



House of Commons
Transport Committee

Rollout and safety of smart motorways

Third Report of Session 2021–22

*Report, together with formal minutes relating
to the report*

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Transport Committee

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Contents

Summary	3
1 Introduction	5
2 Rollout	6
All-lane running motorways	6
Communicating with the public	10
National Highways oversight and regulation	11
3 Evidence-based policymaking	13
Evidence stocktake	13
Data	14
18-point action plan	15
4 Next steps	18
Strategic Road Network	18
Future smart motorway schemes	19
Dynamic hard shoulder motorways	20
Controlled motorways	21
Reinstating the hard shoulder	22
Conclusions and recommendations	24
Formal minutes	27
Witnesses	28
Published written evidence	29
List of Reports from the Committee during the current Parliament	32

Summary

This is not the first Transport Select Committee Report scrutinising all-lane running motorways. In 2016, the then Transport Committee expressed deep scepticism about the design and implementation of all-lane running motorways. In response, the Department and Highways England promised safety improvements. However, the promised safety improvements were delivered neither efficiently nor effectively. Although we welcome the Department's belated acceleration of safety improvements to all-lane running motorways, it is regrettable that the Government should find itself in this position. Safety risks on all-lane running motorways, such as those raised by our predecessor Committee in 2016, should have been addressed before those motorways were rolled out.

To guard against the introduction of such unsafe changes on the Strategic Road Network, the Department should make the introduction of operational and design changes contingent on a formal health and safety assessment by the Office of Rail and Road. In addition, the Department and National Highways should pause the rollout of all-lane running motorways until five-years of safety data is available for the remaining 112 miles of all-lane running motorway introduced before 2020. Finally, the Department and National Highways should:

- a) retrofit emergency refuge areas to existing all-lane running motorways to make them a maximum of 1 mile apart, decreasing to every 0.75 miles where physically possible;
- b) commission the Office of Rail and Road to conduct an independent evaluation of the effectiveness and operation of stopped vehicle technology; and
- c) insert the emergency corridor manoeuvre into the Highway Code to help emergency services and traffic patrol officers to access incidents when traffic is congested.

While we welcome the introduction of the action plan, it is unclear whether the interventions that the Government and National Highways are rolling out will effectively mitigate the specific safety risks associated with the removal of the hard shoulder. To clarify that point, the Office of Rail and Road should be tasked with evaluating how successful the action plan has been in

- i) reducing incidences of live lane breakdowns on all-lane running motorways;
- ii) reducing the time for which people who breakdown or stop in a live lane are at risk; and
- iii) educating drivers on what to do if they breakdown in a live lane.

The Government's decision in March 2020 that all new smart motorways will be all-lane running motorways was premature. The Government and National Highways should therefore pause the rollout of all-lane running motorways to collect more data, to upgrade and then evaluate the safety of existing all-lane running schemes and to

consider alternative options for enhancing capacity on the Strategic Road Network. The Government and National Highways should pause the rollout of new all-lane running schemes until five years of safety and economic data is available for every all-lane running scheme introduced before 2020 and the implementation of the safety improvements in the Government's action plan has been independently evaluated.

Dynamic hard shoulder motorways apparently confuse drivers, because the hard shoulder is used unpredictably to tackle congestion. A more consistent approach, where the hard shoulder is used at known times, could clarify the situation for drivers without physically removing the hard shoulder. The Department and National Highways should pause plans to convert dynamic hard shoulder motorways until the next Road Investment Strategy and use the intervening period to trial alternative ways in which to operate the dynamic hard shoulder to make the rules less confusing for drivers.

Controlled motorways, which retain the hard shoulder and have technology to regulate traffic, have the lowest casualty rates of all the types of motorway on the Strategic Road Network. The Department and National Highways should revisit the case for controlled motorways. The Department must carefully consider how the business case for controlled motorways compares with that for all-lane running motorways.

In conclusion, we are not convinced that reinstating the hard shoulder on all all-lane running motorways will improve safety. The evidence suggests that doing so could put more drivers and passengers at risk of death and serious injury. The Government is right to focus on upgrading the safety of all-lane running motorways.

1 Introduction

1. England's roads, especially its motorways, are among the safest in the world. Motorways are safer than all other types of road in England. Of the 1,489 deaths on England's roads in 2019, 15 (1%) occurred on motorways without a hard shoulder. Seventy (5%) occurred on motorways with a hard shoulder. Most of those deaths occurred on local roads.¹² Deaths on motorways without a permanent hard shoulder, however, have increased from five in 2017 to 15 in 2019.³ From 2017 to 2019, the number of miles of motorway without a hard shoulder increased from 172 miles to 204 miles. In four recent cases, coroners ruled that the absence of the hard shoulder contributed to deaths that occurred on all-lane running and dynamic hard shoulder motorways.⁴ Those coroners' reports warned that the loss of the hard shoulder presents a risk of further fatalities, unless action is taken.

2. We launched our inquiry in response to concerns about the increasing number of fatalities on smart motorways and criticism from coroners about the risks that arise when the hard shoulder is used as an extra lane. One coroner referred National Highways (formerly known as Highways England) to the Crown Prosecution Service to assess the grounds for bringing corporate manslaughter charges against the company. At the time of our inquiry, South Yorkshire Police had begun investigating whether to bring charges against the company in connection with two cases on the M1.⁵ We have not examined the actions of National Highways and its predecessor bodies in connection with the specific cases currently under investigation. Our focus during this inquiry has been to evaluate the advantages and disadvantages of smart motorways as a policy, including how effectively these motorways have been implemented.

1 Highways England ([RSM0114](#)) para 35–36

2 In 2019, 9 fatal casualties were reported on all-lane running motorways and 6 were reported on dynamic hard shoulder motorways.

3 Highways England, [Smart motorways stocktake first year progress report 2021](#), April 2021, see Table 7 in Annex B – Strategic road network Casualty Data 2015–2019

4 [Four coroners have now written reports warning smart motorways pose risk to lives of motorists](#), The Telegraph, 6 March 2021

5 [South Yorkshire Police investigate Highways England for corporate manslaughter](#), New Civil Engineer, 17 May 2021

2 Rollout

All-lane running motorways

3. All-lane running motorways were first introduced on the Strategic Road Network in 2014.⁶ By 2019, 141 miles of all-lane running motorways had been rolled out across the network.⁷ The key distinguishing feature of all-lane running motorways is that the hard shoulder, unlike previous iterations of smart motorway, is permanently used as an extra lane. All-lane running motorways use similar technology to other smart motorways, but there are notable differences in their design. Emergency refuge areas, which provide an alternative safe place to stop in the absence of the hard shoulder, are provided up to 1.6 miles (or 2.5km) apart, but typically occur every 1.2 miles.⁸ In comparison, dynamic hard shoulder motorways typically have emergency refuge areas every 800 metres to 1,000 metres. At 1.6 miles apart, drivers travelling at 60 mph are no more than 75 seconds away from the next emergency refuge area.⁹ That time gap falls to roughly 30 seconds when emergency refuge areas are located every 500 to 800 metres.¹⁰ The speed limit on all-lane running motorways is 70 mph, higher than on dynamic hard shoulder motorways, which have a 60 mph speed limit.¹¹

4. All-lane running motorways were introduced to add capacity while delivering savings on capital, maintenance and operational costs compared with previous smart motorway designs.^{12,13} The concept was developed to achieve the savings required by the 2010 Spending Review while maintaining Highways Agency safety standards.¹⁴ In 2011, the National Infrastructure Plan signalled the then Coalition Government's intention to introduce a "new specification for managed motorways [the former term used to describe smart motorways] which will reduce the costs of implementation by up to a quarter."¹⁵

5. Hard shoulders are a longstanding safety feature of motorways with which the public is familiar.^{16,17} The use of the hard shoulder as an extra lane was piloted in 2006 on the M42, and it has been a feature of smart motorway design since.¹⁸ Before the rollout of all-lane running, the use of the hard shoulder as an extra lane only occurred part-time on limited sections of the SRN.¹⁹ **Looking at international comparisons, few other**

6 Highways England (RSM0114), para 71

7 Highways England (RSM0114), para 72, table 3.

8 APPG Roadside Rescue and Recovery, [All-lane running](#), January 2020

9 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, para 34

10 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, para 34

11 Highways England (RSM0114), para 71

12 Highways Agency, [Managed Motorways All-lane Running: Interim Advice Note 161/12](#), March 2012, para 2.2;

Highways Agency, [Managed Motorways All-lane running: Concept of Operations v2](#), August 2013, para 26;

Highways Agency, [Managed Motorways All-lane running: Concept of Operations v2](#), August 2013, para 27

13 The Highways Agency was an executive agency of the Department for Transport responsible for exercising the Secretary of State's responsibility, as the highway authority, for operating, maintaining and improving the Strategic Road Network. Highways England replaced the Highways Agency after it was created under the Infrastructure Act in 2015.

14 Transport Research Laboratory, [Future Managed Motorways Concept Development: Task 1 Design Comparison Simulator Study](#), 2012 paragraph 1.1.

