Dr Norman Jorgensen

WRITTEN REPRESENTATION

HIGHWAYS ENGLAND'S RESPONSE

1. ***Further Noise Protection for Earley and Lower Earley*** *- Thank you for your response to the representations I made at deadline IV requesting further noise protection for the properties in Earley and Lower Earley. I am pleased to note that as a result of the Enhanced Noise Mitigation Study there is now a proposal to erect 2.5m high and approximately 2km long high performance absorptive barriers in the vicinity of Lower Earley closest to the M4 designated EM8. While I very much welcome this proposed addition to the scheme, I wonder why it is proposed to erect only a 2.5 metre high barrier when the proposal is to erect 3.5m high barriers at Sindlesham, Winnersh and Emmbrook? Also why is it proposed to stop the barrier before passing all houses in Lower Earley in the Adwell Drive, Paddick Drive and Barn Croft Drive estates. It would appear to make sense to extend the barrier by a few hundred metres Eastwards. It is also good that this barrier is to be absorptive so that noise is not reflected toward Arborfield and Newlands.*

Highways England Comment

1.1 The enhanced noise mitigation study was based on a robust quantitative assessment (the methodology for which was agreed with Highways England's principal noise adviser). As described in the Enhanced Noise Mitigation Study Report (Ref 514451-MUH-00-ZZ-RP-EN-400158), this assessment is a three step process comprising i) calculation of the perceptible noise reductions achieved through enhanced mitigation, ii) a cost/benefit analysis (in terms of health benefits related to noise reductions against mitigation costs), and iii) professional judgment where the combination of i) and ii) does not provide an obvious conclusion.

1.2 The Lower Earley area was included in the enhanced noise mitigation study (reference EM8), and was treated in exactly the same manner as all other areas in the study. The outcome was that a new 2.5 metre high barrier would be provided. The length of the new barrier is 2,126 metres. As noted, Highways England has also made a commitment that the barrier will be of the absorptive type.

1.3 The outcomes for other locations in the study area (e.g. Sindlesham and Winnersh) may be different than that for this area, as each outcome is based on the result of the three part process described above, which takes into account the estimated noise reductions, the number of properties benefitting and the associated health benefits, and the costs of the barrier or barriers. Consequently, just because a 3.5m barrier is appropriate in one location, such as Sindlesham, does not mean that it should be used in others, like that described in the representation.

1.4 The way a noise barrier works is quite complex, the noise reduction provided depending on a number of factors in addition to the height of the barrier. These include the distance from the barrier to the receptor and the noise contributions of other roads in the locality. The further away the receptor is from the noise barrier, the smaller is the noise reduction provided by the noise barrier.

1.5 The locations Dr Jorgensen refers to (Adwell Drive, Paddick Drive, and Barn Croft) are over 300 metres from the M4 motorway and the location of the requested extended barrier. Additionally, the B3270 (which makes a noise contribution at these locations) lies close to these locations, whilst the M4 motorway is further away. For

this reason, expected noise reductions at these locations resulting from the noise barrier extension would be minimal. Consequently, no such extension is proposed in this location.

2. ***Further Noise Protection for Sindlesham and Winnersh*** *- In the response to my submission regarding Sindlesham I am pleased to note that it is proposed to erect 3.5m (2m on the bridges) barriers at Sindlesham and Winnersh at EM9 and EM10.*

Highways England Comment

2.1 Highways England welcomes Dr Jorgensen's support for the proposed enhanced mitigation at Sindlesham and Winnersh.

3. ***Further Noise Protection for Emmbrook*** *- In the response to my submission of streets identified by the Councillor for Emmbrook Ward, UllaKarin Clark, as being most adversely affected by noise I am pleased that Emmbrook was added to the Enhanced Noise Mitigation Study and that it is proposed to erect a 3.5m high barrier at EM11. It is also good that it is proposed that the barrier on the Winnersh side of the M4 is to be absorptive so that noise is not reflected towards Wokingham. Councillor UllaKarin Clark requests that you give further consideration to extending the Emmbrook barrier EM11 by several hundred metres Eastwards to give protection to further properties within your 600m zone including Old Forest Road and the roads off it (eg Lowther Road, Toutley Close, Commons Road, Beckford Close, Bredon Road, Elmley Close, Ashton Road, Defford Close, Overbury Avenue, Toutley Road, Summerfield Close and Emmbrook Vale). The North Wokingham Strategic Development location planned for this area will result in many hundred more houses being built. Also, the M4 is elevated at this point so noise carries further than in some other locations.*

Highways England Comment

3.1 The locations Dr Jorgensen refers to (on behalf of Cllr. Ulla Karin Clark) are 300 metres and more from the M4 motorway and the location of the requested extended barrier. For this reason, expected noise reductions at these locations resulting from the noise barrier extension would be minimal. However, these locations will, of course, benefit from the noise reductions due to the provision of a low noise surface along the complete extent of the Scheme. It is predicted (see Sheet 5 of Drawing 3 that accompanies the Enhanced Noise Mitigation Study) that residential properties in this area will benefit from noise reductions of 2 to 4 dB as a result of the implementation of the Scheme.

