



Department  
for Transport

**See the CLEAR Strategic Road  
Responders Agreement.**

Investigation and Closure Procedures  
for Motorway Incidents

February 2013 Report

The Department for Transport has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the Department's website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact the Department.

Department for Transport  
Great Minster House  
33 Horseferry Road  
London SW1P 4DR  
Telephone 0300 330 3000  
Website [www.gov.uk/dft](http://www.gov.uk/dft)  
General email enquiries [FAX9643@dft.gsi.gov.uk](mailto:FAX9643@dft.gsi.gov.uk)

© Crown copyright 2013

Copyright in the typographical arrangement rests with the Crown.

You may re-use this information (not including logos or third-party material) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit [www.nationalarchives.gov.uk/doc/open-government-licence/](http://www.nationalarchives.gov.uk/doc/open-government-licence/) or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

# Contents

Foreword	4
Executive summary	5
1 Introduction and background	6
2. The impact of CLEAR	7
Quantifying the impact of CLEAR	7
Highest impact CLEAR action areas	9
3. Next steps	13
ANNEX A -	
Action Plan: Commentary	15
The roles and responsibilities of emergency responders	15
A clearer understanding of differences in incident duration, factors behind long delays, and regional variations	16
Providing better information to drivers	18
Revisions to investigation procedures related to road deaths to provide balanced and consistent guidance	20
Creating, sharing and monitoring an evolving bank of case studies	20
Developing and revising training exercises	23
Assessing new technologies and developing the case for laser scanners	24
Performance monitoring	26

# Foreword

One of the most frustrating experiences for a motorist is to be caught in stationary traffic on a motorway as a result of an incident, with no warning and with little sense that clearing the blockage is a priority.

I am determined to put these experiences in the past and pleased to see the progress that has been made through the CLEAR<sup>1</sup> initiative. This cooperatively mobilises all those who can reduce delays to motorway traffic as a result of incidents and sets out a range of actions across organisational boundaries.

This report demonstrates that there is good work being carried out across organisations and that incident handling is being improved in certain locations and through specific measures. I am particularly encouraged by the joint working and training initiatives bringing together the police, other emergency services and the Highways Agency. But the data and recent high profile incidents does not demonstrate universal improvement and we are still seeing instances of unacceptably long motorway closures that must be eliminated. There is more to do and this will be one of my priorities as Roads Minister.

I am tasking the CLEAR partners to spread the best practice they have identified so that they achieve continuous improvement in the handling of the thousands of incidents that cause delay to motorway users.

*Stephen Hammond*

---

<sup>1</sup> CLEAR stands for collision, lead, evaluate, act and re-open

# Executive summary

CLEAR is a joint initiative between the Department for Transport (DfT), Highways Agency (HA), Association of Chief Police Officers (ACPO), Chief Fire Officers Association (CFOA) and Association of Ambulance Chief Executives (AACE). All organisations including the Vehicle Operators Services Agency (VOSA) have endorsed and progressed the CLEAR initiative 10 point action plan, in many cases exceeding the requirements set out. This report confirms the achievement of the December 2012 DfT Business Plan objective to implement measures, including the use of innovative laser scanning equipment, to reduce congestion and costs associated with motorway closures following incidents.

The ten point plan sets out actions related to analysis, developing understanding, creating a case study bank, reviewing the Road Death Investigation Manual, promoting and reviewing multi-agency and police training, exploring technology, and monitoring performance. The three themes prioritised for action are clarifying roles and responsibilities, using new technology such as laser scanners, and focussing on heavy goods vehicles (HGVs).

The key achievements have been closer joint working and cooperation, and the purchase and use of laser scanners. Other significant achievements have been an insight into long duration incidents, the production and dissemination of a booklet and training film focusing on roles and responsibilities, the 2013 Road Death Investigation Manual, wider use of technology such as towing load cells and incident screens, and VOSA's initial actions on HGVs.

There is no simple way of quantifying the overall impact of CLEAR. However, should the CLEAR initiative save 5 minutes or more on incidents where motorway lanes are closed for more than four hours that would represent very good value from the resources put in to deliver CLEAR. At this stage we do know that laser scanners save an average of over 40 minutes in investigation time when used on motorways, and that they were assessed as high to very high value for money at a 39 minute time saving. Similarly the business case for load cells flagged a benefit cost ratio of 8, and time savings associated with each use of incident screens was £194k.

Actions that are continuing include data gathering, analysis and reporting, piloting and roll out of new technology, joint best practice gathering and dissemination, and embedding CLEAR principles in operational guidance. More importantly all parties are committed to learn from best practice and to develop the joint working and cooperation that embodies CLEAR.