15 HM Treasury and Infrastructure UK, [National Infrastructure Plan 2011](#), November 2011, para 3.43

16 Highways England (RSM0114), para 76

17 Most stops on motorways are illegal discretionary stops, including stops in emergency areas.

18 Royal Haskoning DHV, [Independent Review of All Lane Running Motorways in England](#), March 2021

19 Before all-lane running motorways were introduced in 2014, dynamic hard shoulder motorways, where the hard shoulder is used part-time to ease congestion, were only used on 51 miles of the Strategic Road Network.

countries use the hard shoulder to increase motorway capacity.²⁰

6. The safety of all-lane running motorways has attracted considerable scrutiny since their inception. The Roads Minister described England’s all-lane running motorways as the most scrutinised 141 miles of road in the world.²¹ In June 2016, the then Transport Committee argued that the permanent loss of the hard shoulder on all-lane running motorways was a radical change, that they did not support because the “attendant safety risks” had not been “fully addressed”.²² The then Transport Committee also criticised the Department for continually lowering “the standard of the smart motorway specification, while presenting such changes as a logical next step”.²³ It recommended that smart motorways should adopt the specification used in the M42 pilot, with emergency refuge areas every 500 metres.²⁴ It also urged the Department not to invest in those motorways while “major safety concerns” existed.²⁵

7. Many of the problems with the safety of all-lane running motorways remain five years after the then Transport Committee’s Report, despite promises made by the Department and Highways England, National Highways’ predecessor. The rate of live-lane incidents on all-lane running motorways is too high. Some 40% of breakdowns on all-lane running motorways take place in a live lane.²⁶ Sarah Simpson, a transport planning expert, told us the number of live-lane breakdowns per mile per year is 62 on an all-lane running motorway compared with 16 on a conventional motorway.²⁷ Although live-lane breakdowns occur on all roads and do not always result in death or serious injury, we heard that they can be terrifying for people who experience them.²⁸ Drivers and passengers who stop or breakdown in a live lane are put at risk for too long, because the technology used to respond to these incidents is not as effective and reliable as it should be.²⁹ The RAC told us that only 23% of drivers trust that the highways authority can identify a stopped vehicle and respond accordingly.³⁰ The realities of how stopped vehicles are identified are concerning.

8. During our inquiry, we heard that

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- 20 NAO, [Tackling congestion by making better use of England’s motorways and trunk roads](#), November 2004, page 3; Royal Haskoning DHV, [Independent Review of All Lane Running Motorways in England](#), March 2021, page 128
- 21 [Q274](#) [Baroness Vere]
- 22 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016
- 23 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, page 3
- 24 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, paras 61 and 80
- 25 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016
- 26 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, see Table 3 on page 49
- 27 [Q137](#) [Sarah Simpson]
- 28 Highways England ([RSM0114](#)), para 53; Mr Newenham ([RSM0037](#)), Mr Simon Gray ([RSM0008](#)) Mr M Fleming (Retired at Retired) ([RSM0009](#)), David Land ([RSM0029](#)), Mr Mike Neale (Associate at FORMstudio) ([RSM0039](#)), Mrs Susan Hancock (Bank Manager at Lloyds Banking Group) ([RSM0061](#)), Nick Schollar ([RSM0064](#)), Michael Rawson (retired Traffic Patrol (Roads Policing) Sergeant at Metropolitan Police) ([RSM0033](#))
- 29 Automobile Association ([RSM0111](#)), RAC Motoring Services ([RSM0099](#)), GEM Motoring Assist (Guild of Experienced Motorists) ([RSM0086](#)), Alliance of British Drivers ([RSM0022](#)), The Royal Society for the Prevention of Accidents (RoSPA) ([RSM0082](#)) The Institution of Engineering and Technology ([RSM0085](#)), Sarah Simpson (Associate Group Director Transport Planning at Royal HaskoningDHV) ([RSM0074](#)), IAM RoadSmart (Institute of Advanced Motorists) ([RSM0072](#)) [Q44](#), [Q52](#) [Edmund King]
- 30 RAC, [RAC report on Motoring 2021](#), September 2021

- emergency refuge areas, which provide an alternative place to stop in the absence of the hard shoulder, are located up to 2.5 km apart. Some 63% of drivers believe this is too far.³¹ Many of those we heard from during our inquiry agreed.³² According to the RAC, 79% of drivers are concerned that they would not be able to reach the next emergency refuge area if they breakdown.³³ Design standards have been changed to shorten the distance on new schemes, but no decision has yet been taken on whether to apply this new standard to existing schemes.³⁴
- CCTV cameras on smart motorways are not routinely monitored.³⁵ Instead, they are used by control room staff to verify and respond to incidents.³⁶ We have found no up-to-date, reliable information on the time it takes for live-lane incidents to be identified.
- stopped vehicle detection will not be rolled out across all all-lane running motorways until September 2022, some six years after the then Transport Committee was told that the technology worked and that it would be part of the standard rollout for these schemes (see Box 1). There are also serious concerns about the accuracy and reliability of this technology.³⁷
- compliance and enforcement of Red X signs remains problematic. Cameras capable of enforcing compliance will not be fully rolled out until September 2022 (see Box 2).
- emergency services and traffic patrol officers still struggle to access incidents in a timely manner on all-lane running motorways, especially when traffic is congested.³⁸

31 RAC, [RAC report on Motoring 2021](#), September 2021

32 Automobile Association ([RSM0111](#)), RAC Motoring Services ([RSM0099](#)), GEM Motoring Assist (Guild of Experienced Motorists) ([RSM0086](#)), Alliance of British Drivers ([RSM0022](#)), The Royal Society for the Prevention of Accidents (RoSPA); Sarah Simpson (Associate Group Director Transport Planning at Royal HaskoningDHV) ([RSM0074](#))

33 RAC, [RAC report on Motoring 2021](#), September 2021

34 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020

35 [Q297](#) [Baroness Vere], Correspondence from Nick Harris, Acting Chief Executive Officer, Highways England, [relating to the Roll-out and safety of smart motorways](#), dated 8 July 2021

36 Correspondence from Nick Harris, Acting Chief Executive Officer, Highways England, [relating to the Roll-out and safety of smart motorways](#), dated 8 July 2021

37 Automobile Association ([RSM0111](#)), [Tragic toll of smart motorways rollout: The shocking failings found during undercover probe... and the lives lost](#), Mail Online, 26 September 2021

38 London Fire Brigade ([RSM0100](#)), Automobile Association ([RSM0111](#)), [Qq105-109, Q100](#) [Assistant Chief Constable Todd]

Box 1: Stopped vehicle detection

Stopped vehicle detection is a radar-based technology which is being rolled out on all-lane running motorways to identify stationary vehicles. SVD technology can identify a stationary vehicle in 20 seconds. The technology is also capable of automatically displaying messages, known as a 'report of obstructions message', on overhead signs to warn other drivers.³⁹ With SVD technology, it takes an average of 1 minute for staff in National Highways' regional control rooms to close the lane to traffic once an incident is identified.⁴⁰ **The Roads Minister told us that SVD technology, while it will improve safety, is not necessary to make all-lane running motorways safe because "all-lane running motorways were designed to—and do—operate safely without it."**⁴¹

The then Transport Committee was told in 2016 that SVD technology worked and would be rolled out across all-lane running motorways. However, this rollout will not be completed until September 2022, some six years later. Mike Wilson, Chief Highways Engineer at National Highways told the then Transport Committee in May 2016 that the company was confident that the technology worked and that "it will be part of the standard rollout of smart motorways going forward."⁴² The Government response to the Committee's Report noted that Highways England had committed to introduce SVD on all sections of all-lane running motorways.⁴³ In December 2016, the Government told the then Transport Committee "the requirements for stationary vehicle detection are being incorporated into the smart motorways programme with the rollout commencing in spring 2017".⁴⁴

By 2019, only 18% of all-running motorways had SVD installed.⁴⁵ In October 2019, Jim O'Sullivan, the then Chief Executive of Highways England, told the then Committee that the company was still developing plans for the rollout of SVD due to challenges of retrofitting the technology to existing schemes.⁴⁶ There was no "public timetable for this work" until the Government's stocktake was published in March 2020.⁴⁷ The rollout of SVD is being accelerated as part of the Government's 18-point action plan. The previous deadline had been to introduce SVD on all all-lane running motorways by the end of the current Road Investment Strategy (RIS2) in 2025.⁴⁸ The Department and National Highways accepted that they both could have been more precise about the timeline for the rollout. No new all-lane running motorways are due to open without SVD technology.⁴⁹ Lives would almost certainly have been saved had the technology been in place sooner.⁵⁰

39 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.6

40 Highways England, [Stationary Vehicle Detection System \(SVD\) Monitoring](#), March 2016

41 [Q220](#) [Baroness Vere]

42 Oral evidence to the Transport Committee 9 May 2016, HC (2016–17) 623, [Q156](#) [Mike Wilson]

43 Transport Committee, Fifth Report of Session 2016–17, [All-lane running: Government response](#), HC 654, September 2016, page 7

44 Transport Committee, Sixth Special Report of Session 2016–17, [All lane running: Government Response to the Committee's Fifth Report of Session 2016–17](#), HC 858, December 2016, page 4

45 Oral evidence to the Transport Committee 23 October 2019, HC (2019–20) 60, [Q72](#) [Jim O'Sullivan]

46 Oral evidence to the Transport Committee 23 October 2019, HC (2019–20) 60, [Q72](#) [Jim O'Sullivan]

47 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.7

48 Correspondence from Nick Harris, Acting Chief Executive Officer, Highways England, [relating to the Roll-out and safety of smart motorways](#), dated 8 July 2021

