

**M1 Junctions 28 to 31 Smart Motorway**  
**M1 Junctions 31 to 32 Variable Mandatory**  
**Speed Limits**  
**M1 Junctions 32 to 35a Smart Motorway**  
**Summary of Consultation Responses**



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## ***Executive Summary***

The Highways Agency has developed proposals to implement smart motorways<sup>1</sup> – all lane running (which includes the conversion of the hard shoulder to a permanent running lane, increasing capacity by an extra lane – see section 1.3) between junctions 28 and 31 and between junctions 32 and 35a, and to install variable mandatory speed limits (VMSL) between junctions 31 and 32. These schemes would support economic growth, increase motorway capacity and reduce congestion, smooth traffic flows and provide more reliable journey times. As part of this process, the Highways Agency held a number of consultations:

- M1 J28 to 31 smart motorway scheme: 6 March 2013 to 10 April 2013
- M1 J31 to 32 variable speed limits: 28 October 2013 to 9 December 2013
- M1 J32 to 35a smart motorway scheme: 17 December 2012 to 11 February 2013

The consultations provided an opportunity for representative organisations and individuals to comment on the proposals to introduce VMSL on the M1 between junctions 28 and 35a as part of the schemes described above. The consultation on the M1 J32-35a smart motorway proposals also covered the introduction of emergency refuge areas (ERAs) on a national basis.

Twenty representative organisations and fourteen members of the public responded with comments on the proposals. Responses covered many aspects, with those from representative organisations generally focussed on aspects of the smart motorways – all lane running design. A number of respondents also raised environmental concerns; these issues are addressed fully in the (separate) Environmental Assessment Reports for each scheme. The Highways Agency is grateful to the organisations and members of the public who have taken the time to respond to these consultations. Detailed replies were sent to all respondents following the end of the relevant consultation period.

The report concludes that while stakeholders have concerns about the smart motorways – all lane running design concept, they do not generally have concerns about the principles of VMSL. Any concerns focus on the technology to be used in

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<sup>1</sup> *The original consultation documents refer to the proposed implementation of managed motorways between junctions 28 and 31 and between junctions 32 and 35a of the M1, and the implementation of variable mandatory speed limits between junctions 31 and 32. We now refer to these operational regimes as smart motorways which encompass all sections of our network that incorporate technology to manage congestion and improve journey time reliability. This includes controlling speeds through the use of variable mandatory speed limits to improve traffic flow and providing driver information on overhead signs. Smart motorways can use technology to open the hard shoulder at times of peak demand or permanently convert it to a traffic lane with additional emergency refuge areas to add extra capacity on the busiest sections of the motorway network.*

displaying VMSL and the ability to undertake enforcement. On the issue of extending the 1982 Regulations to cover ERAs on a national basis, no comments were received.

Following the consultation the Highways Agency recommends proceeding with the necessary legislative changes by way of Regulations to:

- Provide for VMSL between junctions 28 and 35a of the M1 to allow the smart motorways schemes to operate once constructed;
- Make a permanent amendment to the 1982 Regulations to insert a definition of “Emergency Refuge Area” into those Regulations so that the restrictions on the use of hard shoulders in motorways extend to ERAs.

## **1 INTRODUCTION**

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### **1.1 Purpose**

The purpose of this document is to provide a summary of the responses received during the three consultations held on the proposals to implement smart motorways on the M1 between junctions 28 and 35a. These consultations were held as follows:

- M1 J28 to 31 smart motorway scheme: 6 March 2013 to 10 April 2013 (available at: <https://www.gov.uk/government/consultations/m1-junctions-28-to-31-managed-motorway-scheme>)
- M1 J31 to 32 variable speed limits: 28 October 2013 to 9 December 2013 (available at: <https://www.gov.uk/government/consultations/m1-junctions-31-to-32-variable-speed-limits>)
- M1 J32 to 35a smart motorway scheme: 17 December 2012 to 11 February 2013 (available at: <https://www.gov.uk/government/consultations/m1-junctions-32-to-35a-managed-motorway-scheme>)

The consultations provided an opportunity for stakeholders, road user groups, other interested parties and members of the public to comment. The Highways Agency has carefully considered the comments raised and this document summarises its response to those comments.

