

M4 Junction 3-12 Smart Motorway (TR 010019) – comments on Highways England’s responses to first written questions

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1. Policy

1.1 A decision to approve the application could be unlawful

The response to the Examination Panel’s question P1.1 by Highways England states that there are no reasons not to determine the application in accordance with the NNNPS pursuant to section 104 of the Planning Act 2008. It then goes on to list the exceptions and states that none apply here. Yet even with its highly flawed modelling, it would make air pollution worse and it is likely that the actual situation would be far worse than Highways England is depicting. Therefore we would contest that any development that increases air pollution in areas already above legal limits, or to above legal limits, will delay compliance in those areas and as a result is not lawful as currently proposed.

1.2 Little evidence of environmental and social benefits

Little evidence has been provided by Highways England in response to question P1.3 about opportunities to provide environmental and social benefits. One large environmental dis-benefit is the impact of air pollution which is being downplayed by Highways England and consequently little or no mitigation is being proposed.

Much of what is described around noise and visual impact is about mitigation, not providing any overall positive outcome, meaning that there is very little of positive environmental benefit deriving from the scheme, in fact it is most likely the reverse. The increase in low noise surfacing is welcome, but no figure is provided to say exactly what percentage of the existing road already has this coating and the additional benefit is therefore hard to assess.

Highways England also makes the claim that the scheme will reduce driver stress¹, something we would dispute. It might reduce stress in the short term on the motorway, but as traffic rises that will soon disappear. However, the effects of induced traffic arising because of the scheme, which we feel have been significantly underplayed², could see an increase in stress on the surrounding road network as congestion increases due to more cars wanting to access the M4. This will be exactly the same for journey reliability³ which might improve in the short term on the motorway but is likely to worsen on the local road network.

In addition, this claim about driver stress is based on the results of the M42 trial, which does not have permanent all lane running, so Highways England is not comparing like with like. The M42 trial has a considerably lower risk level than is predicted from all lane running on the M4, and the low level of personal injuries on the M42⁴ is therefore unlikely to be replicated on the M4. As a consequence it is rather hopeful that the current development proposal will reduce driver stress as claimed. It also seems odd to make this comparison, particularly since Highways England has so far refused to consider a SMART motorway configuration without permanent all lane running.

As with many of the issues above, the likely economic benefits⁵ due to journey time savings are likely to be lower than projected, not least because of the very low level of induced traffic that has been used for this scheme. We believe that this would lead to more traffic and congestion on the surrounding road network which will increase journey times.

1.3 No evidence of benefits for pedestrians and cyclists

In response to question P1.3 and also to P2.4, no evidence has been provided that the scheme will improve connectivity across the M4 for pedestrians and cyclists. The only positive benefit that Highways England has claimed is that the M4 will relieve local roads and thus improve road conditions for cyclists⁶. However, its very low level of forecast induced traffic helps paint a rosier picture than is likely to be the reality as this scheme will encourage greater car use and that will have a negative impact on cycling in the surrounding areas.

If Highways England was seriously looking to improve walking and cycling, where it was rebuilding bridges and underpasses, it should be looking to provide cycle lanes (preferably segregated) over the bridges or in the underpasses to make them safer and more attractive for users. At the same time it should also have carried out a review to assess whether there were any historical severance issues created by the construction of the M4 and whether these could be addressed at the same time. This would be in line with the dedicated funding outlined in the Roads Investment Strategy to tackle issues of historical severance and improve conditions for pedestrians and cyclists. We are not aware that this has been done.

¹ Paragraph 6, of Highways England's response to P1.3, Section 1-3 Policy

² Section 1.2, Campaign for Better Transport Written Representation

³ Paragraph 7, of Highways England's response to P1.3, Section 1-3 Policy

⁴ Paragraph 6, of Highways England's response to P1.3, Section 1-3 Policy

⁵ Paragraph 8, of Highways England's response to P1.3, Section 1-3 Policy

⁶ Paragraphs 2, 4 & 5, of Highways England's response to P2.4, Section 1-3 Policy

2. Environment

2.1 Highways England's approach to air quality is wrong

Highways England is wrong to assume that the compliance with the Ambient Air Quality and Cleaner Air for Europe Directive (2008/50/EC) is based on the projected worst case within a particular zone⁷. All areas within a zone are required to become complaint "as soon as possible"⁸. So it is not acceptable to allow pollution to remain above legal limits in a particular area for longer, just because there might happen to be somewhere else worse off within the same zone.

