EXPLANATORY MEMORANDUM TO:

THE M25 MOTORWAY (JUNCTIONS 23 TO 27) (VARIABLE SPEED LIMITS) REGULATIONS 2013

2013 No. 2396

1. This explanatory memorandum has been prepared by the Department for Transport and is laid before Parliament by Command of Her Majesty.

2. Purpose of the instrument

2.1. The Regulations provide for the application of variable speed limits which will restrict drivers on roads to which these Regulations apply from driving at a speed exceeding that displayed on the speed limit signs or the national speed limit where no other speed limit sign is displayed. In addition, for the lengths of road covered by these Regulations, the Regulations modify the Motorways (England and Wales) Regulations 1982 ("the Motorway Regulations") to insert into those Regulations the concept of an "emergency refuge area". The roads to which these Regulations apply are the M25 Motorway between junctions 23 and 27 and are more fully described in the Schedule to the Regulations.

3. Matters of special interest to the Joint Committee on Statutory Instruments

3.1. None.

4. Legislative Context

4.1. These Regulations have been made under Sections 17 (2) and (3) of the Road Traffic Regulation Act 1984 ("the 1984 Act"), which empowers the Secretary of State to make regulations with respect to the use of special roads generally and, as in this case, with respect to particular lengths of motorway. These Regulations allow for the operation and enforcement of variable mandatory speed limits in relation to the specified roads set out in the Schedule to the Regulations.

4.2. Section 134 (2) of the 1984 Act requires the Secretary of State to consult with such representative organisations as are seen fit prior to making regulations under the Act.

4.3. The Traffic Signs Regulations and General Directions 2002 as amended, enables certain traffic signs to be used to convey information applying to the use of variable mandatory speed limits on motorways.

4.4. In addition, traffic signs authorised by the Secretary of State under section 64 of the 1984 Act will be placed on or near specified roads set out in the Schedule to the Regulations to indicate to drivers that vehicles are entering, have entered or are exiting a road covered by the Regulations.

4.5. The Motorway Regulations govern the use of motorways in England and Wales, including the use of hard shoulders by vehicles.

5. Territorial Extent and Application

5.1. This instrument extends to Great Britain but applies only to England. Only those sections of motorway specified in the instrument will be affected, all of which are located in England.

6. European Convention on Human Rights

6.1. As the instrument is subject to negative resolution procedure and does not amend primary legislation, no statement is required.

7. Policy background - What is being done and why

7.1. The M25 is one of Europe's busiest motorways, handling approximately 200,000 vehicles every day. It is recognised as being the core of the strategic network and is suffering from increasing congestion levels and journey times. It is also recognised that investing in the strategic road network and making the best use of the current capacity, while adhering to a baseline safety strategy, is paramount in providing additional network provision to aid economic recovery. The stretch of the M25 covered by these Regulations implements the latest version of Managed Motorways known as "all lane running". The Regulations firstly provide for the application of variable speed limits between junctions 23 and 27 of the M25. For the same location the Regulations also modify the Motorways Traffic (England and Wales) Regulations 1982 to insert the concept of an "emergency refuge area" which will be provided as part of the All Lane Running scheme. All Lane Running refers to the hard shoulder being converted to a permanent running lane to create the required additional capacity. Managed Motorways deliver these benefits at a significantly lower cost than conventional motorway widening and with less impact on the environment during construction. Alongside the conversion of the hard shoulder to a running lane, a series of emergency refuges will also be constructed at regular intervals along the inside of the motorway carriageway.

7.2. The use of variable mandatory speed limits is an essential element in achieving these requirements. It is aimed at tackling congestion through the introduction of technology to make best use of the existing road space whilst maintaining and, where possible, improving current safety.

7.3. Variable mandatory speed limits on the M25 managed motorway scheme ("the M25MM Scheme") between junctions 23 and 27 will enable proactive management of the motorway network in Herts and Essex, an area with a previous history of congestion and accidents. The variable mandatory speed limit displayed on the motorway will take into account prevailing traffic conditions with the aim of ensuring the smooth flow of traffic. .

7.4. The Highways Agency is committed to building upon the success of the existing managed motorway schemes which have already been implemented at a number of busy motorway sections across the country. It is expected that the managed motorways scheme (including conversion of the hard shoulder to a running lane and variable mandatory speed limits) on the M25 between junctions 23 and 27 will:

- increase motorway capacity and reduce congestion;
- help to smooth traffic flows;
- provide more reliable journey times;
- increase and improve the quality of information for the driver;
- maintain the current baseline safety standards.