# 1. Introduction and background

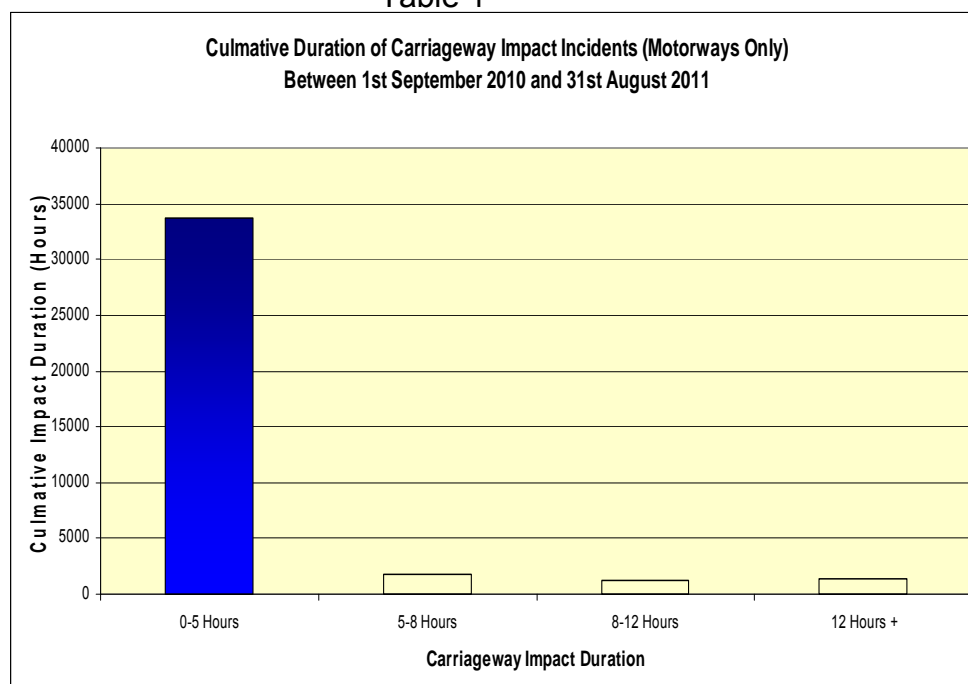
- 1.1** In 2010 the ACPO, HA, CFOA, AACE and related sponsoring Departments came together to review evidence and knowledge about the handling of motorway incidents, and to make recommendations for improvement. The resultant report, published in May 2011 as the Review of Investigation and Closure Procedures for Motorways incidents, made 10 recommendations for action which came together as the CLEAR (Collision, Lead, Evaluate, Act, Re-open) initiative.
- 1.2** The 10 recommendations included further analytical work and some more immediate actions around, for example, supporting the wider roll out of laser scanning technology for the police to assist in speeding up incident investigation. Colleagues from the Home Office, ACPO, HA, CFOA and AACE gave a commitment to support delivery of the recommendations at a national summit, chaired by Mike Penning, Roads Minister, on 19th May 2011.
- 1.3** A narrative on what has been achieved against each of the 10 points within the action plan can be found at Annex A. This was reported at a meeting of all partners, including VOSA, in December 2012.

## 2. The impact of CLEAR

### Quantifying the impact of CLEAR

- 2.1** Though by far the majority of incidents causing delays on motorways are of short duration it is the long duration incidents that do most reputational damage and which are the prime focus of the CLEAR initiative. This is because most motorway incident responders<sup>2</sup> are only present together at the longest duration events.
- 2.2** Evidence of improvement in average clear up times for incidents lasting over five hours is inconclusive, with average times over the last year showing no clear trend. There is clear evidence of localised improvement, with the Central Motorway Police Group reporting a substantial reduction in major incident clearance times through applying CLEAR principles.
- 2.3** An increase in 0-5 hr incident times tells us that CLEAR has yet to have an impact on short duration events. This is not surprising as these incidents are less complex with fewer agencies involved. The increasing use of spill kits, load cells, and other equipment by HA Traffic Offices will improve performance where they are used.

Table 1



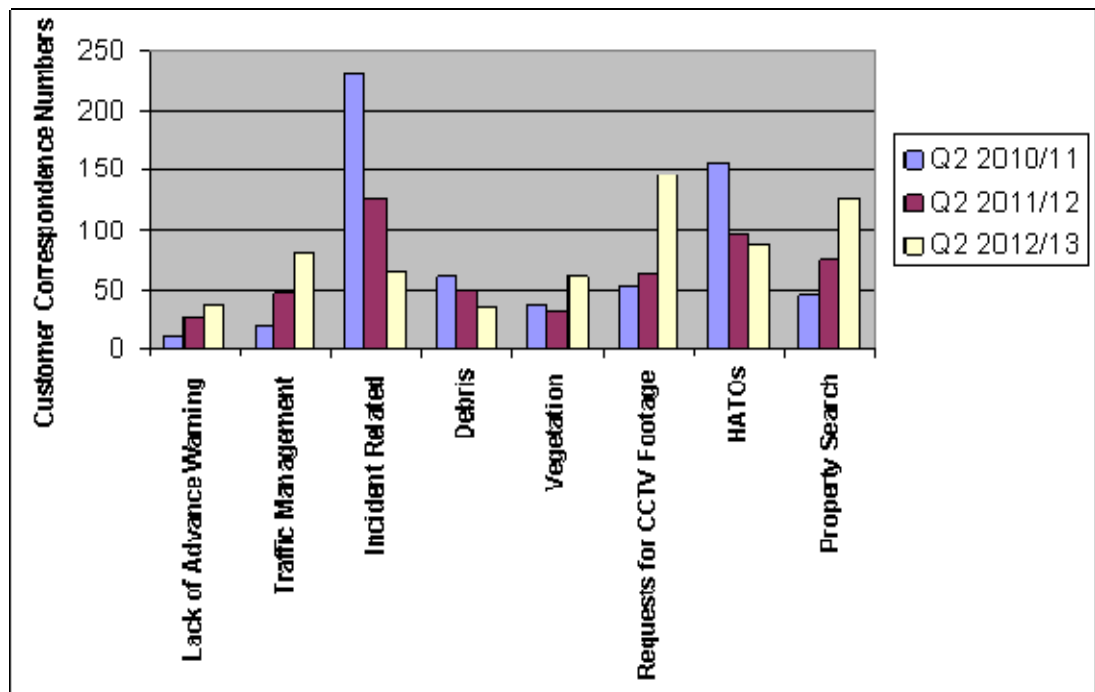
<sup>2</sup> Emergency services (police, fire and ambulance services), Highways Agency, vehicle recovery and HA maintenance contractors