Given that these zones are very large, this does not make sense for a number of reasons, not least that most people within a particular zone won't necessarily be exposed to the worst case scenario, but nonetheless might be exposed to levels above legal limits more closely to where they live and work. It would be perverse if their health was put at risk by increasing the length of time that they were exposed to dangerous air pollution, just because there happened to be a place that suffered higher levels of pollution somewhere else within a very large zone.

There are a number of potential flaws in the modelling that has been carried out to date and we would like to see these re-run using a variety of clearly stated scenarios so that there can be absolute clarity as to the likely impact of the scheme and the level of uncertainty around future projections. The issues that need to be re-examined or reported on are:

- How accurate or reliable is the Defra air quality model?
- As outlined in our written representation⁹ it is still unclear which Long Term Trend for nitrogen dioxide was used. Highways England has failed to clarify this in their response to question 4.6.2¹⁰. The model needs to be run using the most pessimistic Long Term Trend as we described in our written representation¹¹.
- In addition, given the recent emissions scandal around Volkswagen and the European Commission's watering down of emissions requirements for Euro 6 engines¹², we believe that the nitrogen dioxide emissions modelling should be re-run with a flat trend as the worst case scenario, i.e. assuming that there will be no improvement in the future.
- The output of the emissions modelling is also hugely dependent on the traffic forecasts. Given the unreliability of these historically, we would like to see them re-run with different scenarios to show how these might impact on future emissions, as follows:
 - The do-minimum scenario should include a version based on scenario 3 (the flattest of the future projections) from the Government traffic forecasts 2015¹³.
 - More realistic levels of induced traffic on the M4 and surrounding road network as a result of the scheme need to be modelled in line with research and past evidence¹⁴. This should be done not just for permanent all lane running but also for a SMART motorway without it.
- There needs to be testing and modelling of pollution levels on bridges over and underpasses under the M4 where pedestrians will be present. Currently, there does not appear to be any estimation of pollution at these points which potentially could be extremely high.

⁷ Paragraph 3.2 of Highways England's response to question E4.6.1, Section 4 Environment

⁸ Section 2.2, Campaign for Better Transport Written Representation

⁹ Section 2.1, Campaign for Better Transport Written Representation

¹⁰ Paragraph 3.2.3 of Highways England's response to question E4.6.2, Section 4 Environment

¹¹ Figure 2.1, Campaign for Better Transport Written Representation

¹² [Press release from Transport & Environment](#), 28 October, 2015

¹³ Figure 1.2, Campaign for Better Transport Written Representation

¹⁴ Section 1.2, Campaign for Better Transport Written Representation

It is incredibly disappointing that Highways England has failed to address the detailed concerns and points raised by Campaign for Better Transport, Friends of the Earth and other interested parties and dismissed them with cursory responses¹⁵. Its position is reliant on having complete confidence in all predictions on traffic and air pollution, yet we and others have provided ample evidence to show that there is considerable doubt around these forecasts and consequently new modelling which has the confidence of all parties needs to be carried out.

2.2 Supreme Court Judgement and Defra's Air Quality Action Plan

Highways England is correct to state that the Supreme Court Judgement requires the UK Government to bring about compliance with EU Limit Values as soon as possible¹⁶. However, it is without foundation to make the claim that Defra's draft plan outlines the approach to bring zones not in compliance, back into compliance as soon as possible¹⁷. Defra might state this but there is no evidence of any urgency within the draft plan to reduce levels to below EU Limit Values as soon as possible. Instead the plan largely abdicates any central government responsibility and places much of the burden on local authorities. In the current fiscal climate around local authority funding, it is highly questionable that local authorities have the funding let alone the powers to resolve this threat to public health as soon as possible.

Highways England is also placing false hope in the reliability of Defra's draft plan as there are some serious question marks as to its accuracy. For example, it quotes that the Brighton / Worthing / Littlehampton area will be in compliance by 2015, i.e. it is already in compliance now¹⁸. Yet the reality is that the area is very far from compliance as shown by the data in appendix 1, with one site approaching three times the EU Limit Value. This leaves serious questions as to the reliability and accuracy of Defra's model.

2.3 The scheme will worsen air pollution

Highways England accepts that the scheme will worsen air pollution both in the short and long term and delay a number of areas, meeting the EU Limit Value¹⁹. It should be noted that this assessment is using its own questionable figures and scenarios as already discussed, which need to be re-examined. If this happens we believe it is likely that the scheme would be shown to have a significant impact on air quality and be in breach of EU regulations.

