

M4 Junction 3-12 Smart Motorway (TR 010019)

Written representation from Reading Friends of the Earth for Deadline VII

From: John Booth - interested party Reading Friends of the Earth -
Registration identification number 10031717.

Reading Friends of the Earth is a voluntary group of residents of the 'Greater Reading' area. We campaign on environmental issues. We are a separate body to Friends of the Earth England Wales and Northern Ireland.

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1/. Environment Hearings – 9th and 10th February 2016

(Numbered as in "Issue specific hearing agenda - environment_2")

Section A: Noise and Vibration

Question 3: Enhanced Noise Mitigation Study (ENMS)

I supported Dr. Jorgensen's comment that the area close to Paddick Drive, Lower Earley, should be considered for noise screening. I said there is a BMX track and a newly-planted Community Orchard very close to the M4 at that location.

I also asked how much the additional marginal cost of improved standards of noise screening (e.g. 3.5 m instead of 2.5 m) would cost in context of the Smart M4 scheme as a whole.

Section B: Visual Impact

Question 4i: Choice of LEDs

I expressed disappointment at HE's assertion that they would use 'neutral white' LEDs. These have quite high blue spectral content.

In my opinion the technology is evolving rapidly and the power consumption differential is said to be down to around 3%. I urged HE to reconsider and re-assess the option of 'warm white' LEDs.

There is growing literature on the subject, in addition to my comments at Deadline IV, including:

- A US Government Report
<http://www1.eere.energy.gov/buildings/ssl/pdfs/true-colors.pdf>
- And a paper from the Campaign for Dark Skies "Modelling Light Pollution for Highways Agency Environmental Policy"
<http://www.noao.edu/education/files/Modelling%20Light%20Pollution%20for%20Highways%20Agency%20Environmental%20Policy.pdf> which concluded:

- “The increasing use of blue rich LED lighting should be discouraged.” and
- “Much lower colour temperature, 3000K, is recommended by the International Dark Sky Association.”

2/. Comments on HE response to WR3 RfOE M4 J3 12 PINS at Deadline VI

Section 1: Benefits of Lower Speeds

I was interested to see it expressed (HE 1.1.13) that possible speed restrictions (e.g. to 50 mph or 60 mph instead of 70 mph) would have little effect on traffic flows or emissions during peak hours because maximum speeds were expected to be restricted to this sort of level during peak hours to manage congestion.

At 1.1.4 HE state: “In relation to air quality, lower speed limits on the M4 could lead to a reduction in emissions of NO_x, particulates and CO₂. However, as noted below, this could also lead to displacement of traffic onto other routes and an associated increase in emissions of these pollutants along those roads and at nearby sensitive receptors.”

- Presumably outside peak hours these ‘other routes’ would be less congested than at peak hours, so problems of congestion and pollution would be less severe than at peak hours, so there might well be a net benefit.

I note that at 1.1.10 HE state: “it is concluded that imposing speed limits on the M4 would not result in substantial reductions in car trips.” Meaning no substantial modal shift would be expected.

Section 2: Climate Change

In comments 2.2.1 and 2.2.2 HE refer to the requirements of the NPS. As the Panel has pointed out (in Section E Question 11 g) and h) of the February Environmental Hearing Questions) HE also has environmental duties under the terms of its licence.

I accept the HE criticism at 2.5.1 that my estimate of CO₂ emissions per vehicle at 2.5 was not appropriate. It was based on a misunderstanding of the areas modelled.

However I maintain that the scale and growth of road transport emissions in the ‘wider air quality area’ (tabulated in 2.3) is significant and unacceptable.

Section 3: Impact on Journey Times

In 3.1 of my input I said: “The issue is whether the proposed infrastructure can cope with maximum projected traffic growth both on and off the motorway, or whether a different strategy would be better.”

The figures provided by HE at 3.3.1 for ‘Modelled Trips’ and ‘Total Journey Time’, while correct in themselves, do not relate to the same sets of journeys and so cannot be used to calculate average journey times – the purpose for which I had requested data at 3.3.

HE have provided the following outputs of modelling of Time, Distance, Number of Vehicles and Speed for the wider network (Tables A-30 and A-5 of the Traffic Forecasting Report) and I have calculated the Average Trip Time from these figures.

Modelled performance for wider network in peak hour:

AM2	2009 Base	2022 DS (Core)	2037 DS (Core)	2037 DS (High)
Total Time (h)	251600	305600	368100	406300
Total Distance (km)	13700200	16251200	18507400	N/A
Number of Vehicles	419295	486814	548062	592698
Ave. Speed (km/h)	54.5	53.2	50.3	N/A
Ave. Trip Time (Mins)	36.0	37.7	40.3	41.1

In 3.1.1 HE said “It is to be noted that in comparison to the typical improvements in journey time along the extent of the M4 of 5-11%, the changes in journey times on the local road network are considerably less.”

The tabulated results of modelling for morning peak hour flows bear this out:

- As the number of vehicle movements rises average speed falls and average trip duration increases.
- While the effect is modest in 2022 (extra capacity almost copes with 16% increased traffic volume) by 2037 average trip time is 4 to 5 minutes (12% to 14%) longer than in 2009.

Network performance as modelled will be noticeably worse in 2037 than in 2009.

If, as some respondents fear, there will be far more demand for travel than modelled, then even higher journey times will be experienced in 2037.

The ‘Smart M4’ does appear to increase capacity, but if journey times in the wider network are not to increase then either traffic volumes must be reduced below those modelled (presumably affecting the business case) or additional capacity must be provided (at further cost, also affecting the business case).

The 2037 scenario showing longer journey times and higher CO2 emissions is not an attractive vision for the future, even if air quality and noise objectives can be met.