2.4 Though average and median clearance times have yet to show evidence of CLEAR's impact, the latest HA customer feedback report shows a significant reduction in concern about incidents. This aspect is the most significant change in customer feedback, where concerns have dropped to a third of those reported two years ago. This is indicative of improved performance in handling incidents, particularly on the communications side, with CLEAR likely to have been a factor in the more recent improvement.

2.5

Table 2

Results from the Q2 July to Sept 2012 HA Customer Feedback Report.



2.6 The West Midlands pilot of good practice provided some informative feedback from motorway responders which gave insight as to how the CLEAR initiative is viewed amongst responder groups in the area. Carl Ledbury, of CBRN Operations manager said:

*"The West Midlands Ambulance Service NHS Trust is supporting the 'Clear initiative' to improve communication, understanding of the respective Partners roles, to improve the response to incidents on the Motorway network within our geographical area.... The overall gain from our perspective is to improve the timely response to injured patients.... The reduction in our time on the motorway reduces risk to our staff, patients and other agencies."*



Kevin Eaves, West Midlands Fire Service:

*"Each individual service operates slightly different procedures and to be able to meet with these stakeholders and formulate policies and procedures that help us to operate more effectively at incidents is invaluable and needs to continue."*

And from Martin Evans, Chief Superintendent, Central Motorway Police Group:

*I am proud to say that CMPG have worked very closely with the Highways Agency and other partners to develop and implement the CLEAR programme. We have shown that through this programme we can significantly reduce the impact that incidents through the closure of carriageways can and do have on our public that are using our motorway network without having any detrimental impact on the police investigation. As a result of this added focus for our resources we now measure and monitor the amount of time that carriageways are closed as a result of incidents to ensure that we are doing all that we can to minimise disruption. Through this focus I am pleased to say we have reduced the closure times significantly. Since the beginning of April this year to date the average closure time as a result of incidents on our motorway network is 2 hours and 56 minutes which has reduced significantly from previous years which was around 5 hours average closure time."*

- 2.7** The cost of congestion on the SRN due to incidents is difficult to quantify but credible estimates are of £750m or more each year. The difficulty of translating the range of actions here into savings in travel time is such that a robust estimate of CLEAR's impact on that is not possible. If a not unreasonable expectation of a 5% saving in that figure as a result of the CLEAR initiative is accepted, then we can say that a yearly saving to the country of over £30m will be realised, for a one off outlay of less than £10m, and a commitment from the CLEAR partners to continue working closely together.

## Highest impact CLEAR action areas

### Changing attitudes to co-ordination and co-operation

- 2.8** A key achievement of CLEAR has been the bringing together of motorway responders in a spirit of cooperation to generate improved mutual understanding and a willingness for closer working.
- 2.9** Awareness of the importance of CLEAR is spreading within the partner organisations, as witnessed by features in workplace publications such as the Emergency Service Times, and through wider engagement

between partners, as illustrated by the Fire and Ambulance services engagement in HA liaison meetings with ACPO. We know from a limited number of front line emergency operatives that CLEAR is better known in some locations, indicating there is more to do to widen awareness and achieve consistency across the country.

- 2.10** The production of the CLEAR roles and responsibilities booklet and supporting film has demonstrated cross service recognition of the importance of each other's respective roles and the added value of joint working and individual case study debriefs are demonstrating that the behaviours promoted by CLEAR are beginning to feature in feedback of what went well.
- 2.11** The Highways Agency, as the organisation with the greatest presence on the SRN and with responsibility for network efficiency, has led in developing agreements with emergency responders. The roles and responsibilities guidance is particularly helpful in defining police and HA duties and, following CFOA endorsement, CLEAR is influencing the new Joint Emergency Service Interoperability Programme (JESIP) which is chaired by the Home Secretary. As national operational guidance is reviewed, CLEAR will be written into that guidance and will inform future training.
- 2.12** In addition the HA and VOSA have signed a Memorandum of Understanding (MOU) which facilitates data sharing about HGVs which feature in motorway incident reports. The same data is being shared with the National Roads Policing Intelligence Forum (NRPIF), so ensuring consistency of information and a wide approach to addressing problem HGVs.