49 Highways England ([RSM0114](#))

50 Oral evidence to the Transport Committee 23 October 2019, HC (2019–20) [Q73](#), [Jim O'Sullivan]

Box 2: Red X signs - compliance and enforcement

Overhead and verge-mounted gantries on smart motorways display a red X to signify that the lane is closed to traffic. When the red X sign is turned on vehicles must change lanes beyond the red X sign. Red X signs provide a critical safety function. In the event of a live lane breakdown, control room operators can switch on the red X sign to prevent traffic from colliding with a stopped vehicle. Drivers can face a £100 fine and three points on their licence, or be referred to an awareness course, if they fail to comply with a red X sign. Compliance with red X signs remains at 92%, the same rate as when the then Transport Committee reported in 2016, although there is evidence that compliance has improved in the intervening years.⁵¹⁵²⁵³ Transport Focus told us that road users want to see “zero tolerance towards those disobeying a red X.”⁵⁴

The law has been changed several times to enable violations of red X signs to be automatically detected and enforced. The Road Traffic Offenders (Prescribed Devices) Order 2019, which came into effect on 10 June 2019, enabled the police to automatically enforce violations of red X signals. Using those powers, police forces can obtain information directly from the cameras used on smart motorways to issue fixed penalties to motorists. In January 2021, the Transport Secretary told us that the Government had “legislated to make sure that when a lane is closed the ‘X’ is actually enforceable.”⁵⁵ He added that “it was crazy that a year ago it was not even enforceable. When I came in, that was not even enforceable in law. People just got a letter.”⁵⁶ By March this year, however, only half the cameras capable of automatically detecting and enforcing red X violations had reportedly been updated.⁵⁷ As part of the action plan, National Highways has committed to upgrade all the cameras by September 2022.⁵⁸ Edmund King from the AA argued that “surely, the red X system and the legislation should have been in place before smart motorways were rolled out and not afterwards.”⁵⁹

Communicating with the public

9. The extent to which public engagement and communication would be key to successfully delivering smart motorways was identified early in their development.⁶⁰ In response to the then Transport Committee’s Report in 2016, the Government recognised “the need for more effective engagement to improve public perception and raise road user awareness of the differences of All Lane Running.”⁶¹ Despite this, many people apparently do not understand smart motorways and are unsure about how to drive on them and what to do if they breakdown. Some 64% of the public in 2019–20 reported that they understood what all-lane running motorways are, an increase from 39% in 2014–15.⁶² The RAC recently found that 49% of people are unclear about what to do if they breakdown on

51 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, paras 40–41

52 [Q340](#) [Mike Wilson]

53 Highways England, [Smart Motorways All Lane Running Overarching Safety Report 2019](#), December 2019, para 5.1

54 Transport Focus ([RSM0094](#))

55 Oral evidence to the Transport Committee on 3 February 2021, [Q68](#) [Grant Shapps]

56 Oral evidence to the Transport Committee on 3 February 2021, [Q68](#) [Grant Shapps]

57 [Half of smart motorway safety cameras not yet fully operational](#), The Times, Wednesday 3 March 2021

58 Highways England ([RSM0114](#))

59 [Q88](#) [Edmund King]

60 Royal Haskoning DHV, [Independent Review of All Lane Running Motorways in England](#), March 2021, page 2

61 Transport Committee, Fifth Report of Session 2016–17, [All-lane running: Government response](#), HC 654

62 Highways England ([RSM0114](#)), para 110

a motorway without a hard shoulder and cannot reach a refuge area.⁶³ Transport Focus told us that “there must be ongoing efforts to communicate practical advice about driving on an all-lane running motorway, including what to do if you break down.”⁶⁴ It stressed that the National Highways’ “go left” campaign, which launched in March 2021 “should be regarded as only the start.”⁶⁵

National Highways oversight and regulation

10. National Highways is a Government-owned entity charged with operating, maintaining and improving the Strategic Road Network, which includes motorways and major A-roads in England. The company operates under a licence issued by the Secretary of State for Transport and is responsible for delivering the Government’s Road Investment Strategy, RIS2.⁶⁶ Under the licence, Ministers remain accountable for making sure the “network is managed responsibly.”⁶⁷ The licence states that the Government maintains a “robust system of governance” that will “effectively oversee management and delivery and intervene to prevent or tackle any failures.”⁶⁸

11. Under its licence, National Highways “must, in exercising its functions and complying with its legal duties and other obligations, act in a manner which it considers best calculated to protect and improve the safety of the network.”⁶⁹ The licence states that it “should when exercising functions related to safety, have due regard to the need to protect and improve the safety of the network as a whole for all road users.”⁷⁰ National Highways has a goal of “zero harm”, by which it aims to reduce the number of people killed or seriously injured on the Strategic Road Network to “a level approaching zero” by 2040.⁷¹ As part of the current Road Investment Strategy, the company has a target to reduce the number of people killed or seriously injured on the Strategic Road Network by 50% in 2025 compared with the 2005–09 baseline of 357 fatalities and 1,964 serious injuries a year.^{72,73} In other words, the 2025 target is 178 fatalities and 982 serious injuries on the SRN.

12. National Highways is regulated by the Office of Rail and Road. However, the ORR’s role in relation to National Highways is different from the role it performs in relation to rail, where it exercises a range of health and safety powers over the whole mainline rail network in Great Britain.⁷⁴ The regulator’s role focuses on monitoring the company’s performance and efficiency, which includes monitoring performance against safety targets.⁷⁵ The bulk of the regulator’s resources are consequently directed to its work on

63 RAC Motoring Services ([RSM0099](#))

64 Transport Focus ([RSM0094](#))

65 Transport Focus ([RSM0094](#))

66 Department for Transport, [Highways England Licence: Secretary of State for Transport statutory directions and guidance to the strategic highways company](#), April 2015. Department for Transport, [Road Investment Strategy 2020–2025](#), March 2020

67 Department for Transport, [Highways England Licence: Secretary of State for Transport statutory directions and guidance to the strategic highways company](#), April 2015

68 Department for Transport, [Highways England Licence: Secretary of State for Transport statutory directions and guidance to the strategic highways company](#), April 2015

69 Department for Transport, [Highways England Licence: Secretary of State for Transport statutory directions and guidance to the strategic highways company](#), April 2015, para 4.2

70 Department for Transport, [Highways England Licence: Secretary of State for Transport statutory directions and guidance to the strategic highways company](#), April 2015, para 5.15

71 Department for Transport, [Road Investment Strategy 2020–2025](#), March 2020

72 Department for Transport, [Road Investment Strategy 2020–2025](#), March 2020

73 National Highways, [2019 Road Safety Performance Overview](#), August 2021, p7

74 [ORR written evidence](#)

75 [ORR written evidence](#)

rail rather than that on roads.⁷⁶

13. The ORR examines all aspects of change on the rail network, including infrastructure changes. For example, new infrastructure or rolling stock needs to be approved by the ORR before it is placed into service. Before changes are approved, those seeking a change are required to supply the ORR with information demonstrating that they have “identified all risks” and have “taken or put in place appropriate processes and procedures to adequately manage risk and safety issues.”⁷⁷ The ORR may also seek “specific assurances from the applicant that risks have been identified and are being managed appropriately.”⁷⁸

14. The ORR was asked by the Secretary of State to provide quality assurance on the evidence base for all-lane running. The ORR’s findings were sent to the Secretary of State on 28 June and published on 7 September.⁷⁹ The Department has also asked the ORR to monitor National Highways’ delivery on the Government’s 18-point action plan. The ORR examined the “methodologies Highways England [now National Highways] is using to assess the efficacy of the actions it is undertaking as part of the Action Plan” and considered “how the company resources the operation of Smart Motorways on a day-to-day basis.”⁸⁰

15. The design of our motorways and strategic roads necessarily entails balancing competing priorities. However, successive Administrations, together with the Department and National Highways’ predecessor, Highways England, underestimated the scale of safety measures needed effectively and reliably to mitigate the risks associated with the permanent removal of the hard shoulder on all-lane running motorways. The Department and Highways England failed to deliver safety improvements to all-lane running motorways in a timely fashion, despite having promised previous Transport Committees that such improvements would be prioritised. Moreover, the communication of this radical change in the design of our motorways has been woeful. Six years after their introduction, many people do not understand what all-lane running motorways are and what to do if they breakdown in a live lane.

16. We welcome the Department’s acceleration of safety improvements to all-lane running motorways and acknowledge that the current Secretary of State for Transport and Minister for Roads have, upon their appointment, taken steps to address safety and delivery failures on all-lane running motorways. However, it is regrettable that the Government should find itself in this position. Safety risks on all-lane running motorways, such as those raised by the Transport Committee in 2016, should have been addressed before those motorways were rolled out.

17. The design of our motorways and major roads can currently be altered without any independent assurance on safety by a regulatory body, which is a systemic weakness. *The Department should make the introduction of changes to the design and operation of the Strategic Road Network depend on a formal health and safety assessment by the Office of Rail and Road.*

76 The ORR’s annual budget is £38.2 million, of which £2.9million goes on its highway functions. Of the ORR’s 350 employees, 19 works on roads.

77 Correspondence from John Larkinson, Chief Executive of the Office of Rail and Road, on Inquiry on the rollout and safety of Smart Motorways dated 17 June 2021.

78 Correspondence from John Larkinson, Chief Executive of the Office of Rail and Road, on Inquiry on the rollout and safety of Smart Motorways dated 17 June 2021.

