PART 7 - TRAFFIC INCIDENT MANAGEMENT AND CONTINGENCY PLANNING

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7.1 Incident Management – Introduction and Scope

7.1.1 Background

Incident Management and Congestion

It is a fact that incidents on the network are a significant cause of disruption to traffic flow with the associated delay and congestion. Various studies have considered the causes of congestion and it is generally accepted that incidents contribute around 25% to the overall congestion levels on the motorways and trunk roads in England.

Move from builder, to maintainer, through to operator

The role of the Highways Agency has been evolving since it was created in 1994. The primary role of the Highways Agency was as a road builder, continuing the development of the strategic road network. The emphasis of the role changed to encompass the role of road maintainer and, more recently, a new role as road operator which was established in the 1998 White Paper, a New Deal for Transport. There are a number of different factors some of which are discussed below.

The Roles & Responsibilities Review 2002

The 2002 Roles and Responsibilities Review, undertaken jointly with Association of Chief Police Officers (ACPO), sought to gain agreement about the range of services which should be provided to the users of the Highways Agency's core network; identify which of these services are best provided by the police, the Highways Agency, or an alternative supplier; and establish the implications of any transfer of responsibilities. The Roles and Responsibilities Review led to the creation of the Roles and Responsibilities Programme and the subsequent implementation of the Traffic Officer Service, which is employed by the Agency to provide its first response to incidents or events on the HA network.

The Incident Management Study 2002

The Incident Management Study was undertaken in 2002. Whilst recognising the potential for greater multi-agency cooperation, the study sought to gain a better understanding of what happens during major incident clearance, the roles and responsibilities of those organisations taking part and to provide recommendations for improvement. The recommendations of the Incident Management Study included: the Highways Agency taking a key role of developing, negotiating, implementing and monitoring better incident management procedures, a National Guidance Framework (NGF) for incident management culture, procedures and processes and Detailed Regional Operating Agreements (DROAs) to meet the needs of the area.

Civil Contingencies Act 2004

The Civil Contingencies Act 2004 sets out a framework for managing emergencies and defines the powers, responsibilities and duties. The Highways Agency is a 'Category 2' responder under the Act which supersedes a number of older statutes and was brought in mainly as a result of the fuel crisis and the severe flooding in the autumn and winter of 2000 and the outbreak of Foot and Mouth disease in 2001.

Traffic Management Act 2004

The Traffic Management Act 2004 implemented a range of new measures to reduce congestion on both the strategic and local road networks including the introduction of powers for Traffic Officers, a new Network Management Duty for local traffic authorities and permits schemes for controlling the occupation of highways. In addition, the Act introduced a number of amendments to the New

Roads & Street Works Act 1991 and the Highways Act 1980. Clearly the most significant provisions within the Act for the Agency were those contained in Part 1 dealing with Traffic Officers.

The Traffic Officer Service

In April 2004, the Highways Agency introduced a pilot of the Traffic Officer Service in the West Midlands as part of the Roles and Responsibilities programme, providing a successful working partnership with the regional police forces and an operational presence on the network. This has introduced a more robust framework within which improvements in areas such as traffic incident management can be made.

The Traffic Officer Service has given the Highways Agency a physical presence and influence over the management of incidents on the network and was therefore a key point in the transformation journey for the Highways Agency from being an asset owning organisation to a service focused, asset operator.

The PSA Target

In 2006 the Agency was set a key Public Service Agreement target of making journeys on the strategic road network more reliable by 2007/08

Emergency Customer Welfare

Traffic incidents, periods of increased demand and severe weather events are among the most common causes of delays which can result in persons, pet animals and livestock becoming stranded on Highways Agency roads.

The best way to reduce the impact of delays is to employ recognised incident management techniques and clear incidents as quickly as possible. However, there are occasions when severe congestion and extended delays are unavoidable and can result in causing unacceptable discomfort or suffering to those stranded. Under these circumstances, it could become necessary for 'on site' provision of basic emergency welfare, or in extreme circumstances, the evacuation of persons/animals from trapped vehicles to enable welfare support elsewhere.

In July 2006, following recommendations resulting from a detailed study, the Highways Agency Board gave its approval for the development and subsequent introduction of policy guidance and a service capability for delivery of basic, emergency welfare to stranded motorists. This has resulted in the development of formal arrangements for providing Emergency Customer Welfare (ECW).

Guidance on the policy is provided in 'Provision of Emergency Customer Welfare on Motorways and All Purpose Trunk Roads – National Policy Guidance' which can be accessed for viewing and download on both Highways Agency Portal and www.ha-partnernet.org.uk website using the following links:

Portal: Emergency Customer Welfare

PartnerNET: Emergency Customer Welfare

7.1.2 Scope

Incident management covers a wide spectrum of activity ranging from the removal of debris from the carriageway through to responding to national crises. The scope of this document extends across this spectrum. The particular arrangements to be put in place for dealing with incidents will clearly vary depending on the size and scale of the incident: this document sets out a standard set

of operating protocols and a clearly defined escalation process to ensure all incidents are managed appropriately.

The Agency's Standard Incident Management Framework (See Annex 7.8.11) gives a strategic overview of the command and control structures for managing incidents on the network and provides guidance on the roles and responsibilities of Highways Agency staff involved in incident management.

The family of Contingency Plans (Service Provider, Regional Control Centre and National Crisis Management Plans).

The Incident Management Service Manual defines all of the incident related services provided by the Highways Agency's Service Providers.

The majority of incidents will be lead by Traffic Officers or the Police and this document sets out the established operating protocols in place between these organisations. The document does not however define the wider service provided by the Traffic Officer Service or their specific operating procedures or arrangements.

7.1.3 Objectives

The objective of this document is to provide a clearly defined and consistent set of arrangements for delivery of the Highways Agency's incident management service. In defining these arrangements the Highways Agency is seeking a level of consistency in the service delivered on the network across the whole country.

The document pulls together a range of disparate documents that have been developed over time and provides a single point of reference to the incident management service.

7.1.4 Audience

The primary audience for this document is the Highways Agency's Service Providers and those members of the Highways Agency's Area Performance Teams responsible for managing the Service Provider contracts.

The document is also essential reading for Traffic Officers and RCC staff as the operating protocols between Network Operations and the Area Performance Teams (and their Service Providers).

7.1.5 Structure

The Incident Management Service Manual forms Part 7 of the Highways Agency's Network Management Manual (NMM).

The document is divided into a number of sections. Sections 2 and 5 deal with responsibilities and communications and set out the agreed operational protocols between the various parties involved in the management of incidents on the network. Section 3 discusses the definitions of incidents. Section 4 provides information for dealing with the media following an incident. Section 6 is concerned with contingency planning to deal with incidents. Section 7 is structured on the standard incident 'timeline' and defines the service requirements at each stage of an incident. Section 8 deals with methods of debriefing following an incident. Sections 9 to 12 define the service requirements and the service standards the Highways Agency has defined for its incident management service. Sections 13 to 17 address particular aspects of the incident management service in further detail.

The Incident Management Service Manual has subsumed a number of incident management related documents and these are listed at Section 7.18. The Incident Management Service Manual has a number of associated key reference documents, which are also listed at Section 7.18.

7.2 Roles and responsibilities

7.2.1 Introduction

The principal responding partners for incident management on the Highways Agency's network are **the Highways Agency** and its Service Providers, **Police, Fire & Rescue Services** and **Local Authorities**. It is principally these agencies which interact in the detection, verification, response, scene management, recovery and restoration phases of incidents. The Highways Agency and its Service Providers each have a number of functional areas within their organisations, and each of the other responders will have their own particular local organisational arrangements.

Police and Fire & Rescue Service all manage incidents through their control offices. Local Authorities' organisational arrangements vary widely across the Network. Relevant Highways Agency and Service Provider staff are to approach incident manager partners to become aware of their local arrangements.

The overall roles of the principal responding partners are set out below, identifying the key functional areas within the organisations in relation to incident management. The responsibilities of each of the various functional areas of the Highways Agency, Service Providers and the Police are also described. A more detailed outline breakdown of the roles and responsibilities of the Highways Agency, Service Providers, Police, Fire and Rescue Service and Local Authorities is set out in Table 7.2.1.

7.2.2 Highways Agency

The Highways Agency's overall role is to provide proactive network management for both routine operations and incidents. This role is fulfilled through a number of functional areas provided both directly by the Highways Agency and through its Service Providers. The Highways Agency is the lead responder in all 'HA led incidents' – essentially those incidents where there is no injury or alleged offence, who's aim is to manage congestion, ensure rapid and safe removal of obstructions and support road-users in need of assistance. The Traffic Operations Director is responsible to the Chief Executive for the effective preparation for, and management, of major incidents. This responsibility cascades through Traffic Operations to Area Performance Managers who are responsible for ensuring an appropriate and co-ordinated approach to emergency management across their area.

All Highways Agency and Service Provider functions listed are activated in respect of all incidents. The Highways Agency Roles of National Incident Liaison Officer (NILO), Senior Officer on Call (SOOC) and Crisis Management Team (CMT) are only activated during non-routine incidents, as indicated in diagram 7.2.1.

- Traffic Officer Service – The Highways Agency's Traffic Officer Service supports the Highways Agency's three aims of safe roads, reliable journeys and informed travellers through using the powers within the Traffic Management Act to maintain or improve the movement of traffic, prevent or reduce congestion, avoid damage and prevent damage. The Traffic Officers are supported by seven Regional Control Centres (RCCs). Integrated RCCs are manned and operated by both Highways Agency and police staff. In some cases, Service Providers' 24 hours a day, 7 days a week service can be co-located within the RCC.

- Traffic Officers – Traffic Officers are empowered to operate on the Highways Agency's road network to reduce congestion and promote the objectives of road safety. The Traffic Management Act makes clear that the powers of a Traffic Officer are to provide for movement of traffic, reduce congestion, avoid danger, and prevent damage.

- Regional Control Centre (RCC) – The RCCs are the focal point for all communications regarding planned and unplanned events, such as incidents and emergencies, on the Highways Agency's network. RCCs gather and assess regional network information and deploy and coordinate resources to manage both the network and criminality. RCCs manage and monitor traffic and control electronic signs on the roads in conjunction with the National Traffic Control Centre (NTCC).

- Area Performance Teams – The Highways Agency's Area Performance Teams manage the network performance, budgets and contracts. During incidents, these teams provide specialist advice to the Highways Agency's Traffic Officer Service (RCCs and Traffic Officers), Service Providers and any other agencies involved in the incident. This may require the Highways Agency advising the police or any other Emergency Services involved in the incident on certain aspects regarding the network

- National Traffic Control Centre (NTCC) – The primary function of the NTCC (operated by Traffic Information Services Limited) is to collect, process and distribute strategic (wide-area) traffic information, including setting strategic roadside variable message signs (VMS) and other dissemination media, using pre-agreed protocols, to assist travellers in planning their journeys. The NTCC also supports the Highways Agency and its operational partners in optimising the use, management and operation of the network.

- National Incident Liaison Officer (NILO) – The NILO, based at the NTCC, is responsible for receiving information from within the Highways Agency and its Service Providers about critical and major incidents, sharing information with Regional Control Centres, Service Providers, Area Performance Teams, NTCC, Press Office and others where appropriate and when necessary escalating incidents and informing senior management.

- Senior Officer on Call (SOOC) – The SOOC is a Highways Agency resource at a senior level who is on call to be alerted of critical and major incidents during non-office hours to monitor the management of the more serious critical incidents (in line with defined criteria) and take responsibility for liaising with the Press Office and appropriate escalation where required. The SOOC does *not* take command of the incident management except where they are the designated officer responsible for taking command as a result of an escalation in the incident command level.

- Crisis Management Team (CMT) – The role of the CMT is to act in the event of a major incident and to co-ordinate and focus the response. The CMT will act to ensure that the Highways Agency can continue to exercise its core functions by limiting the impact of a crisis or major incident in the event of an emergency, so far as is reasonably practicable. The CMT is formed by designated Highways Agency staff at board level, supplemented as necessary by designated senior Highways Agency specialists.

7.2.3 Service Providers

The Service Providers along with Traffic Officers are responsible for dealing with incidents at an operational level, providing support to the Highways Agency and other responders involved in the incident, providing tactical incident management such as traffic management (see contingency plan section) when required, and undertaking asset maintenance or repair required as a result of incidents.