8. Consultation outcome

8.1. The Consultation period on the proposal to introduce variable mandatory speed limits on the M25MM scheme between junctions 23 and 27 ran for a period of a period of 6

weeks from 10th December 2012 to 21st January 2013. A reduced 6 week consultation was considered appropriate given the level of stakeholder engagement already undertaken and received ministerial approval.

8.2. A total of 25 responses were received with 14 (56%) being supportive of the scheme, 1 (4%) non-committal and 10 (40%) against. The majority of the consultation responses expressed concerns on the workings of the Managed Motorway system, rather than the actual introduction of the Variable Mandatory Speed Limits (VMSL), which, together with the intention and purpose behind the proposed modifications to the Motorway Regulations, was the subject of the consultation. Although many of the issues raised were of a general nature, regarding the design and operation of Managed Motorways All Lanes Running (ALR), the Highways Agency felt it appropriate to respond to consultees' concerns accordingly. One non-affiliated consultee questioned how effective VMSL actually was at helping to manage traffic.

8.3. Those organisations who were in favour, or generally supportive, of the scheme included:

- Hertfordshire County Council.
- The RAC.
- The RAC Foundation.
- The Road Haulage Association (RHA).
- The Road Rescue Recovery Association (RRRA).
- The Association of Vehicle Recovery Operators Ltd.
- The Automobile Association (AA).
- Essex Chambers of Commerce.
- The Association of Directors of Environment, Economy, Planning and Transport (ADEPT).
- Disabled Motoring UK.
- Transport for London.

8.4. Comments in support of the scheme included:

- "The AA welcomes the significant improvement to journey times/congestion reduction the MM scheme will bring to [the] M25 between J23 to 27. The AA has had a number of useful meetings with your managed motorway team and this has resulted in a fuller understanding of our respective positions and constructive dialogue aimed at resolving or minimising the areas of concern." The Automobile Association.
- "I am writing on behalf of the Essex Chamber of Commerce…Having consulted members on your proposals I am pleased to let you know that we support them." The Essex Chamber of Commerce.
- "ADEPT is fully supportive of the use of managed motorways, as it seeks to make the best possible use of the existing national infrastructure, thus maximising the benefits of previous investment in the network, whilst minimising intrusion into adjacent land and local infrastructure…" ADEPT.
- "The RAC supports the introduction of managed motorways and recognises the benefits to motorists that existing managed motorway schemes, such as that on the M42 have delivered to the motoring public…" The RAC.
- "Sounds very sensible providing variable information signs are constantly manned and kept up to date." Road Rescue Recovery Association.
- "The RHA has repeatedly raised concerns with government about the damage being done to the haulage sector and the economy generally by congestion related delay. In this context we see the managed motorway proposal as a sensible measure that will help to reduce the cost of road congestion to the economy. Therefore in principle we support the current proposal…" The RHA.

8.5. While each of the above consultees generally supports the proposals, their responses also included some concerns regarding the design and execution of ALR. The primary issues raised included:

a) Traffic Accidents and impact on the network: Hertfordshire County Council has concerns over the number of road traffic accidents over the last 18 months which has led to lane / carriageway closures and the disruption this has had on the surrounding local authority network due to traffic diverting off the motorway to find alternative routes;
b) The RAC raised concerns over the removal of lighting;
c) The RAC questioned the position and visibility of the new messaging signage;
d) Emergency Refuge Areas (ERAs) and removal of the hard shoulder: Both the RAC and the AA raised concerns regarding the distance between ERAs, while the RAC was concerned about the size of the refuge areas in terms of access and egress of larger vehicles;
e) Both Hertfordshire County Council and the AA questioned what would happen to those people left stranded due to a lack of hard shoulder;
f) The RHA and the AA raised concerns about driver confusion caused by the implementation of the differing forms of motorway standards; from controlled motorways (the use of VMSL on a standard dual 3/4 lane motorway) to the use of both types of Managed Motorways (both dynamic hard shoulder and All Lane Running);
g) The RHA were cautious that the enforcement of speed limits was the only means to obtain road users compliance; and
h) The RHA were against "the developing of a culture" where it is accepted that an extra lane need not be provided for use for the emergency services.