79 Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State](#), Rt. Hon. Grant Shapps MP, 28 June 2021 [published on 7 September]

80 [ORR written evidence](#)

3 Evidence-based policymaking

Evidence stocktake

18. In October 2019, the Secretary of State for Transport asked the Department to conduct an evidence stocktake on the safety of smart motorways. The stocktake was published in March 2020, along with an 18-point action plan to improve safety and to enhance the public perception of those motorways.⁸¹ Highways England, formerly National Highways, published its one-year progress report in April 2020.⁸² In March 2021, the Secretary of State for Transport announced that he had commissioned the Office of Rail and Road (ORR) to provide independent analytical assurance of the evidence base for all-lane running and of the Government's conclusions on the safety of smart motorways in the stocktake. This advice was sent to the Secretary of State on 28 June and published on 7 September, along with an official response from National Highways.⁸³

19. The Government's stocktake concluded that "in most ways smart motorways are safe[as], or safer[than], conventional ones. But not in every way."⁸⁴ That is because without a hard shoulder certain risks increase, such as the risk of vehicles stopping in live lane and changing lanes dangerously, while others, such as the risks of moving vehicles colliding, of vehicles driving too fast and of vehicles drifting off the carriageway, decrease.⁸⁵ The Government and National Highways used several sources to draw that conclusion, including high-level statistical comparisons of casualty rates between different motorway types, before-and-after studies to assess whether safety improves after a specific section of motorway is converted to all-lane running and modelling of the risks implicit in different motorway designs.⁸⁶⁸⁷ The available data supported the original conclusion in the stocktake. The ORR therefore found that the comparisons that the Department and National Highways made about the "relative safety of ALR motorways were made in an appropriate way."⁸⁸

20. Other types of smart motorway have lower casualty rates than all-lane running motorways. Figure 1 summarises the casualty rates by type of motorway on the SRN from 2015 to 2019.⁸⁹ Overall, all-lane running motorways, although safer than conventional motorways, had higher casualty rates than controlled motorways and dynamic hard shoulder motorways. Both those types of smart motorway retain a hard shoulder either permanently or part-time. High-level statistical comparisons between the types of motorway show that controlled motorways, which permanently retain a hard shoulder and use technology to regulate traffic, are the safest type of motorway, with the lowest casualty rates.⁹⁰

81 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020

82 Highways England, [Smart motorways stocktake first year progress report 2021](#), April 2021.

83 Correspondence from Rt Hon. Grant Shapps, Secretary of State for Transport to John Larkinson, Chief Executive of the Office of Rail and Road, [Quality Assurance for All Lane Running Motorways](#), 15 April 2021; National Highways, [ORR Quality Assurance of All Lane Running Motorway Data Highways England Response to ORR Key Findings & Recommendations](#), August 2021

84 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.35

85 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 4.25

86 Before and after studies also use a counterfactual scenario to assess the change in safety which would have been expected anyway without the intervention.

87 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.7

88 Highways England (RSM0114), Department for Transport (RSM0113), Highways England, [Smart motorways stocktake first year progress report 2021](#), April 2021, Q238 [Baroness Vere]

89 A five-year average is used because incidents can vary significantly year to year.

90 Office of Rail and Road, [Analytical assurance of All-lane running data: Annex A High-level statistics](#), September 2021

Figure 1 - Casualty rates by type of motorway from 2015–2019 per hundred million vehicle miles (hmvm)

From 2015 to 2019	Fatal casualties	Live lane fatality rates	Fatal and Weighted Injuries (FWI) rate ⁹¹	Serious casualty rate	Slight casualty rate
Conventional motorways	0.16	0.15	0.37	1.12	9.63
Controlled motorways	0.07	0.06	0.32	1.14	13.59
Dynamic hard shoulder motorways	0.09	0.08	0.34	1.10	13.83
All-lane running motorways	0.12	0.12	0.35	1.24	9.73

21. Before and after studies of the first nine all-lane running schemes found that the overall casualty rate decreased by 28% after motorways were converted to all-lane running.⁹² Although some of the improvement in safety was expected even without a change in the design, the overall casualty rate still improved by (18%) once the counterfactual was factored in.⁹³ The rate of fatal and serious injuries, in contrast, increased by 14% after these motorways were converted.⁹⁴ Once the counterfactual was included, however, the increase in the fatal and serious casualty rate was only 2%.⁹⁵ In the stocktake, the Government pointed out that this increase was within the margin of statistical error.⁹⁶

Data

22. Safety data on new types of motorway must be treated with caution. Limited post-opening data are available for many smart motorway schemes and especially for all-lane running motorways, which were introduced in 2014.⁹⁷ The ORR observed that only 29 miles of all-lane running motorways have five years of safety data available and that much less data are available for the remaining 112 miles.⁹⁸ The low number of incidents that occur on individual roads means that casualty data are often volatile, with rates fluctuating considerably from year to year.⁹⁹ Such fluctuations make it difficult to establish whether differences in casualty rates between types of motorway are statistically significant.¹⁰⁰ The ORR pointed out that no assessment has been made of whether the differences between the

91 Under Fatal and Weighted Injuries (FWI) fatal and non-fatal injuries are assigned weightings to give one measure of the safety performance. Non-fatal injuries are added up using a weighting factor to arrive at a total number of 'fatality equivalents'. Under the measure a fatality is given 10 times the weight of a serious casualty, and a serious casualty 10 times the weight of a slight casualty.

92 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.24

93 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.24

94 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.25

95 This increase in the fatality and serious casualty rate is driven by an increase in the serious casualty rate. The fatal casualty rate decreased after counterfactual was included.

96 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.25

97 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, 4.20; Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State, Rt. Hon. Grant Shapps MP](#), 28 June 2021 [published on 7 September]

98 Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State, Rt. Hon. Grant Shapps MP](#), 28 June 2021 [published on 7 September]

99 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 4.19

100 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020,

casualty rates for different types of motorway are statistically significant.¹⁰¹ The data from before and after studies are also limited. National Highways pooled results of nine all-lane running schemes because some only had data for a single year. The ORR highlighted that that exercise assumed that the schemes were “fully comparable”.¹⁰² In the stocktake, the Government stated that the evidence base has “the potential to evolve, as more years of data become available and analytical methods develop.”¹⁰³ The ORR, however, noted that

the limitations of available data will not be solved in the short term and therefore presents an immediate challenge in addressing the concerns expressed by stakeholders regarding the safety of ALR motorways.¹⁰⁴

23. The ORR observed that the comparisons that the Department and National Highways “made between conventional motorways and smart motorways did not always separate the types of road (i.e. Controlled Motorways, DHS, ALR), which may have obscured the impact of the removal of the hard shoulder.”¹⁰⁵ No direct comparison was made in either the Smart Motorways Stocktake or National Highways’ one year progress report between all-lane running and controlled motorways. When comparing statistics on high-level casualty rates, the ORR recommended that National Highways should always consider motorways with a hard shoulder (conventional and controlled motorways) separately from the types of smart motorway with hard shoulder running.¹⁰⁶

24. The available data on the safety of all-lane running motorways are limited and volatile. There are only five-years of safety data available for 29 miles of all-lane running motorways. The Department and National Highways should pause the rollout of all-lane running motorways until five-years of safety data is available for the remaining 112 miles of all-lane running motorway introduced before 2020.

18-point action plan

25. The Government published an 18-point action plan as part of the stocktake.¹⁰⁷ In April 2021, the Roads Minister told us that all the actions within the action plan are “either on track, have been completed or, in some cases, are being accelerated.”¹⁰⁸ In 2021, National Highways made several commitments to accelerate the delivery of actions. The full package of measures is estimated to cost £500 million.¹⁰⁹ The package included:

- abolishing dynamic hard shoulder motorways;
- introducing new design standards that decrease the distance between emergency refuge areas to a maximum of 1 mile and to 0.75 mile, where feasible, on new

101 Office of Rail and Road, [Analytical Assurance of All-lane running motorway data: Annex A High-level statistics](#), September 2021

102 Office of Rail and Road, [Analytical Assurance of All-lane running motorway data: Annex B Before-and-after studies](#), September 2021

103 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 5.2

104 Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State, Rt. Hon. Grant Shapps MP](#), 28 June 2021 [published on 7 September]

105 Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State, Rt. Hon. Grant Shapps MP](#), 28 June 2021 [published on 7 September]

106 Office of Rail and Road, [Quality Assurance of All Lane Running Motorway data: Report for Secretary of State, Rt. Hon. Grant Shapps MP](#), 28 June 2021 [published on 7 September]

107 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020

108 Oral evidence to the Transport Committee on 21 April 2021 HC [2020/21] 1344, [Q94](#) [Baroness Vere]

109 HC Debate, 24 May 2021, [HCWS886](#) [Commons written ministerial statement]

smart motorway schemes;

- substantially speeding up the installation of stopped vehicle detection to spot vehicles that have stopped or broken down in a live lane;
- upgrading cameras to automatically detect and enforce red X violations;
- setting a target to reduce the time it takes for traffic patrol officers to attend incidents from 17 minutes to 10 minutes; and
- improving communication and guidance for drivers, including running a £5 million national campaign.