The principal requirement for Incident Management is the provision and use of an incident management team, comprising on- and off-road services, which have the information, and the authority to provide an effective response at the incident.

Service Provider requirements:

- Incident Management Team – The principal requirement is the provision and use of an incident management team which have the information and the authority to provide an effective response appropriate to the incident. The Incident Management Team must include suitably qualified staff to support, direct and advise incident response services. The Incident Management Team must include a 24 hours a day, 7 days week service to ensure that the Service Provider can be contacted immediately when an incident occurs. This service can be co-located within the RCCs. The Service Provider must complete their contingency plans, which details how the Service Provider will escalate an emergency response from Operational (Bronze) to Tactical (Silver) and Strategic (Gold) levels, on occasions when that is needed. The contingency plan is designed to ensure that they, together with the Traffic Officer Service and Area Performance Teams, are able to make a proper response to the situation in order to support the actions and requests of the emergency services, ensure that proper interfaces are achieved with other organisations, and ensure that nuisance to the Highways Agency's customers and major stakeholders are minimised. More details are given in the Standard Incident Management Framework (Annex 7.8.11).

- Incident Support Unit (ISUs) – The purpose of an ISU is to minimise disruption to road users, by providing assistance to the Traffic Officer Service and the Police and by providing a safe and timely response to incidents and clearance of the carriageway to restore normal service. Whilst many different types of incidents occur on the strategic road network, there are a number of basic functions, defined below, which must be carried out by an ISU at the scene of most incidents. The primary functions of ISUs are:

(i) Support the Traffic Officer Service and Police when requested with the management of incidents,
(ii) Assess the incident scene and procure the attendance of additional or specialist resources where the task is beyond the ISU's capabilities,
(iii) Provide a communications link between the incident scene and the Service Provider's Network Control Centre, or equivalent.
(iv) Make the incident scene safer through the application of appropriate traffic management,
(v) Relieve congestion and remove hazards to safety by the clearance of debris from traffic lanes and hard shoulders,
(vi) Undertake repairs to the highway infrastructure which has been damaged as a result of an incident,
(vii) Proactive measures to minimise damage to infrastructure and environment, and
(viii) Detection of incidents and reporting.

When not engaged in fulfilling the primary functions, the ISU can be employed on secondary activities such as:
(i) Patrolling, monitoring and reporting on the network,
(ii) Undertaking routine maintenance, and
(iii) Making safe defects to the highway infrastructure.

These secondary activities must not compromise the response to incidents or impact upon the required response times as detailed at Section 7.9. Other requirements in relation to Incident Support Units are covered within the relevant sections.

- Secondary Response – The purpose of secondary response is to provide additional services, resources and equipment which are not provided by the ISU. This will offer increased facilities and capabilities for clearance of the carriageway to restore normal service. Secondary response times are included at Section 7.12.

7.2.4 Police Service

The police are responsible for intelligence-led targeting of criminal activity, alongside their roles in managing incidents involving death or injury, threats to public order and public safety or incidents requiring significant coordination of the emergency services. The police are the lead agency in all incidents requiring the powers and skills of a Police Officer and falling within the general responsibilities of the police; these incidents are known as 'police-led incidents'.

The police co-ordinate all the activities of those responding at and around the scene, which must, unless a disaster has been caused by severe weather or other natural phenomena, be preserved to provide evidence for subsequent inquiries, possible criminal proceedings and any coroners inquests. Where practicable the police establish cordons to facilitate the work of the other emergency services in the saving of life. They facilitate inquiries carried out by the responsible accident investigation body, such as the Health and Safety Executive, Railway Inspectorate or the Air or Marine Accident Investigation Branch. The police process casualty information and have responsibility for identifying and arranging for the removal of the dead. In this task they act on behalf of HM Coroner who has the legal responsibility for investigating the cause and circumstances of deaths arising from a disaster.

- Police Scene Command – The Police Commander at the scene is responsible for the co-ordination of all responders dealing with the incident itself. This does not include responsibility for the co-ordination of the response to traffic delay and congestion, or its consequences, unless the incidents is, or becomes, a *Major Incident*.

- Police Incident Handling Centres – The roads controlled by each Highways Agency RCC are covered by a number of policing areas. These areas typically feature one or more Police Incident Handling Centres (PIHC). When information that an incident has occurred is received, police sources are deployed and are controlled from the PIHC. In relation to the network, the incidents controlled by the PIHC are major incidents and ‘police led’ incidents. The PIHCs receive information from the public and other agencies. Currently, all ‘999 calls to the Police from mobile phones made by motorists using the network, are routed to the PIHCs. The PIHC coordinates information flow and the response to ‘police led’ incidents.

Service Providers should also be aware of a number of specialist support services that can directly assist with incident resolution. These services will normally be requested by the on-scene Police Commander .

7.2.5 Fire and Rescue Service

In relation to the Highways Agency’s network, the first concern of the fire service is to rescue people trapped in a fire, wreckage, or debris. They will prevent further escalation of the incident by extinguishing fires, or undertake protective measures to prevent them. They will deal with released chemicals, or other contaminants in order to render the incident site safe. They assist the ambulance service with casualty handling and the police with recovery of bodies. The fire service is responsible for the health and safety of personnel of all key agencies working within the inner cordon and will liaise with the police about who should be allowed access, to ensure that they are properly equipped, adequately trained and briefed. However, in the event of any situation which is, or which is suspected to be, the result of a terrorist incident, all activities within cordons are under the direct control of the police.

7.2.6 The Ambulance Service

In relation to the Highways Agency’s network, the functions of the Ambulance Service are to respond to emergency calls in respect of sick and injured people and to provide on-scene first aid and triage services as appropriate.

The Ambulance service has responsibility for co-ordinating the on-site National Health Service response and determining the hospital(s) to which injured persons should be taken, which may depend on the types of injuries received. If necessary, the ambulance service will seek the attendance of the Medical Incident Officer.

7.2.7 Local Authorities

Local authorities will have a wide range of control centres to manage the traffic on local roads and to coordinate with other road authorities, depending on their needs. In relation to the Highways Agency's network, the Local Authorities will provide NTCC and RCCs with information, coordinate LHA VMS signs and signals with NTCC and RCCs, and manage emergency local diversions within the LHA network. Local authorities, as a category 1 responder under the Civil Contingencies Act, are responsible for providing for the welfare of people involved in emergencies. Other Local Authorities' responsibilities are managing traffic on their network and fulfilling the network management duty under the Traffic Management Act.

In the immediate aftermath of a disaster the principal concerns of local authorities are to provide support for the emergency services, continue normal support and care for the local and wider community, use resources to mitigate the effects of the emergency and co-ordinate the response by organisations other than the emergency services.

As time goes on and the emphasis switches to recovery, the local authority will take a leading role to facilitate the rehabilitation of the community and restoration of the environment. Even a relatively small disaster may overwhelm the resources of the local authority in whose area it occurs. Against this possibility, plans are made which will, in appropriate circumstances, trigger arrangements for mutual aid from neighbouring authorities, delivering cross boundary assistance if required. Arrangements may range from simple agreements to offer whatever assistance is available in the event of an incident, to more formal arrangements for the shared use of resources, which could include vehicles, equipment and people.

7.2.8 Other Responders

In addition to the responders referred to above there are a number of other responders who will be involved in incident management including vehicle recovery operators, the Environment Agency, waste disposal contractors and the national chemical emergency centre. Their responsibilities are as follows:

- **Vehicle recovery operators** are currently contracted to and managed by the police to deal with broken down, damaged and abandoned vehicles in accordance with the instructions they are given.

- **The Environment Agency (EA)** is responsible for protecting and improving the environment, offering advice in managing waste and dealing with pollution. It is the prosecuting authority in cases where legislation has not been complied with, and has key responsibilities for maintaining and operating flood defences on rivers and coastlines. These responsibilities cover direct, remedial action to prevent and mitigate the effects of the incident, to provide specialist advice, to give warnings to those likely to be affected, to monitor the effects of an incident and to investigate its cause. The EA also collects evidence for future enforcement or cost recovery. The involvement of the EA may be sought by the Highways Agency or the Police, or they may become involved themselves. They do not undertake any operations themselves, and the incident scene commander will be responsible for managing the actions of EA staff at the scene. The Fire and Rescue Service are the Environment Agency's on road agents and now have a mandate to consider environmental aspects of incidents.

- **Waste disposal contractors** are responsible to and managed by Service Providers to manage waste which has caused or results from incidents. Alternatively they may be directly employed by the person/organisation responsible for the waste material, in which case they will be responsible to the Police or the TO Service when working within an incident site.

- **National Chemical Emergency Centre (NCEC)** plays a key role in national arrangements for responding to chemical incidents. It provides a 24 hour national advice service to the public emergency services on dealing with chemical incidents and is a central part of the Chemical Industries Associations CHEMSAFE scheme.

- **Health Authorities** contract with NHS Hospital Trusts, Community Health Trusts, Ambulance Trusts and General Practitioners to ensure an effective health response in the event of a disaster. They have overall responsibility for public health within their geographical areas and are therefore required to have arrangements in place for the control of communicable diseases and non-communicable environmental hazards.

  Hospitals with Accident and Emergency Departments (identified by their Health Authorities as potential casualty receiving hospitals) respond to requests from the ambulance service to accept casualties for medical treatment and to provide appropriately trained staff to act as Medical Incident Officers and Mobile Medical Teams.

- **HM Coroner.** The role of the coroner is defined by statute and they have a statutory duty to hold an inquest into all road traffic deaths. The role of the coroner and the purpose of an inquest are to determine:

  - The identity of the deceased;
  - When and where death occurred;
  - The medical cause of death;
  - How and by what means the deceased came by death;
  - The particulars required to register death..

  The duties of coroners do not vary with the number of people who are killed, or the circumstances in which the deaths occur. In some cases coroners may want to attend the collision scene, particularly if the case is unusual or high profile. This would be discussed and established at a local level with the police in what circumstances the coroner would wish to attend.

  Only the coroner may authorise the moving of a body at the scene of an incident and only the coroner may authorise a post-mortem and the release of a body to relatives. If a body requires extracting from a vehicle, the coroner's agreement must be obtained, especially if the extraction is likely to occur in an adjoining jurisdiction. The police act as the coroner's officers when investigating fatalities arising from an incident.

- **HM Coastguard Agency** comprises two elements - HM Coastguard and the Marine Pollution Control Unit. The primary responsibility of HM Coastguard is to initiate and co-ordinate civil maritime search and rescue within the United Kingdom Search and Rescue Region. This includes mobilising, organising and dispatching resources to assist people in distress at sea or in danger on the cliffs or shoreline. Local coastal safety committees based on police force boundaries ensure effective co-ordination of resources between police and coastguard for land based incidents on or adjacent to coastlines. The Marine Pollution Control Unit is responsible for dealing with pollution at sea and, in conjunction with local authorities, for the shoreline clean up.

- Bona fide **volunteers** can contribute to a wide range of activities, either as members of a voluntary organisation or as individuals. They will always be under the control of a statutory authority.

- **Military** assistance can be sought to support the civil authorities. This has been an important part of many disaster responses in the past. The police will normally contact the Military, but they are likely to be some distance away from the scene and so road transport will be their primary method of getting large scale equipment and personnel to the site.

- **Central government** has a role in providing advice or support to the local response and to keep Parliament informed of progress.

- **Industrial, or commercial organisations**, including the utilities, may play a direct part in the response to disaster if their personnel, operations, or services have been involved. They may provide support, for example by providing equipment, services or specialist knowledge.

