

## **Transport Select Committee – All-lane running Evidence from Campaign for Better Transport – January 2016**

### **Executive Summary**

All-lane running relies on using the hard shoulder as a fulltime running lane rather than using it in a managed way for additional capacity to address temporary congestion as originally proposed for Managed Motorways. All-lane running means that the hard shoulder is no longer available as a safe space for breakdowns or for emergency access.

Campaign for Better Transport has the following concerns about all-lane running:

- This is a missed opportunity for truly Smart motorway management. The original plan for Managed Motorways had the potential to provide a valuable model in managing existing capacity better. This opportunity has been lost through the adoption of all-lane running as standard on an increasing proportion of the Strategic Road Network.
- The loss of the hard shoulder as an emergency refuge and emergency access route is potentially dangerous. The RAC and emergency services share concerns that all-lane running carries increased safety risks.
- Given the increased KSI (Killed & Seriously Injured) figures on the Strategic Road Network in the last two years, Highways England should be aspiring to the higher safety standards demonstrated on Managed Motorways without all-lane running (as in the M42 pilot).
- In the absence of a hard shoulder, emergency assistance relies on remote camera safety and driver signage measures. These have not been proven to work adequately in extreme weather or other conditions affecting camera/sign visibility, or driver error where signs are ignored or misunderstood.
- New roads create new traffic. Adding blanket extra capacity with what is in effect an additional lane of motorway in either direction will generate additional traffic, with knock-on effects on capacity and congestion including impacts on the surrounding road network.
- Additional traffic means additional CO2 emissions. The UK is committed to reduce CO2 emissions by 80% by 2050, yet the Committee on Climate Change reports that emissions from transport increased in 2014.
- Additional traffic means additional air pollution. The UK is already in breach of its legal duties on air quality, with traffic emissions the single largest contributor to the problem. Increasing the amount of road traffic will inevitably increase the total amount of emissions, with even a marginal increase in pollution causing greater problems in achieving the Government's air quality commitments.

Campaign for Better Transport does not believe that all-lane running is a sustainable policy: it should be discouraged in favour of a better Managed Motorways approach that would make best use of existing capacity in a safe and sustainable manner.

Campaign for Better Transport asks the Committee to consider:

- a moratorium on any further introduction all-lane running
- closer monitoring of KSIs at existing all-lane running experiments
- closer monitoring of air quality at existing all-lane running experiments
- ending all-lane running at locations where KSIs and/or air pollution levels have increased.

We welcome the scrutiny given to all-lane running by the Committee and look forward to your conclusions in due course.

## 1. What is the impact of all-lane running on the safety of motorway users?

There has been an increase in the KSI (Killed & Seriously Injured) figures on the Strategic Road Network (SRN) in the last two years. This marks the first increase in overall casualties since 1977<sup>1</sup>, a regrettable step back on what had been a steadily improving safety record.

The number of KSIs on Highways England's roads in 2014, the most recent year for which figures are available, was 1,853 – an increase of 8.4% from 2013. Within those, there were 211 fatalities on the network in 2014.<sup>2</sup> This is at odds with Highways England's target to achieve an on-going reduction in network KSI (Killed and Seriously Injured) to support a 40%+ decrease by end 2020 against the 2005–09 average baseline.<sup>3</sup>

The Department for Transport reports that the primary contributing factor to accidents is “*drivers failing to look properly*” and that this has been the primary factor since analysis began in 2005.<sup>4</sup> It therefore seems imprudent to pursue all-lane running, an approach that relies totally on driver observation to deliver road safety.

The National Networks NPS says of new road schemes that “...*scheme promoters are expected to take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate.*”<sup>5</sup> Schemes should deliver significantly safer roads, not just maintain the status quo and it is not clear that All-lane Running is compatible with that objective. International best practice on road safety is based on the Safe Systems approach, which includes appropriate use of traffic segregation and demarcation of road space.<sup>6</sup>

A study of the M42 pilot, which used full managed motorway approach without all-lane running, reported a 55.7% improvement in (personal injury) accidents as a result of that scheme.<sup>7</sup> In contrast, all-lane running is predicted by Highways England to have only an estimated 18% improvement in safety over a standard motorway<sup>8</sup>: this will inevitably fall short of the 40% target reduction in KSIs. The higher safety standard should be the benchmark for judging future smart motorway proposals, especially in the context of increasing KSIs on the SRN.