## **Deploying new technology**

- 2.13** Whereas changing attitudes and culture takes time and can be expected to demonstrate steady improvement in outcomes, the application of new technology, as promoted through CLEAR, should show immediate improvement. This has certainly been the case with laser scanners.
- 2.14** 38 Laser Scanners have been purchased by DfT and a National Police Improvement Agency (NPIA) grant, and are now in the hands of 27 police forces to rapidly capture evidence at the scene of an incident. Case specific feedback from those forces to date is of an average time saving of 44 minutes in investigation time when used on the strategic road network (SRN). The business case for the £2.8m DfT grant was based on a time saving of 39 minutes, and projected a high to very high benefit to cost ratio.
- 2.15** Incident screens, which help prevent rubbernecking by screening off an incident, were deployed seven times during the Olympic period on behalf

of the Highways Agency. The HA has calculated that the average economic benefit for using the screens at one incident is £194k. Incident screens are being introduced for deployment by the Traffic Officer Service with the first phase intended to be rolled out in 2013.

- 2.16** An I-Phone App has been introduced by the Agency which is 'hands free' and notifies the user of any incidents and or congestion at their current location. This app had 5000 hits within the first 2 months of its launch.
- 2.17** Load cells enable Traffic Officers to 'safely' move vehicles which are causing an obstruction in a live lane. During the initial trial period they were used on 100 occasions and the business case being developed for their wider rollout demonstrates a benefit cost ratio of 8. This translates to time savings worth £8.4m over ten years.

### Heavy Goods Vehicles

- 2.18** Analysis of the causes of incidents that cause delay, segmented by time period, shows that HGVs are disproportionately represented in longer duration incidents.

Table 3  
Incident Types: Motorway only: 1/09/10 to 31/08/11

<u>0-5 Hours</u>	<u>5-8 Hours</u>	<u>8-12 Hours</u>	<u>12+ Hours</u>
<b>86,480 Incidents</b>	<b>302 Incidents</b>	<b>136 Incidents</b>	<b>68 Incidents</b>
30 Fatal 600 serious 8400 Slight	47 Fatal 59 Serious 67 Slight	23 Fatal 30 Serious 28 Slight	10 Fatal 5 Serious 14 Slight
Unknown % involving HGV	54% involving HGV	60% involving HGV	67% involving HGV
<b>Most Common Incident Types:</b>	<b>Most Common Incident Types:</b>	<b>Most Common Incident Types:</b>	<b>Most Common Incident Types:</b>
Breakdown Live Lane Debris Collision – Damage Only	Collisions involving a HGV Vehicle Fire Involving HGV	Overtuned HGV Barrier Repairs	Overtuned HGV  Vehicle Fire Involving HGV

**2.19** VOSA has recently received the shared information collected at incidents by the HA and is systematically identifying vehicles involved in incidents, with a plan to contact operators as appropriate. Given the multiple appearance of individual vehicles, and the over representation of certain operators in incident statistics, even a small improvement in this area should generate a measurable improvement in longer duration incident. An example of action in this area is VOSA picking up HGV drivers taking rest breaks on motorway hard shoulders, something that is not legal.

## 3. Next steps

- 3.1** It is important to recognise that this is not the end of the initiative and the good work that has been done so far lays solid foundations for the future.
- 3.2** Though the actions are viewed as being achieved, many of them relate to activity that needs to continue, such as training and better communications. In particular the revision of the Road Death Investigation Manual will be completed during 2013, joint training exercises will continue to be planned, further rounds or upgrades of laser scanning equipment will need to be considered, and new technology such as towing equipment for traffic officers will need to be justified and deployed.
- 3.3** In addition the sequential inclusion of CLEAR principles in the various guidance documents needs to continue so that they are embedded across all motorway responder organisations. To support that objective and to ensure that cross organisation oversight of the roll out of the CLEAR initiative is maintained, six monthly meetings of the CLEAR partners will take place.
- 3.4** The Highways Agency is setting up a joint motorway responder's forum to enable the CLEAR principles and approach to continue and develop. The HA will continue to carry out data collection and analysis work to support CLEAR in the following areas and use the output to drive continuous improvement by:
  - a. Identifying the ongoing issues with incident clearance, leading to the introduction of evidence based initiatives.
  - b. Helping the 'customer' determine the best time to travel on particular routes through developing National Traffic Operations Centre predictive capability.
  - c. Working towards the development of a new performance framework that recognizes the importance of the incident timeline driving positive behaviours in this area.
  - d. Understanding issues across the HA and police through continued engagement with the National Roads Policing Intelligence Forum (NRPIF).
- 3.5** ACPO will complete the review and publication of the RDIM during 2013.
- 3.6** DfT will work with the Police to identify the potential benefits of providing more laser scanners, and action as appropriate.