TABLE 7.2.1

OUTLINE OF INCIDENT MANAGEMENT RESPONSIBILITIES

FUNCTION	HIGHWAYS AGENCY				LHA	Police	Fire & Rescue Service
	Area Performance Team	Service Provider	Traffic Officer Service	NTCC			
Management Responsibility	Asset management Strategic command when incident is escalated to gold under Area Contingency Plan Management/monitoring of Service Provider performance	Provide and use the necessary operational expertise. Support silver command when required. Assume silver command if outside TO Service operational area. Trigger escalation of incident management to a strategic (Gold) level when required if outside TO Service operational area.	Management of the Traffic Officer Service. Regional focus for operational traffic management	Primary source of Traffic Information on core network. Strategic VMS setting.	Manage and maintain the LHA network. Network Management Duty	Protection of life. Prevention and detection of criminality. Preservation and investigation of the scenes of crime.	Extinguishing and controlling fires Protecting the environment Rescuing trapped and injured persons
Information Flows	Highways Agency internal communications in accordance with procedures and protocols	Provide a 24/7 response service to the RCC Update NTCC/RCC on current status of events. Direct ISUs to incidents	Receiving information from Service Provider NCC and NTCC, and updating NTCC on current status of events in their field of operations.	Primary route flow of all traffic data, incoming and outgoing – interfacing with the media, Traffic Officer Service, Service Providers, LHAs, etc.	Provide traffic information to media etc, advising on local road conditions and alternative routes.	Provide to the media etc non-traffic information on all roads, Provide relevant incident information to LHAs for their networks and to NTCC.	Co-ordination with incident command (Police or RCC as applicable)
Incident Management Responsibilities	Determine optimum timing for infrastructure repairs Operational implementation of Service Provider and Regional Contingency Plans Strategic command if incident is escalated to gold (except where Crisis Management Plan is implemented). Service Manager and team may take strategic control of the incident from the RCC or delegate this responsibility to the RCC to make strategic decisions where required.	Support Police/RCCs in incident management for the core network. Providing relevant incident information to NTCC/RCCs and specific information as required by the Area Performance Team Manage Service Provider's operations and ensure that the right resources are provided Provide other on road support requested by the emergency services or the TO Service	Co-ordinate the responses of emergency services, Service Providers and other agencies Take strategic control of the incident if requested to do so by the HA APM's. Provide incident information to NTCC for dissemination to LHAs and other interested parties. Operational implementation of Area and Regional Contingency Plans	Support Police and RCCs in incident management and LHA on defined network.	Support Police in incident management for LHA network and provide NTCC with information where it has an impact on the core network.	Command and control of incident scene, None for HA-led incidents in parts of network where Traffic Officer Service operates Crime scene investigation Facilitate inquiries carried out by the responsible bodies, such as the Health and Safety Executive, Environment Agency, Railway Inspectorate or the Air or Marine Accident Investigation Branch. Process casualty information and have responsibility for identify and arrange for the removal of the dead.	Command and control of incident scene while fire is the predominant factor. Dealing with released chemicals, or other contaminants in order to render the incident site safe. Assisting the Ambulance Service with casualty handling and the Police with recovery of bodies. Taking responsibility for the health and safety of personnel of all key agencies working within the "inner" cordon
Congestion Management	Support T O Service in implementing the Area and Regional Contingency Plans. Support and monitor Service Provider's input to incident management	Support TO Service in implementing Contingency Plan and, if necessary, to provide welfare as directed	Monitor and manage traffic conditions Reduce the impact of incidents by working with Police and Service Providers, e.g. - stopping and directing traffic, removing vehicles after collisions, clearing up after traffic collisions	Monitor national network. Liaise with RCC and Police on other events on Network or on LHA networks which affect management of the incident. Implement strategic response to single event or multiple simultaneous events	Agree and establish tactical diversion routes. Liaise with T O Service to co-ordinate their responses and resources with those of the Service Provider as Highways Agency operational units	None	None
VMS & Other Traffic Diversion Measures	None	Monitor VMS signage as far as possible, and report any discrepancies.	Display messages on variable message signs (VMS) to warn drivers of the situation ahead and diversion routes In conjunction with the Police, control VMS and signals for tactical and local incident management and safety purposes.	Control VMS for wide area strategic traffic management purposes.	Coordinate LHA VMS signs and signals with NTCC.	Liaison with Traffic Officer Service to control VMS and signals for incident management and safety purposes.	None
Strategic Diversions	None	None	Monitoring Regional network and updating NTCC	Set wide-area diversions within core network for strategic traffic management purposes.	None	Update NTCC in accordance with DLOA	None
Tactical Diversions	Ensure, with LHAs, that they are established	Provide operational support, equipment and personnel for implementing tactical diversions as required.	Agree with LHAs in advance (where possible) if pre-agreed tactical diversions are to be used Implement tactical diversions.	None	Manage tactical diversions on agreed routes within the LHA network.	Implement tactical diversions outside the T O Service operational area.	None

NOTE: The information provided in this table is intended as an outline of responsibilities – it is not a definitive or exhaustive list, and does not override working instructions, procedures and protocol

7.3 Definition of Incidents

7.3.1 Introduction

As mentioned earlier, incidents range from simple removal of debris from a carriageway through to complex multi-agency national crises.

This section of the Network Management Manual sets out the definitions of incidents that are used throughout the remainder of the document.

The Police, other emergency services and Local Authorities have an established understanding of the term 'major incidents' and the term is used by Government to take powers to deal with such incidents. The term 'critical incidents' has also been established for those incidents that are important to a single organisation. So far as the Highways Agency, its' stakeholders and Service Providers are concerned, the term emergency should be regarded as a generic term encompassing both critical and major incidents. The term 'incident' should be regarded as the description of those occurrences that come to the attention of the Highways Agency and its' Service Providers.

7.3.2 Incident Types

There are two basic types of incident:

- Critical Incident
- Major Incident

The basic definitions of these incidents are as follows:

Critical Incidents

Critical incidents are unforeseen events that seriously impact upon the Highways Agency and its ability to deliver its 'safe roads, reliable journeys, informed travellers' objective. Importantly, the police, other emergency services or local authorities may not consider these types of incident as important as the Highways Agency.

Critical incidents also include incidents of which ministers wish to be informed.

It should be noted that critical incidents might be, or become, major incidents.

Service providers declare critical incidents for their own and the Highways Agency management purposes. If service providers believe that critical incidents are or may become major then they should notify the police immediately.

The following are deemed to be critical incidents:

1. Multiple collisions involving fatalities, serious injuries or vehicles disabled on a carriageway.
2. Partial or full closure of motorways or trunk roads due to weather or road conditions. This will also include minor incidents occurring at differing locations aggravated by other circumstances, which taken as a whole fall into this category.
3. Collisions involving crossover of a vehicle from one carriageway to another.
4. Collisions involving passenger coaches, school minibuses, trains, or public service vehicles resulting in fatalities or injuries.
5. Fatal collisions involving fire.
6. Serious collisions involving a vehicle carrying dangerous substances (e.g. hazardous chemicals, flammable liquids such as petrol, radioactive materials, etc).

7. Collisions on motorways or trunk roads resulting in serious/potentially serious structural damage (e.g. to a bridge) necessitating road closures.
8. Fatal collisions on motorways or trunk roads where road works are in progress.
9. Any significant event impacting partial or full closure of motorways or trunk roads due to collisions, security alerts or criminal/terrorist acts. (NILO must ensure that TRANSEC is advised of security alerts).
10. Any incident off or adjacent to the network that may meet any of the above criteria, and affects the network.
11. Any incident or event off the HA network which results in stationary vehicles for a period of 1 hour or more.
12. Suicide or attempted suicide resulting on the closure of lanes or carriageways.
13. Roadworks over running by 30 minutes or more, and likely to have an impact on the network.
14. Any instances of 50% of the **'reserve'** winter maintenance fleet being utilized within any area.

Major Incidents

The term "major incident" is commonly used by emergency services personnel to describe events or situations which would constitute an "emergency" as defined in the Civil Contingencies Act (2004); this is the threshold of event or situation that will initiate a response under their major incident plans.

Major incident and emergency refer to the same threshold and are essentially interchangeable (Emergency Response and Recovery, Non Statutory Guidance to complement Emergency Preparedness, 2004). 'Emergency' is defined in section 1 of the Civil Contingencies Act as an event or situation which threatens serious damage to:

1a) Human welfare in a place in the United Kingdom
1b) The environment of a place in the United Kingdom, or
1c) The security of the United Kingdom or of a place in the United Kingdom.

A major incident is defined in the Association of Chief Police Officers Emergency Procedures Manual and Fire Service Major Incident Emergency Procedures Manual (1994) as:

"any emergency that requires the implementation of special arrangements by one or more of the emergency services, the NHS or the local authority for:

- *the initial treatment, rescue and transport of a large number of casualties;*
- *the involvement either directly or indirectly of large numbers of people;*
- *the handling of a large number of enquiries likely to be generated both from the public and the news media, usually to the police*
- *the need for the large scale combined resources of two or more of the emergency services;*
- *the mobilisation and organisation of the emergency services and supporting organisations, e.g. local authority, to cater for the threat of death, serious injury or homelessness to a large number of people."*

For specific National Health Service purposes (including ambulance services), a major incident may be defined as:

"Any occurrence which presents a serious threat to the health of the community, disruption to the service, or causes (or is likely to cause) such numbers or types of casualties as to require special arrangements to be implemented by hospitals, ambulance services or health authorities".

The Police Service has overall responsibility for managing major incidents and for coordinating the activities of all the emergency and other services present. The Gold-Silver-Bronze command structure will apply.

'Police-led' and 'HA-led' Incidents

The police will retain the lead in all incidents requiring the powers and skills of a Constable and falling within the general responsibilities of the police. These are known as 'Police-led' incidents. The police manage all 'police-led incidents'. The management of the motorway network away from the immediate incident cordon, including traffic affected by it, will normally be the responsibility of the Highways Agency in its role as the network manager irrespective of which organisation leads at the incident scene. The Highways Agency will generally assume the lead in all other incidents on the motorway network and on the All Purpose Trunk Road network (APTR) where the Traffic Officer Service operates. Elsewhere the police will continue to take the lead. These are known as 'HA-led' incidents.

'Police-led' incidents	**'HA-led' incidents**
1. incidents involving death or injury (including securing evidence and investigation) 2. suspected, alleged or anticipated criminality (including traffic offences) 3. threats to public order and public safety (including hazardous substances) 4. events requiring significant coordination of the emergency response 5. occurrences where unusual or aggravating factors suggest a police presence is desirable	1.collisions without injury or alleged offences 2.congestion (including that caused by incidents, adverse weather or excess volume of traffic) 3.obstructions (including debris, break downs, abandoned vehicles, pedestrians and animals) 4.stranded road-users 5.the Regional Control Centre will retain its responsibilities and co-ordinate HA-led incidents even where Service Providers, rather than Traffic Officers, are at the scene

An incident will only have one lead organisation at any time, although the lead may be passed between the organisations during the incident management process. The lead organisation co-ordinates and directs the incident response and is ultimately accountable for it for the duration of its lead. The police will assume the lead if the need for police intervention becomes evident.

7.3.3 Other Terminology

There are a number of other terms that may be used in relation to incident management:

Emergency

This is a term that is defined within the Civil Contingencies Act 2004 and should only be used in that context. The term 'emergency' covers any challenges that present a serious threat to; human welfare; the environment; political, administrative or economic welfare, or; the security of the UK. It includes the process of restoring and rebuilding the community in the aftermath of an incident.

Control Room and Network Control Centre

These terms are used for a 24 hours a day, 7 days a week service provided by the Service Providers to ensure they can be contacted immediately when an incident occurs. In some cases, this service can be co-located within the Highways Agency's Regional Control Centre.

7.3.4 Communication Flow

The following table defines incident levels in terms of the required communication flows:

Level	Level Description	CMT Activated	CMT Informed	Emergency Contact Procedure		Impact on Network	HA Resource Needed	Affect on HA Reputation	Media Attention towards the HA	Consider Debrief
				NILO	SOOC					
0	State of National Emergency	✓		✓	✓					✓
1	Cross Regional or National HA Major Incident	✓		✓	✓	Major impact across Regions / Nationally	Whole Agency / Significant reallocation of resources	Loss of Agency credibility	'Front page' National/International TV/Radio	✓
2	Regional HA Major Incident		✓	✓	✓	Significant part of Strategic Road Network in Region	Reallocation of resources from other Regions	Development of Agency affected	Potential use as 'Front page' headline	✓
3	HA Major Incident		✓	✓	✓	Incident and diversion routes	Mutual aid from neighbouring Regions	Reputation materially affected	National Coverage	✓
4	Serious Incident			✓	✓	Incident and immediate vicinity	Resource covered by overtime	National reputation may be affected	Of interest to National Media	✓
5	Significant Incident					Incident	Local shift resource	Loss of local goodwill	Of interest to Local Media only	
6	Routine Incident					Minimal	HA Vehicle/ISU on Scene	No affect	No interest to media	

7.4 Information and the Media

Recent years have seen a rapid advance in telecommunication and information technology capabilities. Television channels devoted entirely to news and extended news programmes on other channels are a permanent feature of our everyday lives. The impact made at the scene of a disaster by those engaged in gathering material for the media can be enormous and it is vital to prepare for the influx of media representatives - local, national and international. The events of 9/11 in New York clearly emphasis this aspect. In such a major incident, long-term arrangements will need to be introduced and the responsibility of the Highways Agency to maintain a presence with regard to media outputs and supplying information to the public will be substantial.

