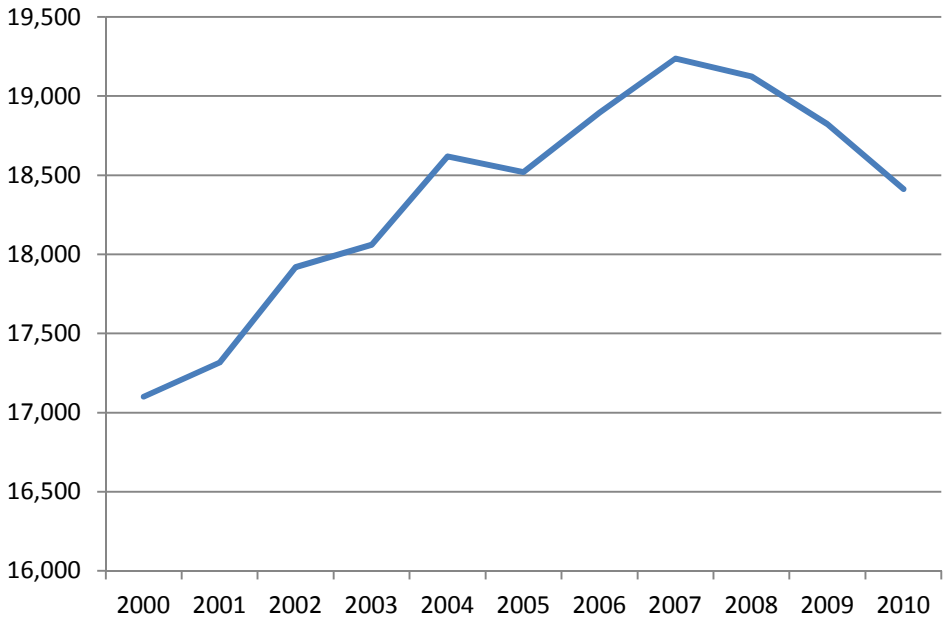

Figure 1 Total annual traffic volumes (in million vehicle kilometres) in the 14 local authorities defined in the consultation as comprising south Wales

An introduction to the problems - capacity

The consultation document states that:

> "There is no conclusive evidence suggesting this trend of increasing traffic demand will reverse soon".

The whole premise of the sentence is false. There is, in fact, no conclusive evidence suggesting a trend of increasing traffic. Quite the opposite, there is a trend of declining traffic (Figures 1 and 2[2]) which we consider to be "conclusive evidence suggesting this trend of increasing traffic **has reversed**".

[2] The graph was calculated as follows. Arup was unable to provide traffic counts for 2009 and 2010. The Department for Transport has published figures for motor vehicles in Newport here: http://www.dft.gov.uk/traffic-counts/area.php?region=Wales&la=Newport. Friends of the Earth Cymru divided the total traffic count for Newport in 2000 by 7.258 to equal the motorway Traffic Wales data used by Arup. Future years' traffic was divided by the same amount to provide a corollary of traffic volume on Newport roads as comparator with Traffic Wales counts.