All-lane running means that the hard shoulder is no longer available as a safe space for breakdowns or for emergency access. The loss of the hard shoulder as an emergency refuge and for emergency access raises serious safety concerns. The RAC, AA and emergency services share concerns that all-lane running carries increased safety risks with breakdowns and other emergencies taking place in a live traffic lane rather than the hard shoulder.<sup>9</sup>

These risks affect emergency service operators as well as individual road users. Even if the number of crashes falls, time to reach casualties is also a critical factor. The Ambulance service performance target is that 75% of Category A Red 1 calls (the most time critical, where patients are not breathing or do not have a

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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/463350/rrcgb2014-00.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/463350/rrcgb2014-00.pdf)

<sup>2</sup> [http://orr.gov.uk/\\_\\_data/assets/pdf\\_file/0011/19955/six-month-review-of-highways-england-performance-december-2015-web.pdf](http://orr.gov.uk/__data/assets/pdf_file/0011/19955/six-month-review-of-highways-england-performance-december-2015-web.pdf)

<sup>3</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/408514/ris-for-2015-16-road-period-web-version.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf)

<sup>4</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/463043/rrcgb2014-02.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/463043/rrcgb2014-02.pdf)

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/387223/npsnn-web.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387223/npsnn-web.pdf)

<sup>6</sup> <http://www.brake.org.uk/info-and-resources/facts-advice-research/road-safety-facts/15-facts-a-resources/facts/1484-safe-systems-facts-page>

<sup>7</sup> [http://infrastructure.planningportal.gov.uk/wp-content/ipc/uploads/projects/TR010019/2.%20Post-Submission/Application%20Documents/Environmental%20Statement/6-1-ES-Chapters\\_13-Effects-on-all-travellers.pdf](http://infrastructure.planningportal.gov.uk/wp-content/ipc/uploads/projects/TR010019/2.%20Post-Submission/Application%20Documents/Environmental%20Statement/6-1-ES-Chapters_13-Effects-on-all-travellers.pdf)

<sup>8</sup> <http://assets.highways.gov.uk/specialist-information/knowledge-compendium/2011-13-knowledge-programme/MM-ALR%20demonstration%20of%20meeting%20safety%20objective%20report%20final.pdf>

<sup>9</sup> <http://www.roadsafetygb.org.uk/news/3521.html>

pulse) are to be responded to within 8 minutes.<sup>10</sup> Without the dedicated access route provided by the hard shoulder, emergency service response times are likely to be adversely affected.

Where all-lane running has been introduced, emergency refuge areas are located at distances of up to 2.5km apart. The RAC notes that *“a driver whose vehicle suffers a catastrophic failure will have little alternative to stopping in the inside running lane and waiting for Highways England to spot them and close the lane to traffic ... Unfortunately, early experience suggests other drivers are less inclined to obey these lane closure signs on an all-lane-running section of motorway than when the hard shoulder is closed to traffic on a smart motorway with the dynamic hard shoulder configuration. This places the casualty vehicle, its occupants and those providing assistance (the emergency services or roadside assistance providers) at greater risk.”*<sup>11</sup>

In the absence of a hard shoulder, emergency assistance relies on remote camera safety and driver signage measures. These may be inadequate for incidents at night caused by extreme weather affecting visibility. The AA has highlighted that anyone broken down at night with a full electrical failure will be in a very dangerous situation. Although the motorway will have an incident detection system it does not function in very low traffic flows which are most likely to occur at night.<sup>12</sup>

There is also the increased risk from driver error where signs are ignored or misunderstood. The Institute of Advanced Motorists (IAM) has expressed concern that widespread confusion still exists amongst motorway users on how best to operate with all-lane running. A survey by the AA found that as many as 10% of drivers would ignore red X no-go lane signs on motorways, with obvious negative consequences for road safety.<sup>13</sup>

The West Midlands Roads Policing Unit is among enforcement agencies that have expressed concerns<sup>14</sup> as have local authorities in the areas where all-lane running is proposed, including Reading Borough Council commenting on plans for the M4.<sup>15</sup>

The penalty for non-compliance with the red X is a £60 fine and a three point endorsement, which is at the lowest end of the range for motoring offences<sup>16</sup>, and does not necessarily reflect the seriousness of such a dangerous action.