26. On 12 March 2020, the Secretary of State for Transport told Parliament that the action plan “will allow us to retain the benefits of smart motorways while addressing the concerns that have been identified.”¹¹⁰ However, the action plan does not specify the extent to which the most serious hazards arising from the use of the hard shoulder as an extra lane will be reduced, both collectively and individually, by this package of measures.¹¹¹ The Minister said that “many of the things we are doing are more about public confidence and public education than necessarily what we are able to quantify in the statistics in a forecasted sort of way.”¹¹²

27. The 18 measures within the Government’s action plan are broadly welcome. However, they do not fully address the risks associated with the removal of the hard shoulder. Emergency refuge areas on existing all-lane running motorways will remain too far apart because design standards have only been changed for new schemes.¹¹³ National Highways was developing plans for a retrofit programme at the time of our inquiry.¹¹⁴ However, it also argued that there is not a strong correlation between the provision of emergency refuge areas and safety.¹¹⁵ The AA and the RAC told us that a failure to retrofit emergency refuge areas on existing all-lane running motorways to the new design standard would result in a two-tier system.¹¹⁶ Although the rollout of SVD technology is being accelerated, there are serious doubts about its reliability and effectiveness (see para 8). The AA called for an independent evaluation of SVD to be carried out.¹¹⁷ Traffic patrol officers and emergency services struggle to respond to access incidents when traffic is congested (see para 8). The AA has called for the introduction of an emergency corridor, which would require drivers to create a corridor in stationary traffic to allow emergency services to access incidents where there is no hard shoulder.¹¹⁸

28. We welcome the steps that the Department is taking through the action plan to rebuild trust in smart motorways and to make them safer. However, we are concerned

- a) **that emergency refuge areas will remain too far part on existing all-lane running schemes at up to 2.5 km;**

110 HC Debate, 12 March 2020, [HCWS155](#) [Commons written ministerial statement]

111 [Q295](#) [Baroness Vere]

112 [Q295](#) [Baroness Vere]

113 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.11; Automobile Association ([RSM0111](#)), RAC Motoring Services ([RSM0099](#)), [Q94](#) [Edmund King]

114 [Q335](#) [Nick Harris], [Q336](#) [Jill Adam]

115 [Q338](#) [Nick Harris]

116 Automobile Association ([RSM0111](#)), RAC Motoring Services ([RSM0099](#))

117 Automobile Association ([RSM0111](#))

118 Automobile Association ([RSM0111](#))

- b) whether stopped vehicle detection technology is effective and reliable; and
- c) that emergency services and traffic patrol officers will still struggle to access incidents, especially when traffic is congested.

29. *The Department and National Highways should:*

- a) *retrofit emergency refuge areas to existing all-lane running motorways to make them a maximum of 1,500 metres apart, decreasing to every 1,000 metres where physically possible;*
- b) *commission the Office of Rail and Road to conduct an independent evaluation of the effectiveness and operation of stopped vehicle detection technology, including maintenance and monitoring; and*
- c) *insert the emergency corridor manoeuvre into the Highway Code to help emergency services and traffic patrol officers to access incidents when traffic is congested.*

30. While we welcome the action plan, it is not clear whether the interventions that the Government and National Highways are rolling out will effectively mitigate the specific safety risks associated with the removal of the hard shoulder. *Beginning in September 2022, the Office of Rail and Road should be tasked with evaluating how successful the action plan has been in*

- a) *reducing incidences of live lane breakdowns on all-lane running motorways;*
- b) *reducing the time for which people who breakdown or stop in a live lane are at risk; and*
- c) *educating drivers on what to do if they breakdown in a live lane.*

4 Next steps

Strategic Road Network

31. The Strategic Road Network (SRN) comprises more than 4,500 miles of major A-roads (2,608 miles), conventional motorways (1,564 miles) and smart motorways (345 miles).¹¹⁹ Figure 2 shows how the SRN changed from 2010 to 2019. Almost one-third of the miles travelled on Britain's roads in 2019 (96.8 billion out of 356.5 billion) were driven on the SRN.¹²⁰ Traffic on roads in England has increased by 23% since 2000.¹²¹ Motorway journeys have increased by 26% over this period.¹²² National Highways' Chief Executive, Nick Harris, told us that the network currently lacks capacity.¹²³

Figure 2: Composition of the Strategic Road Network by type of road class in road miles from 2010 to 2019

Road Class	Road Length (Miles)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Conventional Motorway	1,778	1,755	1,700	1,697	1,651	1,657	1,617	1,583	1,576	1,564
Controlled Motorway	51	73	115	117	121	121	124	135	137	141
Dynamic Hard Shoulder	16	22	38	51	67	67	67	67	67	63
All Lane Running	-	-	-	-	29	29	62	105	123	141
All SRN 'A' Roads	2,570	2,582	2,583	2,571	2,574	2,570	2,563	2,578	2,611	2,608

32. Traffic on the SRN is projected to increase. In 2018, the Department for Transport estimated that traffic on the SRN will increase by between one-third and two-thirds in the next 30 years.¹²⁴ For every three vehicles on the SRN today, an extra one or two vehicles could be present on the SRN by 2050.¹²⁵ The Department and National Highways both told us that failing to provide sufficient capacity to cope with the forecast increase in traffic would increase congestion on the SRN.¹²⁶ Failing to increase capacity in line with demand would, they argued, not only harm the economy, but could lead to more deaths and serious injuries on Britain's roads, because drivers would choose to use less safe, local roads to avoid congestion.¹²⁷¹²⁸ Air quality in towns and cities might also decrease if traffic were diverted from motorways to local roads. However, creating capacity can also induce traffic and thereby increase carbon emissions.¹²⁹

119 Highways England ([RSM0114](#)), para 72, table 3.

120 Department for Transport, [Road Traffic Estimates: Great Britain 2019](#), September 2020

121 Highways England ([RSM0114](#)), para 22

122 Highways England ([RSM0114](#)), para 22

123 [Q250](#)[Nick Harris]

124 Department for Transport, [Road Traffic Forecasts 2018](#), July 2018, para 15

125 Highways England ([RSM0114](#)), para 22

126 Department for Transport ([RSM0113](#)) section 5, Highways England ([RSM0114](#)) para 25

127 Research by INRIX estimated UK drivers lost an average of 178 hours in 2018 due to delays caused by congestion, at a cost of £7.9billion to the economy. The Department for Transport estimate that congestion will cost the economy £10billion per year in lost time by 2040

128 Department for Transport ([RSM0113](#)) section 3, Highways England ([RSM0114](#)) para 34

129 Sarah Simpson (Associate Group Director Transport Planning at Royal HaskoningDHV) ([RSM0074](#)), Chartered Institution of Highways and Transportation ([RSM0095](#))

33. Although the pandemic affected traffic volumes, National Highways told us that car traffic quickly returned to around 90% of pre-Covid levels, while HGV and LGV traffic has been higher than before the pandemic.¹³⁰ National Highways expects traffic on the SRN to “continue to grow in the medium to long-term.”¹³¹

Future smart motorway schemes

34. In March 2020, the Government confirmed that all future smart motorway schemes are expected to be all-lane running motorways.¹³² All-lane running motorways create extra motorway capacity without the need to acquire extra land and property. This makes them a less costly, time-consuming and disruptive way to add extra capacity than building new roads or widening existing ones.¹³³ The original design also saved capital, maintenance and operational costs associated with earlier iterations of smart motorway.¹³⁴ The Department for Transport told us that all-lane running motorways deliver value for money.¹³⁵ ALR motorways are expected to deliver an economic return of £3 for every £1 invested.¹³⁶

35. We heard, however, that it is too early to know if all-lane running motorways will deliver the scale of economic benefits that were originally forecast. Five-year evaluations, which assess the actual performance against what was forecast, have only been completed in a few cases.¹³⁷ Nick Harris, the Chief Executive of National Highways, told us that the company’s assumptions about all-lane running, such as the safety benefits, the economic benefits, the impact of journey reliability and the transfer of traffic from local roads to motorways, are “being evidenced.” However, he added that “we need to wait for the five-year reports.”¹³⁸

36. Data on the performance of some schemes are available. Professor Metz, former chief scientist at the Department for Transport, examined the performance of one scheme on the M25 between junctions 23 to 27, which had a benefit-cost ratio (BCR) of 2.9, due to the expected improvements in traffic speed and reduced journey times. Professor Metz, however, found that those time savings were not observed beyond the first year of the scheme.¹³⁹ Professor Metz concluded that the modelling “under-predicted the increase in traffic flows as a result of the investment.”¹⁴⁰ According to Mr Harris “some schemes deliver better than others.”¹⁴¹ He told us that “at programme level, we are generally achieving or starting to achieve that level of benefit [the forecast benefits], or our expectation is that we are going to achieve it.”¹⁴²

130 [Q250](#) [Nick Harris]

131 Highways England ([RSM0114](#)), para 22

132 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020

133 Department for Transport ([RSM0113](#)) section 1, Highways England ([RSM0114](#)) para 26

134 Highways Agency, [Managed Motorways All-lane running: Concept of Operations v2](#), August 2013, para 26; Highways Agency, [Managed Motorways All-lane running: Concept of Operations v2](#), August 2013, para 27; HM Treasury and Infrastructure UK, [National Infrastructure Plan 2011](#), November 2011, para 3.43

135 Department for Transport ([RSM0113](#))

136 Highways England ([RSM0114](#)), para 26

137 [Qq39–41](#)

138 [Q252](#) [Nick Harris]

139 Disappointing benefits from investment in smart motorways David Metz (honorary professor at UCL Centre for Transport Studies) ([RSM0041](#))

140 Disappointing benefits from investment in smart motorways David Metz (honorary professor at UCL Centre for Transport Studies) ([RSM0041](#))

141 [Q254](#) [Nick Harris]

142 [Q254](#) [Nick Harris]

37. In June 2016, the then Transport Committee concluded that the trade-off on safety was “an unacceptable price to pay” for the benefits provided by all-lane running motorways.¹⁴³ The then Committee urged the Department not to proceed with its major investment in these motorways while “major safety concerns” existed.¹⁴⁴