A separate consultation was held between 6 January 2014 and 3 March 2014 on a proposal to mitigate air quality exceedances on this section of the M1. The proposal was to implement a maximum (mandatory) 60mph speed limit, for a certain period of time on each day of the week, in place of the current national speed limit when the smart motorway schemes are complete between junctions 28 and 35a for environmental reasons. The Secretary of State did not accept the proposed approach as the government's preferred option for managing the projected air quality impacts, and a separate report was published on the outcome of that consultation on 8 July 2014 (available at: <https://www.gov.uk/government/consultations/m1-junctions-28-to-35a-maximum-mandatory-speed-limit>).

### **1.2 Background**

The M1 between junctions 28 and 35a is part of the primary strategic link between Nottingham and Leeds. Most of the link carries traffic in excess of the traffic level for which the road was designed, causing congestion and delays to road users. The Highways Agency has developed proposals to implement smart motorways – all lane running between junctions 28 and 31 and between junctions 32 and 35a, and to install variable mandatory speed limits (VMSL) between junctions 31 and 32.

The M1 J28 to J31 and M1 J32 to 35a smart motorway schemes were included in the review of motorway links identified in the “Advanced Motorway Signalling and Traffic Management Feasibility Study” (2008) as a potential priority for smart motorways.

These schemes were included in the programme of major strategic road schemes announced in October 2010. The M1 J31 to J32 variable mandatory speed limits scheme was included in the pinch point programme, which forms part of the UK Government's growth initiative, outlined during the Chancellor's Autumn Statements in 2011 and 2012.

### 1.3 Smart motorways

Smart motorways – all lanes running is a refinement of the smart motorways design already in operation in various parts of the country rather than a whole new concept. The smart motorway all lane running design is now operational on the M25 (between junctions 5-7 and junctions 23-27) and provides:

- Additional capacity by converting the hard shoulder into an additional running lane and the use of VMSL which are set automatically when congestion is detected.
- Earlier realisation of the benefits than would be achieved through implementing a widening scheme.
- Lower environmental impacts and costs compared to a widening scheme, as smart motorways do not require the use of additional land or the construction of an additional lane – maximising the use of what is already there.
- Increased compliance by controlling and managing the motorway through the use of overhead mandatory speed limits, driver information, CCTV coverage and enforcement.
- Automatic systems to detect slow-moving vehicles, automatically providing drivers with warnings of queues ahead.
- Operators in the Regional Control Centres with the ability to protect any broken down vehicles by using overhead signs to warn drivers and close lanes before the Traffic Officer Service, the emergency services or recovery services arrive. Full CCTV coverage will help quickly verify the locations of incidents.

Between junctions 28 and 31 and between junctions 32 and 35a the motorway would have four lanes open to traffic, with the current four lane section between junctions 31 and 32 retained. The high volume of traffic using junctions 33 and 34 means that the inside lane approaching these junctions would be dedicated to traffic leaving the motorway at that junction. There would then be three lanes through middle of the junction itself, including over Tinsley Viaduct at junction 34. The slip roads bringing traffic onto the motorway at these two junctions would become a fourth lane, avoiding the need for drivers to merge into the existing traffic and meaning that there would then be four lanes again on the other side of the junction.

It is expected that the smart motorway schemes between junctions 28 and 31 and between junctions 32 and 35a would:



- Support economic growth;
- Increase motorway capacity and reduce congestion;
- Smooth traffic flows;
- Provide more reliable journey times;
- Increase and improve the quality of information for drivers.

#### **1.4 Consultation scope**

A key part of a smart motorway is the use of VMSL. Regulations will therefore need to be made under section 17(2) and (3) of the Road Traffic Regulation Act 1984 (“the 1984 Act”) for the implementation of VMSL and to enable amendments to be made to the Motorways Traffic (England and Wales) Regulations 1982 (S.I. 1982/1163) (“the 1982 Regulations”) which govern the use of motorways.

A second key element of smart motorway schemes is the provision of emergency refuge areas (ERAs) which provide an area for motorists to stop in an emergency where there is no hard shoulder. The 1982 Regulations set out a number of measures which regulate the use of vehicles on motorways, among which are prohibitions on the use of a hard shoulder. Currently, the 1982 Regulations do not contain reference to ERAs and accordingly, so that they may be used in relation to smart motorway schemes, it is proposed to amend the 1982 Regulations to insert a definition of “Emergency Refuge Area” into those Regulations so that the restrictions on the use of hard shoulders in motorways extend to ERAs.