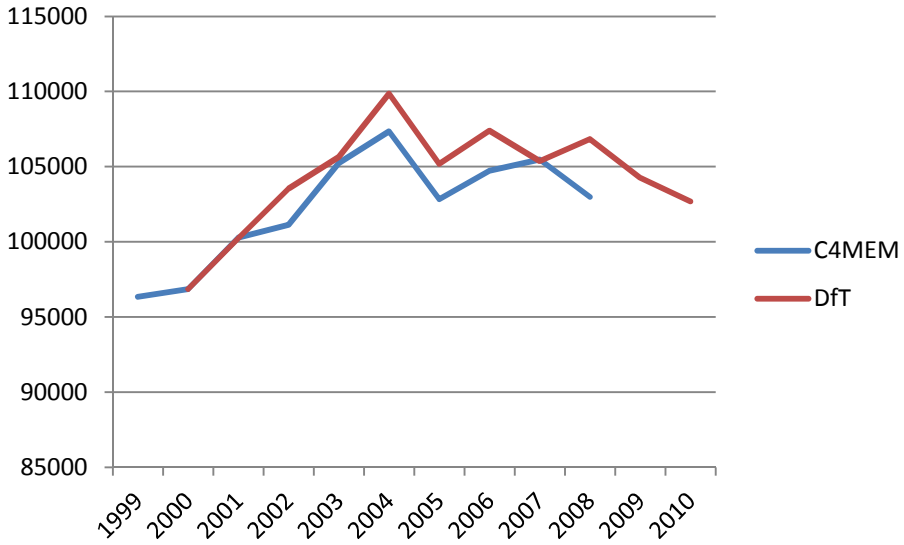

Figure 2 Graph showing trend of declining traffic in Newport since the peak in 2004

If Arup can provide good reason that M4 traffic trends would substantially deviate from the Newport motor vehicle traffic in 2009 and 2010 then this reasoning should be set out in the consultation document. Arup's failure to extrapolate beyond 2008 has rendered this consultation **fatally flawed** because traffic volumes have declined significantly since their UK peak in 2007[3]. The peak on this section of M4, as well as in Newport more generally, was in 2004.

The consultation document states:

> "While there are years where the traffic levels fall, the overall change for the period is an increase".

This is a thoroughly erroneous conclusion to draw, even from the data presented in the consultation document. One might equally say "while there are years where the traffic levels increase, the overall change for the period 2004-2008 is a decrease".

The overall **trend** since 2004 in Newport and on this stretch of the M4 is clearly a decline in traffic volume. The evidence presented above indicates that this trend is very likely to have continued through 2009 and 2010.

Figure 4 apparently illustrates:

> "the average recorded speed of traffic eastbound on the motorway between Junctions 27 and 26 during the evening peak period for a randomly selected period in March 2007. It shows that speeds can often fall below 60 kph (less than 40 mph) at times of congestion.

[3] Department for Transport, 2012, *Road traffic estimates for 2010 (revised)*

However, upon further examination, Friends of the Earth Cymru has been told[4] that the data presented relate to one afternoon for each of the four days under examination. The impression given in the consultation is that the data presented are dependable, robust data showing the average speed on the motorway for weekdays.

Statistically, the data presented are meaningless. The consultation is attempting to portray a whole canvas based on one set of data for each day. Traffic may or may not be slower on average during rush hours on Fridays, but the data used are insufficient to demonstrate this. **This graph should be excised from the consultation.**

The consultancy responsible for the M4 consultation told Friends of the Earth Cymru: "It would also take several years of accident / traffic data to establish reliable accident rates relating to the Variable Speed Limit"[5]. But the consultancy was satisfied that one day's average speed data is evidence robust enough to publish in a consultation document on behalf of the Welsh Government and from which persuasive conclusions can be drawn:

> "Note how dramatically traffic speeds vary over short periods of time and the lack of a consistent pattern from day to day. This means that journey times, particularly for commuters, can be extremely unreliable".

It may be that journey times are unreliable for commuters, or it may not. The data presented may not be used to draw such a conclusion.

Again on page 9 the following fallacy is repeated: "in addition to traffic volumes increasing overall". See Figures 1 and 2 for the reasons that this is factually incorrect.

We have obtained from the Welsh Government's consultants information relating to traffic volumes on this stretch of the M4 for years other than 1997 and 2007 in order to determine whether or not the years chosen are anomalous. The use of any two particular years (the second of which is the peak year for UK traffic) is, once again, preferential selection of data and should be treated with extreme caution.

Using the same data as the consultants we demonstrate in the graph below (Figure 3) that traffic volumes for the time periods in the consultation's Figure 5 actually decrease between 2002 and 2006. Like the consultants we have preferentially selected these years, but in our case because they demonstrate an alternative point of view, i.e. that **peak traffic volumes have remained unchanged or have slightly decreased over time**. This is an equally valid conclusion to draw from the same data used by the consultants. Figure 5 in the consultation, and the conclusions drawn from it, should be excised from the consultation.