Dynamic hard shoulder motorways

38. Dynamic hard shoulder motorways were the second iteration of smart motorway to be introduced on the SRN. The first pilot scheme took place between junctions 3a and 7 on the M42 in 2006. There are currently 63 miles of DHS motorways on the SRN.¹⁴⁵ On dynamic hard shoulder motorways, the hard shoulder is used part-time an extra lane to respond to increases in traffic.¹⁴⁶ In addition to technology to regulate the speed of traffic, these motorways also have emergency refuge areas typically every 800 metres to 1,000 metres apart from the M42 scheme, which had emergency refuge areas every 500 metres.¹⁴⁷ Those motorways operate at 60 mph, unlike ALR motorways which run at 70 mph.¹⁴⁸

39. No new dynamic hard shoulder motorways are planned for construction.¹⁴⁹ The Government plans to convert existing dynamic hard shoulder motorways to all-lane running by March 2025.¹⁵⁰ The Government’s rationale for abolishing dynamic hard shoulder motorways is that those motorways can cause confusion, because the hard shoulder is “sometimes used and sometimes not.”¹⁵¹ The Roads Minister cited “3.6 million misuses of the hard shoulder on dynamic hard shoulder motorways over a year.”¹⁵² National Highways added that because of congestion, dynamic hard shoulder motorways often operate in a similar fashion to all-lane running motorways.¹⁵³ However, casualty rates on these motorways are generally lower than those on all-lane running motorways (see Chapter 3). One benefit of dynamic hard shoulder motorways is that the “hard shoulder is physically still there, and the default is that it cannot be used as a running lane.”¹⁵⁴

40. Many informed witnesses agreed with the Government that the part-time use of the hard shoulder is confusing and that a consistent environment would be beneficial.¹⁵⁵ However, the part-time use of the hard shoulder might be less confusing if it were consistently applied at certain times of the day rather than specifically in response to congestion, which is the case in other countries.¹⁵⁶ Edmund King from the AA explained that some of the smart motorway deaths on the M1 have happened at night, when there is not much traffic. He suggested that on a dynamic hard shoulder the hard shoulder could

143 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, paras 12 & 22

144 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016, page 3

145 Highways England ([RSM0114](#))

146 Highways England ([RSM0114](#))

147 House of Commons Transport Committee, [All-lane Running](#), Second Report of Session 2016–17, HC 63, 30 June 2016

148 Highways England ([RSM0114](#))

149 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020,

150 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020

151 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.3

152 [Q278](#) [Baroness Vere]

153 Highways England ([RSM0114](#)), para 83

154 Sarah Simpson (Associate Group Director Transport Planning at Royal HaskoningDHV) ([RSM0074](#)), para 1.1.12

155 Logistics UK ([RSM0076](#)), The Royal Society for the Prevention of Accidents (RoSPA) ([RSM0082](#)), Institution of Civil Engineers ([RSM0071](#)), [Q7](#), [Q9](#), [Q35](#), [Q190](#),

156 [Q162](#), [Q36](#), [Q37](#)

be used as an extra lane from 7am to 7pm and returned to use as the hard shoulder at night.¹⁵⁷

Controlled motorways

41. Controlled motorways were the first type of smart motorway introduced on the SRN. The first controlled motorway was introduced on the M25 between junctions 10 and junction 15 in 1995.¹⁵⁸ There are 141 miles of controlled motorway on the SRN.¹⁵⁹ These motorways have the same technology as other types of smart motorway to regulate the speed and flow of traffic, but they also have a permanent hard shoulder.¹⁶⁰ Controlled motorways were, however, often installed on stretches of motorway that had been widened. The Roads Minister told us that the Government does not intend “to do much road widening, unless the business case proves that it is the right thing to do.”¹⁶¹ Widening roads requires the acquisition of land.¹⁶² However, as mentioned in Chapter 3, controlled motorways have lower casualty rates than motorways without a permanent hard shoulder.¹⁶³ The AA, RAC and Sarah Simpson, a transport planning expert, all expressed a clear preference for more controlled motorways.¹⁶⁴ Ms Simpson told us that controlled motorways “should be the minimum standard for our motorways, because the safety benefits are so clear for all to see in the data and in the way that it manages traffic.”¹⁶⁵

42. The Government’s decision in March 2020 that all new smart motorways will be all-lane running motorways was premature. The data on the safety and economic performance of existing all-lane running schemes are insufficient to make such a judgment. In addition, other smart motorway designs, such as controlled motorways and dynamic hard shoulder motorways, have lower casualty rates than all-lane running motorways. The Government and National Highways are taking steps to make all-lane running motorways safer, but it is too early to judge the effectiveness of those measures. In conclusion, we are not convinced that the benefits of all-lane running motorways are sufficient to justify the risks to safety associated with permanently removing the hard shoulder.

43. *The Government and National Highways should pause the rollout of all-lane running motorways to collect more data, to upgrade and then evaluate the safety of existing all-lane running schemes and to consider alternative options for enhancing capacity on the Strategic Road Network. The Government and National Highways should pause the rollout of new all-lane running schemes until:*

- *five years of safety and economic data is available for every all-lane running scheme introduced before 2020; and*
- *the implementation of the safety improvements in the Government’s action plan has been independently evaluated.*

157 [Q36](#) [Edmund King]

158 Highways England ([RSM0114](#))

159 Highways England ([RSM0114](#))

160 Highways England ([RSM0114](#))

161 [Q275](#) [Baroness Vere]

162 [Q275](#) [Baroness Vere]

163 See Figure 2

164 [Q172](#), [Sarah Simpson] [Q39](#), [Edmund King] [Q41](#), [Nicholas Lyes], [Q6](#) [Edmund King]

165 [Q172](#) [Sarah Simpson]

44. **Dynamic hard shoulder motorways apparently confuse drivers, because the hard shoulder is used unpredictably to tackle congestion. A more consistent approach, where the hard shoulder is used at known times, could clarify the situation for drivers without physically removing the hard shoulder. *The Department for Transport and National Highways should pause plans to convert dynamic hard shoulder motorways until the next Road Investment Strategy and use the intervening period to trial alternative ways in which to operate the dynamic hard shoulder to make the rules less confusing for drivers.***

45. **Controlled motorways, which retain the hard shoulder and have technology to regulate traffic, have the lowest casualty rates of all types of motorway on the Strategic Road Network. *The Department and National Highways should revisit the case for controlled motorways. The Department should set out how the business case for controlled motorways compares with that for all-lane running motorways.***

Reinstating the hard shoulder

46. Drivers intuitively believe that they are safer driving on motorways with hard shoulders, irrespective whether the official data suggest otherwise.¹⁶⁶ In 2021, the RAC found that 84% of drivers believed that the removal of the hard shoulder compromises safety in the event of a breakdown an increase from 67% in 2019.¹⁶⁷ That point was echoed by many people who wrote to us during this inquiry. National Highways recognised that it has “more work to do to build public confidence in driving on motorways without a permanent hard shoulder.”¹⁶⁸

47. The RAC found that a clear majority of drivers, some 62%, are in favour of scrapping all-lane running motorways and reinstating the hard shoulder, while retaining smart motorway technology to regulate traffic and to detect breakdowns.¹⁶⁹ The AA and RAC echoed that view.¹⁷⁰¹⁷¹ The campaign group Smart Motorways Kill called for the hard shoulder to be reinstated.¹⁷²

48. Reinstating the hard shoulder would incur significant costs. The Department for Transport and National Highways told us that although reinstating the hard shoulder is possible, doing so would be expensive and disruptive.¹⁷³ The Roads Minister explained that reinstating the hard shoulder would entail either widening these motorways or converting the left-hand lane back to a hard shoulder.¹⁷⁴ To widen those motorways, the Government and National Highways would need to acquire land and property, including sections of the green belt.¹⁷⁵ Converting the left-hand lane back to a hard shoulder would reduce capacity on those motorways by a quarter.¹⁷⁶ National Highways calculated that if capacity were reduced by 25%, consequent congestion would incur a cost to the economy

166 Transport Focus ([RSM0094](#))

167 RAC Motoring Services ([RSM0099](#)); <https://www.rac.co.uk/drive/features/rac-report-on-motoring-2021/>

168 Highways England ([RSM0114](#)), para 100

169 RAC motoring report

170 [Q40](#), [Q41](#), [Q7](#)

171 [Q11](#) [Nicholas Lyes]

172 Mrs Claire Mercer (Campaigner at Smart Motorways Kill); Mrs Julie Petereit (Campaigner at Smart Motorways Kill) ([RSM0045](#))

173 Highways England ([RSM0114](#)) para 117, Department for Transport ([RSM0113](#))

174 [Q284](#) [Baroness Vere]

175 Oral evidence to the Transport Committee on 3 February 2021, [Q68](#) [Grant Shapps]

176 Department for Transport ([RSM0113](#))

of up to £2.85 billion a year.¹⁷⁷

49. The presence of a hard shoulder delivers some safety benefits. When the hard shoulder is removed, some risks increase whereas other decrease (see Chapter 3). Controlled motorways, which retain the hard shoulder and use technology to regulate traffic, have lower casualty rates than all other types of motorway. Sarah Simpson told us that all-lane running motorways are intrinsically less safe than other motorways “due to the absence of a permanently present, continuous place of relative safety along the carriageway’s length.”¹⁷⁸