The introduction to the consultation documents stated that the Highways Agency was keen to have comments on the implementation of VMSL for the different sections of the M1; specifically on how the proposals could affect organisations or those represented by such organisations. The first of these consultations (covering the M1 between junctions 32 and 35a) also included the introduction of ERAs and the proposal to define these on a national basis.

## 2 SUMMARY OF RESPONSES

### 2.1 Publicising the consultations

The consultations all involved sending a consultation document to a wide range of stakeholders including representative organisations at both national and local levels and including local councils, emergency services (police, fire and rescue and ambulance services), the recovery industry and road user groups. In addition, the consultation documents were placed on the Highways Agency or the Gov.uk web sites and contain a list of all consultees. The publication of each consultation was accompanied by a news release to media, and Highways Agency spokespeople carried out a number of broadcast media interviews. The documents were sent to the following number of consultees:

- M1 J28 to 31 smart motorway scheme consultation – 93 consultees
- M1 J31 to 32 variable speed limits consultation – 29 consultees
- M1 J32 to 35a smart motorway scheme consultation – 76 consultees

### 2.2 Number of responses

The tables below set out the number of responses received to each consultation.

Type of response	No. of responses received		
	M1 J28-31	M1 J31-32	M1 J32-35a
<i>Number of organisations consulted</i>	93	29	76
Representative organisation responding with detailed comments	11	2	12
Representative organisation responding without comments	5	4	3
Responses from members of the public	2	0	12
<b>Total responses</b>	<b>18</b>	<b>6</b>	<b>27</b>

Table 1: Summary of responses by type

Detailed responses received from representative organisations	M1 J28-31			M1 J31-32			M1 J32-35a		
	M1 J28-31			M1 J31-32			M1 J32-35a		
Automobile Association (AA)	✓								
Barnsley and Rotherham Chamber of Commerce							✓		
Chartered Institution of Highways and Transportation (CIHT)							✓		
Chesterfield Borough Council	✓								
Derbyshire Police	✓								
Disabled Motoring UK	✓								
English Heritage	✓			(✓)			(✓)		
Environment Agency	✓			(✓)					



National Express			✓
National Trust	✓		
Road Haulage Association			✓
Rotherham Metropolitan Borough Council (MBC)	✓		✓
Sheffield Chamber of Commerce	✓		
Sheffield International Venues			✓
South Yorkshire Fire & Rescue Service		✓	✓
South Yorkshire Police and Crime Commissioner			✓
South Yorkshire Safer Roads Partnership (SYSRP)	✓	✓	✓
SY Public Health Network	✓		✓
The Police Superintendents' Association			✓
Thundercliffe Grange Limited (Housing Co-operative)			✓
<b>Detailed responses</b>	<b>11</b>	<b>2</b>	<b>12</b>

**Table 2: Responses by organisation. (✓) indicates a reply without detailed comments for the specific consultation.**

### 2.3 Questionnaire analysis

Respondents were invited to use a questionnaire provided as part of the Consultation Document to give their comments. The following table summarises the responses where the questionnaire was used. Some respondents did not answer all questions.

Question	Yes	No
Do you consider that the proposal to introduce smart motorways will lead to an improvement in travelling conditions on this section of motorway?	22	7
Are there any aspects of the proposal to introduce smart motorways which give you concerns?	26	4
Are there any additional comments you would like to make about the proposal to introduce smart motorways?	24	5

**Table 3: Summary of responses to the three questions on the questionnaire**

From this table it can be seen that three quarters of respondents considered that the scheme would lead to an improvement in travelling conditions; one quarter disagreed with the proposition. The great majority of respondents had concerns and most also provided additional comments. Nine representative organisations did not use the questionnaire but provided comments in writing.

### 2.4 Positive themes

Organisations including ADEPT (Association of Directors of Environment, Economy, Planning & Transport), Barnsley and Rotherham Chamber of Commerce, the Police Superintendents' Association of England and Wales, Sheffield International Venues,

the Road Haulage Association, Rotherham Metropolitan Borough Council (MBC), National Express Group PLC and the Chartered Institution of Highways and Transportation (CIHT) wrote in support of the principle of reducing congestion by providing additional capacity through implementing smart motorways, although most also noted that this should not be at the expense of safety.

