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Dear Mr Merriman,

I was pleased to appear before the Committee on 30 June 2021 to discuss the rollout and safety of smart motorways. I trust that the evidence I provided was helpful.

At the session Baroness Vere and I committed to provide further information to the Committee, which I set out below and enclosed.

Response times
We agreed to share information on the average time it takes Highways England's regional control centres to spot broken down vehicles via CCTV. The AA said the average time was 17.1minutes, based on data from Highways England
In the unlikely event that a vehicle must stop in a live lane of a motorway, it is important that the people in the vehicle receive help as quickly as possible. This means that we need to detect stopped vehicles quickly once reported and have the capacity and capability to rapidly deploy traffic officers to the scene. It takes on average one minute and 52 seconds[1] for a Highways England control room operator to set signs and signals from the moment at which we are notified of an incident.

In the oral evidence session, we discussed stationary vehicle detection and response times. I want to clarify that, based on 2016-2018 data, it took, on average, around 17 minutes from the time that an incident had been reported for Highways England traffic officers to arrive at the stationary vehicle.

We have committed to reduce our average response time to ten minutes in locations on all lane running sections where places to stop in an emergency are more than one mile apart. We will keep the Department and the Committee informed of progress.

As part of our work to test and trial the efficacy of a stopped vehicle detection (SVD) system, we published a report *'Stationary Vehicle Detection System (SVD) Monitoring'* in 2016. By reviewing and analysing CCTV footage from a small number of stopped vehicle events from a section of the M25 (J25-26 All Lane Running) where SVD was not deployed at that time, we determined the time between the event occurring and it being verified via CCTV was, on average, 17 minutes and one second. Clearly, this small sample size is not indicative of all of the strategic road network, where many breakdowns are reported to us, enabling us to act quickly. However, for those incidents where the incident had not been reported to us, the report concluded that the SVD system could enable operators to set signs and signals 16

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[1] This is our median average response time for the period April 2020 to March 2021

minutes earlier for live lane breakdowns, compared to locations where SVD is not installed (including on conventional motorways).

Following the publication of the report, Highways England continued its development of the SVD system to ensure that these benefits could be realised consistently and at scale across the smart motorway network.

CCTV
I want to ensure that our testimony on CCTV is clear. The purpose of CCTV on smart motorways is not to detect stationary vehicles. CCTV is used to verify and assess reported incidents and to inform the appropriate response. All lane running sections have full CCTV coverage (100% - location underneath a camera is designed to be seen by an adjacent camera), which operators can look at whenever an incident is reported. The system is not designed to require staff to monitor all the cameras all of the time.

SVD rollout timetable
We agreed to share the target date for the rollout of stopped vehicle detection before the stocktake was commissioned in October 2019
I fully accept that our oral evidence to the Committee in 2016 could have been clearer on the expected timetable for the rollout and retrofit of SVD technology to smart motorways. As I explained to the Committee, SVD has always been an enhancement to the all lane running system and will complement the standard operating system. And I would like to assure the Committee that we are committed to installing SVD on existing all lane running schemes by September 2022.

Before we install any new safety system on a motorway or other high-speed road, it is important to know that the technology will work reliably and as expected as part of a 24/7 operational system. Motorways are complex and challenging environments and the work that we have undertaken to operationalise SVD since 2016 has been extensive, thorough and essential.

As part of the Secretary of State's 2020 Action Plan, we committed to fit SVD on every all lane running motorway by March 2023. This timetable represented a significant acceleration to the programme, which had initially been due to complete by the end of RIS2 in 2025. In April 2021, we published our *'Smart motorways stocktake first year progress report 2021'*, with a commitment to further accelerate the SVD rollout programme so that it would be complete by the end of September 2022. We were able to make this additional commitment because of the preparatory work that had already been undertaken to develop, test and operationalise the technology. We have also committed that all new smart motorway schemes will have radar SVD technology installed before they open, including the six schemes currently in construction.