[4] Arup, 19 April 2012, Personal communication: "Data was for a randomly selected week"
[5] ibid

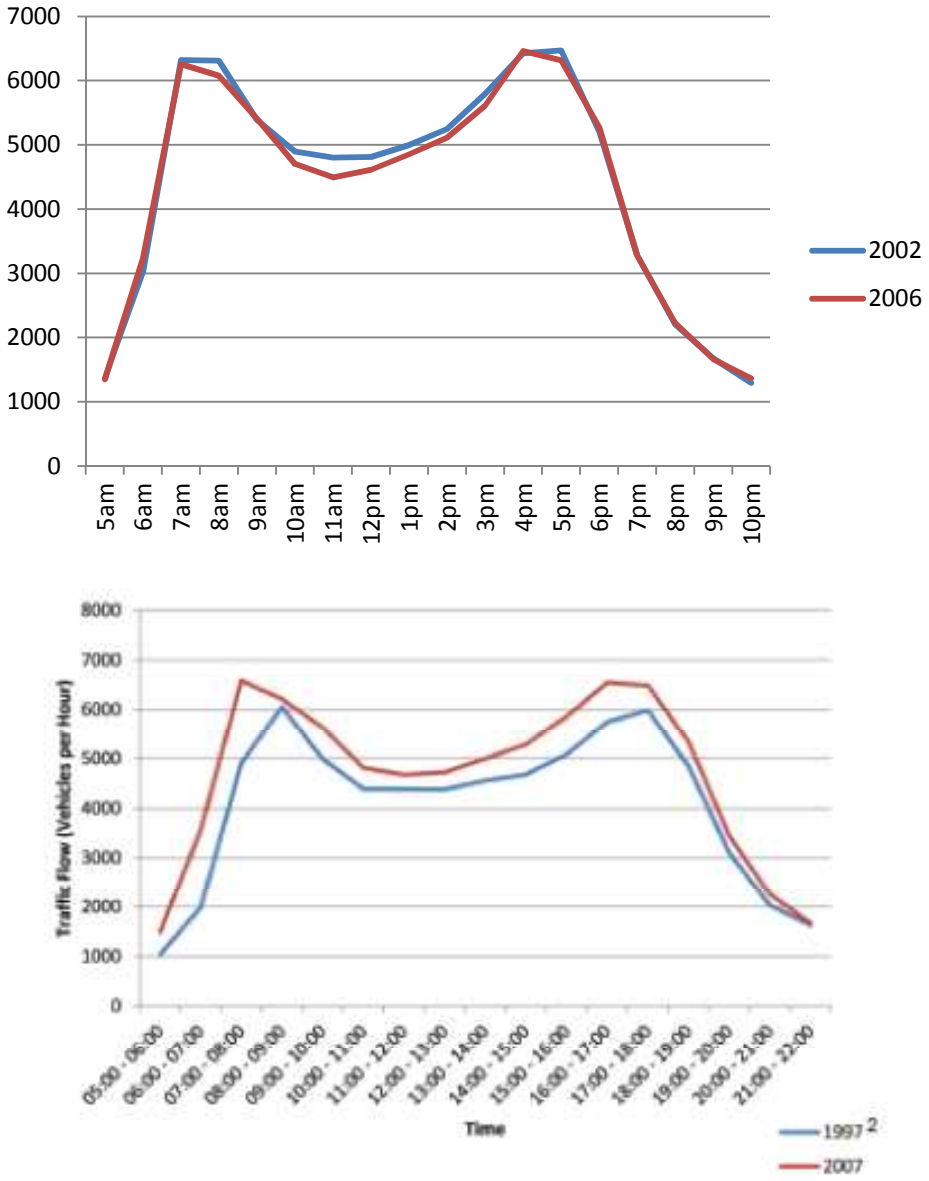

Figure 3 Two different views of the same dataset achieved by preferentially selecting different comparison years