7.4.1 Assisting the Media

In the first instance, the task of coping with media pressures usually falls to the Police in their role as co-ordinators of the management of the response at and around the scene of disaster and with their responsibility for criminal investigation (this responsibility may later be handed over to a civilian agency once the initial rescue and investigations are complete). But there are other aspects of a disaster - temporary accommodation for victims and perhaps their relatives and friends, safety of damaged buildings and roads, access, diversions, congestion, and so on - which may well call for a quick reaction by the Highways Agency. Consequently, the Highways Agency needs to be involved in the media response from the outset.

7.4.2 Initial Actions

Reporters, researchers, photographers and camera crews will arrive very quickly and can quickly reserve all available accommodation in the area. They will often have learnt of the disaster at the same time as the emergency services and so will take the facilities they require. They will also expect an instant response to their requests for information and briefing. Demands from local and regional media will quickly be augmented by demands from national and - depending on the nature of the disaster - international media. If these demands are not anticipated, media representatives are likely to add to the confusion. Each type of news outlet will also have its own deadline. Television and radio stations may be broadcasting live from the scene into 24-hour news programmes.

Experience has shown the value of immediately dealing with the following points:

7.4.3 Control of Access to the Disaster Site

This is a police responsibility, put in place whenever practical, and intended to allow rescue services to carry out their work unhindered and to preserve evidence at what may be the scene of a crime. It has to be anticipated that the broadcasting media in particular will bring large communications vehicles to the scene. There are clear implications for the Highways Agency, as its road system, even if not directly involved in the incident, is likely to be an important factor in facilitating access. In addition, media helicopters are often deployed and control of the airspace is an early consideration. This may well result in a ‘black out’ for all mobile phones, except those cleared for use in the emergency. Access arrangements for the media are normally arranged and in conjunction with the police. The media will want film/photographs of the disaster scene and will try out every possible access point to achieve this. It is therefore better to offer one specific filming area to ensure safety. If space is limited, access can be offered on a pooled basis, as part of which a small number of photographers/journalists are allowed in, on the understanding that they share their footage with their colleagues. This is common practice where there are valid reasons for doing so.

7.4.4 Establishing a Media Liaison Point

This is a designated point at the disaster scene, preferably outside the outer cordon, for the reception of media personnel, checks on their bona fides and briefing on arrangements for reporting, filming and photography. It may be little more than a rendezvous point with further facilities provided at a media centre. The police will normally designate this point.

7.4.5 Nominating a Media Liaison Officer

The swift attendance at the scene of a professional press officer from the Highways Agency should ease the pressure from the media. This should be done in partnership with other public service press officers from organisations such as the police to ensure consistency. Failure to arrange this will prompt reporters to approach anybody available, which could lend credibility to inaccurate sources. While the press officer takes the onus/responsibility away from those coping with the disaster, brief interviews with senior personnel at the site, as well as with specialists from appropriate Departments/Service Providers will add authority to the information being given.

The media may need to be reminded that in the period immediately following a disaster no one can know precisely what has happened. Initial statements should focus on what is happening, what the limitations of knowledge are at the time and what is being done to arrive at a fuller appreciation of the situation. If such statements are backed by a commitment to provide accurate information as soon as it is available, reporters are more likely to attend briefings and thus accept a measure of control, particularly if these press conferences are scheduled at regular intervals and the times agreed for these are honoured. It is better to keep regular contact with the media even if there is little new to add to ensure good relations and to avoid suspicions that they are being kept in the dark. Reporters are initially avid for facts even of the most basic kind – such as when was the road built, how wide was it, etc. While they are in competition with each other, nonetheless a high concern for reporters is not missing out on anything, especially from an official source, that all the others have, that will lead to irritation from their news desk. Structured arrangements for regular and authoritative briefings, which they can trust, therefore has benefits for both sides. Briefings should be attended by relevant senior personnel from the main organisations involved in the incident, offer up-to-date information and be followed by the chance for one-to-one interviews on camera/tape.

Media coverage of a disaster scenario comes in three phases, often in quick succession, known as the 3 Ms rule – Mayhem (the initial aftermath of the incident establishing what has happened); Mastermind (looking for experts, retired professionals, academics, etc, to provide insights, case histories, etc) and Manhunt (who was responsible; where does the blame lie?). The Highways Agency may well get called on for answers during all three stages.

The media will welcome any factual statements, particularly from eyewitnesses. However, such statements should not include speculation on the cause of the disaster, nor premature or uncorroborated estimates of the numbers of casualties. Highways Agency staff should not get drawn into speculation of any kind.

Care should be taken that information about casualties is not released. Only the Coroner, or police, may authorise the release of information about individuals. Limitations on the release of information, often because of a need to avoid prejudicing what may become a criminal prosecution, should be clearly and frankly explained.

The preparation and maintenance of up-to-date information on the role and responsibility of the Highways Agency can be issued to the media as general background. (Comms Group is currently preparing and updating material which can be used for this purpose in written, video and CD format.)

In the event of a terrorist attack the initial actions just described may be no more than holding arrangements. As the situation develops the need for a comprehensive media response organisation may become apparent. A person who equates to a Public Relations Manager, who may be appointed by the police, should head the organisation.

It is essential for a senior member of the Comms Team – either the Director of Communications, Senior Press Officer or the relevant Regional Communications Manager to be fully involved in the senior management arrangements for the disaster, for example by attending Strategic Co-ordination Group meetings alongside the Highways Agency Divisional Director/Area Performance Manager, so that he or she is fully in the picture and can plan the media response and give advice.

7.4.6 Media Centre

A disaster may also justify the establishment of a media centre to provide working accommodation for media personnel, a news conference and briefing area, facilities for monitoring television, radio and newspapers and a press office with communications equipment. The media centre may be set up by the police or by the local authority or, in collaboration with the police, the Highways Agency may be asked to assist.

Experience has shown that arrangements for a media centre to cope with the demands of the media are extensive. The difficulties of setting up a media centre should not be underestimated and plans should be comprehensive yet flexible.

7.4.7 Highways Agency response to a disaster and staffing a media centre

Due to the nature of the Highways Agency's network, disaster incidents may occur at any time of day or night all over the country and possibly many miles from a Highways Agency office. Because of the nature of the media response as outlined above it is essential that the Highways Agency be prepared to respond equally quickly.

The Highways Agency's Communications Group is the key player in the event of a major incident on the Network. The Group employs a Central Media Unit with staff in London, Bedford and Dorking, which is best suited to take on the central co-ordination role as well as attend an incident, and four Regional Communication Managers who act as a focal point in the regions. In the event of a major disaster, Comms Group may call on the services of the Government News Network (GNN, part of the Cabinet Office - formerly the Central Office of Information), which already provides a regional press service to the Highways Agency. GNN is funded by the Home Office to provide a full press and PR service to Government Departments and agencies following a disaster for up to 48 hours at no cost. Thereafter the "home" department usually pays their charges if a continued presence is necessary. GNN has around 12 press officers based in each GO region used to dealing with the local media and available to man shifts 24 hours a day. Once Area Performance Managers have been notified of a major incident they must contact the Central Media Unit who assess the likely media response and ask GNN to attend.

The Central Media Team runs a duty press officer service 24 hours a day, 7 days a week. The contact details are available from the Area Performance Manager. Service Providers or Area Performance Managers are already tasked with contacting the duty press officer in the event of a major incident.

7.4.8 VIP Visitors

In the aftermath of a major disaster, it is common for the Prime Minister or other Government Minister or a member of the Royal Family to visit the scene. The former will require briefing in advance prepared on what is known about the incident so far and as well as any appropriate

background. Press conferences need to be built in to the timetable for the visit as well as photocalls at the site. Visits by the Royal Family will be co-ordinated by the Lord Lieutenant's Office. The police will assess security before any visit takes place. The press office may be represented during planning meetings for any visits. GNN may well be called in by the home Department or Buckingham Palace to handle the visit on their behalf.

7.5 Communications, Command & Control, Coordination

7.5.1 Introduction

Central to incident management is the system of operational decision-making and control. It is essential that common terms and structures are used and that these terms and structures fit normal working practices and reinforce recognised methods. In this context:

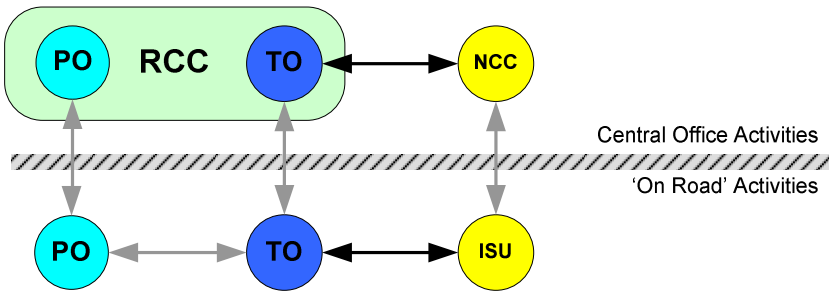
- Communication means the transfer of information together with the methods, protocols and systems used for the transfer of that information.
- Command means the authority for an agency to direct the actions of its own resources (both personnel and equipment).
- Control means the authority to direct strategic and tactical operations in order to complete the assigned function and includes the ability to direct the activities of other agencies engaged in the completion of that function. The control of an assigned function also carries with it a responsibility for the health and safety of those involved.
- Coordination means the harmonious integration of the expertise of all the agencies, both internally and externally, with the objective of effectively and efficiently bringing the incident to a successful resolution.

7.5.2 Communications

It is imperative that clear lines of communications are in place when major and critical incidents occur on the Highways Agency's network. This enables the Highways Agency to provide essential information to drivers about the state of the network and particular roads in a timely manner, minimising disruption and supporting the safety of the travelling public. It also enables the Highways Agency to communicate to senior management and, if necessary, to Ministers. This ensures early notice of potential major incidents to staff delegated to undertake Highways Agency Gold Command and Crisis Management Team.

The RCCs are the Highways Agency's regional hub for communication between people and organisations involved in planned and unplanned events, such as incidents and emergencies. The RCC will advise the Service Providers as to whether an incident is 'Police led' or 'HA led'. An incident will only have one lead organisation at any time, although the lead may be passed between the organisations during the incident management process. The lead organisation co-ordinates and directs the incident response and is accountable for this function for the duration of its lead.

The guiding principles for communications on- and off-activities are illustrated in the diagram below.



At 'Police led' incidents the Highways Agency and its Service Providers will support the Police as necessary. The central communication point for the Police is at the RCC or if required for a particular incident, usually civil emergency, at the Police Control Office (PCO). Systems are in place to facilitate communications between PCOs and RCCs. For 'HA led' incidents the Highways Agency is the lead responder and its communication centre, both internally and externally, with the Service Providers is the RCC. The RCC shall in general communicate directly with the Service Providers' control room. For both 'Police led' and 'HA led' incidents the Service Providers must provide information relating to the incident directly to the RCC and/or PCO.

Service Providers must report to the Incident Commander (Police, TOS or Fire Service) on arrival at and departure from an incident scene. The HA's and the Service Provider's Incident Commanders will wear a tabard identifying them as such. The Traffic Officer Service, either through the RCC or Traffic Officers at the scene, will identify the required outcome and relevant priorities. If the incident is 'Police led' and Traffic Officers are not in attendance, the Police may highlight urgent work required. The Service Providers will discuss options with the Incident Commander and is responsible for implementing the preferred option agreed with the Incident Commander. Service Providers in consultation with Area Performance Teams will determine and implement the work necessary to achieve the requested outcome. Individual organisations remain responsible for the command and control of their resources at the scene of an incident.