- 3.7** CFOA will bring CLEAR to the Joint Emergency Service Interoperability Programme and ensure the review of the national operational guidance is informed by CLEAR principles.
- 3.8** VOSA will continue action on non compliant HGVs based on the shared information database.
- 3.9** The Highways Agency will also continue assessing best practice examples, particularly by working with the Met Police and the Central Motorway Police Group to understand their incident time line and to introduce and disseminate a 'best practice' approach.
- 3.10** The HA will carry out further analysis of the reasons behind short duration incidents, with an emphasis on interventions that can be addressed by improved communications, and particularly where support from motoring and freight organisations will contribute.
- 3.11** The whole motorway responder 'family' will continue to ensure that best practice is identified, understood and, where appropriate, disseminated for the benefit of all. The London Metropolitan Police model incident handling and reporting model will be considered for application, particularly in terms of incident feedback.
- 3.12** The HA will continue to develop performance monitoring building and key responders will produce regular reports in standard form.
- 3.13** Annex A sets out the actions and achievements against the 10 Actions from the 2011 review, and also lists ongoing development work.

# ANNEX A - Action Plan: Commentary

## The roles and responsibilities of emergency responders

**Action 1. The role of the emergency responders and parties in motorway incidents to be explored in more detail, to identify and agree specific issues to be addressed to improve incident durations.**

- A.1** The potential for improved co-ordination and decision making was recognised early on by all parties, with first priority being greater clarity about the different roles and responsibilities of the key organisations involved in incident management on the strategic road network.
- A.2** The HA has led on producing and promoting a clear and simple aide memoire on roles and responsibilities in the form of a small booklet which was published in July 2012 and sets out the joint outcomes all responders aim to achieve through integrated partnership working. A film featuring “talking heads” from each of the emergency services and from the HA was produced to reinforce the booklet's messages.
- A.3** An M25 Summit was held in July 2012 which was attended by representatives from the Association of Chief Police Officers, Chief Fire Officers Association, Association of Ambulance Chief Executives, Highways Agency and others involved in managing incidents on the M25. The Summit was used as the arena to formally launch the roles and responsibility booklet. The booklet was employed as a tool to enable collaborative working and strengthen Olympic readiness.
- A.4** Through joint workshops, summits, and the communications networks of CLEAR partners, including the Coroner's Office, roles have been clarified and responsibilities embedded in the culture and operations of motorway responders.

## Ongoing Developments

- A.5** A new Chief Coroner has been appointed and the HA will engage in the near future to develop a relationship and continue to build on the current understanding of the coroner's role.
- A.6** The HA is leading cross agency engagement on an ongoing basis and in scoping an update to the National Guidance Framework so that it builds on and embeds CLEAR principles. The new framework will include the ambulance and fire services, alongside the HA and police, and will improve clarity on each responder's roles and responsibilities.
- A.7** The short CLEAR film will be shared with all key traffic incident management organisations to support and reinforce the messages in the booklet.

## A clearer understanding of differences in incident duration, factors behind long delays, and regional variations

**Action 2. A joint deep dive exercise to be undertaken to give us a clearer understanding of shorter and longer duration incidents and factors which may contribute to long delays. This needs to include ACPO, the HA and other emergency responders.**

**Action 3. Further analysis on the causes of regional variation to be carried out. In particular identifying the factors that make one region perform better than others and what lessons can be learned.**

- A.8** These actions seek to fill gaps in knowledge and understanding which should help to identify and prioritise potential interventions. In particular in addition to the impact on the economy, surveys consistently identify long delays as a major source of discontent, and it was anticipated that the characteristics of such incidents were likely to be sufficiently different to warrant special attention. Exposing regional variations in performance and differences in the reliability of information provided to drivers was considered to be important to identifying best practice.
- A.9** Joint deep dive exercises were carried out with other motorway responders, including the current National Vehicle Recovery Manager which enabled the HA to gain a greater insight into some of the recurring themes. Initial findings included issues associated with HGVs and those carriageway impact incidents with a duration of 0-2 hours, as well as with incidents that involve fuel spillages; debris; damage only collisions and live lane breakdowns.



- A.10** This led to further analysis being undertaken to better understand the underlying issues, particularly on:
- Heavy Goods Vehicles: short, medium and long duration incidents
  - Incident Type: eg fuel spillage, debris, damage only, live lane breakdowns
- A.11** The subsequent HGV profile helped determine that the main causation factor was driver error but it is not clear from this analysis whether this relates to the driver of the HGV or the other parties involved. We also know that because of the sheer size of HGVs recovery will take longer, and infrastructure damage caused by fuel spills and or barrier repairs, will take longer to restore and so add delay to our ability to re open the carriageway.
- A.12** Findings from the analysis have lead to the HA working with the VOSA and a Memorandum Of Understanding has been developed and signed by both parties to allow data to be shared. The data concerns HGVs involved in incidents with a view to VOSA taking enforcement action if appropriate and keeping the HA informed of results.
- A.13** In the light of the analysis of HGV involvement in serious incidents the fire service is now taking the opportunity during routine visits with hauliers and alike to point out the fire risks associated with their vehicles as well as their premises in an effort to encourage businesses to be more risk aware and adopt a preventative attitude wherever possible.
- A.14** The analysis also identified a number of factors causing variance in regional performance. Specific improvements and changes have been implemented to address these variances which include early mobilisation of other responders, and various best practice actions such as incident commanders wearing bibs to identify themselves and easily identifiable rendezvous points being set up.
- A.15** It was recognised from both the data analysis and via the HA de-briefing process that where police groups such as the Central Motorway Police Group in the Midlands and the North West Motorway Police Group exist, there appears to be more effective and efficient working at incidents. More recently the December 2012 partners meeting identified excellent Metropolitan Police practice which was very effective in reducing incidents of over four hours duration. These working arrangements may not be appropriate everywhere and there are issues related to common reporting geography, but they should be proactively considered for application as part of best practice roll out.
- A.16** Meetings were held by HA in August and October to investigate all responder's appetites for joint debriefing in the future. In addition the uptake and success of one of the CLEAR interventions (Bronze Commander bibs) is being tested.