8.6. In response to the above:

a) Creating and maintaining a controlled driving environment can result in a reduction in both the frequency and severity of collisions. Due to the removal of the Hard Shoulder the Highways Agency do envisage an increase in stranded vehicles; however the Regional Control Centre will have the ability to close any effected lane using the newly implemented technology. Providing timely information is part of the compliance strategy for Managed Motorways. Through the use of gantry signage, drivers will be provided with information on conditions ahead, lane availability and speed limits. Data obtained over a 24 month period by the RAC highlights that 71 per cent of drivers would still be able to find refuge in a genuine emergency.

b) The provision of lighting, away from the influence of junctions, has very limited benefits. There is no proven cause and effect between the severity of outcomes and lighting conditions. Lighting does not influence the existing geometric constraints on a road that may influence sight stopping distances, nor does it increase visibility to stationary vehicles in fog; both factors that would affect the risk of incidents. For those who breakdown (particularly at night) and cannot get off the carriageway or to a refuge area, low light CCTV, with infrared capability, will be in operation. Our operators will be able to spot the vehicle(s), and signals and mandatory speed limits can be set to inform other drivers of the traffic conditions, for example, if a lane ahead is closed, or there has been an incident so to slow down.

c) Research has been undertaken through a driver simulator with members of the public, to obtain evidence on the operation of the new traffic sign specification (which takes into consideration sign spacing). The Highways Agency has tested the move to a single verge mounted sign compared with an overhead gantry that

displays lane specific signs and signals. There was a high level of accuracy of response in both scenarios and in some tests, the verge mounted arrangement performed better than the gantry mounted. Participants' actions and responses indicated that this is due to all of the information being displayed in one place.

d) Research on the use of the hard shoulder on motorways *(Safety on Hard Shoulders on Dual Two-Lane and Three-Lane Motorways – TRL published report PPR017),* shows that discretionary stops on the hard shoulder (i.e. illegal stops in contravention of the prohibition on stopping on hard shoulders) outnumber breakdowns by between 8 and 10 times. These are usually drivers stopping to use their mobile phone, read a map etc. By increasing the spacing between the refuge areas in All Lane Running we expect to eliminate discretionary stops, as far as is practicable, and as a consequence the risks to road users associated with them. As stated above in 8.5(a), research shows that 71 per cent of drivers would still be able to find refuge in a genuine emergency. Based on the experience of designing and operating managed motorways for more than five years detailed assessment has demonstrated that decreasing the frequency of emergency refuge area spacing will not have a detrimental effect on traffic flow, overall safety or incident numbers.

e) Experience on our dynamic hard shoulder (DS) schemes has shown that by creating and maintaining a controlled driving environment, a reduction in both the frequency and severity of such collisions can result. The Highways Agency's Regional Control Centre (RCC) will be responsible for ensuring that lane closures are put into place in order to help protect stranded vehicles and they will set the appropriate signage to warn other travellers of potential approaching dangers.

f) While the physical layout of managed and controlled motorways is similar, there are certain notable differences. Unlike controlled motorways (which rely solely on the use of variable speed limits to help aid traffic flows) All Lane Running is marked up with four lanes with no hard shoulder. On the controlled motorway there is a solid white line to delineate the separation of the inside lane and the hard shoulder. It should also be noted that the use of real-time information will be provided to drivers in advance of the road ahead, clearly indicating the nature of road use expected of them (i.e. use of the hard shoulder through speed limit signs in DS, speed restrictions in controlled motorways and lane availability and speed restrictions in All Lane Running).

g) Compliance with speed limits is an important aspect of the safe operation of all managed motorways, including All Lane Running. It is generally accepted that some form of enforcement is considered essential. If driver compliance is to be achieved by enforcement cameras then it is necessary to put the required notification and their associated repeater signs, on the relevant part of the network. Experience from running variable mandatory speed limits on both the controlled part of the network (i.e. just variable mandatory speed limits), and those parts of the motorway network where the hard shoulder is used, shows that enforcement works as a means to obtain compliance.

h) The situation with All Lane Running is no different from the current arrangements where the hard shoulder is utilised as a running lane at times of congestion. The aim is to use our technology as a means to provide an access route for emergency services. Where this differs from most motorways is that the Highways Agency can provide this route on any of the lanes in operation.

8.7. Of the 10 objections received, most supported the need to provide additional capacity, but felt unable to support the scheme due to the All Lane Running concept. This was

particularly the case with the emergency services. Consultees who objected to the scheme included:

- Essex Fire and Rescue.
- Metropolitan Police.
- Essex Police.
- Hertfordshire Police.
- The Alliance of British Drivers (who objected to the introduction of VMSL).

8.8. The main concerns raised by the majority of consultees opposing the scheme were:

a) removal of the hard shoulder and the potential safety implications;
b) increased risk of collision due to vehicles stopping / stranded in nearside lane;
c) the distance between ERAs being unsafe;
d) the position of verge side signage raised concerns regarding legibility;
e) safety implications of the removal of emergency roadside telephones except at dedicated refuge areas;
f) increased danger caused by stranded vehicles in unlit conditions.