SVD performance
We agreed to 1) share the investigation Highways England conducted into stopped vehicle detection in 2018 and 2) provide the current accuracy rates of stopped vehicle detection technology
I enclose a copy of the evaluation of the performance of SVD on the M25 Junctions 23 to 27 undertaken in 2018. Some elements of the report are redacted on grounds of commercial sensitivity. In summary, the report shows:
- An evaluation of the performance of SVD on the M25 Junctions 23 to 27 scheme over a four-day period in October 2018
- The system detected 90% of stationary vehicles on this road during this period, against a performance specification of >80%

- The false detection rate was 20%, against a performance specification of <15% - to note the results from 1 of the days included the impact of roadworks being in place for maintenance of the road. On the other 3 days, in normal traffic conditions, the system performed in line with the requirements of the assessment

The evaluation was part of the extensive work that Highways England has undertaken since 2016, to operationalise SVD technology on motorways.

The SVD system first piloted on the M25 Junctions 5 to 6 scheme detected, in 2016, 86.4% of stopped vehicle events.

We have recently installed and continue to commission and optimise SVD on the M20. So far, the early unverified M20 data for May and June 2021 suggests that 91% of stopped vehicle incidents were detected by SVD as the primary source, and we expect this figure to fluctuate as we fine tune the system.

We are fine tuning the initial schemes (M25 and M3) to the latest requirements, as set out for our retrofit programme, and as we roll out SVD across all lane running sections, we will continue to monitor and evaluate its performance and we will keep the Department and the Committee informed of progress.

Red-X enforcement cameras
We agreed to confirm the number of cameras that have been upgraded to detect and enforce non-compliance with Red X signals
As set out in the 2020 Action Plan, we will upgrade a total of 95 enforcement cameras across the smart motorway network by the end of September 2022 so that they can automatically detect Red X violations which can then be enforced by the Police. There are currently 50 cameras that have the capability to enforce.

We will continue to install Red X enforcement cameras as part of new schemes during RIS-2, with the expectation that, as a result of new schemes and the upgrade work, there will be over 150 in operation across the smart motorway network by March 2025.

Near misses
We agreed to provide an explanation of near misses where passing vehicles avoid a stopped vehicle. For the all-lane running schemes in operation it will be useful to have data on how these specific near misses varied before and after these motorways were converted
Near miss reporting plays an important role in driving up safety performance even further. We follow the principles in the Health and Safety Executive's Guidance (HSG245). The Guidance sets out the importance of near miss reporting, defining a near miss as *'an event that, while not causing harm, has the potential to cause injury or ill health.'*

Near miss reporting is part of our health and safety system for Highways England staff and supply chain. It is not part of traffic safety monitoring. We encourage near miss reporting from our staff and supply chain across all our work, including on construction sites and in operational environments.

Between 2015 and 2020, we recorded 40,156 near misses across the strategic road network and Highways England estate in our accident and incident reporting system. It is important to emphasise that near miss in this context does not imply that two vehicles narrowly avoided a collision on a road. We do not routinely record the number of vehicles that pass a stationary vehicle on any of our roads. When a vehicle does stop in a live lane on a motorway, our primary focus when it is reported, is on detecting it as quickly as possible, closing the lane,

setting signs and signals and dispatching a traffic officer team to assist the driver and passengers.

I would reiterate that having to stop in the live lane of a motorway is very rare and that smart motorways offer greater protection to drivers through the ability to close lanes, set signs and signals, control traffic flow and manage speeds. We will continue to explore other ways to capture detailed data across our network and again keep the Department and the Committee informed on progress.

Fatal Weighted Injury (FWI) data

In the oral session, there appeared to be a slight discrepancy between the FWI data referred to by the Chair and that presented by the witnesses.

To clarify, I have set out below the relevant data from the *'Smart motorways stocktake first year progress report 2021'*:

- FWI rates on controlled (0.32 per hundred million vehicle miles - hmvm), dynamic hard shoulder (0.34 per hmvm) and all lane running (0.35 per hmvm) schemes are slightly lower than on conventional motorways (0.37 per hmvm).