## Ongoing Developments

- A.17** The following data analysis is being progressed by the HA and reports are being developed:
- Incident duration 2 -12 hrs performance report
  - Incident duration 12 hours plus performance report
  - Debris intelligence profile
- A.18** The HA has commissioned research from Southampton University to help predict typical incident durations based on data analysis of historical incident durations, including measuring the effectiveness of strategic responses. This research is in two parts.
- A.19** Part A of the Southampton University research is to undertake an assessment of benefits delivered by a strategic response, in line with benefit methodology. It will provide a report and recommendations on its marking of improved journey time reliability, reduction of environmental impact and strategic response evaluation methodology. Part B will involve working to determine the most effective way of diversion design. Work is forecast to complete in summer 2013.
- A.20** An HA pilot to assess the level of embedment of CLEAR principles in the West Midlands has been completed and outputs from the pilot include:
- a mechanism for understanding the extent of embedment of roles and responsibilities;
  - a report giving core responder views; and
  - an understanding of CLEAR and identification of gaps.
- A.21** Further work will now continue to develop the outputs and disseminate as appropriate

## Providing better information to drivers

**Action 4. Work to be undertaken to develop our understanding of trusted, reliable information provision at incidents i.e. from what sources do those involved in a hold up derive their information, and what options do we have to make that information more accurate and useful.**

- A.22** Only one third of drivers ever check information before making a journey on the SRN, with 39% relying on their radio for information, and with 17% saying they can't be bothered to check.
- A.23** Trust in the credibility of variable message signs (VMS) is mixed. With 66% of SRN users confident of the accuracy and 30% expressing low

confidence. The main reason (69%) road users don't always trust VMS information is a perception that it may be inaccurate.

**A.24** By improving public confidence in traffic information and providing a wide range of information sources the congestion consequences of incidents can be reduced through drivers choosing to avoid the incident scene.

**A.25** The HA has made a number of improvements in the provision of information to customers including:

- improving the quality of severe weather information. New legends are now in place and weather event criteria have been updated. VMS policy has also been updated to reflect these changes.
- providing better information for trapped traffic by using scrolling message signs. An agreed process for their use is also in place.
- improving the Traffic England website so it can show pictograms to reflect messages being shown on motorway signals on the network.
- using social media to get messages to a wide customer base.
- undertaking analysis to establish new locations for including travel time on VMS.
- working in partnership with an American company to launch a new hands-free information service for smartphone users with in excess of 5000 downloads in the first 2 months.
- launching the TrafficMap Beta website which is the first deliverable of the new National Traffic Information Service (NTIS), providing users of the service with information on off network roads, sourced from floating vehicle data.

**A.26** In addition to the above improvements the HA has launched its Channel Review Strategy which introduces a framework for future information initiatives. This new way of working will ensure that any new channels introduced will be aligned to the information strategy.

## **Ongoing Developments**

**A.27** Into the future the HA will provide much more comprehensive information to the traveller from a single view of the SRN. The HA will enable customers to see when the best times to travel on a particular route are and predict event and traffic impacts including return to normal time-scales.

## Revisions to investigation procedures related to road deaths to provide balanced and consistent guidance

**Action 5: The last edition of the Road Death Investigation Manual was published in 2007: a review would be timely, in consultation with other incident management responders.**

- A.28** The Road Death Investigation Manual (RDIM) is the guiding doctrine of the ACPO and is used by all operational Police officers of the 43 Police forces of England and Wales to respond to, investigate and report upon collisions that have resulted in the death of a person. The RDIM has been in existence for over ten years with the 2007 version representing the most recent release of advice and guidance.
- A.29** Within the context of the 'CLEAR' Programme and the shared ambition of reducing (where possible) the duration of road closures after incidents on the strategic road network, the RDIM will be revised during early 2013 to bring it up-to-date with a range of professional issues that have developed since the 2007 release. Such professional issues include; advances in technology, the expectations of victims and families, influences of social media and levels of support that are provided by the police (and others) to those 'left behind'.
- A.30** The importance of the police and other agencies in effectively managing road closures after fatal collisions and other incidents on the strategic road network features very strongly within the revised 2013 RDIM with the 'CLEAR' principles and guidance having been incorporated into the body of RDIM doctrine.
- A.31** The strategic message within the RDIM properly reminds practitioners of the requirement to gather, preserve and secure evidence at the scene of collisions whilst always being mindful of the economic, social and other impacts of protracted road closures (and of the need for the police, Highways Agency and others to properly 'inform' those affected by a closure).