8.9. In response to the above:

a) The use of variable mandatory speed limits on sections of managed motorway schemes, with or without the conversion of the hard shoulder to a permanent running lane, delivers benefits for road users as part of an overall package of technology measures. Examples include:

- M25 between junction 10 and 16. VMSL introduced in 1995. Reduction in frequency of collisions by 10%.
- M42 between junctions 3a and 7. VSML introduced 2006. 50% reduction in accidents. Reduction in accident severity – 0 fatalities. 22% improvement on journey time reliability. 10% reduction in emissions.
- M40 between junctions 16 and M6 junction 5. Journey time improvements (a combined average daily saving of about two minutes per vehicle for a return journey in peak periods when MM are in operation).

b) With regards to the concerns about the risk of collision on the new nearside lane created out of the hard shoulder, experience has shown that by creating and maintaining a controlled driving environment, a reduction in both the frequency and severity of such collisions can result. The Highways Agency's Regional Control Centre (RCC) will be responsible for ensuring that lane closures are put into place in order to help protect stranded vehicles and will set the appropriate signage to warn other travellers of potential dangers.

c) Evidence based on experience of designing and operating managed motorways over the last five years largely supports the view that the majority of drivers will still be able to find refuge in a genuine emergency; whether that is via an ERA, exiting the motorway at a junction, or entering a motorway service area.

d) Research has been undertaken through a driver simulator with members of the public, to obtain evidence on the operation of the new specification (which takes into consideration sign spacing). The Highways Agency has tested the move to a single verge mounted sign compared with an overhead gantry that displays lane specific signs and signals. There was a high level of accuracy of response in both scenarios and in some tests, the verge mounted arrangement performed better than the gantry mounted. Participants' actions and responses indicated that this is due to all of the information being displayed in one place.

e) It is not anticipated that the removal of the Emergency Roadside Telephones (ERT) will impact adversely on the travelling public as their use on the strategic road network (SRN) has been in steady decline since 1990. Between 1990 and 2000 ERT usage fell by 30% and between 2007 and 2010 the number of calls made from ERTs per annum has fallen by 5-7% each year. In 2010 around 90,000 calls were made from mobile phones to report incidents on the SRN. These calls accounted for 63% of all calls made to report incidents on the SRN, while just 37% were made from ERTs.

f) Low light CCTV with infrared capability will be in operation. Traffic will be managed in the same way as existing MM schemes which have a good safety record. As the frequency of breakdowns is generally proportional to the volume of traffic, most breakdowns are expected to occur during 'controlled conditions'.

8.10. A more detailed analysis of the consultation outcome and report, including responses to the issues raised above, is available on the Highways Agency website at the following address http://www.highways.gov.uk/roads/road-projects/m25-junctions-23-27-managed-motorways/?publications. Those who responded to the consultation will be sent a copy of the final Consultation Response report.

9. Guidance

9.1. The consultation document issued by the Highways Agency to stakeholders on 10 December 2012 contained information on the operation of variable mandatory speed limits on the M25 between junctions 23 and 27. Stakeholders included members of the emergency services, road user groups and vehicle recovery operators. Stakeholders will continue to receive updates and news on the scheme implementation, with particular consideration given to the effects of the scheme on local residents, the travelling public and businesses. Prior to the commencement of the scheme operation road users will be made aware through the media and press releases.

10. Impact

10.1. The impact on business, charities or voluntary bodies, and the public sector is that Managed Motorways, through the introduction of variable mandatory speed limits and ALR, where appropriate will benefit the motorist by helping to reduce congestion, be informative and improve journey times. It aims to reduce the impact of accidents and reduce driver stress.

10.2. A preliminary Impact assessment was prepared for the instrument. However, it was not included in the consultation as a waiver from the requirement to prepare Impact Assessments was subsequently granted for Managed Motorway instruments.

11. Regulating small business

11.1. The legislation applies to small business.

11.2. To minimise the impact of the requirements on firms employing up to 20 people, the approach taken is to ensure that Stakeholders receive updates and news on the scheme implementation and operation.

11.3. It is expected that the proposed measures will not impose any new or increased burden upon small businesses.

12. Monitoring & review

12.1. The operation or the variable mandatory speed limits scheme will be monitored and assessed to establish the effectiveness of the scheme on traffic flows, accidents and environmental factors.

13. Contact

13.1. If you have any queries regarding the Regulations please contact John Martin at the Highways Agency Tel: (0)1306 878129 or e-mail: M25J23-27MM@highways.gsi.gov.uk