Even were we to accept the validity of the preferentially selected data, the consultation's Figure 5 uses data points that are averaged from over an entire hour. They do not therefore give a wholly accurate impression of fact. From the data presented[6] to Friends of the Earth Cymru, it would be fair to say that "Figure 5 shows that the volume of traffic experienced in 1997 during the morning and afternoon peak traffic ("rush hour") is now experienced, and even exceeded, **for one extra hour in the morning and afternoon".** The use of the phrase "over much longer periods" is a subjective statement that would lead the lay observer to conclusions that are unsupported by the evidence.

[6] ibid

The statement:

> "It is also important to note that slow and congested traffic can result in higher CO2 emissions than free-flowing traffic".

needs to be challenged. The University of California Transportation Center has demonstrated that emissions are relatively insensitive to speed from 40-60mph (Figure 4)[7] but are lowest at about 45mph. A similar emissions profile is available in a report for the European Environment Agency[8].

FIGURE 6

Possible use of traffic operation strategies in reducing on-road CO_2 emissions

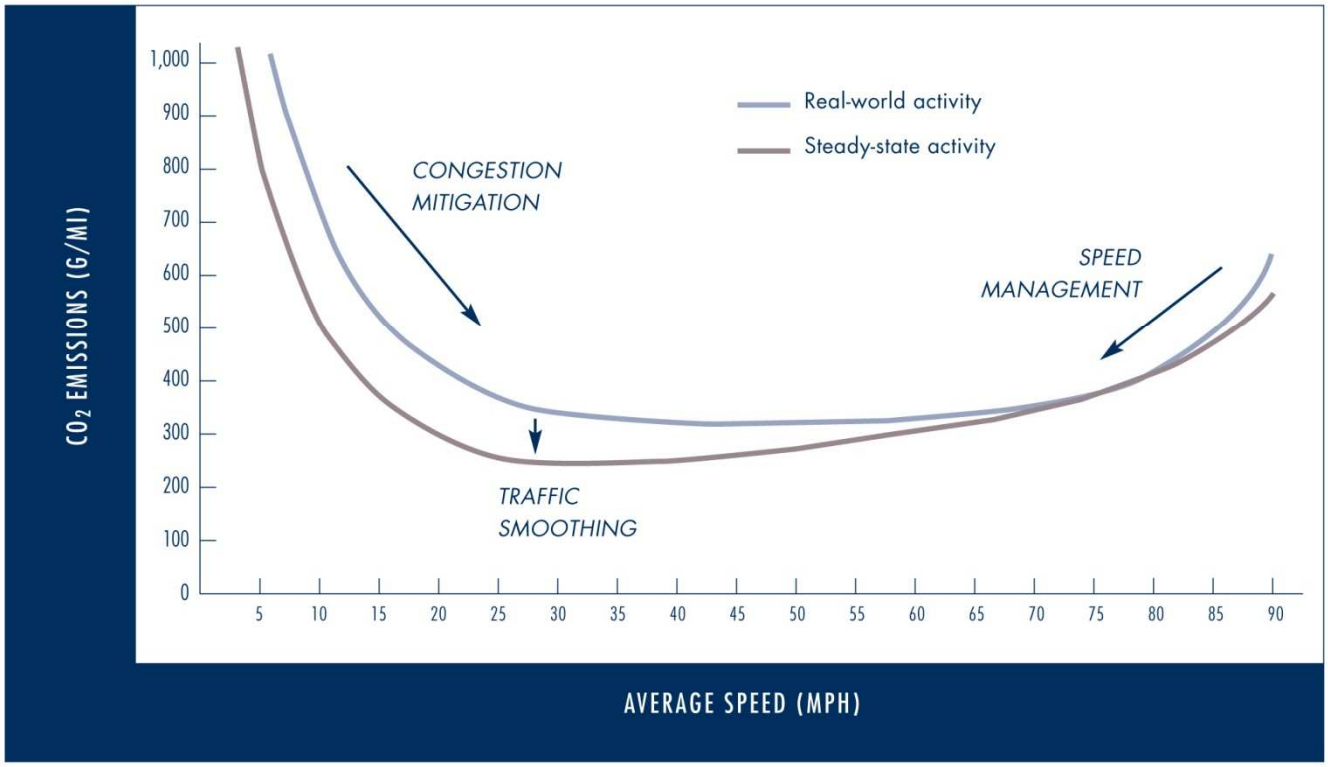

Figure 4 Graph showing carbon dioxide emissions at different speeds (grams per mile)

In particular, we would direct attention to the conclusion of this research that notes:

> "If moderate congestion brings average speeds down from a freeflow speed of about 65 mph to a slower speed of 45 to 50 mph, this moderate congestion can actually lower CO2 emissions. If relieving congestion increases average traffic speed to the free-flow level, CO2 emission levels will go up. Extremely high speeds beyond 65 mph can cause an adverse effect on CO2 emissions. If these excessive speeds can be controlled, there will be not only direct safety benefits but also indirect benefits of CO2 reduction"[9].

[7] University of California Transportation Center, 2009, *Traffic congestion and greenhouse gases*
[8] Mellios et al., 2011, *Projection of CO2 emissions from road transport*, p.15
[9] Barth and Boriboonsomsin, 2010, *Real-world carbon dioxide impacts of traffic congestion*