## Creating, sharing and monitoring an evolving bank of case studies

**Action 6: A wider bank of case studies and good practice models should be developed, maintained and regularly disseminated to all incident management responders. Evidence should also be gathered on the extent to which best practice / lessons learnt are utilised in subsequent incidents.**

- A.32** The HA is now collating and sharing case studies, lessons learned, best practice and other knowledge management products with motorway responders. This process is embedded as business as usual.
- A.33** From the 1 June 2011 to the 31 July 2012, there were 609 critical incidents on Traffic Officer Service (TOS) patrolled routes. HA conducted hot debriefs for 478 of these (79%) leading to 42 cool debriefs (6%) and 15 cold debriefs (2%) - see below. This overall response rate is a significant achievement for this relatively new process and the trends show that regions are increasingly submitting debrief checklists for critical incidents.

#### **Hot, cool and cold debriefs**

Hot debriefs are held immediately after an incident or at the end of those shifts in which an incident has occurred at the discretion of the Team Manager or Operations Manager. They are attended by the HA TOS members who were involved in the incident either on road or at the RCC. Once the output of the hot debrief has been reviewed a decision as to whether an escalation to a cool or cold debrief is required should be made. The cool debrief is a planned meeting attended by the TOS and other HA stakeholders and service providers that were involved in the incident but does not extend to other service providers and stakeholders. A cold debrief is a planned, formal meeting between emergency responders to undertake a tactical review of an incident.

- A.34** The Knowledge Compendium has been built up from lessons learned contained in the outputs of hot, cool and cold debriefs conducted since June 2011. There are a total of 122 lessons within the Compendium up to the 31 August 2012 which are grouped thematically.
- A.35** Lessons that have been picked up from these include, the importance of the use of Incident Commander bibs, consideration at an early stage of prepositioning resources such as vehicle recovery and the effective co-ordination of responders to ensure the carriage way can be opened as quickly as possible.
- A.36** The HA also undertook a review to establish how well guidance on lane restriction at barrier repairs was being applied following a major incident. It concluded that a number of service providers had not adopted appropriate guidance. HA re-stated the importance of service providers adopting the principles established in the guidance.
- A.37** Two key groups identify and share best practice and lessons learned; CEDR (Conference of European Directors of Roads) and 5 Nations (British Isles). CEDR has completed its current task relating to incident management. This resulted in a final report that each member country

contributed to and was heavily influenced by the HA. This report is now being disseminated throughout CEDR member states to share best practice. Official visitors from other countries comment that incident management is well handled in the UK.

### **Learning from the Olympics**

Debriefs from incidents during the Olympic period confirm that responders worked collaboratively to ensure delays were minimised and roads opened as quickly as possible. Information passed between responders on scene was accurate and where police and HA are co-located in regional control centres communication was good, resulting in responder organisations being able to make informed decisions about the type and level of response required and early control and coordination of the incident.

Good practice identified in debriefs included the early deployment of a Bronze Commander which led to lanes being reopened quicker allowing trapped traffic to be released. All debriefs highlighted the importance of mobilising vehicle recovery as quickly as possible, again this resulted in the motorway being reopened quicker.

Incident screens were reintroduced during the Olympic period. The screens were used at least seven times during the trial.

The use of helicopters to remove casualties from the scene of an incident is one area that has been highlighted in debriefs as still having the potential to delay road reopening following an incident. This learning fed through to the CLEAR Roles and Responsibilities film.

Police forces across London and the Home Counties adopted a joint working protocol to deal effectively with road incidents. This achieved a reduction in delays on key roads during the period of enhanced leadership and collusion. This simple but effective plan demonstrates the true value of 'CLEAR' as a low-cost but effective way to improve the work of the police and partner agencies in improving the response to and management of incidents.

□□

## **Ongoing Development**

- A.38** The collection of knowledge being compiled by the HA will be used to shape and influence the development of briefings, tool box talks, procedures and service development as well as help identify incident management innovations and best practice to be shared more widely.

- A.39** HA is also working with the Metropolitan Police to understand their 4 hour target for road closures including fatalities – consideration being given to lessons learned and how they may be implemented.
- A.40** The HA has collected data from all seven of its regional control centres and this is now being analysed and placed in a matrix which will help them to understand emergency responder’s relationships with each other with a view to devising a “best practice” approach.

## Developing and revising training exercises

### **Action 7: Police training for on-road and collision investigation staff needs to be revised to improve the understanding around the impacts that lengthy closure procedures can have.**

- A.41** The ‘CLEAR’ guidance has been widely circulated to Chief Police Officers and members of their forces and has been formally adopted by ACPO as agreed best practice. Across the UK, police forces are now more cognisant of the ‘balance’ that is required to be achieved in investigation whilst maintaining the free flow of traffic on the strategic road network.
- A.42** There is now greater clarity about the roles and responsibilities of the emergency services in responding to and managing serious incidents and that the effective ‘choreography’ and ‘combination’ of the assets, capabilities and resources of multiple partners at the scenes of events can lead to the desirable outcome of effective evidence gathering and investigation combined with reduced road closure times.
- A.43** The CLEAR programme has been successful in embedding understanding of the importance of free flow on the strategic road network, recognising the need to balance evidence gathering with re-opening roads and it has brought Government closer to the motorway responders and other partner agencies who have responsibilities in this area. The Group has analysed the problem, produced simple but effective guidance and delivered a range of products and interventions to promote and embed the ‘CLEAR’ message.