The response from National Express stated: “The M1 between J32 and J35a is a key section of motorway for National Express coach services and our experience is that vehicles using it are often subject to delays, especially where the motorway is reduced to 2 lanes. We are supportive of measures which look to increase capacity to 3+ lanes, improve journey time reliability and maintain the safest possible road conditions.”

Rotherham MBC responded in detail, including a number of safety and environmental concerns, but also noted: “This section of the M1 is one of the worst congested and improving the capacity on the M1 between J32 and J35a is welcome in terms of both its benefit to improved traffic flow and journey times, and its associated impact on the economy. However, we do not feel that this should be at the expense of road safety or worsening air environmental conditions and support the SY Safer Roads Partnership’s position in trying to ensure that the risks associated with the MM-ALR [smart motorways – all lane running] standard are mitigated against wherever possible.”

The South Yorkshire Safer Roads Partnership (SYSRP) provided a wide ranging response (see section 2.5.1). Their response noted with regard to the principle of VMSL: “The principle of variable message signing for speed management purposes is supported but we feel this should be by utilising signs on the well-understood and widely-established gantry system rather than by verge mounted signs.”

## **2.5 Key themes**

As described above, the smart motorways – all lane running design is a development of the earlier smart motorway design standards. At the time of the consultations, there were no schemes in operation to this design and the schemes on the M1 were, along with two schemes on the M25, the first projects to publish consultations. Since then, schemes on the M25 have been completed and opened to traffic between junctions 5-7 and junctions 23-27.

Many representative organisations took the opportunity of these consultations to comment about the smart motorways – all lane running design. Responses covered a wide range of issues, which are reflected below. Extensive liaison has taken place with key stakeholders on the detail of these schemes over the last two years. In particular, a large amount of detailed work has taken place with the emergency services at both national and local level on the smart motorways – all lane running design and how the emergency services can operate effectively and safely on motorways to this design.

### **2.5.1 SYSRP and Derbyshire Constabulary responses**

All three consultation documents were sent to a range of organisations within South Yorkshire including individual councils and emergency services. SYSRP responded in detail, providing the views of the members of the partnership and obviating the need for all the individual agencies to reply separately. SYSRP is: “a multi-function, multi-agency partnership of all those with an interest in promoting safer roads and communities in South Yorkshire. It is made up of senior representatives from the four local highway authorities, SY Police (including the Safety Camera Partnership), SY Fire and Rescue, SYPTA, Peak District National Park, Highways Agency, the Health Sector and the University of Sheffield.”

The comprehensive response received raised a range of issues, and these form the basis of the headings below.

Derbyshire Constabulary similarly collated responses from the agencies that form part of the Derby and Derbyshire Safety Camera Partnership when responding to the M1 J28 to 31 smart motorway scheme consultation, and the response was equally wide ranging.

#### ***Highways Agency response***

The Highways Agency responded in detail to the comments raised by both SYSRP and Derbyshire Constabulary at the time of the respective consultations. There has been (and continues to be) extensive liaison between the Highways Agency, local councils and the local emergency services involved on this section of motorway. In particular, there is a Yorkshire emergency services forum and an East Midlands emergency services forum which have developed operational protocols to ensure that the emergency services can operate effectively once the smart motorway opens to traffic. Detailed discussions around enforcement also continue (see section 2.5.7 below).

### **2.5.2 Increased risk of incidents, especially off peak**

The smart motorways – all lane running design sees the permanent conversion of the hard shoulder to a running lane. The increased risk of vehicles stopping in live lanes under both peak and off peak traffic conditions was raised by eight respondents. There was a particular focus on the increased risk off peak when traffic levels will be lower, traffic speeds may be higher and automatic detection systems are less likely to detect a stopped vehicle. Organisations raising this concern included SYSRP, Derbyshire Constabulary, Disabled Motoring UK and the AA.

#### ***Highways Agency response***

These projects have undertaken a great deal of risk analysis. The implementation of smart motorways – dynamic hard shoulder set a precedent for introducing new hazards (for example hazards associated with opening and closing the hard shoulder to traffic) and increasing the risk to some existing hazards (for example stopping in a

live lane in peak hours), while reducing the overall level of risk through the ability to control speeds and encourage compliant driver behaviour. Some hazards will increase in risk, such as vehicles stopping in running lane in both peak and off-peak periods. However it is expected that the overall safety performance of the scheme will be better than before, and that the safety objective of the scheme will be achieved. This is because of the reduction in risk provided by a smart motorways scheme to a significant number of existing motorway hazards (for example people driving too quickly or close following). It is important to note that permanently changing the hard shoulder to a running lane will effectively eliminate hazards associated with drivers stopping for illegal (non-emergency), or non essential vehicle fault stops (which can reach a safer location).