50. The presence of the hard shoulder is, in itself, a safety risk. Hard shoulders offer a place of relative safety, but they are not a safe place to stop. A conventional hard shoulder, unlike an emergency refuge area, is immediately adjacent to running traffic lanes, which means someone who has stopped on the “hard shoulder is at risk from other vehicles entering the hard shoulder.”¹⁷⁹ One in 12 motorway deaths occur on the hard shoulder.¹⁸⁰ Kate Carpenter, a Fellow at the Chartered Institution of Highways and Transportation (CIHT) told us that “the safety evidence is that it actually causes more crashes if you have a hard shoulder than if you do not.”¹⁸¹ She argued “there is a danger of providing a thing that makes people think they are safe, rather than a thing that actually reduces injuries.”¹⁸²

51. The Department and National Highways told us that reinstating the hard shoulder would reduce the overall safety of both the SRN and local roads. For example, National Highways calculated that converting an all-lane running motorway back to a conventional motorway would reduce capacity by 25%.¹⁸³ If that traffic were diverted on to A-roads, it might result in an extra 25 deaths and 224 serious casualties per year.¹⁸⁴ The Department told us that it is unlikely in practice that 25% of traffic would be displaced on to local roads, if the hard shoulder were reinstated. However, even a 1% displacement of traffic would be expected to result in 0.6 extra fatalities and 2.4 serious injuries.¹⁸⁵ The RAC also recognised that reinstating the hard shoulder would create congestion.¹⁸⁶

52. On potentially reinstating the hard shoulder, the Roads Minister told us that she “has not seen the evidence that justifies such a drastic solution.”¹⁸⁷ However, she promised to keep an open mind and to consider the evidence on a scheme-by-scheme basis to assess whether “road improvements need to be done at a scheme level.”¹⁸⁸

53. Examining the available evidence base, we are not convinced that reinstating the hard shoulder on all all-lane running motorways will improve safety. The evidence suggests that doing so could put more drivers and passengers at risk of death and serious injury, especially if the reduction in capacity were to divert drivers on to less safe, local roads. Although the hard shoulder offers a relative place of safety, it is not a safe place to stop. The Government is right to focus on upgrading the safety of all-lane running motorways.

177 Highways England (RSM0114), para 116

178 Sarah Simpson (Associate Group Director Transport Planning at Royal HaskoningDHV) (RSM0074), para 1.1.12

179 Department for Transport, [Smart Motorway Safety: Evidence Stocktake and Action Plan](#), March 2020, para 1.20

180 Highways England (RSM0114), para 60

181 Q191 [Kate Carpenter]

182 Q191 [Kate Carpenter]

183 Department for Transport (RSM0113), Highways England (RSM0114), para 115

184 Department for Transport (RSM0113), Highways England (RSM0114), para 115

185 Department for Transport (RSM0113), Highways England (RSM0114), para 115

186 Q11 [Nicholas Lyes]

187 Q284 [Baroness Vere]

188 Q284 [Baroness Vere]

Conclusions and recommendations

Rollout

1. The design of our motorways and strategic roads necessarily entails balancing competing priorities. However, successive Administrations, together with the Department and National Highways' predecessor, Highways England, underestimated the scale of safety measures needed effectively and reliably to mitigate the risks associated with the permanent removal of the hard shoulder on all-lane running motorways. The Department and Highways England failed to deliver safety improvements to all-lane running motorways in a timely fashion, despite having promised previous Transport Committees that such improvements would be prioritised. Moreover, the communication of this radical change in the design of our motorways has been woeful. Six years after their introduction, many people do not understand what all-lane running motorways are and what to do if they breakdown in a live lane. (Paragraph 15)
2. We welcome the Department's acceleration of safety improvements to all-lane running motorways and acknowledge that the current Secretary of State for Transport and Minister for Roads have, upon their appointment, taken steps to address safety and delivery failures on all-lane running motorways. However, it is regrettable that the Government should find itself in this position. Safety risks on all-lane running motorways, such as those raised by the Transport Committee in 2016, should have been addressed before those motorways were rolled out. (Paragraph 16)
3. The design of our motorways and major roads can currently be altered without any independent assurance on safety by a regulatory body, which is a systemic weakness. *The Department should make the introduction of changes to the design and operation of the Strategic Road Network depend on a formal health and safety assessment by the Office of Rail and Road.* (Paragraph 17)

Evidence-based policymaking

4. The available data on the safety of all-lane running motorways are limited and volatile. There are only five-years of safety data available for 29 miles of all-lane running motorways. *The Department and National Highways should pause the rollout of all-lane running motorways until five-years of safety data is available for the remaining 112 miles of all-lane running motorway introduced before 2020.* (Paragraph 24)
5. We welcome the steps that the Department is taking through the action plan to rebuild trust in smart motorways and to make them safer. However, we are concerned
 - a) that emergency refuge areas will remain too far part on existing all-lane running schemes at up to 2.5 km;
 - b) whether stopped vehicle detection technology is effective and reliable; and
 - c) that emergency services and traffic patrol officers will still struggle to access incidents, especially when traffic is congested. (Paragraph 28)

6. *The Department and National Highways should:*
- a) *retrofit emergency refuge areas to existing all-lane running motorways to make them a maximum of 1,500 metres apart, decreasing to every 1,000 metres where physically possible;*
 - b) *commission the Office of Rail and Road to conduct an independent evaluation of the effectiveness and operation of stopped vehicle detection technology, including maintenance and monitoring; and*
 - c) *insert the emergency corridor manoeuvre into the Highway Code to help emergency services and traffic patrol officers to access incidents when traffic is congested. (Paragraph 29)*
7. While we welcome the action plan, it is not clear whether the interventions that the Government and National Highways are rolling out will effectively mitigate the specific safety risks associated with the removal of the hard shoulder. *Beginning in September 2022, the Office of Rail and Road should be tasked with evaluating how successful the action plan has been in*
- a) *reducing incidences of live lane breakdowns on all-lane running motorways;*
 - b) *reducing the time for which people who breakdown or stop in a live lane are at risk; and*
 - c) *educating drivers on what to do if they breakdown in a live lane. (Paragraph 30)*

Next steps

7. The Government's decision in March 2020 that all new smart motorways will be all-lane running motorways was premature. The data on the safety and economic performance of existing all-lane running schemes are insufficient to make such a judgment. In addition, other smart motorway designs, such as controlled motorways and dynamic hard shoulder motorways, have lower casualty rates than all-lane running motorways. The Government and National Highways are taking steps to make all-lane running motorways safer, but it is too early to judge the effectiveness of those measures. In conclusion, we are not convinced that the benefits of all-lane running motorways are sufficient to justify the risks to safety associated with permanently removing the hard shoulder. (Paragraph 42)
8. *The Government and National Highways should pause the rollout of all-lane running motorways to collect more data, to upgrade and then evaluate the safety of existing all-lane running schemes and to consider alternative options for enhancing capacity on the Strategic Road Network. The Government and National Highways should pause the rollout of new all-lane running schemes until:*
- *five years of safety and economic data is available for every all-lane running scheme introduced before 2020; and*
 - *the implementation of the safety improvements in the Government's action plan has been independently evaluated. (Paragraph 43)*

9. Dynamic hard shoulder motorways apparently confuse drivers, because the hard shoulder is used unpredictably to tackle congestion. A more consistent approach, where the hard shoulder is used at known times, could clarify the situation for drivers without physically removing the hard shoulder. *The Department for Transport and National Highways should pause plans to convert dynamic hard shoulder motorways until the next Road Investment Strategy and use the intervening period to trial alternative ways in which to operate the dynamic hard shoulder to make the rules less confusing for drivers.* (Paragraph 44)
10. Controlled motorways, which retain the hard shoulder and have technology to regulate traffic, have the lowest casualty rates of all types of motorway on the Strategic Road Network. *The Department and National Highways should revisit the case for controlled motorways. The Department should set out how the business case for controlled motorways compares with that for all-lane running motorways.* (Paragraph 45)
11. Examining the available evidence base, we are not convinced that reinstating the hard shoulder on all all-lane running motorways will improve safety. The evidence suggests that doing so could put more drivers and passengers at risk of death and serious injury, especially if the reduction in capacity were to divert drivers on to less safe, local roads. Although the hard shoulder offers a relative place of safety, it is not a safe place to stop. The Government is right to focus on upgrading the safety of all-lane running motorways. (Paragraph 53)

Formal minutes

Tuesday 21 October 2021

Members present:

Huw Merriman, in the Chair

Robert Largan Gavin Newlands

Karl McCartney Greg Smith

Grahame Morris

Draft Report (*Rollout and safety of smart motorways*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 53 read and agreed to.

Summary agreed to.

Question put, That the Report be the Third Report of the Committee to the House.

Ayes (4)

Noes (1)

Robert Largan

Karl McCartney

Grahame Morris

Gavin Newlands

Greg Smith

Question accordingly agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till tomorrow at 9.30 am

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Wednesday 19 May 2021

Edmund King, President, Automobile Association; **Mr Nicholas Lyes**, Head of Roads Policy, RAC Motoring Services; **Elizabeth de Jong**, Director of Policy, Logistics UK; **Chris Todd**, Assistant Chief Constable, West Midlands Police

[Q1–131](#)

Wednesday 16 June 2021

Sarah Simpson, Transport Planning expert, Royal HaskoningDHV; **Professor David Metz**, Honorary Professor, UCL Centre for Transport Studies; **Mike Mackinnon**, Consultant, MMB Associates, former Civil Servant, Department for Transport

[Q132–173](#)

Miss Becky Needham, Road Safety Officer, Royal Society for the Prevention of Accidents; **Jonathan Spruce**, Fellow, Institution for Civil Engineers, Interim Director, Transport for the North; **Kate Carpenter**, Fellow, Chartered Institution of Highways and Transportation

[Q174–214](#)

Wednesday 30 June 2021

The Baroness Vere of Norbiton, Minister for Roads, Buses and Places, Department for Transport; **Jill Adam**, Director of Strategic Roads, Economics and Statistics, Department for Transport; **Nick Harris**, Acting Chief Executive, Highways England; **Mike Wilson**, Chief Highways Engineer, Highways England

[Q215–351](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

RSM numbers are generated by the evidence processing system and so may not be complete.