### **Action 8: Multi-agency training exercises should be developed and delivered to test scenarios around closure procedures and best practice; In particular dynamic management techniques.**

- A.44** Practitioner workshops and feedback on improving performance picked out case studies and good practice models as being instrumental in driving improvement in behaviours and operational efficiency.



- A.45** A number of formal multi- agency exercises have been delivered. These include the Combined Emergency Services Team Approach (CESTA) exercise and the HYDRA exercise. HYDRA is a unique, high fidelity, immersive simulation training system, which enables the monitoring of real-time leadership and decision making during critical incidents.
- A.46** In addition the Police held a number of workshops in Coventry, Harrogate and Bramshill in April and May 12 which were attended by other partners. The workshops included “Table Top” joint training exercises to test hypothetical scenarios to tease out best practice
- A.47** Through the joint exercises incident management techniques are tested and best practice refined.

### **Ongoing Development**

- A.48** As with recommendation 6 the collection of knowledge being compiled by the HA will be used to shape and influence the development of briefings, tool box talks, procedures and service development as well as help identify incident management innovations and best practice to be shared more widely.

## **Assessing new technologies and developing the case for laser scanners**

**Action 9: The use of technologies in incident management must be explored further both in the short and longer term. Short term- a full business case should be developed to consider the wider roll out of laser - scanning technology to police forces. Longer term - a review should be undertaken to identify and assess new technologies that could be used to reduce incident durations**

- A.49** An early appreciation of the potential for significant time savings through the use of laser scanners underlined the importance of looking at how new technologies could improve incident handling.
- A.50** A number of new technologies, initiatives and pieces of kit were identified by looking at an analysis of closure incidents, the incident timeline and dynamics, the debriefing process, alongside direct feedback from operatives and experience from other countries,
- A.51** The most effective introduction of new technology has been the use of laser scanners by the police, as purchased by DfT and National Policing Improvement Agency (NPIA) grant. There has been positive press coverage of laser scanner use by Thames Valley Police and Leicester forces.



**A.52** As well as laser scanners, the potential for better incident handling was identified through:

- locating kit bins at strategic sites so that the incident management time line can be reduced. The kit bins are being managed and maintained by HA service providers.
- trialling the use of a diesel absorption product on the majority of designated Olympic routes by HA service providers. The trial started on 23 July and completed mid September after the closing of the Para Olympics. Data from the trial is being analysed and a phase 2 trial has commenced which involves further off network testing of 'Imbiber' and other selected propriety diesel absorption products to determine its possible future use by the TOS.
- trialling load cells through the HA's carriageway clearance initiative. 84 load cell evaluation forms have now been received from the TOS by the project team and information is being analysed.

**A.53** The Carriageway Clearance Initiative involves the following:

- identifying the traffic officer vehicles and associated towing equipment's maximum safe towing capacity;
- introducing a load cell device to monitor and record towing forces to ensure that the maximum safe towing capacity is not exceeded;
- producing a revised carriageway clearance procedure;
- developing a training programme to support the use of the load cell device nationally; and
- using the load cell data to enhance compliance monitoring.

## **Ongoing Developments**

**A.54** An HA project to introduce the use of incident screens as business as usual in the TOS is proceeding with the first phase forecast to be rolled out in October 2013.

**A.55** A number of other initiatives are being considered by the HA which will help speed up incident management clearance including the use of diesel spill kits by the TOS as business as usual. Along with this a number of measures to assist the TOS to get to incidents more quickly are being progressed including the use of flashing headlights and bull-horns.

**A.56** Other trials either on-going or in development by the HA are the use of new TOS vehicles that are capable of carrying more kit and the use of mobile ICT equipment in TOS vehicles to improve response times. The ICT equipment trial will provide an opportunity to look at the possibility of providing operational staff with the current HA desktop capability, along

with access to a number of relevant applications for example access to CCTV.

## Performance monitoring

**Recommendation 10: A new framework of performance monitoring should be developed. This will enable us to track progress over time, compare performance across different regions and understand the impact of future interventions. As part of this performance data should be published.**

**A.57** The HA Traffic Management Directorate (TMD) has developed a report which is used to inform several senior meetings including the DfT/HA Highways Performance Group. The report has enabled TMD to make evidence based decisions in terms of understanding carriageway impact data and where further interventions or enquires are required.

**A.58** To further develop the report the HA has now developed the Dashboard which shows at a glance what is happening month – on - month and quickly identifies areas of concern/interest. A strategic, tactical and operational governance structure in the HA has been established using the OPR to drive continuous improvement.

### Ongoing Development

**A.59** An HA TMD customer satisfaction measure is being explored using data taken from the National Road User Satisfaction Survey.

**A.60** The HA's TMD are developing a performance framework for understanding performance across all TMD functions. The four key steps in building the framework are to identify outcomes, outputs, utilisation, and inputs. Stage 1 will be complete by the end of February 2013.

**A.61** The Department for Transport is developing a new performance specification for the strategic road network which is likely to include a metric that encompasses journey time reliability.