Service Providers must also provide information directly to the NTCC and NILO. Service Providers must not talk directly to the media, the Highways Agency's Press Office or the Government News Network, unless there is a local agreement in place which says otherwise. The Police and/or Highways Agency/GNN will manage any media, including camera crews and reporters, attending an incident. Highways Agency Press Officers have been assigned to RCCs.

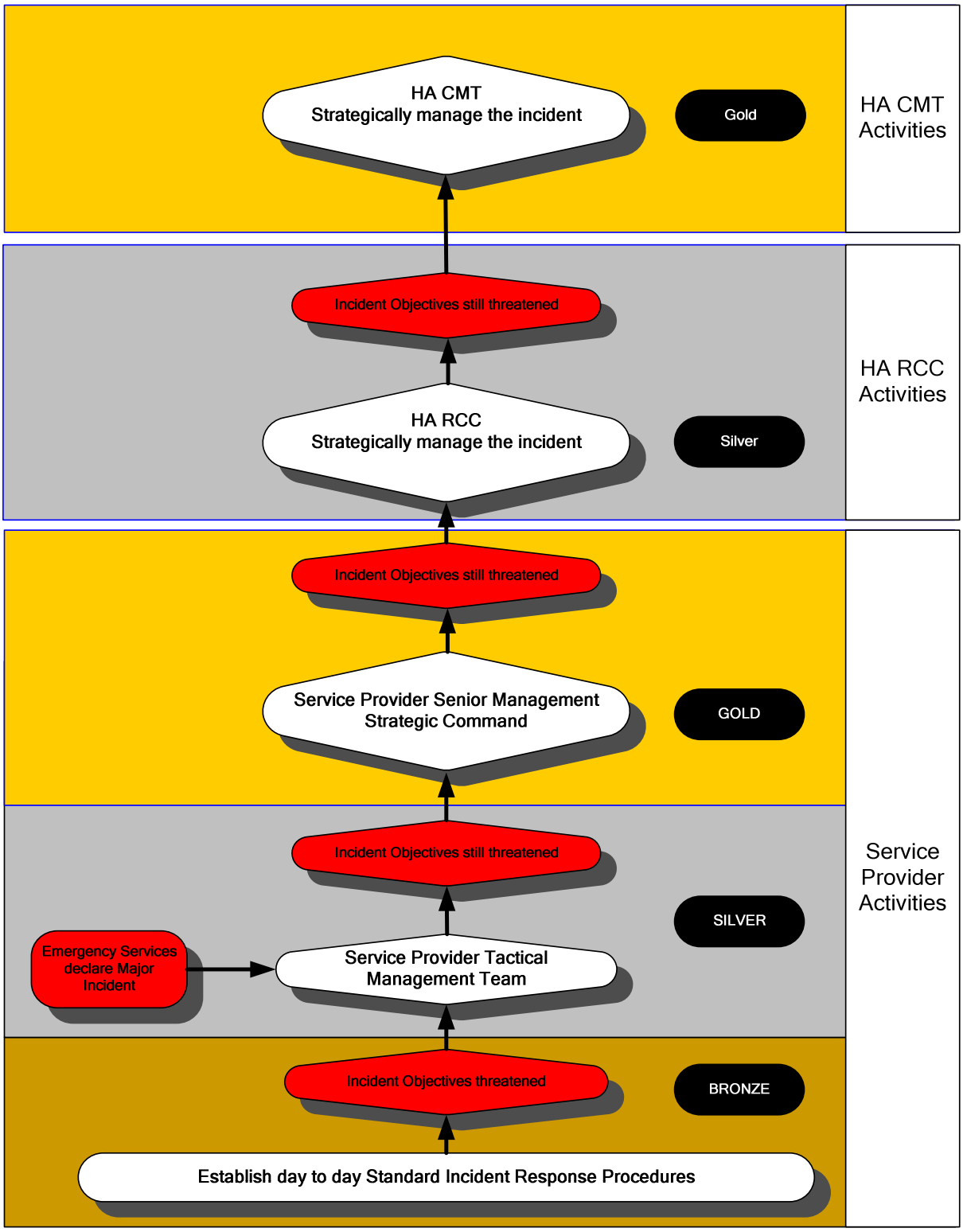
7.5.3 Communication Methods and Protocols

Communication methods will range from dialogue between individuals through written communications, fax and land line telephone to radio systems, including the dedicated Airwave radio channel. The appropriate method of communication will vary according to availability and circumstances. Protocols are established for all internal Highways Agency and Service Provider functions for incident management. The protocols, covering both methods and channels of communication, are set out in relevant documentation, including Highways Agency Traffic Officer Service and Service Providers Joint Operating Principles Annex B, the Service Provider's contract and/or instructions. While the Highways Agency is seeking to develop uniform arrangements as far as possible, the detail of communication methods will vary across Areas and Regions.

It is essential that robust communication arrangements are in place. This can be as simple as recording both mobile and land-line telephone contact numbers, or may be more complex, such as the need to cope with 'radio black-spots' or areas with no mobile phone coverage. It is essential for Highways Agency and Service Provider personnel to be familiar with the current situation in their own Areas and Regions. These issues must be dealt with in Area and Regional contingency plans.

7.5.4 Command and Control

Figure 0.1: High Level overview of escalation procedure



Command means the authority for an agency to direct the actions of its own resources (both personnel and equipment). Effective command requires the provision of administration and support functions to extend the thinking of the Commander. It also requires a regime, a disciplined organisation of people and systems in which the function holders are empowered to execute strategy and deploy resources.

The exercise of command is always situational. Command is, however, not merely a mechanical response. The Highways Agency's Standard Incident Management Framework (SIMF) places the Incident Commander in a position to exercise control but command at any level also involves leadership and perspective. Incident Commander must balance competing demands in a complex environment and because of these complexities and their accountability; they will find it advantageous to operate according to a set of command principles.

The management of the response is divided into three levels - Operational, Tactical and Strategic. The requirement to implement one or more of these management levels will be very dependent on the nature of the incident, but normally incidents will be handled at the Operational level, only moving on to the Tactical and finally the Strategic level should this prove necessary.

Service Providers must complete their contingency plans, which details how the Service Provider must escalate an emergency response from Operational (Bronze) to Tactical (Silver) and Strategic (Gold) levels, on occasions when that is needed. The contingency plan is designed to ensure that Service Providers, together with the Traffic Officer Service and Area Performance Teams, are able to make a proper response to the situation in order to support the actions and requests of the emergency services, ensure that proper interfaces are achieved with other organisations, and ensure that nuisance to the Highways Agency's customers and major stakeholders are minimised.

Operational Level - BRONZE

On arrival at the scene of an event, the emergency services will take appropriate immediate measures and assess the extent of the problem, under the command of their respective Incident Officers. They will concentrate on their specific tasks within their areas of responsibility and act on delegated responsibility from their parent organisations until other levels of command are established.

All this takes place at the Operational level and is the normal day-to-day arrangement for responding to any incident. The command of the resources belonging to any agency and applied within a geographical area, or used for a specific purpose, will be retained by that agency. The Highways Agency and its Service Providers must liaise fully and continually with others employed within the same area to ensure an efficient and combined effort. The police will normally act as the co-ordinator of this response at the scene.

These arrangements will usually be adequate for the effective resolution of most incidents. However, for more serious incidents - requiring significantly greater resources -it may be necessary to implement an additional level of management.

Tactical Level – SILVER

A Tactical level of management is introduced in order to determine priority in allocating resources, to plan and co-ordinate when a task will be undertaken, and to obtain other resources as required.

Most, but not all, of the Tactical functions will be discharged at or close to the scene of the incident. Some agencies, particularly local authorities, will prefer to operate from their administrative offices but will normally send a liaison officer to the scene to liaise with the Incident Officer(s). Planning must also take into account that there may be a number of individual scenes.

When more than one agency is operating at the Tactical level there must be consultation between the various agency Incident Officers. The Tactical Commanders are not required to become involved with the activities at the scene being discharged by Incident Officers, but concentrate on the overall general management. In order to effect co-ordination, an inter-agency meeting should be held at regular intervals attended by each Tactical Commander and normally chaired by the police.

If it becomes apparent that resources, or expertise beyond the level of the Tactical Commander are required, or should there be the need to co-ordinate more than one incident/scene (where tactical command has been established), it may be necessary to implement a Strategic level of management.

Strategic Level – GOLD

NEED TO SEPARATE GOLD FROM SCG AND NCMP

Gold (Strategic Management by the HA RCC)

> Strategic management of the incident passes to the RCC. Details of how they operate can be found in the RCC Contingency Plan and the wider actions to be taken within the HA at this level are set out in HA's Standard Incident Management Framework Document (SIMF)

Gold (Strategic Management at a national level by HA's National Crisis Management Team (CMT))

> Strategic management of the incident passes to the CMT. Details of how it operates can be found in the National Crisis Management Plan

The purpose of the Strategic level of management is to establish a framework of policy within which Tactical Commanders will work, to give support to the Tactical Commander(s) by the provision of resources, to give consideration to the prioritisation of demands from any number of Incident Officers and to determine plans for the return to a state of normality once the incident is brought under control. The requirement for strategic management may be confined to one particular agency. However, certain incidents require a multi-agency response at the Strategic level in order to effect resolution. In such incidents a Strategic Co-ordinating Group must be formed.

It will normally be a police responsibility to establish and chair the Strategic Co-ordinating Group (SCG). However, due to the nature of some major incidents other agencies may wish to initiate its formation and chair the group. Chairmanship may at some stage be passed to another agency (e.g. from the police to the local authority to manage the recovery phase). The Strategic Coordinating Group is normally made up from a nominated senior member from each statutory agency involved with the response. Those persons attending must be able to make executive decisions in respect of resources within their organisation and have the authority to seek the aid of other organisations in support of their role. The Strategic Coordinating Group provides the focus for communication to and from the Lead Government Department. In extreme circumstances, such as a terrorist incident, it may be necessary for the police to take executive action in respect of the total incident.

The SCG should be aware of its wider role which may encompass central government interests, handling requests for advice and assistance from individual services and agencies, and media demands. In the event of widespread disaster the SCG will need to liaise with similar neighbouring SCGs and, during the recovery phase, with the appropriate Regional Government Office.

The Strategic Co-ordinating Group should develop a strategy for dealing with the media, designate a media briefing centre and appoint a media-briefing centre manager (normally a police press officer).

The Strategic Co-ordinating Group should be based at an appropriate pre-planned location, away from the noise and confusion of the scene. It is usual to locate the Strategic Co-ordination Group at Police Headquarters, but this may move to the local authority during the incident.

The Response of the Highways Agency

DISASTER OCCURS	ACTIONS AT SCENE	POST-INCIDENT AT SCENE
Emergency services in attendance. **HIGHWAYS AGENCY CONTACTED**[1] • Start Log[2] • Gather Information • On-duty officer[3] dispatched to scene .	Assess situation Establish liaison with the Emergency services **BRONZE** commanders. Where appropriate and requested assist emergency services in their actions to preserve life and scene Contact the Highways Agency[4] and, if appropriate • commence media management[5]; • implement major incident plan[6] • put in place network-wide monitoring[7] arrangements. If resources required beyond the delegation of Bronze, request on-call manager as appropriate to attend as Silver[8]. This Manager, if invited, attend police **SILVER** briefings, if initiated. Deploy resources and experts as necessary. If **GOLD** established and the Highways Agency invited the Area Performance Manager must decide whether to attend and in what capacity.[9] Deploy resources and experts as necessary. Develop recovery plan	Police release scene Risk assessments conducted. Implement recovery plan • Resources deployed. • Carry out repairs • Clear debris Assess and pass repairs Open road and remove diversions **DE-BRIEF**[10]

Notes:

1) Probably the Service Provider's network control centre.

2) From the outset all those involved in the incident must maintain a log of all decisions and advice given. If necessary request emergency personnel endorse the log, especially if contrary advice is given to the action subsequently taken.