### **2.5.3 Speed of response to incidents**

The speed of response by emergency vehicles at times of congestion when there is no longer a hard shoulder for access was raised directly by three organisations (SYSRP, Derbyshire Constabulary and the South Yorkshire Public Health Network), as well as two members of the public.

#### ***Highways Agency response***

On smart motorways schemes both the number, and crucially the severity, of collisions tend to decrease within the controlled environment that a smart motorway creates. In many instances, traffic is able to pass the scene of an incident both because the incident itself is less severe and the additional carriageway capacity provides more opportunity for other vehicles to pass the scene. Complete carriageway blockages as a consequence of an initial incident are rare, although the Highways Agency recognises the need to plan for such eventualities. With the provision of motorway incident detection and automatic signalling (MIDAS) and full CCTV coverage it will be possible to detect incidents quickly, in particular major incidents, and rapidly start the process of directing resources and managing the incident. The procedures necessary to facilitate access through traffic are an important consideration. Although there are existing procedures for such scenarios, the Highways Agency continues to work nationally and locally with the emergency services to ensure that the control centres can provide the most appropriate support to the emergency services for access to incidents.

### **2.5.4 Use of cantilever signs in place of gantries**

The smart motorways – all lane running design uses a mix of cantilever as well as gantry mounted signals and message signs (which can also display signals) with longer intervals between signalling than applies with the smart motorways – dynamic hard shoulder design. The possible effects of this design change was raised by four representative organisations and one member of the public, all of whom expressed a strong preference for gantry mounted over lane signals to be used. Representative organisations commenting on this design aspect were SYSRP, Derbyshire Constabulary, the AA and the South Yorkshire Police and Crime Commissioner.

### ***Highways Agency response***

Although the level of technology on a smart motorways – all lane running scheme is lower than on smart motorways – dynamic hard shoulder schemes such as the M42, M6 and M1, it is significantly higher than on a standard motorway, and the introduction of VMSL plays a key role in managing traffic. There is always a balance to be struck between providing sufficient information and avoiding information overload for drivers. The simulator trials undertaken on the smart motorways – all lane running [MM-ALR] concept resulted in the following conclusions:

“In summary the work conducted to examine behavioural issues related to MM-ALR has identified minor areas of concern with regard to participants perception of how MM-ALR schemes operate and what behaviours they are expected to adopt, but has not identified any compelling evidence to suggest that an MM-ALR scheme of the design tested in the simulator does not provide sufficient information to understand and exhibit the required driving behaviour to a level comparable to existing managed motorways schemes.”

#### **2.5.5 The size, spacing and use of Emergency Refuge Areas**

SYSRP and Derbyshire Constabulary commented on the size and the intervals between ERAs; the AA and one member of the public also commented on the increased interval between ERAs under the smart motorways – all lane running design. SYSRP and Derbyshire Constabulary were concerned that vehicles may not be able to enter or, equally importantly, leave an ERA safely.

### ***Highways Agency response***

Vehicles regularly and safely enter and exit ERAs on existing smart motorway schemes and the operation on a smart motorways – all lane running scheme is not expected to be any different. Whilst nominally vehicles in lane 1 could be travelling at 70mph when no signals are in operation, in reality the vehicles in lane 1 are more likely to be travelling at nearer 60mph because of the presence of large goods vehicles. The dimensions of the ERAs are the same as for type B lay-bys on A-roads (however with the entry and exit taper dimensions reversed to give a longer length for exiting), which gives drivers more room to accelerate before entering the mainline. Lengthening ERAs would potentially increase misuse by drivers who are not stopping in an emergency, or who could continue off network to a safer location to stop.

Additional signing in the ERA encourages drivers to contact the Regional Control Centre before leaving and the Regional Control Centre will offer safety advice and ask if the driver requires assistance. Although it is expected that the majority of drivers will not need assistance, options range from setting warning legends on the variable message signs, through reducing carriageway speed limits, to setting up a rolling road block if appropriate to allow a slow moving vehicle to leave. This procedure is tried and tested and currently used on the Highways Agency network.

