

	<p><b>REGULATION 28 REPORT TO PREVENT FUTURE DEATHS</b></p> <p><b>THIS RESPONSE IS BEING SENT TO:</b></p> <p>1. <b>The Area Coroner for Birmingham and Solihull, Ms Emma Brown of Birmingham and Solihull Coroner's Court 50 Newton Street Birmingham B4 6NE</b> in response to a 'Regulation 28 Report to Prevent Future Deaths' following an inquest hearing into the death of Dev Dilesh Naran that concluded on 11 October 2019.</p>
1	<p><b>HIGHWAYS ENGLAND</b></p> <p>I am [REDACTED] Safety, Engineering and Standards Executive Director and Chief Highways Engineer, responding on behalf of Mr Jim O'Sullivan, Chief Executive of Highways England Company Limited of Bridge House, 1 Walnut Tree Close, Guildford, SURREY, GU1 4LZ.</p>
2	<p><b>CORONER'S MATTERS OF CONCERN</b></p> <p>The <b>MATTERS OF CONCERN</b> were identified as follows:-</p> <ol style="list-style-type: none"> <li>1. Vehicles stopping in live lanes of a motorway create a risk to life due to the speed of the traffic approaching, the difficulty approaching drivers will have in identifying that a vehicle in the lane ahead of them is stationary and the fact that the volume of traffic around any stopped vehicle can inhibit the ability of a driver to take evasive action without coming into contact with other road users.</li> <li>2. Those managing the motorway network have no system of automatic alert to a stopped lone vehicle in a live lane and rely on the MIDAS system picking up slow moving traffic, 999 calls and calls from the general public. It is not known how frequently vehicles are stopping on the hard shoulder of the M6 because if there are no calls and no traffic build up the control centre may not become aware. Furthermore, when operators do become aware of a stationary vehicle, they do not routinely look back at how long the vehicle had been stationary before the control room was alerted therefore it is not known on average how long it takes the control room to become aware of a stopped vehicle.</li> <li>3. When compared to motorways not operating a Dynamic Hard Shoulder running scheme there is a greater risk that vehicles will stop on the hard shoulder/ lane 1 of the M6 in the vicinity of junctions 6 and 5 when the hard shoulder is a live lane and that there will be a greater danger when doing so because: <ol style="list-style-type: none"> <li>a) there is a 2.5 mile gap in the emergency refuge areas at this point;</li> <li>b) this section of the M6 is elevated and as such there is no land along the edge of the motorway to which occupants of vehicles forced to stop on the hard shoulder can retreat;</li> <li>c) the carriageway to the nearside of the hard shoulder/lane 1 is only 0.4m wide before there is a low raised kerb with a paved area of 1.4m wide bordered by a 0.7m tall retaining wall at the edge of the</li> </ol> </li> </ol>

flyover therefore vehicles are restricted in their ability to pull fully out of the live lane;

- d) although the signage that the hard shoulder is in use as a live lane in this area accords with the Highway Code and the Managed Motorway Network Scheme there is a real risk that drivers seeing a hard shoulder bordered by solid white lines (and who may have used the road when the hard shoulder is not in use as a live lane) may become confused and forget/fail to register that the hard shoulder is operating as a live lane.
4. The Highways Agency is introducing a radar system to identify lone stationary vehicles on All Lane Running schemes which will operate in low flow. This technology does not operate in moderate to high flow density and is not intended for use on dynamic hard shoulder running schemes where the hard shoulder would not be in use in low flow traffic.
5. ██████████ Head of Road Design, Safety, Engineering and Standards, at Highways England gave evidence that a colleague is undertaking research into technology that could be used to identify lone stationary vehicles in higher traffic flows. ██████████ did not know what technologies were being considered nor what the time scale for this project is. ██████████ evidence was that this is not being looked at with dynamic hard shoulder running schemes in mind nor for the M6 specifically as it is not regarded as an acute problem.
6. The effect of this evidence is to cause me concern that the particular nature of the risk on this section of the M6 arising from the matters set out at para 3 above is not regard as an acute problem by the Highways Agency when it should be and that I was not given evidence of specific work being undertaken to address this particular risk.