## **2. What is the effectiveness of all-lane running in managing capacity and congestion on the Strategic Road Network?**

All-lane running relies on using the hard shoulder as a fulltime running lane (rather than using it in a managed way for additional capacity to address temporary congestion as originally proposed for Managed Motorways). This is a missed opportunity.

The original plan for Managed Motorways had the potential to provide a valuable model in managing existing capacity better, with dynamic use of the hard shoulder to ease temporary congestion. This opportunity has been lost through the adoption of all-lane running as standard on an increasing proportion of the Strategic Road Network.

New roads create new traffic. Adding blanket extra capacity with what is in effect an additional lane of motorway in either direction will generate additional traffic, with knock-on effects on capacity and congestion.

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<http://www.nhs.uk/NHSEngland/AboutNHSservices/Emergencyandurgentcareservices/Pages/Ambulanceservices.aspx>

<sup>11</sup> [http://www.rac.co.uk/press-centre#/blog\\_posts/report-on-motoring-2015-4-motorways-and-the-strategic-road-network-38691](http://www.rac.co.uk/press-centre#/blog_posts/report-on-motoring-2015-4-motorways-and-the-strategic-road-network-38691)

<sup>12</sup> [http://www.theaa.com/public\\_affairs/news/active-traffic-management.html](http://www.theaa.com/public_affairs/news/active-traffic-management.html)

<sup>13</sup> [http://www.theaa.com/public\\_affairs/news/active-traffic-management.html](http://www.theaa.com/public_affairs/news/active-traffic-management.html)

<sup>14</sup> <http://www.birminghammail.co.uk/news/midlands-news/safety-fears-over-motorway-hard-6594852>

<sup>15</sup> <http://www.bbc.co.uk/news/uk-england-berkshire-34834729>

<sup>16</sup> <https://www.gov.uk/penalty-points-endorsements/endorsement-codes-and-penalty-points>

Induced traffic is a well-known side-effect of road-building and widening: when a new transport facility or service becomes available, users alter their behaviour in a number of ways, including changing their route, changing their trip-making frequency and/or changing their time of travel (they may previously have been deterred from making trips at busy times) to take advantage of the perceived new road capacity.<sup>17</sup>

The authoritative SACRA study for the DfT concluded that an average road improvement, for which traffic growth due to all other factors is forecast correctly, will see an additional [i.e. induced] 10% of base traffic in the short term and 20% in the long term.<sup>18</sup> Subsequent studies have confirmed the phenomenon of induced traffic, most recently research by the Victoria Transport Policy Institute.<sup>19</sup> Given this additional induced traffic, the adoption of all-lane running, as opposed to dynamic use of the hard shoulder when required, undermines any benefits of additional or flexible capacity.

Any initial driver time savings from the change to all-lane running are likely to be temporary and to cause induced traffic in the long term. They are not a reason to accept increased risks for drivers, emergency service personnel and others on the road.

### 3. Is the policy sustainable?

In addition to concerns about safety (section 2) and congestion (section 3), there is a significant and unwelcome impact on other sustainability factors where the Government has legally binding obligations, namely CO<sub>2</sub> emissions and air quality.

**CO<sub>2</sub> emissions.** The UK Government has binding targets to reduce CO<sub>2</sub> emissions by 80% by 2050. Reducing emissions from vehicles is a crucial element of this. Yet the Committee on Climate Change reports that emissions from transport increased in 2014 from 25% to 28% of the UK total.<sup>20</sup> In this context, any measure, such as all-lane running, that generates induced traffic rather than managing existing capacity better, should be discouraged.

**Air pollution.** Air pollution damages the environment and human health. DEFRA figures estimate that particulates pollution reduces average life expectancy in the UK by around six months, an economic cost of £16 billion a year.<sup>21</sup> In April 2015, the Supreme Court ruled on the continuing failure of the UK to comply with binding EU limits for nitrogen dioxide levels, ordering the government to submit new air quality plans to the European Commission no later than 31 December 2015.<sup>22</sup>

Road transport is the dominant source of this pollution with, on average, around 80% of NO<sub>x</sub> in areas where the UK is exceeding limits, being due to transport.<sup>23</sup> The Vehicle Certification Agency (VCA) agrees that “the emissions from large numbers of cars add to a significant air quality problem.”<sup>24</sup> Increasing the amount of road traffic will inevitably increase the total amount of emissions, with even a marginal increase in pollution causing greater problems in achieving the Government’s air quality commitments.