2.4 Environmental Impacts understated

Given the failure to address or mitigate illegal air pollution levels and the concerns about the emissions modelling to date, this raises question marks as to the adequacy of the Environmental Impact Assessment and Highways England's subsequent approach. If more accurate and realistic modelling is carried out, this could have a significant impact on the nature of the scheme and its environmental impact. For example, if higher noise barriers, up to 6m tall were required along much of the length of the M4 to address concerns around air pollution, this could have serious landscape implications. Equally, since Highways England has stated that it is not convinced that these would contain any pollution²⁰, then the question must be asked how Highways England proposes to mitigate this impact. Its current response is not in line with EU legislation or the recent Supreme Court ruling.

¹⁵ Highways England's response to E4.6.2, Section 4 Environment

¹⁶ Paragraph 5.1 of Highways England's response to E4.6.1, Section 4 Environment

¹⁷ Paragraph 5.2 of Highways England's response to E4.6.1, Section 4 Environment

¹⁸ Table 2, page 9 of the [Draft UK Overview Document](#) on Defra's Draft Air Quality Action Plan

¹⁹ Table 1 of Highways England's response to E4.6.7, Section 4 Environment

²⁰ Paragraph 3.6.3 of Highways England's response to E4.6.2, Section 4 Environment

3. Traffic Safety

3.1 The need to use actual evidence wherever possible and an 'honest' baseline

Highways England's responses to the Examination's 1st written questions TS6.3, 6.4 and 6.5 do not adequately explain why the 'projected safety improvement' is being presented against a non-existent baseline – a three lane motorway without MIDAS, when this section of motorway already has MIDAS installed. Rather than only report on the projected safety improvement over the existing situation, the data is often presented as the improvement over the non-existent baseline first and then only on further reading is the much lower actual improvement noted²¹. This creates unnecessary complexity and confusion and risks inflating the apparent benefits of the proposed scheme for all lane running in many people's minds.

Highways England has given no reason why it has not used actual data to produce these risk figures. The MIDAS system was installed on the M4 a number of years ago. Certainly J10 – 12 had MIDAS installed in 2008, so there must be actual real life data both before and after installation which should be used, not theoretical predictions which will have an element of conjecture.

3.2 Clarity required on safety statistics for different sized motorways

Another fact that is glossed over is that the current M4 has three lanes in each direction from junctions 3-4 and 5-12, but four lanes in each direction for junctions 4-5. Yet, safety data has not been separated out for these different motorway conditions and the safety benefits have been presented as a single figure which appears to represent the three lane motorway with hard shoulder, not the four lane motorway with hard shoulder. So while it is predicted that all lane running for Junctions 3-4 and 5-12 will be 8 percentage points safer than current conditions (although this is not assessed against real data as described above) this has not been shown for all lane running on the four lane section of the M4 (junctions 4-5). Certainly no breakdown has been given or justification for using a single figure.

3.3 Contradictory evidence submitted

Highways England has not satisfactorily answered question TS6.4 - making claims that contradict the safety evidence that it has submitted. For example, in section 7 of its answer to TS6.4, it states that:

"Permanently converting the hard shoulder... reduces the risks introduced by part time use of the hard shoulder..."

Yet in figure 1 attached with this answer, the M42 pilot, which appears to be based on actual data, shows by far the safest road configuration (some 42 percentage points safer than the generic all lane running prediction) and that has had peak time hard shoulder running since 2006²².

In addition, Highways England has just issued a press release²³ with a headline: 'No one should be harmed when travelling or working on our highways'. Highways England then highlights that it puts safety first and that it wants to get the number of people killed or seriously injured as close to zero by 2040.

This is a fine ambition and one that we would support. However, it does raise the question as to why Highways England did not consider, as an option, upgrading the M4 as a SMART motorway without permanent all lane running, particularly as this is claimed to have a significantly lower risk than the current

²¹ Paragraph 3 of Highways England's response to question TS6.3 and paragraphs 3, 5 & 6 of response to question TS6.4, Section 6 Traffic Safety

²² <http://www.roadtraffic-technology.com/projects/m42/>

²³ <https://www.gov.uk/government/news/no-one-should-be-harmed-when-travelling-or-working-on-our-highways>

proposal. If Highways England is to meet its challenging targets on safety, then it needs to be pursuing the safest options available, not ones that only offer a marginal improvement.