**3 DETAILS OF ACTION TAKEN**

The introduction of smart motorways has been Government policy since 2008. The smart motorway package of measures is considered appropriate for Highways England's network and gives flexibility to allow for increased demand from road users, whilst maintaining or improving the safety of our roads.

Safety is Highways England's top priority and something we will not compromise on, with smart motorways being no exception. Smart motorways are based on a comprehensive safety assessment and hazard analysis which demonstrated that they would be as safe, if not safer than the conventional motorway they replaced. The use of roadside technology and operational procedures has enabled them to be managed in an effective and appropriately safe manner.

Recognising concerns around smart motorways, the Secretary of State for Transport has asked the Department for Transport to carry out an evidence stocktake to gather the facts about smart motorway safety. We are supporting the Department in its work on this. The Department for Transport will be publishing the outcome of this stocktake after the General Election. Should any matters arise from this stocktake, which are relevant to this Inquest, then Highways England undertake to inform the Area Coroner accordingly.

Highways England has undertaken comprehensive information campaigns highlighting how drivers must only stop on the carriageway in an emergency, and how drivers can reduce the likelihood of such an event occurring. In addition, comprehensive information campaigns have been undertaken, both before and after the date of this incident, highlighting to drivers what to do in the event of a breakdown on the motorway.

Over the last 18 months we have also been rolling out enhancements to the emergency refuge areas across the smart motorway network to increase driver awareness of their location. This has included a brand-new design of sign, more frequent approach signage and an associated orange road surface. This work has recently been completed on the M6 southbound between Junctions 6 and 5 where this incident occurred.

4 **DETAILS OF FURTHER ACTION PROPOSED**

1. Highways England recognises that vehicles stopping in live lanes on any road creates a risk to life and is continuously looking at ways to mitigate this risk.

The coroner concluded that there was no evidence of a fault with the vehicle, illness of the driver, or a hazard in the road which caused the driver to stop in a clearly marked live running lane on a high-speed road. The reason the driver stopped on the M6 motorway was not established as part of the coronial process. The driver and passenger were unable to give evidence, the deceased's father refused to answer any questions, and the only relevant evidence (from the paramedics) was disputed and therefore not adduced at the inquest. This was unfortunate, because understanding the reason the driver stopped would have enabled Highways England to look at the primary contributory factors in this incident, with a view to mitigating the likelihood of this type of incident occurring again in the future.

If a driver does not stop in a place of relative safety (such as an emergency refuge area) smart motorways have far greater operational oversight and technology than other high-speed roads to reduce the risk to road users. Once our control centre is aware of the situation (which may be via the Police or roadside technology such as CCTV), we can use the smart motorway technology to set lane closures and warning signals, as well as dispatching a Highways England Traffic Officer to assist.

We will be repeating our information campaigns on using motorways in four waves between January 2020 and March 2021. The upcoming January campaign messaging will focus on what to do in an emergency and Red X.

2. Until trials were undertaken by Highways England, there has been no system to detect stopped lone vehicles in a live lane on any high-speed road therefore, as already highlighted, this risk is not confined to smart motorways. This risk is considerably higher when traffic volumes are lower, due to higher vehicle speeds. Also, the density of traffic at higher volumes means it is very difficult to detect stopped lone vehicles without an unmanageable amount of false alarms. Highways England

recognised this risk and has undertaken successful trials of a radar detection system which detects stopped vehicles in low flow conditions. This is now operational on all of the smart motorway sections of the M25 without a hard shoulder.

3. We have begun to rollout stopped vehicle detection capability to similar schemes which will commence with the M3 between Junctions 2 and 4a to be completed by December 2020. Subject to funding, stopped vehicle detection capability will be included on all future smart motorway schemes beginning construction from March 2020.



We are exploring other technologies which could reduce the risk to stopped vehicles in higher flow conditions. These include CCTV analytics, vehicle telemetry and crowd sourced data. As these are innovative solutions, which require evaluation and testing, Highways England is unable at this time to set out a timetable if and when this technology will be rolled out on the motorway network. This is also subject to our Government funding settlement for the period 2020-2025 which is yet to be confirmed.