So it is only below about 45mph that congestion starts to increase CO2 emissions, and emissions at 30mph are about the same as those at 70mph. In fact, **emissions are reduced as a result of congestion** where it brings average speeds down to as low as 45mph. This brings one of the central tenets of the consultation – that any reduction in congestion contributes to a net reduction in CO2 emissions – into disrepute. This has a further important bearing on the conclusions reached by WelTAG, which do not appear to be based on empirical evidence.

In any case, the statement "slow and congested traffic can result in higher CO2 emissions than free-flowing traffic" is meaningless in the context of this document because no robust average speed measurements have been provided. The document should also, for objectivity, note that "free-flowing traffic can result in higher CO2 emissions than slow and congested traffic".

Finally on page 9:

> "There is a mixture of local and long distance traffic using the motorway. This causes problems, as vehicles move between lanes to enter and exit the motorway".

Without evidence to support the contention that this is a particular problem for the area under discussion, this statement is also meaningless.

The information provided on page 10 is irrelevant because no comparison is made with any other stretch of motorway. Is 40% of journeys 20 miles or less an unusual figure for Wales? We have no way of knowing, and consequently this pie chart and the accompanying information are redundant. Friends of the Earth Cymru also note that the information comes from 2005 and is therefore at least six years out of date.

Certain statements on page 10 are also unsubstantiated and subjective. For example:

> "During peak periods, traffic flows exceed 80% of capacity along some stretches. It is generally accepted that once hourly traffic flows reach about 80%, some operational problems can be expected. The more congested road conditions become, the greater the risk of incidents and accidents occurring. Once flows reach above 90%, traffic can expect severe operational problems over longer periods".

No information is provided in support of any of these contentions.

> "Approximately 40% of journeys made along the M4 between Magor and Castleton involve trips less than 20 miles. This contributes to a tension between people making local and longer distance journeys".

How does this 'tension' manifest itself? Empirical evidence is needed, not unsupported contentions.

> "Both Cardiff and Newport have ambitious regeneration strategies whilst Monmouthshire has a number of developments proposed in the vicinity of Junction 23a of the M4. Access to redevelopment sites could be hampered by congestion on the M4 motorway".