3.4 Ruling out alternatives without the evidence

Highways England's answer to TS6.4 claims that all lane running removes "*the need for the complex and resource intensive operating systems to "open" and "close" the hard shoulder*" but provides no evidence of this. It surely is largely automated and enabled in a fairly straightforward manner as it would have to be for an incident with all lane running?

3.5 Safety data should be submitted now

As regards issues of safety on sections of the M25 with all lane running as outlined in response to TS6.6, 6.8 and 6.9, Highways England says that the one year monitoring report will be published at the end of 2015. However, the safety data or incident log must be known and given the brevity of the M4 examination process, this data should be submitted now, not in two or three months' time.

Campaign for Better Transport accepts that it is difficult to fully assess a scheme based on one year's monitoring it is nonetheless useful to know what the results are showing. It is worth noting that both the AA and RAC have reservations about the safety of all lane running, particularly related to the risks their operators are exposed to when attending breakdowns.

**Appendix 1 – Brighton & Hove City Council NO₂ Diffusion Tube League
Table 2014 (part of)**

Code	Site Description 2012	2011	2012	2013	2014
C11-12	North Street East of Clock Tower		114.3	114.8	111.0
C18-14	London Road near Oxford Place				76.5
C18	Oxford Street near London Road	65.4	65.0	68.6	65.8
C17-12	Cheapside near London Road		62.9	56.9	65.2
C11	North Street Middle	79.0	83.0	84.6	64.9
E07-12	Lewes Road Elm Grove Junction		67.4	65.8	62.8
C21	Viaduct Terrace nr Ditchling Road	70.9	62.4	57.9	62.4
C09	Marlborough Place (A23)	61.5	57.6	60.2	58.1
C04	Castle Square east of East Street	65.9	53.1	58.1	58.0
C10-12	North Street next to Ship Street		61.6	65.5	56.9
C25	New England Road nr Argyle Road	58.0	55.5	53.2	55.0
W03	Terminus Road nr Brighton Station	53.9	52.6	53.1	54.8
C13-14	Lower Dycke Rd nr Churchill Sq				53.3
C12-12	Main Station taxi rank Queens Road			48.8	52.5
E17	Grand Parade near Edward St (A23)	51.4	51.7	44.8	52.1
W10	Western Road west of Churchill Sq	57.7	57.0	55.8	51.7
C19	Oxford Street near Ditching Rd	49.3	53.3	54.6	50.8
C23	London Road near Preston Circus	53.6	50.9	49.8	50.8
W05	Old Shoreham Rd Hill nr Chatham Pl	54.4	42.6	55.3	50.8
C12	Queens Road north of Clock Tower	55.8	55.5	49.7	50.6
BH6	Lewes Road south of Gyratory			49.2	49.6
C24	New England Road nr Preston C	51.9	53.8	49.6	49.5
W01	Queens Road nr Brighton Station	55.5	46.8	42.7	47.9
W04	Chatham Place nr New England Road	47.7	46.8	48.2	47.7
C20	Ditchling Road near Viaduct Terrace	46.5	45.5	45.7	47.4
C15	Gloucester Place (A23)	49.4			47.1
C28	Frederick Place, North Laine	50.0	47.7	51.6	47.1
W19	Trafalgar Road, Portslade	51.3	52.1	51.1	46.0
C16	York Place (A23)	52.9	55.0	49.3	45.8
E12	Hollingdean Road	46.4	47.2	47.6	45.6
W17	Wellington Rd - Church Rd Junction	47.5	41.8	50.2	44.9
W21	Sackville Road at Hove Park PH	46.4	45.8	47.7	44.2
E15-12	Coombe Terrace, Lewes Road		47.4	46.5	43.3
E02	Preston Road near Preston Drove	48.2	44.0	48.2	43.0
W20-12	Trafalgar Road Lamp, Portslade		49.3	49.9	42.8
E16	Grand Parade nr Morley St (A23)	49.2	46.0	45.5	42.3
E23	High Street Rottingdean (west side)	48.4	46.2	47.0	41.9
E02-12	The Drove West of Railway Tunnel		46.4	50.7	41.7
E22	High Street Rottingdean (east side)	44.0	42.5	44.5	41.2
W16	Wellington Rd - Basin Road Junction	45.0	47.9	45.0	40.6
E09	Lewes Rd East side of Gyratory	48.9	45	46.3	40.6

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Campaign for Better Transport

Campaign for Better Transport's vision is a country where communities have affordable transport that improves quality of life and protects the environment. Achieving our vision requires substantial changes to UK transport policy which we aim to achieve by providing well-researched, practical solutions that gain support from both decision-makers and the public.

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