- 1 Allam, Mrs Mavis ([RSM0044](#))
- 2 Alliance of British Drivers ([RSM0022](#))
- 3 Arundel bypass neighbourhood committee ([RSM0006](#))
- 4 Ashley, Mr John ([RSM0060](#))
- 5 Association of British Insurers ([RSM0068](#))
- 6 Automobile Association ([RSM0117](#))
- 7 Automobile Association ([RSM0111](#))
- 8 Baker, Messrs ([RSM0108](#))
- 9 Bell, Mr ([RSM0050](#))
- 10 Berrill, Mr Alan (Driving Instructor (retired)) ([RSM0015](#))
- 11 Boswell, Mr Christopher James ([RSM0103](#))
- 12 Carrivick, Mr Michael ([RSM0019](#))
- 13 Chartered Institution of Highways and Transportation ([RSM0095](#))
- 14 Chiltech Limited ([RSM0067](#))
- 15 Community Union ([RSM0056](#))
- 16 Cozens, Mr Derek (Director, Search Techniques Ltd) ([RSM0069](#))
- 17 Cribbens, Dr Alan ([RSM0036](#))
- 18 Department for Transport ([RSM0113](#))
- 19 Diiorio, Mr Domenico (Maintenance Engineer, Bulwell precision engineers) ([RSM0049](#))
- 20 Disappointing benefits from investment (honorary professor, UCL Centre for Transport Studies) ([RSM0041](#))
- 21 Edwards, Edwards; and Mike Edwards ([RSM0040](#))
- 22 Eldridge, Philip ([RSM0010](#))
- 23 Fleming, Mr M (Retired) ([RSM0009](#))
- 24 GEM Motoring Assist (Guild of Experienced Motorists) ([RSM0086](#))
- 25 Gregg, Mr David (Retired University Lecturer, Chartered Civil Engineer, Middlesex University.) ([RSM0062](#))
- 26 Gooding, Steve (Director, RAC Foundation) ([RSM0109](#))
- 27 Goodsell, Mr Darren ([RSM0102](#))
- 28 Gray, Mr Simon ([RSM0008](#))
- 29 Green, Mr Simon (Group Operations Property Manager, National World Newspapers) ([RSM0003](#))
- 30 GreenSpeed ([RSM0002](#))
- 31 Gregory, Peter ([RSM0035](#))

- 32 Hames, Mr Alan (Retired and Consultant Engineer, Consultant to “Nene Flood Prevention Alliance”) ([RSM0051](#))
- 33 Hancock, Mrs Susan (Bank Manager, Lloyds Banking Group) ([RSM0061](#))
- 34 Hazen.ai ([RSM0053](#))
- 35 Hewitt, Mr Gary (Communications Engineer, Openreach) ([RSM0079](#))
- 36 Higgins, Mr Simon (Accountant, Self-employed) ([RSM0013](#))
- 37 Highways England ([RSM0114](#))
- 38 Hubbard, Michael ([RSM0110](#))
- 39 Hurst, Mr Martin ([RSM0063](#))
- 40 IAM RoadSmart (Institute of Advanced Motorists) ([RSM0072](#))
- 41 ITS United Kingdom ([RSM0107](#))
- 42 Institution of Civil Engineers ([RSM0071](#))
- 43 KL Systems Ltd ([RSM0020](#))
- 44 King, William ([RSM0096](#))
- 45 Land, David ([RSM0029](#))
- 46 Le-Las, Dr Wendy (Planning consultant, Le-Las Associates) ([RSM0080](#))
- 47 Local Government Technical Advisers Group (LGTAG) ([RSM0059](#))
- 48 Logistics UK ([RSM0076](#))
- 49 London Fire Brigade ([RSM0100](#))
- 50 Mackinnon, Mike ([RSM0115](#))
- 51 Marshall, Mrs Susan ([RSM0001](#))
- 52 Mercer, Claire (Campaigner, Smart Motorways Kill); and Mrs Julie Petereit (Campaigner, Smart Motorways Kill) ([RSM0045](#))
- 53 Morgan, Mr Andrew ([RSM0021](#))
- 54 Murray, Miss ([RSM0065](#))
- 55 Neale, Mr Mike (Associate, FORMstudio) ([RSM0039](#))
- 56 Newenham, Mr ([RSM0037](#))
- 57 Office of Rail and Road ([RSM0112](#))
- 58 Office of the Police and Crime Commissioner for South Yorkshire ([RSM0038](#))
- 59 Phillips, Mr John (Senior Consultant, JPH Performance Management) ([RSM0004](#))
- 60 Parker, Mr Roger Alan (Retired Motorway Patrol Police officer, Formerly West Midlands Police and Central Motorway Police Group) ([RSM0024](#))
- 61 Parris, Mr Michael ([RSM0047](#))
- 62 Peacock, Mr Henry (Retired Highway Engineer, Local government) ([RSM0034](#))
- 63 Peters, Mr Stephen ([RSM0027](#))
- 64 Prior, Mr John ([RSM0023](#))
- 65 Professional Recovery Operators Federation ([RSM0043](#))
- 66 Prospect Trade Union ([RSM0092](#))
- 67 RAC Motoring Services ([RSM0116](#))

- 68 RAC Motoring Services ([RSM0099](#))
- 69 Rawson, Michael (retired Traffic Patrol (Roads Policing) Sergeant, Metropolitan Police) ([RSM0033](#))
- 70 Rawson, Mike ([RSM0119](#))
- 71 Read, Mr Tony ([RSM0018](#))
- 72 Reed, Professor Nick (Founder, Reed Mobility) ([RSM0046](#))
- 73 Roberts, Dr Peter (Retired Consulting Civil and Geotechnical Engineer BSc MSc PhD, Self-employed retired CEng CGeol CText FICE FIMMM FIGeol FGS) ([RSM0087](#))
- 74 SURVIVE ([RSM0093](#))
- 75 Schollar, Nick ([RSM0064](#))
- 76 Short, Mr Cliff (Retired Inventor, REDZEBRACROSSING LTD) ([RSM0011](#))
- 77 Simpson, Sarah (Associate Group Director Transport Planning, Royal HaskoningDHV) ([RSM0074](#))
- 78 Smith, Mr Peter ([RSM0089](#))
- 79 Staffordshire Chambers of Commerce; and As above ([RSM0081](#))
- 80 Stirland, Mr Andrew ([RSM0057](#))
- 81 Tattam, Mr Paul ([RSM0058](#))
- 82 Thames Crossing Action Group ([RSM0106](#))
- 83 The Institution of Engineering and Technology ([RSM0085](#))
- 84 The Royal Society for the Prevention of Accidents (RoSPA) ([RSM0082](#))
- 85 Transport Action Network ([RSM0105](#))
- 86 Transport Focus ([RSM0094](#))
- 87 Transport for Greater Manchester; and Ten Greater Manchester Local Highway Authorities ([RSM0084](#))
- 88 Upex, John ([RSM0097](#))
- 89 Webster, Mr Leonard ([RSM0007](#))
- 90 West Midlands Police ([RSM0118](#))
- 91 Whale, Mr Martin ([RSM0083](#))
- 92 Whittaker, Mr Geoff (retired, Retired) ([RSM0070](#))
- 93 Wilson, Clive ([RSM0078](#))
- 94 Wood, Martin ([RSM0042](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

Session 2021–22

Number	Title	Reference
1st	Zero emission vehicles and road pricing	HC 27
2nd	Major transport infrastructure projects	HC 24
1st Special	The impact of the coronavirus pandemic on the aviation sector: Interim report: Government Response to the Committee's Fifth Report of Session 2019–21	HC 28
2nd Special	Road safety: young and novice drivers: Government Response to Committee's Fourth Report of Session 2019–21	HC 29
3rd Special	Trains Fit for the Future? Government Response to the Committee's Sixth Report of Session 2019–21	HC 249
4th Special	Safe return of international travel? Government Response to the Committee's Seventh Report of Session 2019–21	HC 489
5th Special	Zero emission vehicles: Government Response to the Committee's First Report	HC 759

Session 2019–21

Number	Title	Reference
1st	Appointment of the Chair of the Civil Aviation Authority	HC 354
2nd	The impact of the coronavirus pandemic on the aviation sector	HC 268
3rd	E-scooters: pavement nuisance or transport innovation?	HC 255
4th	Road safety: young and novice drivers	HC 169
5th	The impact of the coronavirus pandemic on the aviation sector: Interim report	HC 1257
6th	Trains fit for the future?	HC 876
7th	Safe return of international travel?	HC 1341
1st Special	The impact of the coronavirus pandemic on the aviation sector: Interim report: Government Response to the Committee's Fifth Report of Session 2019–21	HC 28
2nd Special	Road safety: young and novice drivers: Government Response to Committee's Fourth Report of Session 2019–21	HC 29
3rd Special	Trains Fit for the Future? Government Response to the Committee's Sixth Report of Session 2019–21	HC 249

Number	Title	Reference
4th Special	Safe return of international travel? Government Response to the Committee's Seventh Report of Session 2019–21	HC 489