We would note that even on a flawed baseline assumption of traffic increase, Figure 7 of the consultation predicts traffic flows around junction 23a of the M4 to be less than 70% by 2016. It is difficult to see how this

would impact directly on proposed developments at that location given the earlier statement that it is only when traffic flows reach 80% of capacity that "some operational problems can be expected".

Furthermore, the approach taken in this section harks back to a 'predict and provide' model of road development which has been proven time and time again[10,11,12] to increase traffic with no long-term congestion benefit, and which was described as having had its 'formal demise' as far back as 1998[13]. The consultation acknowledges this problem of 'predict and provide' on page 22:

> "However, traffic congestion will not simply disappear as a result of capacity increase. **This is because the development of new or up-graded, convenient and reliable roads tends to encourage more people on to them.** This results in additional vehicles using additional road capacity (not a stable volume of vehicles using more / emptier roads)".

In relation to Figure 7, we have serious concerns over the modeling presented in the consultation. For example, traffic flows westbound between junctions 28 and 29 – labeled in the consultation as being beyond capacity by 2016 – are predicted to be as much as 18% greater than they were in 2005. Yet the same model predicts that 2% fewer vehicles will be using the adjacent westbound section of motorway (junctions 27 to 28).

Once more, most of the predictions for traffic appear to follow the baseline assumption, namely: "the overall change for the period is an increase"… and that the 'increase' in traffic continues through 2016. As we have consistently shown, this underpinning assumption is totally flawed. Even the consultation acknowledges that

> "the forecast traffic demand used in the M4CEM appraisals is likely to be high compared to current traffic growth predictions"[14].

Figure 7 can therefore be disregarded because any model is only as good as the data going in.

An introduction to the problems - resilience

There are several assertions that are not substantiated with evidence on page 12:

> "Adverse weather conditions can cause disruption to the transport network. This problem is exacerbated given the lack of capacity on alternative routes to the M4".

We fail to see how adverse weather conditions might be a greater relative problem in this part of Wales as opposed to any other.

[10] Department for Transport, 1994, *Trunk roads and the generation of traffic*: "In particular, the studies show that increases in traffic counted on improved roads are, in general, not offset by equivalent reductions in traffic counted on the unimproved alternative routes".
[11] Noland, 2000, *Induced travel: A review of recent literature and the implications for transportation and environmental policy*
[12] Department for Transport, 2003, *TAG Unit 1.1: Introduction to transport analysis*
[13] Cairns, 1998, *Formal demise of 'predict and provide'*
[14] Consultation document, page 57

> "Significant maintenance works are needed at the Brynglas Tunnels in order to satisfy an EU Directive and meet current standards by 2014 but is subject to availability of finance. This maintenance work is likely to take months, if not years to complete and is required independently of the M4 CEM Programme".

Again, we fail to see the significance of this point in the current context. If work needs to be done in order to satisfy EU legislation, then that is a separate issue from the case in point.

> "There is a perceived lack of information sharing on the road network to drivers planning to use the M4 but who have not yet joined it. Enabling them to avoid using the M4 during incidents and delays".

This seems to indicate that plenty of information is available but that there is a perception that it is lacking. An information-raising campaign is the best way to resolve this, not to build additional highway infrastructure.

> "Temporary decreases in highway capacity due to incidents or essential roadworks result in significant delays and adverse effects on local roads being used as diversions".

This is the case for many busy roads in Wales. Again, we refer to the flawed underlying assumption of this whole consultation that traffic volumes are increasing.

An introduction to the problems - safety

The Welsh Government's consultants have kindly provided Friends of the Earth Cymru with crash data from 2009 and 2010. These reveal that there were **substantially fewer crashes in 2009 and 2010 than in any other year** for which information is available (i.e. from 2002 to 2008). Compared with the next-least number of crashes (in 2002), there were at least 31% fewer crashes in 2009 and 2010. Dividing the crashes by the miles travelled along the relevant stretch of motorway in 2002-2008 (to provide an average over the entire period), our calculations reveal the crash statistics in Table 1.