3) It has been assumed that the on-duty officer would initially be from the Service Provider as part of the rapid response team or similar. This person would represent the Highways Agency at an operational level i.e. Bronze.

4) The Public Relations Duty Officer and, if appropriate, the Highways Agency's Area Performance Team.

5) Please see Chapter 7.4.

6) Please see Chapter 7.6 on contingency planning.

7) For major incidents that are not isolated to a single area or region a network-wide co-ordination point (as undertaken for the fuel crisis and the fire fighters' strike) is sometimes required to ensure a consistent response and collate briefing for the Highways Agency Board and Ministers.

8) The manager must be able to mobilise the full resources of the Service Provider, including specialists, such as bridge engineers etc, to assess damage and formulate recovery plans. The following is a list of services that might be required:

- Act as an advisor to other agencies within the Highways Agency's realm of expertise.
- Assess and mitigate/control risks.
- Implement road closures/ diversions in consultation with other agencies.
- Implement procedures for protection/salvage of Highways Agency property (bear in mind need for evidence storage for criminal investigations).
- Ensure continuity of staff and resources

9) If a more strategic command is required, the police may initiate Gold command and request the attendance of the Highways Agency. The Highways Agency's representative at Gold will be expected to have the authority to command the resources of the Highways Agency and should, therefore, be an employee of the Highways Agency and, preferably, the Area Performance Manager. In deciding whether to attend, the Area Performance Manager must consider and discuss the issue with his Group Manager/ Divisional Director:

- What contribution the Highways Agency can make to Gold;
- Whether it is necessary to attend in person or whether telephone contact is appropriate;
- That there may be more than one Gold established in his Area;
- How the Highways Agency will ensure continuity of staff (Gold could be established for a number of days).

10) Within a reasonable period of the incident the Area Performance Team together with the Service Provider must hold a debrief meeting to review the management of incidents in the future. A copy of the note must be sent to the Operational Support Team such that learning points can be distributed more widely.

11) Change Major Incident Plan as necessary.

7.6 Contingency Planning

7.6.1 Contingency Planning – The Principles

Contingency planning embraces a number of concepts, some of which overlap. These are:

- That the principal emphasis in the development of any plan must be on the response to the incident and not the cause of the incident. Planning arrangements for a range of emergencies, whether caused naturally, resulting from technical failure, or by a deliberate act of terrorism, must be integrated. The plan has to be flexible; it has to work on a bank holiday weekend, or in freezing weather conditions and at any location. It will need to be tested against specific scenarios.

- The emergency management arrangements need to be integrated into the Highways Agency's everyday working structure and it is therefore essential for those who will be required to respond to any emergency to be involved in the planning process and subsequent exercises.

- The overall response to a crisis will invariably need input from Highways Agency and the whole supply chain. Effective planning must integrate all contributions and establish protocols in order to achieve an efficient and timely response to an incident. Being unaware of the contribution that others will need to make is a recipe for a muddled response.

- There is a vital need to co-ordinate arrangements with other authorities and organisations. The effects of a major incident, or terrorist attack will almost always span boundaries, and indeed may spread. If the response is to be truly effective in meeting the needs of everyone caught up in the disaster then those involved have to be aware of the roles they may be called upon to play and how they fit into the response as a whole.

The main planning stages associated with any emergency plan are usually as follows; further details are contained in the Highways Agency's Contingency Planning Framework:

- Assessment/ Intelligence – quantify the hazards and potential targets and manage the risk;

- Prevention – measures that seek to prevent emergencies occurring;

- Preparedness – plans that enable an organisation to respond to known hazards as well as unforeseen events;

- Response – the initial response to an incident; and

- Recovery – the return to normality.

7.6.2 Contingency Planning – How to Prepare a Plan

Area Performance Teams are responsible for ensuring that the Service Provider develops contingency plans that must include preventing, responding to and recovering from major incidents. The RCCs Network Operations Manager is part of an Area Performance Team and must therefore directly be involved in developing contingency plans.

To develop an effective plan that will ensure a co-ordinated response should a major incident occur, the assistance of the Highways Agency, its supply chain and external organisations will have to be engaged.

Assessment / Intelligence

TO Directors must, from time to time and based on intelligence from the Security Services, review the threats facing the Network and agree a plan to manage them. This plan must be cascaded through TO to Area Performance Teams.

Area Performance Teams must then review their potential targets to these threats. This assessment needs to recognise that the Network may well be effected not only by structures/locations specifically on the road system, but also by locations adjacent, or due to its strategic importance to an incident which may have taken place some distance away, e.g. route for emergency vehicles, evacuation route, etc.

Actions could include:

- Review areas of responsibility, to identify potential targets/vulnerable locations, both on the Network and adjacent
- Identify other features e.g. design that may increase loss/disruption
- Consider the area, through which their network runs (for example is the Network adjacent to a nuclear power station?) and evaluate the potential for the road system to be disrupted by a major incident
- Work through foreseeable scenarios to aid risk identification. This will allow speedy restoration of the system
- Act upon advice issued by the Highways Agency in respect of threat assessments

In prioritising these targets, the use of the following criteria is recommended:

- If loss of the target would significantly affect a major city;
- If the target is, or might appear to be, a particularly vulnerable structure;
- If the target is a structures with a significant publicity value;
- If the structure over-spans or runs alongside an installation or facility which might be considered a target and the structure could provide a path for using a vehicle as an explosive device or to trigger an explosion by impact.

Prevention

Measures need to be adopted following the assessment of the likely hazards, which seek to prevent emergencies occurring, or to reduce their severity. These measures have the following objectives:

- Deter (terrorist) action at this location by reducing the (apparent) vulnerability through protection such as barriers or by increasing the likelihood of the perpetrators being caught through, for example, better lighting or the use of CCTV.
- Reduce the effectiveness of any action against the target by increasing the distance from the device to the target through improved fencing.

Actions might include:

- Raise awareness of threats within their area.
- Increase inspection levels at vulnerable sites, especially at times of heightened threat.
- Develop a pragmatic and affordable programme of activity to reduce the vulnerability of targets.

Preparedness

Plans need to be prepared to enable the Highways Agency to respond to known hazards as well as to unforeseen events. Their needs to be clear ownership of the plans, and their effectiveness needs to be tested in regular exercises and the lessons learned incorporated back into the plans.

The Highways Agency must be involved in Local and Regional Resilience Forums, as required by the Civil Contingencies Act 2004, Emergency Planning Groups that usually include the police, emergency services, local authorities, hospitals etc, such that there is:

- clarity of responsibility and roles of all parties;
- clear lines of communication;
- clear understanding of targets;
- established contingency plans; and
- involvement by the Highways Agency in appropriate exercises.

Actions might include:

- Identification of BRONZE, SILVER and GOLD roles as in the Highways Agency's contingency plans, key personnel (including media representatives and technical specialists) and robust 24/7 communication channels.
- Ensure staff in relevant posts receive training for the nature of responsibility they may be called upon to discharge, in the event of a major incident.
- Ensure maintenance and inspection records are up to date and available as these may be vital to allow Highways Agency representatives to give informed advice.
- Ensure a suitable media representative has been selected.
- Ensure that there is resilience in the numbers of personnel trained to provide for a long running incident; say of two weeks in duration.
- Test the local liaison arrangements with the emergency services. Recognise there may be different combinations of Authorities within a Highways Agency Area.
- Organise tabletop exercises to test plans and involve the actual players.

Response

The initial response to an incident is normally provided by the statutory emergency services, the Highways Agency Traffic Officer Service and, as necessary, by the appropriate local authorities and possibly voluntary organisations.

The Highways Agency might be expected to:

- Implement strategic or local diversion routes;
- Provide reasonable support to the emergency services (in terms of equipment/ personnel) to provide the initial response;
- Provide information on the Highways Agency website and to HAIL;
- Provide information and briefing to the Highways Agency Board and Ministers.

Planning actions might include:

- With the police and local highway authorities identify and agree diversion routes;
- Ensure the emergency services, especially the police, have details of how the Highways Agency can be contacted;
- Identify what equipment/ services are available (and how to obtain them) in the event of a major incident.

Recovery (restoring the Network to normality)

This phase will encompass those activities necessary to provide a rapid return to normality of the Network. Planning actions might include:

- The production of generic recovery plans based on the types of target and the hazards faced.
- Identify what equipment/ services would be required and how they could be obtained.

7.6.3 Emergency Planning Exercises

The Highways Agency, as the Network operator, must be involved in emergency planning exercises that occur on or affect our network.

Every effort should however be made to minimise any affect on users resulting from and costs of the exercise.

Exercises can be arranged to test internal procedures or involve the Highways Agency as one of a number of organisations. As such, they can be ‘desk-top’ or ‘mock’ situations involving actors either on the Network or other suitable locations (such as disused airfields).

To play or not to play?

There are two separate roles in emergency planning exercises, that of the exercise planner and the exercise player.

When first approached to take part in an exercise, careful thought at Group Manager/ Divisional Director level is required to decide what role the Highways Agency should play. The Network Resilience Team Bristol can provide advice concerning a proposal and must be informed of all requests.

Emergency planning exercises are resource intensive, often requiring months of planning with the exercise occurring sometimes over a 24 or 48-hour period.

The role of the planner is to ensure that the scenario is, and remains during the exercise, realistic and to keep the detail of the exercise separate from the players. This role will require the development of the scenario, an assessment of the impact and any secondary impacts, the provision of injects into the exercise and response to players during the exercise.

The role of the player is to take part in the exercise, testing communication paths and procedures.

The decision to play should be taken very early such that roles of the planner and player can be separated. If the Highways Agency just plans, then the responsibility for planning lies with the Operations Team in which the incident is proposed. If it both plans and plays, then the roles could be given to separate teams within the same region.

Post Exercise

A thorough debrief must take place after the exercise to establish learning points. These should be considered when adjusting contingency plans. A copy of these learning points must be sent to the Network Resilience Team Bristol, such that good practice can be applied across the Network. It is the responsibility for the Highways Agency to ensure that this process is undertaken.

The contingency plan must be designed to ensure that:
- Members of the Service Providers are in the right place at the right time.
- They are aware of their individual responsibilities, decisions and actions they have to take.
- They have the information and resources necessary to make these decisions and undertake these actions in a timely and efficient way.

The RCC contingency plan involves a mobilisation of the RCC, Area Performance Teams and Service Providers in sufficient numbers to enable any level of network disruption to be dealt with. Figure 7.6.2 below provides a high level overview of the escalation procedure.

7.6.4 Off-Network Tactical Diversion Routes

Service Providers are required to familiarise themselves with the National Guidance Framework for Operational Activities (LHA NGF) between Local Highway Authorities and the Highways Agency and the Detailed Local Operational Arrangements, in order to identify, establish and maintain tactical diversion routes.

Tactical Diversion Routes are those routes used to divert traffic off the Highways Agency's network onto LHA roads to assist incident management. These routes need to be established as part of contingency planning arrangements

Service Provider Responsibilities

Service Providers are responsible for:

- providing the Area Performance Manager and annually reviewing:

  (i) details of each link on the Area network indicating the current status of tactical diversion routes and
  (ii) a costed programme

- until all tactical diversion routes for the Area have been established, to deliver wherever possible, a complete network of Class I tactical diversion routes for the Area as described in Chapter 7.6.4

- identifying and arranging the establishment and subsequent maintenance of tactical diversion routes in close partnership with those LHA Traffic Managers whose authority's roads connect with the Highways Agency's network in their Area

- liaising with the freight transport industry (where available through the 'Freight Quality Partnership') to ensure the industry has opportunity to contribute to the planning of tactical diversion routes

- liaising with the Police and Traffic Officer services to ensure tactical diversion routes and associated operational arrangements agreed with the LHA are understood and supported by the Police and Traffic Officer services

- producing the Map/Route Card and other documentation for each tactical diversion route when agreement has been reached with the LHA for each tactical diversion route

- managing the provision and controlled distribution of hard and electronic copies of Map/Route Cards and other documentation when the infrastructure for each route has been established, to be held in a document referred to as the 'Tactical Diversion Routes File'

- liaising with the LHA as required prior to a decision to use a tactical diversion route (where a decision is possible) for those parts of the Network where there is no operational Traffic Officer service, subject to agreed local operating procedures

- carrying out winter service operations on a tactical diversion route, when necessary, in accordance with arrangements agreed with the LHA and operational procedures, prior to the implementation of a tactical diversion and

- attending a review meeting arranged by the LHA, normally within 2 weeks of receiving a notification that the LHA has identified:
  (i) a required or proposed change to, or
  (ii) operational issues which require review (but do not require a formal 'incident debrief') of an agreed tactical diversion route.