3.2 The representation suggests that as the M4 is elevated in this area, noise carries further than in other locations. The calculation of noise levels is based on a complex computer model of the Scheme, which includes a detailed digital ground model. The elevated nature of the M4 in this area (including where the motorway is on bridges) is included in this model and the noise calculations take this into account, in coming to the conclusion that the effect of the Scheme in this area is minor beneficial, with noise reductions of 2 to 4 dB as a result of the implementation of the Scheme (see Sheet 5 of Drawing 3 that accompanies the Enhanced Noise Mitigation Study).

3.3 With respect to proposed new housing, the planning authority and the developer, prior to the grant of the planning consent, are required to consider the noise environment of the development area and the existing motorway will form part of this assessment.

3.4 The Scheme will improve the general noise climate in this area, and the enhanced noise mitigation further improves this position. There will be minor/moderate noise decreases (compared to the situation in 2022 without the Scheme) as a result of the implementation of the Scheme.

3.5 Consequently, should the Scheme proceed, the works will contribute to noise mitigation of the proposed residential areas. This is notwithstanding the fact that it is for the developer to assess and to ensure that appropriate mitigation is provided to enable acceptable external and internal noise levels within the area of development.

4. ***Road Safety*** *- On reading about the plans for the scheme, a number of residents have contacted me to raise concerns about the potential for serious accidents between vehicles travelling at 70mph and vehicles that have broken down in lane 1 at times of light traffic. As currently planned it will require either a call from someone who has broken down, a patrol happening to pass the scene or a control room person happening to notice a breakdown using the CCTV cameras to initiate the switching on of warning signs to alert other drivers to the danger. Even accepting the 2 minute forecast for action (and it could be much longer), this seems to introduce a risk that could be avoided. Is it not possible to have software scanning the CCTV images to detect stationary vehicles at quiet traffic times and to bring that image onto screen and alert the control room operators? An alternative would be to close lane 1 when the traffic volumes can readily be accommodated by lanes 2 to 4 (say from 10pm to 5am). I appreciate this could confuse drivers as indicated by Highways England, however most frequent motorway users are now used to lane closed/open instructions on overhead gantries on for example the M42. Please will you set-out the assessment of relative risk for these options?*

Highways England Comment

4.1 It is important to note that the requirement for smart motorways is to confirm that safety will be made 'no worse' than the baseline by the introduction of the Scheme as referenced in the ALR generic safety report, section 4.1.2 Road user safety objective (http://assets.highways.gov.uk/specialist-information/knowledge-compendium/2011-13-knowledge-programme/MM-ALR%20generic%20safety%20report%20final.pdf). Despite the Scheme being aimed primarily at relieving congestion, rather than improving safety, there are predicted improvements in safety as a result of the Scheme.

4.2 The M25 J23-27 Twelve Month Evaluation Report was made publically available on 1 February 2016, which provides an overview of the output from the M25 J23-27 Scheme following one year of operation. Only one-year of reporting is available from the M25 J23-27 scheme and conclusive results will not be available until three years of safety data has been collated. However, data relating to the first 12 months of ALR show that the M25 scheme is safe. The performance of ALR will continue to be monitored over the coming years as the statistical significance of the results continues to increase.

4.3 Although there is an increase in the risk of live lane stoppages as a result of the implementation of ALR, Highways England will impose control measures to mitigate against this risk, such as the implementation of a controlled environment through lane closures, Variable Mandatory Speed Limits and Closed Circuit Television ("CCTV"). The type of scanning software which is suggested in the representation is not available to support these control measures. However, the use of the control measures noted will enable the faster identification of incidents than is currently the case on the M4 motorway. The provision of full CCTV coverage, with operators working within

the Regional Control Centre at all times will enable significantly faster and more accurate identification of incident locations. Highways England has worked closely with emergency service providers in relation to developing protocols for responding to incidents on the Scheme. The representation suggests that lane 1 could be closed when traffic volumes are light. This would be akin to a traditional hard shoulder running ("HSR") scheme, whereby the hard shoulder is only used as a running lane during peak periods. However, an HSR scheme would be more costly, visually intrusive, resource intensive and would provide less journey time benefits than the design proposed for the Scheme.

4.4 The permanent conversion of the hard shoulder maximises the use of the space available, removes the risks introduced by the part time use of the hard shoulder and reduces the amount of information the road user has to assimilate from the overhead signs and signals. It also removes the need for the complex and resource intensive operating systems to "open" and "close" the hard shoulder, and reduces the incumbent maintenance requirements.

4.5 As the representation notes, although frequent drivers may be used to an HSR scheme operation on some sections of the network, the HSR schemes can be a source of confusion for drivers (whether frequent or infrequent users) and lead to the risk of misuse as witnessed on HSR schemes when the hard shoulder is closed.