Table 1 Accident rate compared to UK motorway average (2009-2010)

	(%)
J28-J29	35.7
J27-J28	51.0
J26-J27	45.0
J25a-J26	93.9
J24-J25	75.3
J23a-J24	46.9
J23-J24	16.7

Using the most recent crash statistics we have shown that **the junctions under examination are substantially safer than the UK motorway average**, and in some cases stunningly so. This is partially conceded in the Appendix to the consultation document[15]. The safety case is therefore unproven.

An introduction to the problems – sustainable development

The consultation claims that Figure 10:

> "shows how traffic congestion adversely impacts on the local environment, community and economy around Newport".

Figure 10 does nothing of the sort. It is a map of noise levels associated mainly with trunk roads. There is no relation to congestion at all, nor any measure of how congestion might add or subtract from ambient noise. Because of this obvious and fundamental failure to tie in congestion to road noise – and noting from the consultation's discredited Figure 5 that the volume of traffic experienced in 1997 during the morning and afternoon peak traffic ("rush hour") is now experienced, and even exceeded, **for one extra hour in the morning and afternoon** – it seems incongruous in the extreme to somehow be extending the 'impact' of congestion to the local environment, community and economy through a noise map.

The use of the misnomer "Figure 10: Sustainable Development" is the cherry on the cake. It is difficult to see how a noise map could in any shape or form be the sole indicator of sustainable development.

Transport related problems

The consultation appears to be steering respondents into a wholly inappropriate direction. So, for example, we have no way of knowing what proportion of respondents told the Welsh Government that "the current accident rates… are higher than average for UK motorways".

Many of the points raised, and against which the standard for responses will presumably be measured, are subjective or have been discredited by Friends of the Earth Cymru.

Goals of the M4 CEM Programme

There is no critical analysis of the Goals of the Programme. For example, there is no mention of 'increased traffic using the road network around Newport than would otherwise be the case', which is a known consequence of 'predict and provide' transport planning. Friends of the Earth Cymru considers that this section is simply a list of factors that people are encouraged to support, rather than a fair appraisal of positive and negative consequences of the Programme.

How we will tackle the transport related problems and achieve our goals

[15] Page 56: "However, in 2010, the first complete calendar year with a 50 mph speed limit and average speed cameras, there were 40 personal injury accidents on the M4 between Magor and Castleton. This compares to an average of 74 personal injury accidents per year for the period 2003-2007.

The consultation states:

> "However, given the range and complexity of the challenges arising within the M4 Corridor between Magor and Castleton, and forecasts about how these problems will develop over time…"

without providing any forecasts other than the already discredited Figure 7.

Measures already being delivered or programmed within the near future, to ease the flow

At this late stage the consultation finally acknowledges that work already undertaken and under way:

> "combine to give us a starting point, or base-line picture, of the situation on the M4".

This is a startling admission that measures that will have a material and significant impact on the flow of traffic in the area under consideration, such as variable speed limits, should form part of the "base-line picture of the situation on the M4". The logical conclusion to draw is that this consultation is premature and should await monitoring that assesses the effect of these measures.

Developing strategic approaches to achieving the M4 CEM goals

The consultation presents further highway development as a *fait accompli* on economic competitiveness grounds:

> To enable the sustained productivity and competitiveness of Wales, and the South East Wales region in particular, highway infrastructure must also be developed"

Again, no evidence has been provided to sustain this contention, nor to suggest that current highway infrastructure is harming economic competitiveness. We would like to stress that anecdotal evidence is no substitute for empirical evidence.

Public transport measures

The consultation suggests that indicative improvements to public transport could reduce traffic volume on the M4 by up to 3%. It would be helpful to view the methodology for deriving this figure. We know that traffic volumes in Newport reduced by 7% from their peak in 2004 to 2010[16]. These potential improvements could lead to a total reduction in traffic volumes of 10% from the peak. Yet the consultation concludes:

> "This level of modal shift, while significant, means that the investment in public transport considered here could not alone achieve the goals of the M4 CEM Programme".