Responsibilities of Other Stakeholders

Within their operational areas the Traffic Officer service is responsible for traffic incident management, including the decision to use tactical diversion routes (where a decision is possible).

The Traffic Officer service is also responsible for making alternative arrangements to relieve congestion on the Network when a tactical diversion route is not available. They will be familiar with the information in the contingency plan for alternative diversion and, emergency access/egress opportunities, rearward relief and turn-around arrangements. Activation of welfare arrangements by notification to the appropriate party (normally the LA) will only be considered as a last resort.

The Highways Agency has agreed (in the LHA NGF) that, if possible, the Highways Agency or their representative will liaise with the LHA as required prior to a decision to use a tactical diversion route. Where the tactical diversion route is outside the Traffic Officer service operational area, it will be the responsibility of Police to implement a tactical diversion route.

To provide a consistent approach to tactical diversion onto LHA roads the Highways Agency will seek to encourage Police, both nationally and locally, to use agreed tactical diversion routes wherever possible when dealing with traffic management.

The NTCC is responsible for identification and operational implementation of strategic diversion routes.

The Highways Agency's liaison team (based at the NTCC) will be responsible for:

(i) updating LHA DLOAs in line with revisions;
(ii) including tactical diversion routes within their annual DLOA review meeting with each LHA;
(iii) informing the Area Performance Team and/or Service Provider (as appropriate) of any issues identified and
(iv) providing notes of the meeting to the Area Performance Team and Service Provider.

The Network Resilience Team is responsible for ensuring that up-to-date versions of all contingency plans, which include details of tactical diversion routes, are available on the Highways Agency Portal.

LHAs are responsible for the management of traffic on their network, irrespective of the reasons for it being there.

LHAs are requested to attend a review meeting arranged by the Highways Agency normally within 2 weeks of receiving a notification that the Service Provider has identified:

(i) a required or proposed change to or
(ii) operational issues which require review but do not require a formal 'incident debrief' of an agreed tactical diversion route.

The Police are responsible for managing:

(i) 'Police-led' incidents on the Highways Agency's network where the Traffic Officer service is operating;
(ii) all incidents on the Highways Agency's network outside the Traffic Officer service operational area; and
(iii) all incidents on LHA networks.

Classification of Tactical Diversion Routes

Classes of tactical diversion routes are as follows:

Class 1
A route agreed as a suitable tactical diversion route under the arrangements set out in Chapter 9.3.5.4 by co-operation of LHA, Traffic Officer service and the Police and is permanently signed.

Class II
A route is accepted by all parties as a possible tactical diversion route, but is not signed, and may not be formally accepted by the LHA.

Class IIIa
A route is identified as a potential tactical diversion route but is acknowledged to be inadequate at certain times for diversion of traffic off the Highways Agency's network and there is no alternative superior tactical diversion route option.

Class IIIb
A route is identified as a potential tactical diversion route but is acknowledged to be inadequate for diversion of traffic off the Highways Agency's network due to physical constraints and there is no alternative superior tactical diversion route option.

Arrangements for Identifying, Establishing and Maintaining Tactical Diversion Routes

Identification

In close liaison with the LHA Traffic Manager, Service Providers must identify tactical diversion routes for the Area network for which they are responsible in co-operation with LHAs and other stakeholders.

The identification is based on a risk assessment (a framework for tactical diversion route risk assessment is set out in 9.3.5.6) to assess suitability of any potential route for the tactical diversion of traffic off the Highways Agency's network. A record of risk assessment is retained by the Service Provider.

Where not possible to identify a suitable tactical diversion route, a record of the assessments carried out in seeking to identify a suitable tactical diversion route must be retained by the Service Provider.

Where it is identified a tactical diversion route is suitable only for use by restricted classes of traffic or there is no suitable tactical diversion route available-but infrastructure improvement on the LHA network could enable one to be provided, the Highways Agency will, subject to the agreement of the LHA, identify costs of any improvements required and provide a business case for funding (or joint funding of the work, if appropriate), so the improvement scheme can be considered within any future works programmes.

Where possible and with lack of a primary tactical route, a secondary (alternative) tactical diversion route will be identified. It is recognised that such opportunities will not generally be available.

Establishment

The Service Provider will discuss arrangements with the LHA for establishing a necessary and appropriate signing infrastructure for each tactical diversion route on the LHA's roads.

The LHA will undertake the sign design. Where the LHA has insufficient resources to complete the design in a timely manner, by request of the LHA, the Service Provider may assist with the design of tactical diversion route signing.

Tactical diversion route signing will be designed to incorporate local circumstances, and will:

(i) include sufficient repeater signs to ensure confidence is maintained for diverted road users throughout their journey and
(ii) be 'closed out' between the start of the tactical diversion route and subsequent return to the Highways Agency's network.

Sign installation maybe undertaken by the LHA or in co-operation with the Service Provider.

Secondary tactical diversion routes will not be permanently signed unless the LHA and the Highways Agency agree exceptional circumstances make this advisable. However, documentation referred to in Chapter 9.3.5.5 is required for secondary tactical diversion routes.

Maintenance

The LHA will undertake routine inspections of tactical diversion route signing on its roads in accordance with the LHA's normal cyclic maintenance regime for safety and service inspections. A copy of their inspection report should be forwarded to the Service Provider within 28 days of the inspection being carried out.

The LHA will rectify any defects of tactical diversion route signs in accordance with their performance standards for rectification of defects which represent an imminent danger to road users (Category 1 defect).

The Service Provider must carry out an annual inspection of each tactical diversion route and associated signing in its Area.

The Service Provider must ensure the Area Performance Manager is advised of any actions required as a result of inspections or reviews and to take such actions necessary to ensure a robust network of tactical diversion routes continues to be available.

Documentation for Tactical Diversion Routes

Operational and Infrastructure Records and the Tactical Diversion Routes File

The Service Provider is responsible for producing the following:

The Maps/Route Cards, as described in F1 in this section, for the agreed tactical diversion routes must be held as the *'Tactical Diversion Routes File'.*

Documentation records for each tactical diversion route are needed to meet the following requirements:
(i) a map-based record showing the tactical diversion route;
(ii) operational information and
(iii) a record of signing and other infrastructure for the route.

Document Format and Requirements

Map/Route Cards (F1) show the essential details of the relevant Area network road, the relevant link closure to which the tactical diversion route applies and the tactical diversion route on the LHA network using an OS map base.

Operational information (F2), Sign and Infrastructure information (F3) and Additional information (F4) must be in a format agreed by the partners agreeing and operating the route.

Each record document must include:
(i) tactical diversion route description;
(ii) tactical diversion route Identification;
(iii) the date of issue;
(iv) the names of the stakeholders agreeing the route; and
(v) subject to their agreement, the logo of each stakeholder.

Route identification number to be of the format:

Road number / Route Direction followed by its route direction (BD- Bi-Directional, S- Southbound, N- Northbound, E- Eastbound and W- Westbound)/Area number (1-24) / Diversion number (to be a

unique number for the Area, using a suitable system agreed with the Area Performance Manager). A diversion route must be assigned a number similar to 'A1-BD-14-11'.

The information requirements of the documentation are as set out in F1 to F4 below.

F1 Map/Route Card

- The part of the Area's network which is closed;
- the tactical diversion route;
- the road numbers of all relevant Area network roads and the tactical diversion route;
- directional indication as necessary and
- boundaries (if any) between:
  - (i) LHAs;
  - (ii) Area operational boundaries;
  - (iii) Traffic Officer service operational boundaries (if applicable); and
  - (iv) Police service operational boundaries.

F2 Operational Information

- Sufficient detail of junctions both at the Area network/LHA road junction and at junctions on the tactical diversion route to illustrate an exact route to be followed by diverted traffic;
- local names of junctions and any other significant 'landmark' features on the Area network;
- major traffic generators on the tactical diversion route, or likely to affect/be affected by its use;
- for dual carriageways on the Area network, whether the tactical diversion applies to closures of both carriageways or only to one direction;
- whether the tactical diversion route is for use with two-directional traffic (i.e. can be used for diverted traffic in both directions whether both carriageways of the Area network road link are closed, or not);
- whether the tactical diversion route is suitable for all types of vehicle or not;
- special arrangements for tactical diversion or retaining HGVs and any other vehicle class, if applicable;
- if the tactical diversion route cannot be used by diverted traffic in both directions, the directional tactical diversion route information to be used in the event of a closure of both carriageways. Implementation procedures for the tactical diversion route, including responsibilities for each action;
- potential traffic problems that may be encountered with use of the tactical diversion route (e.g. peak-time congestion, regular public events such as sports matches, etc);
- requirements for times when use of the tactical diversion route may be of limited effect (e.g. at peak times) and/or
- special arrangements e.g. for controlling rate of egress from the Area network road at peak times,
- special operating arrangements for the tactical diversion route (e.g. requirements for adjustment to the phasing of traffic signals on the LHA network or for traffic signals under the Highways Agency's control at the junction of the Area and LHA networks, change of signed priority at junctions etc);
- operating arrangements including responsibility for ensuring that traffic diverted onto a tactical diversion route does not run on untreated surfaces in winter conditions;
- responsibilities for changing variable/flap signs and for placing temporary signs and their removal on closedown and
- any requirements for complementary plans for setting VMS for the LHA's (local) and the Highways Agency's (strategic) VMS signs (arrangements to be made through the Highways Agency's (NTCC) regional liaison officer for discussions with NTCC to agree the complementary VMS plans with the LHA).

Contact information

Telephone contact details to be shown for:
- LHA office hours contact,
- LHA out-of-office hours contact
- Traffic Officer service contact;
- Service Provider network control centre,
- Police Control Room;
- significant traffic generators on, or likely to affect/be affected by use of the tactical diversion route.

F3 Sign and Infrastructure Information

- The symbol sign in use applicable to the tactical diversion route;
- the location and information provided on any flap/variable signs;
- the storage location and inventory for temporary signage;
- the locations in which any temporary signage is to be placed;
- the location of any traffic control equipment on the tactical diversion route (e.g. traffic signals);
- the location of any Highways Agency VMS immediately adjacent to the affected Area network road link.
- the location of any LHA VMS on or relevant to the tactical diversion route;

F4 Additional Information

Any information required for effective maintenance and operation of the tactical diversion route, including signage which is not shown in documents prepared for F1 to F3 above, must be recorded in the Tactical Diversion Routes File, such as the following information:

Permanent signing

Sign	Sign location

Temporary signing

Temporary sign schedule	Location of temporary signs	Organisation responsible for positioning temporary signs

Cross-boundary issues

Complete this section if applicable to the route in question for any cross-boundary issues where a tactical diversion route lies partly within the area of the Local Authority concerned and partly within the area of a neighbouring Local Authority

Documentation Records & Distribution

The documentation records must be held by the Service Provider in hard copy and electronically in pdf. format for the duration of their contract and for handover to their successor Service Provider.

A controlled electronic (pdf.) copy of all the documentation for each tactical diversion route must be provided to the:

- LHA Traffic Manager;
- the Local Authority Emergency Planning Officer;
- the Police;
- the Traffic Officer service and
- the Area Performance Manager.

The record of agreement must include those cases where it is acknowledged that no suitable tactical diversion route can be identified.

One collated set of laminated Map/Route Cards for each tactical diversion route must be provided to the LHA and the Police and the Traffic Officer service and new Map/Route Cards are to be issued as they are agreed.

Service Providers must determine their own requirements for distribution of documentation within their own organisations.

Risk Assessment for Tactical Diversion Routes

The following framework is intended as guidance only. It is neither prescriptive nor exhaustive and is suggested for us in determining the risks presented by any potential tactical diversion route.