4.6 The National Policy Statement for National Networks ("NN NPS") at section 2.23, states that the Government's wider policy is to bring forward improvements and enhancements to the existing Strategic Road Network. Enhancements to the existing national road network will include implementing "smart motorways to increase capacity and improve performance". Further, The NN NPS also explicitly acknowledges the implementation of ALR schemes in FN29, which notes that the hard shoulder is transformed into a permanent additional running lane. It is acknowledged that the original Smart Motorway design (the M42 Pilot – an HSR scheme) provides an alternative proposal, which would provide a greater reduction in risk (i.e. a greater level of safety) compared to the Scheme. However as noted above, there are a number of reasons why the ALR concept has been selected for the proposed scheme and not an HSR scheme.

4.7 With regard to setting out the assessment of the relative risk for these options, the Managed Motorways ALR Generic Safety report provides background information to explain why the ALR design became Highways England policy as the preferred operating solution to address congestion issues on the network. As noted above, there is a requirement to confirm that safety will be made 'no worse' than the baseline across all populations by the introduction of the Scheme (see ALR generic safety report, section 4.1.2 Road user safety objective).

5. ***Feeder Roads and Junctions*** *- At the Open Floor Hearing in Reading on 16 November I raised concerns about the effect of the M4 Smart Motorway scheme on junctions and local roads that feed the M4. I support increasing the capacity and flow of traffic on the M4 but there is little point in doing the work if the M4 is a car park at peak times or if junctions and feeder roads are stationary. Over this Winter such an issue has arisen in Wokingham Borough. Highways England has modified Junction 10 between the A329M and the M4 giving greater priority to traffic joining from the M4. While this has probably helped traffic joining from the M4 it has had a very adverse impact on traffic using the A329M to get from Reading, Woodley, Winnersh and Earley towards Bracknell and vice versa. There are now long queues on the A329M at peak times and local residents are greatly inconvenienced by the new traffic jams. There has also been a number of accidents as people got used to the new road layout*

and because the new layout now encourages lane jumping. Our MP John Redwood, Borough Councillor Pauline Jorgensen and many local residents have contacted Highways England regarding this, asking for a resolution. What are the plans to sort this specific issue and more widely for significant improvement of traffic flows on major local routes feeding the M4 at Junctions 10 and 11?

Highways England Comment

5.1 The M4 junction 10 is the exit for the A329(M) leading to Wokingham, Bracknell and Reading (east). December 2015 saw completion of an improvement scheme at junction 10 as part of the Pinch Point Programme. Changes to the layout of the junction have been implemented to ease congestion and improve traffic flows from the M4 onto the A329(M). The works involved:

5.1.1 widening the north and southbound slip roads from the M4 onto the A329(M) to allow for new two lane merges;

5.1.2 reducing both carriageways of the A329(M), where it crosses the M4, to one lane using road markings; and

5.1.3 amending the road markings on the link roads from the M4 eastbound carriageway to the A329(M) Wokingham bound carriageway to allow for two lanes.

5.2 A small reduction in average speeds on the A329(M) was anticipated, but not significant congestion. Highways England does expect a period of driver familiarisation where lane designations have changed. Typically, changes of this nature can take as long as six months before smooth operation returns.

5.3 Assessment of the junction's performance is continuing as drivers become accustomed to the new layout. The improvements Highways England has made are successfully reducing queues and associated safety risks on the M4 approaches to the junction, but drivers on the A329(M) appear to be experiencing problems during peak periods. To evaluate this, Highways England is proposing to install fixed cameras and undertake manual traffic counts. The A329(M) is on Wokingham Borough Council's network and Highways England is in regular discussion with the Council about the performance of the junction and potential further improvements.

5.4 Congestion and incidence of collisions at Junction 10 of the M4 appears to be worse at the morning peak on the Bracknell-bound A329(M). The cause appears to be the merge from the M4, where there has been significant weaving/sudden lane changes. However, the pre-Christmas period is not typical. Additional signs and road markings were installed in December and in January to encourage drivers to get into the correct lane earlier. With this additional signing in place and 'normal' (post-Christmas) traffic flows it should be possible to assess properly whether or not the junction is working as designed. As noted above, a new junction layout can take a significant period to 'bed in' and for driver behaviour to adapt.

5.5 The M4 junction 11 is the exit for the A33 leading to Reading and Basingstoke. The junction has been subject to a substantial upgrade, completed in mid-2010 and now comprises an enlarged intersection with the M4, together with an adjacent intersection immediately north of the motorway to connect the A33 Basingstoke Road with the B3031. The two junctions act as an inter-connected intersection with traffic signal control. This complex layout has been replicated within the M4 smart motorway

traffic model, together with its associated traffic signal control and assessed against forecast operation under both a with- and without-Scheme situation.

5.6 The assessment with the M4 smart motorway in operation indicates that the additional traffic movements associated with the Scheme can be accommodated with only a limited impact on queues and delays. Average delays during peak periods are forecast to increase by a maximum of 2 seconds per cycle at any of signal junctions around the intersection and with no discernible impact on queue lengths. Therefore, Highways England considers that no further assessment of this junction is required.