### **2.5.6 Smart motorways – all lane running vs. a dynamic hard shoulder**

Five representative organisations commented that on the M1 in South Yorkshire and Derbyshire congestion occurs mainly during the morning and evening peak periods. The need for additional motorway capacity was therefore restricted to these time periods and not off peak or overnight. It was considered that a smart motorways – dynamic hard shoulder design such as that used on the M42 would be a more appropriate solution, since the additional capacity can be provided when it is needed by opening the hard shoulder to traffic, but when that extra capacity is not needed the lane can be closed to traffic and a hard shoulder is restored. This was seen as preferable to the all lane running design which sees the permanent conversion of the hard shoulder to a running lane, thereby providing additional capacity at all times. Organisations making comments on this included SYSRP, Derbyshire Constabulary, Rotherham MBC, South Yorkshire Fire and Rescue Service and the South Yorkshire Public Health Network.

#### ***Highways Agency response***

The design for smart motorways has been evolving ever since the M42 pilot was implemented and as experience and evidence of the operation of the hard shoulder as a running lane has been gained. The current proposals make the most efficient use of the existing road space in providing additional capacity, whilst not reducing safety for the road user. Operating a dynamic hard shoulder is resource intensive and can add different risks to road users and road workers, by introducing an element of uncertainty as to whether the hard shoulder is open or not. Across the strategic road network, drivers can assume that lanes are available for use, unless they are specifically told that they are not; dynamic hard shoulder schemes are the only example where a driver is told when a lane (the hard shoulder) can be used. The proposed approach for the removal of the hard shoulder is a more intuitive and more efficient use of the existing infrastructure that will reduce congestion and help support growth.

### **2.5.7 Enforcement**

Issues concerning enforcement were raised by five respondents. SYSRP, Derbyshire Constabulary, Rotherham MBC and the South Yorkshire Public Health Network raised concerns about the ability for the police to undertake traditional roadside enforcement in the absence of a hard shoulder, and the availability of automated enforcement systems. The Sheffield Chamber of Commerce were concerned that speed cameras should “not be a revenue-raising tool, nor be seen as such”.

#### ***Highways Agency Response***

Speed enforcement is one measure to obtain compliance, and it is recognised that there does need to be a level of enforcement. However, there are other softer operational measures that will help to achieve an acceptable level of compliance. The schemes will provide a signalling regime which promotes compliant driver behaviour together with driver education, demonstrating the benefits of adhering to the varying



speed limits. The design includes fixed enforcement signs so this will add to the perception that should a motorist not comply with the speed limit on display that driver will face the risk of prosecution.

At the time of the consultations, the Highways Agency Digital Enforcement Camera System (HADECS) 3 had not gained Home Office Type Approval (HOTA). This has now been achieved and this system is available for automated enforcement on the M1. Camera based enforcement provides a safer alternative to stopping drivers on the hard shoulder for this type of offence. Discussions are continuing on the precise details of the enforcement with the safety camera partnerships in South Yorkshire and Derbyshire. The levels of compliance will be monitored closely during the initial operation of the scheme so that appropriate measures can be taken if required.

### **2.5.8 Lighting and CCTV coverage**

Lighting of the motorway was mentioned by four representative organisations. The National Trust was pleased to learn that no lighting was being provided that could affect Hardwick Hall. The Road Haulage Association was concerned generally about existing lighting being switched off on motorways. The AA sent through a copy of the Survive Group position paper on smart motorways, which included concerns about unlit sections of road. This highlighted a particular concern when a motorist is stranded in lane one at night with an electrical fault affecting the lights, coupled with a concern about CCTV coverage and night time effectiveness. Derbyshire Constabulary noted that lighting would not be installed in Derbyshire, and raised similar concerns to the Survive Group about stranded vehicles and the effectiveness of CCTV at night.

#### ***Highways Agency Response***

There are no plans to increase the amount of highway lighting or to remove any of the existing lighting. Most of this section on the M1 is unlit and will remain so.

The Highways Agency will be installing full CCTV coverage along the smart motorway schemes and this will include an infrared capability to ensure that the low light CCTV cameras can be effective in the dark. At the time of the consultations, it was planned to provide 95-98% CCTV coverage with low light CCTV cameras, but that specification has since been enhanced to full coverage with infrared capability in response to concerns raised by the emergency services.

