

From: Tony Johnson [REDACTED]
Sent: 17 November 2015 10:41
To: M4 Junction 3-12 Smart Motorway
Subject: Statements made at the Hearing on 16th November 2015

Dear Inspectors,

At the hearing at Wycliffe Baptist Church, chaired by Ms Wendy Burden & supported by Mr Michael Ebert, & Ms Lorna Walker, I was positively impressed with the conduct of the meeting and the way in which the committee took comments from members of the public & their elected & un-elected representatives.

It was also instructive to listen to the responses on behalf of the applicant. Most of which I felt to be helpful in clarifying matters.

However, there were a couple of clarifications which struck me as incongruous at the time, but as this is the first of this type of meeting I've attended & I have little or no understanding of the process, I felt it better to write in to you prior to the deadline which I understand to be 26th November.

The first clarification was the reference to sound levels, in which the speaker called upon by Mr Whales commented that a doubling in sound level was 3dB. While it is true that a doubling of power raises the level expressed in decibels by 3dB, that can be misleading in measuring sound pressure level, where a doubling of the sound pressure level corresponds with 6dB. Please see <https://en.wikipedia.org/wiki/Decibel#Acoustics> and https://en.wikipedia.org/wiki/Sound_pressure for a far better reasoned explanation that I would be able to convey in an email.

The second clarification was explaining the effect of the increase in traffic flow on the 4 carriageways at the motorway junctions. I believe I heard the person clarifying the effect as saying that it would be neutral at the junctions (or words to that effect). This clarification struck me as being odd - perhaps to the point of error even. If one considers increasing the flow of water in a pipe by increasing the pipe diameter, then one will require more water at the entry and exit points to keep the water in the pipe flowing at the desired increased rate in terms of litres per second (analogous to vehicles per hour). If I heard & understood the clarifier correctly, then I fear that his clarification may be tantamount to balderdash.

I was also interested to hear the comment of Mr Norman Jorgensen and Dr Cockes in connection with high noise levels at Lower Earley. As a resident of Winnersh, I would hope that the committee will be aware of the situation slightly closer to London, in an area where a new development has been given Outline Planning Permission by Wokingham Borough Council (O/2006/8687 - Hatch Farm Dairies).

In case it may be of any interest to the members of the panel, as that planning application has now moved forward to Reserved Matters stage, I have been measuring & recording Noise Levels at various points alongside the M4 from the overpass at King Street Lane in Winnersh to a location close to the junction of the A329 and Lower Earley Way.

In answer to the Chairperson's question as to whether the noise from the motorway is continuous, I can state from personal observation that this is not quite the case. At peak times - for example 6:30 in the morning when traffic is still flowing freely at the national speed

limits, it is possible to see fluctuations in noise levels quite easily at distances of 50m to 150m from the carriageway. Having also recorded measurements at 4am on a Saturday morning, those fluctuations become even more clear as individual vehicles go by.

Although I've only been measuring the levels for a few days, I can already make two other observations.

Firstly, that the noise from the eastbound carriageway is significantly higher (at least 3dB) than from the westbound carriageway. My initial speculation is that this may be related to the eastbound carriageway being uphill and the westbound correspondingly downhill.

The second observation is that the noise does not seem to decay in a way which is consistent with the spherical (technically hemispherical) spreading losses that I had originally expected. Instead, it seems (subjectively) to correspond more closely to cylindrical spreading. What this means in simple terms is that the noise does not die down with distance from the motorway as swiftly as expected. While this may be related to the "amphitheatre" matter that Mr Jorgensen mentioned for Lower Earley, I'm doubtful because instead of rising up from the motorway, the land at Hatch Farm Dairies is below the level of the M4 & decreases in height the further one walks away from the motorway.

I do however support the comments made by various people in relation to the sound levels from the M4 varying with the weather ! If the M4 carriageway is wet, and there is a southwesterly breeze / wind, along with cloud cover & type being "just right", the noise level at our house some 250 - 300m from the carriageway is very very much louder than it can otherwise be on good days.

To give the committee some idea of the sound levels at or near our house, I've compared the figures with those which I noted during last night's hearing

Here are the figures that I've measured in a downstairs extension at the front of the house (ie. opposite direction to the M4) but with a side door which opens in a direction directly facing the motorway.

Back Door closed (A weighting, Fast)	Measurement device approx 2.5 - 3m from door	33dB SPL
Back Door open (A weighting, Fast)	Measurement device approx 2.5 - 3m from door M4 dry	55dB SPL
Back Door open 62dB SPL (A weighting, Fast)	Measurement device approx 1cm inside door aperture M4 dry	

These compare this with sound levels measured during the hearing

Quiet - nobody speaking below	<44dB SPL SPL (A weighting, Fast) see note 1
Ms Burden speaking	55dB up to 60db
Mr Moneylaws speaking	60dB up to 63dB
Mr Enrico Petruccio speaking	62dB to 67dB
Mr Whales speaking	63dB to 68dB

Note 1 the sound level meter takes around 4 or 5 seconds on Fast weighting to reach a steady state level. By nature of a hearing, there was never a silence which was that long and thus I have recorded the lowest level I saw on screen.

Note 2 I have many more data points than those given in the example above. I will be happy to share these prior to the 26th in the form of photos of my notebook. I will be happy to make this data more accessible by typing up my notes after Nov 27th. I'm sorry not to be able to give more time to matters associated with your hearing, but the closing date for comments on the Hatch Farm Dairies Application is 27th November and this is a matter that I have been working on quite intensively since April this year.

Having lived in our house since 1987, sleeping in a bedroom which faces the M4 and usually with the window open, one has grown used to the unceasing roar coming from the motorway. It is sometimes possible to tell the hour at night just from the sound level alone. However, in monetising the health effects, Mr Moneylaws may wish to take into account the effect which long term exposure to 55dB or higher sound levels has had on my hearing. I now have a permanent whistle form of tinnitus could with approx 30dB hearing loss at 8kHz. The ENT department has offered me a hearing aid. As more & more people are exposed to higher and higher levels, so the cost to the NHS will rise, as will the social costs due to interrupted or disturbed sleep, along with the consequent impact on business the following day.

Therefore, and in support of the noise reducing surfaces, sound fences and noise reducing bunds, please will you do all that you can ? Every decibel helps - and will prevent the health costs being passed on to increasing numbers among our future generations.

Yours Faithfully
Tony

Tony Johnson
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[REDACTED]
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