Lane closures associated with incident management
We agreed to share data on how incidents and delays on all-lane running motorways compare to traditional widening schemes

The lane closure data presented to the Committee by the RAC relates to two stretches of the M25, one of which is primarily all lane running motorway and one which is a four-lane controlled motorway. The data covers a 12-month period from 1 August 2018 to 31 July 2019.

Although the data shows that there were more live lane closures on the M25 Junctions 23 to 28 (which is all lane running between Junctions 23 to 27) compared to the M25 Junctions 18 to 23 (four lanes and a hard shoulder), we would advise caution in directly comparing the performance of two different stretches of road. Every road presents different challenges in terms of incident response and we respond to incidents based on the situation, rather than the road type.

In general, incidents in live lanes of any road are more disruptive to traffic flow than incidents on a hard shoulder. It is, however, important to balance any disruption caused by lane closures against the wider benefits of the capacity increase offered by all lane running motorways.

The data quoted by the RAC compares an all lane running motorway with a controlled motorway (four lanes and a hard shoulder), not a conventional motorway (three lanes and a hard shoulder). We have included two illustrative examples of recovery below as these were referenced in the oral session. Recovery of a blue coach from the hard shoulder or live lane and recovery of the live lane breakdown of the red car in the outer lane. The green lanes indicate open lanes in these situations and brown lanes represent closed lanes for recovery. As indicated in the diagrams below, the lane closures caused by recovery on a conventional motorway are broadly similar to the closures required to recover a vehicle on an all lane running motorway. As such, the data set presented by the RAC isn't representative of the most common types of motorway.

Highways England is assessed for its performance in clearing incidents on the network, with a RIS2 target to clear 86% of motorway incidents within one hour. We know that clearing incidents quickly is good for safety and good for the economy, and between April 2020 and March 2021 we cleared 88.6% of incidents on motorways within one hour.

Coach breakdown — Offside closure

3 running lanes and hard shoulder — All lane running (4 lanes)
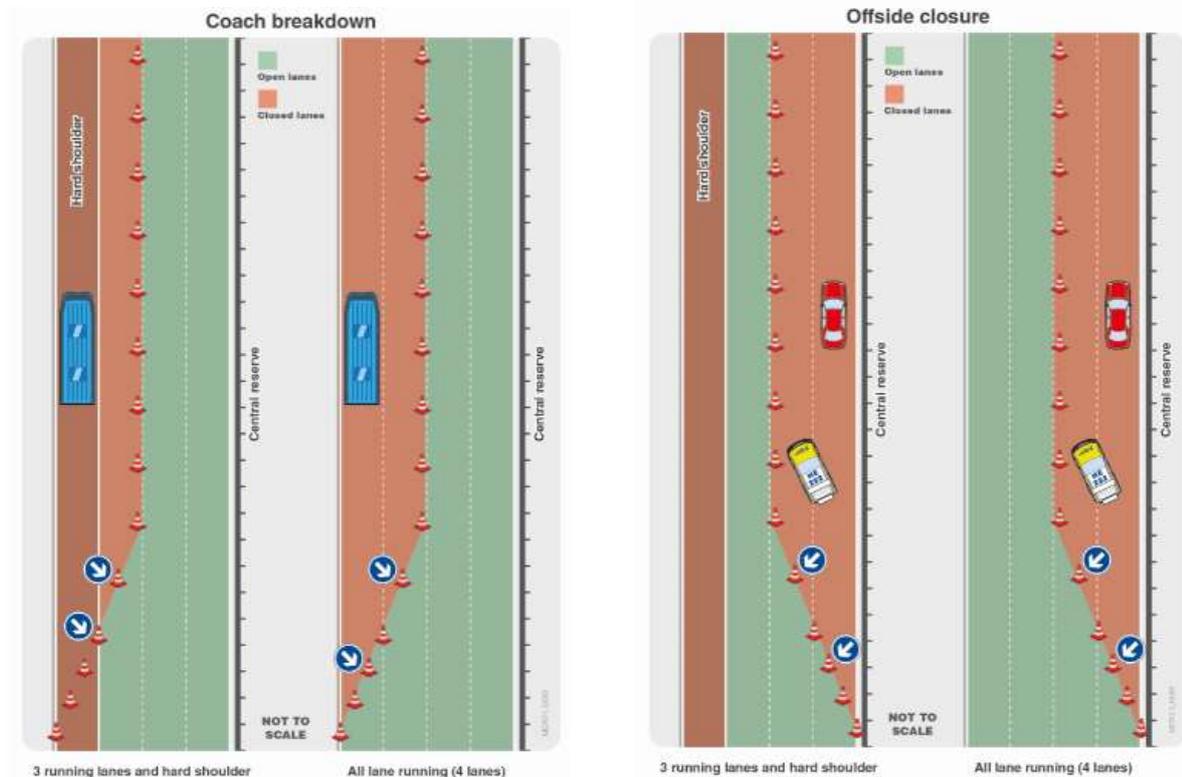
Consultation
We agreed to share the number of a) people and b) drivers who were consulted on smart motorways and the dates