### **2.5.9 Highway layout**

One representative organisation (Chesterfield Borough Council) and 10 members of the public raised a number of issues to do with the highway layout. Chesterfield Borough Council were concerned that the existing junctions, and junction 29a in particular, would be able to cater for the increased traffic flow once the schemes were implemented. Other issues raised by members of the public included:

- The layout at junctions (raised by three members of the public)

- The need to increase capacity from two lanes to three over Tinsley viaduct (raised by two members of the public)
- The need for the M1 to be widened (raised by two members of the public)
- The amount and impact of associated roadworks for the schemes (raised by two members of the public)
- The quality of the existing road surface (raised by one member of the public)

### ***Highways Agency Response***

At each junction slightly revised slip roads have been designed to take account of the operation of the junctions in relation to the mainline traffic and to maintain a safe and effective layout. Although the motorway is not being physically widened (apart from some areas being taken from the verge to accommodate the new ERAs and any minor works at the slip roads), four lanes will be available for traffic by the permanent conversion of the hard shoulder to a running lane between junctions 28 and 31, and between junctions 32 and 35a. The current four lane layout between junctions 31 and 32 is retained. However, the schemes do not include any changes beyond merge and diverge points of each slip road. The traffic modelling undertaken for the project looks at expected traffic scenarios in 2030 and predicts that, in the case of junction 29a, the impact on the junction as a result of the scheme will be extremely limited and, therefore, no improvements are considered necessary at this location.

The high volume of traffic using junction 33 means that the inside lane approaching the junction will be dedicated to traffic leaving the motorway at that junction. There will then be three lanes through the middle of the junction itself. The slip roads at junction 33 bringing traffic onto the motorway will become a fourth lane, avoiding the need for drivers to merge into the existing traffic and meaning that there will then be four lanes again on the other side of the junction. In addition, the Highways Agency has recently completed a scheme at junction 33 to improve the flow on the roundabout.

At junction 34, the current arrangement at Tinsley is three lanes either side of the viaduct, with the inside lane taking traffic down to the roundabouts in each direction, leaving two lanes over the viaduct itself. In future, there will be four lanes on either side of the viaduct, again with the inside lane taking traffic down to the roundabouts. This will provide three traffic lanes and a hard shoulder over the viaduct.

Overall, these changes are expected to improve the traffic flow significantly on this section of the M1.

The Highways Agency is very much aware of the need to keep disruption from roadworks to a minimum. There is an overall traffic management plan covering the schemes to ensure that disruption is minimised. During the working day, there will normally be three lanes open in each direction to provide similar capacity to that

which is currently available, in order to keep traffic moving on this busy motorway. In addition, the works will be phased so drivers are not faced with uninterrupted roadworks all the way from junction 28 to junction 35a.

The original scheme design had no plans to resurface the carriageway with low noise surfacing; instead this was to be addressed at a later date as part of routine maintenance. This maintenance has been brought forward and resurfacing the carriageway with low noise surfacing has been incorporated as part of this scheme. Bringing forward this work will be more cost effective, will achieve best value for the taxpayer, will cause less disruption to the travelling public and will help to reduce the level of traffic noise experienced by local residents.

#### **2.5.10 Environmental concerns**

The responses from the South Yorkshire Public Health Network and Rotherham MBC also covered environmental issues, and local air quality concerns in particular. Responses from English Heritage, the National Trust and the Environment Agency concerned the possible impact of the M1 J28-31 scheme on the environment and on the landscape setting of a number of important heritage sites. The response from Thundercliffe Grange Housing Cooperative concerned noise impacts. Overall, six representative organisations and three members of the public raised environmental concerns.

##### ***Highways Agency Response***

The Highways Agency has been in liaison with the organisations listed above throughout the development of these schemes. Environmental aspects are covered in detail in the Environmental Assessment Reports (EARs) rather than the consultation on VMSL. The EARs for the two smart motorways schemes have been published since these consultations closed.