This was accepted by Highways England as a factor for rejecting all-lane running on part of the M60: “*We looked extensively at the option to provide all-lane running on the M60 section between junctions 8 and 18. However, our environmental assessment concluded that creating this improvement would result in an increase in traffic using the motorway which would then have a detrimental affect [sic] on air quality.*”<sup>25</sup>

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<sup>17</sup> <http://www.its.leeds.ac.uk/projects/WBToolkit/Note6.htm>

<sup>18</sup> <http://www.bettertransport.org.uk/sites/default/files/trunk-roads-traffic-report.pdf>

<sup>19</sup> <http://www.vtpi.org/gentraf.pdf>

<sup>20</sup> <https://www.theccc.org.uk/2015/09/15/uk-transport-is-heading-in-the-wrong-direction/>

<sup>21</sup> <https://www.gov.uk/guidance/air-quality-economic-analysis>

<sup>22</sup> <https://www.supremecourt.uk/cases/docs/uksc-2012-0179-press-summary.pdf>

<sup>23</sup> <https://consult.defra.gov.uk/airquality/draft-aq-plans>

<sup>24</sup> <http://www.dft.gov.uk/vca/fcb/cars-and-air-pollution.asp>

<sup>25</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/255525/M60\\_J8\\_-\\_M62\\_J20\\_MMM\\_Consultation\\_Document\\_SI\\_November\\_final\\_061113\\_1030\\_doc\\_\\_attachment\\_.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255525/M60_J8_-_M62_J20_MMM_Consultation_Document_SI_November_final_061113_1030_doc__attachment_.pdf)

The environmental assessments conducted for Highways England prior to introducing all-lane running have not always recognised the potential impact on air quality. For example, when considering the proposals for M5 Junction 4a to 6, the assessment concluded that the effect on local air quality is not significant and therefore no mitigation measures were proposed.<sup>26</sup> We advocate close monitoring of air quality at all-lane running sites to verify if this assumption was justified in practice.

Given the emissions testing manipulation by VW, there is a grave risk that existing pollution levels have been underestimated.<sup>27</sup> Any policy that increases the amount of motor vehicle traffic without first addressing these air quality issues is likely to be in breach of UK and EU regulations and cannot be seen as responsible or sustainable.

#### **4. How should policy on all-lane running evolve?**

In the light of the concerns raised on road safety, effective capacity management, CO2 emissions and air quality, Campaign for Better Transport proposes that:

- a moratorium is placed on developing and implementing Smart Motorways using all-lane running until a full review has taken place
- closer monitoring of KSIs and air quality at existing all-lane running experiments
- ending all-lane running at locations where KSIs and/or air pollution levels have increased.

Ideally, they should be redeveloped as Managed Motorways, with more frequent emergency refuges and the hard shoulder only used at peak times when traffic is moving more slowly. This would achieve best practice in reducing safety risks, and would cut the amount of new traffic induced by new capacity significantly, while still bringing benefits to drivers thanks to improved journey reliability.

In addition, we would ask Highways England to consider:

- improving public transport services and priority along motorways
- implementing Smarter Choices programmes in surrounding cities and towns, reducing the number of short journeys on the motorway network

Highways England now has dedicated funds for integration with public transport. These measures should be employed on the strategic road network before any new capacity is considered.

January 2016

Bridget Fox  
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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<sup>26</sup> [http://assets.highways.gov.uk/roads/road-projects/m5-junction-4a/M5%20J4a%20to%206\\_SM-ALR\\_Air%20Quality%20Impact%20Assessment\\_March14.pdf](http://assets.highways.gov.uk/roads/road-projects/m5-junction-4a/M5%20J4a%20to%206_SM-ALR_Air%20Quality%20Impact%20Assessment_March14.pdf)

<sup>27</sup> <http://www.environmental-protection.org.uk/committees/air-quality/air-pollution-and-transport/car-pollution/>