The Department for Transport and Highways England have undertaken significant public consultation relevant to smart motorways generally and specific schemes.

In December 2013 to February 2014, the Department for Transport consulted on the *'National Policy Statement for the National Road and Rail Networks'*. This national consultation set out the need for the development of these national networks and the Government's policy for addressing that need. There were 5,800 responses from organisations, including local authorities, environmental groups, road and rail user groups, transport groups, business organisations and developers/promoters, consultants and advisers, airport and port groups, professional groups and the supply chain and from members of the public.

In December 2017, the Department for Transport also led a national consultation on *'Shaping the future of England's strategic roads'*. This consultation invited views on Highways England's proposal that investment in the network over the next 20 years should work towards achieving consistency around four categories of road:

- Smart motorways (routes with the highest demand, evolving with technology)
- Motorways (in their current form)
- Expressways (the busiest A-roads, with better design, technology and on-road response and alternative routes for non-motorised users and slow vehicles)
- All-purpose trunk roads (other strategic A-roads).

The Department for Transport received 3,153 responses to this consultation.

In addition, Highways England publicly consults on all its road enhancement projects, including smart motorways. As part of our current work to improve the M4 in Berkshire, we have consulted with 37 local authorities, 39 parish councils, 150 statutory consultees, 774 parties with potential land interests and more than 235 local businesses.

More broadly and on a regular basis, we actively engage with a number of stakeholders who provide us with valuable feedback. For example, these include, but aren't limited, to the AA, RAC, independent recovery industry, freight industry, emergency services, Transport Focus and appraising Members of Parliament.

Cluster and POPE reports
We agreed to send the Committee the following reports once they are published: POPE reports, reports on clusters of incidents
As Baroness Vere mentioned we intend to publish the Cluster and Post Opening Project Evaluation (POPE) reports shortly. I will ensure that these reports are available to the Committee as soon as they are published.

For you reference, please find below a brief explanation of what these reports will cover:

- POPE: POPE systematically monitors metrics in relation to traffic flows, journey times, journey time reliability, safety and environmental impacts, with the findings from the outturn POPE compared with the projected benefits from the appraisal. We produce and publish POPE reports to indicate how the scheme has been performing over the first one or five years of its operation, assessing whether the benefits set out in the business case are on track to be realised. The reports to be published shortly are for the M1 Junctions 10 to 13 (5-year POPE) and M1 Junctions 28 to 31 & 32 to 35a (1-year POPE)
- Cluster: The 2020 Action Plan committed to look at clusters of incidents on sections of the M6 and M1 smart motorway. We will be publishing a suite of reports, made up of independent review reports, our response to the independent reviews and a non-technical summary to help readers summarise and navigate the independent review and our response reports

ORR's Report - Quality Assurance of Safety Data
The Department for Transport will write to you separately before summer recess, regarding the ORR report into the Quality Assurance of safety data for All Lane Running Motorways received on 28 June 2021.

I trust that this additional information is helpful. I thank the Committee for its interest and scrutiny of this important issue and look forward to the publication of your report and recommendations.

Yours sincerely,

Nick Harris
Acting Chief Executive