4. Our assessments have shown that the risk to drivers is reduced when using a dynamic hard shoulder running scheme compared to motorways not operating dynamic hard shoulder running schemes. This is largely due to the additional technology and enhanced operational management which is not present on conventional motorways. When flows are higher our Motorway Incident Detection and Automatic Signalling (MIDAS) system detects slow moving traffic, and warns drivers by setting appropriate messages and speed limits without operator intervention. This is a proven safety system which, along with comprehensive CCTV coverage, helps to mitigate the risk to stopped vehicles when traffic flows are higher.

When the hard shoulder is operating as a live lane, there are frequent signs stating, "Use hard shoulder" providing additional confirmation to drivers that the hard shoulder is operating as a live running lane, as was the case on the M6 Junction 6 to 5 southbound on 31 May 2018. We previously recognised the risk of drivers using the hard shoulder when it is not operating as a live lane and in 2015 introduced additional frequent signage to highlight to drivers the status of the hard shoulder at any given time.

5. Highways England recognises that dynamic hard shoulder running is not as intuitive for drivers as other forms of motorways and therefore we have no plans to build any more of this type. In recognition of this, Highways England has an ambition to upgrade sections of dynamic hard shoulder running to the latest standard of smart motorways, known as 'All Lane Running', which removes the dynamic hard shoulder and any possible confusion as to the status of the nearside lane. As part of any conversion we would incorporate stopped vehicle detection capability.

6. As explained above, subject to funding, Highways England is committed to introducing stopped vehicle detection capability which has been proved successful in lower flow conditions. We are also exploring other technologies which could reduce the risk to stopped vehicles in higher

	<p>flow conditions, but is also subject to our funding settlement for the period 2020-2025 which is yet to be confirmed.</p>						
5	<p><b>TIMETABLE FOR ACTION</b></p> <table border="0"> <thead> <tr> <th><u>Date</u></th> <th><u>Action</u></th> </tr> </thead> <tbody> <tr> <td>January 2020</td> <td>Information campaign focused on what to do in the event of an emergency and Red X.</td> </tr> <tr> <td>January 2020 to March 2021</td> <td>Information campaigns focused on Red X, keeping left, variable speed limits and 'what to do in a breakdown'</td> </tr> </tbody> </table>	<u>Date</u>	<u>Action</u>	January 2020	Information campaign focused on what to do in the event of an emergency and Red X.	January 2020 to March 2021	Information campaigns focused on Red X, keeping left, variable speed limits and 'what to do in a breakdown'
<u>Date</u>	<u>Action</u>						
January 2020	Information campaign focused on what to do in the event of an emergency and Red X.						
January 2020 to March 2021	Information campaigns focused on Red X, keeping left, variable speed limits and 'what to do in a breakdown'						
6	<p><b>SAFETY OF ROAD USERS</b></p> <p>Roads, especially high-speed roads, can never be risk-free environments. Highways England prioritises the reduction of road deaths and serious injuries on the strategic road network through its Road Investment Strategy, investing large amounts of public money, to create as safe an environment as possible.</p> <p>We also rely on road users to be informed on what to do in an emergency and who to contact, and just as importantly how to avoid dangerous situations in the first place. Drivers must take responsibility for their own vehicle, behaviour and safety when using any road, to help all road users arrive at their destinations safe and well.</p> <p>The safety of road users is our first imperative and a core value of our organisation. Our company vision for safety is that "no one should be harmed when travelling or working on the strategic road network". Any improvements or enhancements that we make must be done in a considered and controlled fashion so that the consequences of any improvements are fully understood, and any safety risks linked to proposed changes are eliminated or reduced as far as possible. We always strive to improve safety through enhancing infrastructure and communication.</p>						
7	<p>9 December 2019    Signed: </p> <p> Safety, Engineering and Standards Executive Director and Chief Highways Engineer, on behalf of Jim O'Sullivan, CEO</p>						