M1 J28 to 31 Smart Motorway - Environmental Assessment Report – available at: <http://www.highways.gov.uk/publications/m1-j28-to-31-smart-motorway-environmental-assessment-report/>

M1 J32 to 35a Smart Motorway - Environmental Assessment Report – available at: <http://www.highways.gov.uk/publications/m1-j32-to-35a-smart-motorway-environmental-assessment-report/>

#### **2.6 Comments about the use of VMSL**

Respondents to the three consultations made only limited reference to the principle of VMSL, and none commented on the proposed Regulations. Comments about design aspects and the display of VMSL on both gantries and cantilever signs were made, as noted above. Both SYSRP and the South Yorkshire Public Health Network noted when responding to the M1 J32-35a smart motorways consultation that junctions 31-32 represented a gap in consistent approach to using VMSL. The Highways Agency responded at the time that proposals for VMSL on that section were being developed,

and the third consultation covered in this report dealt with the implementation of VMSL on that section of motorway.

## **2.7 Comments about ERAs**

The M1 J32 to 35a smart motorway consultation included a proposal to amend the 1982 Regulations on a national basis with regard to ERAs. None of the responses received to that consultation made reference to the proposal.

The Chartered Institute of Highways and Transportation (CIHT) made reference to ERAs as forming part of a smart motorway, but their comments concerned smart motorways strategy rather than aspects of the design or use of ERAs. The CIHT made no comment on the legislative proposals. Other nationally representative bodies did not comment on ERAs at all.

Among locally representative bodies only two organisations commented in their response to the M1 J32 to 35a smart motorway scheme consultation about ERAs. These were SYSRP and South Yorkshire Public Health. Comments made concerned the design of ERAs or the proposed intervals between refuge areas on smart motorways (covered above) and no comments were raised on the legislative aspects.

## **2.8 How the Highways Agency responded to the consultations**

The Highways Agency is grateful to the organisations and members of the public who have taken the time to respond to these consultations. Detailed replies were sent to all respondents following the end of the relevant consultation period. This report now provides a summary of the responses.

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### **3 CONCLUSIONS AND RECOMMENDATIONS**

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#### **3.1 Conclusions**

The consultation has shown that while stakeholders have concerns about the smart motorways – all lane running design concept, they are generally supportive of VMSL. Concerns are focussed more around the permanent conversion of the hard shoulder to a running lane, the 24/7 nature of the operation and the risk of vehicles stopping in live lanes, especially off peak. Where respondents did comment on VMSL, this was on the technology to be used in displaying VMSL and the ability to undertake enforcement of the speed limits. The Highways Agency's response to those concerns is detailed above.

On the issue of extending the 1982 Regulations to cover ERAs on a national basis, no comments were received. Such comment as was received about ERAs concerned the revised spacing under the smart motorways – all lane running design, their size and operation in areas where the national speed limit applies. Here again, the Highways Agency's response to those concerns is detailed above.

#### **3.2 Recommendations**

Before arriving at a final decision the Highways Agency has very carefully considered the responses received to these consultations. The Highways Agency continues to work closely with the various organisations who responded to these consultations in order to ensure that the smart motorways proposals can be implemented safely and effectively.

A key part of a smart motorway is the ability to operate ERAs and to implement VMSL. Following the consultation, therefore, the Highways Agency recommends proceeding with the necessary legislative changes by way of Regulations to:

- Provide for VMSL between junctions 28 and 35a of the M1 to allow the smart motorways schemes to operate once constructed;
- Make a permanent amendment to the 1982 Regulations to insert a definition of "Emergency Refuge Area" into those Regulations so that the restrictions on the use of hard shoulders in motorways extend to ERAs.

## ***Appendix A – About the Consultation Exercise***

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### **Government consultation principles**

The consultations were carried out in accordance with the Government's Consultation Principles. The consultation criteria are listed below.

- 1) Subjects of Consultation** – The objectives of any consultation should be clear and will depend to a great extent on the type of issue and the stage in the policy-making process – from gathering new ideas to testing options.
- 2) Timing of Consultation** – Engagement should begin early in policy development when the policy is still under consideration and views can genuinely be taken into account.
- 3) Making information useful and accessible** – Policy makers should think carefully about who needs to be consulted and ensure the consultation captures the full range of stakeholders affected. Information should be disseminated and presented in a way likely to be accessible and useful to the stakeholders with a substantial interest in the subject matter.
- 4) Transparency and Feedback** – The objectives of the consultation process should be clear. To avoid creating unrealistic expectations, any aspects of the proposal that have clearly been finalised and will not be subject to change should be clearly stated.
- 5) Practical Considerations** - Consultation exercises should not generally be launched during local or national election periods.

Further information about the Consultation Principles can be located on the Gov.uk website:

<https://www.gov.uk/government/publications/consultation-principles-guidance>