This does not appear to be borne out by the reality of falling traffic volumes – the rate of which could be further enhanced by acting on indicative plans to invest in public transport.

[16] 797,296,000 vehicle miles in 2004 down to 745,237,000 vehicle miles in 2010: http://www.dft.gov.uk/traffic-counts/area.php?region=Wales&la=Newport

Highway infrastructure measures

Friends of the Earth Cymru notes that the highway infrastructure options are measured against the 15 goals set out on page 20. Many of the goals – notably those relating to traffic management – have a high degree of overlap, and we are concerned that the goals were structured in this way specifically to make infrastructure schemes appear more compelling under the cost-benefit exercise that has been undertaken.

For example, it would appear that goals 4, 12 and 13 could be combined into one indicator with no loss. Likewise, it is difficult to determine what substantively differentiates goals 1, 2, 5 and 11 (whatever the meaning of 'travel experience'). Presumably rationalising the goals in this way would throw an entirely different complexion on the conclusions that respondents to this consultation might reach.

We regret not having an input into the process of determining the goals of the consultation because we fear that conclusions that are reached on the basis of clearly overlapping goals – when that multiplication is used to crowd out other legitimate aspirations – could be judged invalid.

A final but crucial point is the flawed nature of WelTAG, which puts high value on interventions that increase car use. The inevitable consequence of using WelTAG is that it produces results that are skewed in favour of new highway infrastructure schemes. It is highly regrettable that the Welsh Government has still not acted on the National Assembly for Wales Sustainability Committee's recommendation that:

> "the Welsh Assembly Government reviews the use of WelTAG as a matter of urgency to ensure that carbon reduction is the main objective when assessing projects"[17].

Frequently asked questions

The consultation suggests there will be an increase in traffic of 32% by 2031. No information is provided on the methodology used. Friends of the Earth Cymru is concerned that it falls foul of the basic assumption error prevalent throughout the document – an 'inevitable' rise in traffic volume.

There is no reference for either the population growth forecast or the average number of cars per household now or in 2033.

No reference is provided to support the 'well acknowledged' contention that "there are positive links between investment in transport and economic development". Additionally, no attempt has been made to discriminate between road investment and all transport investment.

[17] National Assembly for Wales Sustainability Committee, October 2010, *Inquiry into carbon reduction in Wales*

Conclusions

What should be done in order to achieve the Welsh Government's stated aims?

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

The obvious answer is: continued investment in public transport, active transport and demand management – particularly given that 40% of the journeys on this part of the M4 are less than 40 miles. Friends of the Earth Cymru has conclusively demonstrated that traffic volumes have decreased since 2007 in south Wales and since 2004 in Newport. Traffic volumes have been on a decreasing trend – and this conclusion is definitive even before the results are known of the variable speed limits.

If a portion of the finance that would be needed by even the cheapest of the schemes under consultation (£45m) were spent on personalised travel planning for the Newport area, substantially greater benefit could accrue at a fraction of the cost[18].

Responses to consultations can only ever be as good as the material provided. This consultation suffers from multiple flaws:

- An underlying assumption that there has been and will continue to be an increase in traffic volumes on the M4 when in fact they have declined since 2004 or 2007, depending on the measure used
- Poor use of data from which consultees could draw erroneous conclusions
- Erroneous presentation of data
- Preferential selection of data that could skew consultees' responses in favour of new infrastructure
- A proliferation of unsubstantiated and misleading statements
- Misplaced faith in the now discredited 'predict and provide' method of transport planning
- Failure to understand 'sustainable development' even as consultation is ongoing for a Bill to make sustainable development the central organising principle of government

In combination, the flaws are fatal for this consultation. It must be withdrawn.

[18] Sustrans, 2005, *Personalised travel planning: Evaluation of 14 pilots part funded by DfT*