– TACTICAL DIVERSION ROUTES - RISK ASSESSMENT GUIDANCE								
Agency network Route:	–	**Agency network Road location requiring diversion:**	–	**Proposed diversion on LHA road**				
Identified Risks								
Risks arising from diversion of traffic onto the proposed diversion route	All classes of road users	Increased traffic volumes	Change in the traffic composition on the diversion route, particularly with regard to increased proportion of HGVs	Other risks?	Other risks?	Other risks?	Other risks?	Other risks?
Risk Assessment								
Risks arising from particular features on the proposed diversion route	Schools	Hospitals	Sports venues	Level crossings	Other risks?	Other risks?	Other risks?	Other risks?
Risk Assessment								
Risks arising from suitability of route for reducing incident-related congestion	Ability of proposed route to accommodate anticipated volumes of HGVs	Height restrictions	Weight restrictions	HGVs unable to negotiate diversion route due to alignment - e.g. by low-loaders grounding, car-transporters, cranes etc damaging adjacent/ overhanging buildings	Sports venues, special events venues etc	Traffic management and control systems operating on proposed diversion route	Other risks?	Other risks?
Risk Assessment								

–	TACTICAL DIVERSION ROUTES - RISK ASSESSMENT GUIDANCE							
– **Agency network Route:**	–	**Agency network Road location requiring diversion:**	–	**Proposed diversion on LHA road**				
Identified Risks								
Risk Mitigation								
	Establish different diversion routes for each direction of travel	Hold all HGVs on the network	Hold all AILs, transporters, large cranes, selected AILs, etc on the network	Arrangements for LHA to manage diverted traffic on their network by changing normal traffic management and control	Avoidance of critical times, e.g. when activities at venues, special events etc affect the proposed diversion route are taking place	Other mitigation?	Other mitigation?	Other mitigation?
Risk Assessment								
Infrastructure improvements (where justified)	Alignment	Remove weight limits	Other improvements?	Other improvements?	Other improvements?	Other improvements?	Other improvements?	Other improvements?
Risk Assessment								

7.7 Service requirements

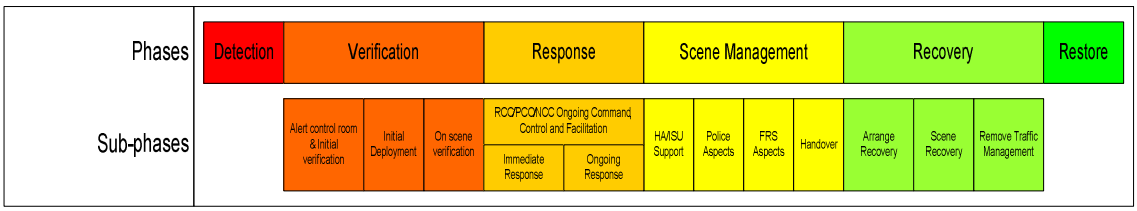
7.7.1 Introduction

The National Timeline Model has been used as the framework for detailing these service requirements. The model identifies six conceptual phases to a typical incident on the Highways Agency's network that threatens or is likely to threaten safety or cause congestion on the network. The phases correspond to the processes used by the major responding organisations during the management of incidents.

- **Detection** – The initial identification of a potential incident to an emergency service control room by a 999 call or an emergency service patrol vehicle, a Highways Agency control room by an emergency roadside telephone (ERT) call, CCTV, MIDAS, patrol vehicle or Traffic Officers, or a Service Provider control room by an Incident Support Unit or patrol vehicle.
- **Verification** – The clarification and confirmation of the extent and details of the incident as far as possible so that appropriate resources can be deployed.
- **Response** – The deployment of resources appropriate to the reported need to make the environment safe for all involved in the response and to the travelling public, to prevent escalation, to stabilise the situation and to provide immediate first aid for casualties.
- **Scene management** – The management of those activities that need to be completed at the scene before the location of the incident can be cleared, such as the further treatment and evacuation of casualties, the removal of hazardous chemicals, the investigation of the incident and collection of evidence and the implementation of diversions when required.
- **Recovery** – The recovery of vehicles, obstructions, obstacles and debris from the carriageway to the hard shoulder and the carrying out of essential repairs to the infrastructure.
- **Restoratio**n – The return of traffic flow to pre-incident levels following the recovery of vehicles, the clearance of obstacles and debris from the carriageway, the completion of any immediate repairs or temporary traffic management to make the infrastructure safe for use, and the removal of closure signs.

Pre-incident prevention and **post-incident debriefing** are considered as separate activities.

Incidents are not linear and the six phase model will not necessarily apply to every incident that has or can occur on the network. It identifies high-level phases, not explicit time periods. Phases will overlap and durations will differ between responders. However, the model applies to the most common and significant incidents and can be used by all responders as a reference tool for forward planning, incident debriefings, post-incident analysis and performance management.



An essential requirement for all aspects of incident management is to ensure that a time log of the incident is made and that decisions and other relevant information are recorded. This is a requirement for all responding organisations. All staff involved in incident management must be trained in the procedures and requirements which apply to their role. Section 7.15 details reporting and recording.

7.7.2 Detection

The detection phase of an incident is the period between an incident occurring and someone being aware of the incident. On busy parts of the Network this is often a very short period of time with no real process happening, whereas incidents can go undetected for longer periods of time on remote stretches of roads or when the roads are quiet.

The detection phase does not include any of the activity after any of the above has happened. Further activities are part of the verification phase. The most common detection sources are:

- members of the public alerting the police via 999 directed through the Police Incident Handling Centre (PIHC)
- members of the public alerting the RCC via emergency roadside telephones (ERT)
- routine police patrols
- routine Traffic Officer (TO) patrols
- Service Provider patrols
- technology within the RCC

All Service Provider staff involved in incident management must be aware of the requirements for the accurate reporting of incidents including those set out in the Emergency Control Procedures (Annex C) and those incidents which have not yet resulted in delay to traffic or to traffic collision. Each member of staff (including the staff of supply chain partners) must be trained to ensure that they know the correct procedure for reporting incidents, which will normally be through to the Service Provider's control room except when lives are immediately at risk, in which case the call must be made to '999'.

One of the primary functions of the Incident Support Unit is to detect and report incidents. However, it is just as likely that incidents will be detected by Service Provider staff carrying out patrols, surveys, routine maintenance etc., Highways Agency Area staff or other contractors, all of whom should be familiar with the correct procedure for reporting incidents of all kinds. Conscientious and accurate reporting by all who are working on the Network will assist in minimising the occurrence of incidents and the cost, delay and human consequences which they cause.

7.7.3 Verification

OBJECTIVES FOR VERIFICATION PHASE

The main objective of this phase is to determine sufficient detail about an incident to allow for the most appropriate deployment to be made.

Verification follows an incident being detected. The primary objective during verification is to ascertain that sufficient details are gathered about an incident to enable the most appropriate deployment of the resources of each responder to be made. Responding organisations will also be gathering information that may become useful should an incident become a criminal investigation.

The verification process can be split into three sub-phases:

1. Alerting the control rooms and initial verification
2. Initial deployment
3. On-scene verification

Logging details of incidents will occur on the Highways Agency and police Command and Control Systems and the Service Provider's incident logging system depending on incident involvement. The source of detection will affect which system initiates the log first but it is important that information is transferred between Police, Highways Agency and Service Providers quickly.

Sub-Phase 1 – Alerting the control rooms and initial verification

During this sub-phase, notification of the incident will be given to control rooms. The decision on whether the incident will be 'police-led' of 'HA-led' will be agreed. Note that the lead responder could change over the course of the incident management, either because issues are identified which were not initially apparent which require the police to take-over the lead, or because the requirement for police involvement has ceased and the remaining issues all fall within the Highways Agency's network management remit.

The Service Provider's control room will be informed of any relevant incident which may involve them in any way as soon as it has been logged by the RCC. The only exception to this is where it can be positively verified by CCTV that an ISU will not be required.

Service Provider's resources cover the Highways Agency's network and, therefore, are likely to detect incidents. Should Service Provider's resources detect an incident, they must inform their control room immediately who will in turn inform the RCC. The RCC will initiate a log and request Traffic Officer and/or police assistance immediately if required. If a police response is needed, the log, including all incident details, must be transferred to the PCO with a Unique Reference Number (URN).

Sub-Phase 2 – Initial deployment

At this stage of an incident, the precise details of an incident are unlikely to be known. The RCC will deploy Traffic Officers and will alert and request resources from the Service Providers via their control room. Service Providers must respond to any request for assistance from RCC or Police Control Office (PCO) through their control rooms. This is most likely to be the deployment of an ISU within the Service Provider's contractual response times (see ISU section), unless the ISU is already at the scene. In some circumstances the Service Provider may be required only to await a request for resources.

The Service Provider must consider requests for assistance from adjoining routes, areas and regions within their contingency plans.

Sub-Phase 3 – On-scene verification

The ISU must confirm their arrival with their control room. On arrival at the incident scene, the ISU must make the scene as safe as possible but will also begin verifying the scene through the control. Verification includes survey the scene from a distance having regard to safety, assess the incident, disseminate information to control room and others where necessary, approximate the number of casualties, identify present and potential hazards. The ISU and other responders will also confirm exact location (road, junction, map reference), confirm emergency services present and required, and confirm incident type and number of vehicles involved. The ISU must also assess whether any secondary resources are required and advise the control room accordingly. This will enable the control room to arrange the mobilisation of the required resources, not necessarily a request to bring those resources forward at that time, unless the control room is so advised. Chapter 8 (2006) provides guidance on (emergency) traffic management.

The Service Provider will liaise with RCC and NTCC/NILO during this phase and update them with the incident details and anticipated or actual consequences.

7.7.4 Response

OBJECTIVES FOR RESPONSE PHASE

The main objectives for this phase are to:

- stabilise the scene and assess Traffic Management requirements;
- make arrangements for support if necessary;
- control the incident to stop it worsening;
- tackle aspects of the incident that require immediate attention (e.g. casualties, fires, spillages).

The response phase begins when responders have verified the scene and confirmed and dispatched the necessary resources. The primary objective of the response phase is to stabilise the scene, control the incident to stop it worsening and tackle aspects of the incident that need immediate attention, e.g. casualties, fires and spillages.

The response phase includes the Highways Agency and Service Providers undertaking emergency traffic management to protect the scene. Resource will then be directed to supporting the emergency services and stabilising any infrastructure or non-hazardous spillages. This phase does not extend to actual recovery of the scene.

The response phase can be considered in two sub-phases:
1. Immediate response
2. Ongoing emergency response

Activities within the immediate response sub-phase are different across organisations. The Highways Agency and Service Providers will primarily be concerned with scene protection and will support the emergency services during this phase but will also be concentrating on protecting the scene and surrounding traffic.

Sub-Phase 1 – Immediate response

The immediate response sub-phase is concerned with responders undertaking the first steps necessary either to bring the scene under control, or allow other responders to operate safely. For the Highways Agency and Service Providers, this means protecting the scene using signs and signals or by setting up emergency traffic management, enhanced emergency traffic management or temporary traffic management in accordance with Chapter 8 (2006). The choice in temporary traffic management is dependent upon the estimated duration of the incident. Chapter 8 (2006) also details for traffic management for incidents restricted to the hard shoulder.

During ‘Police led’ incidents, the police are responsible for the ongoing management of the scene and the coordination of all responders. The command structure will be established in this phase. The other emergency services will focus on undertaking their core duties. If the incident allows, early assessment of infrastructure damage can be made to ascertain what secondary resources are necessary.

The RCC takes on a facilitation role, acting as an information hub and 'support command' for the Highways Agency. It also takes on a multi-agency facilitation role, coordinating additional resources such as vehicle recovery contractors. The PCO also takes on facilitation roles, but will typically concentrate on commanding police resources and co-ordinating the work of the other emergency services. The RCC will directly communicate with the Service Provider's control room.

Casualties that have been stabilised but need further hospital treatment will be evacuated as soon as possible, either in an ambulance or in an air ambulance. Air ambulance typically requires both carriageways to be closed due to the debris kicked up by the rotor blades and to minimise the risk of rubber necking causing secondary accidents. Prolonged on scene treatment can be more effective but there is a risk it can prolong the duration of the incident.

The Service Provider must request authority to access the hard shoulder from the incident lead through the RCC or PCO. The Service Providers must ensure that all response vehicles are liveried, all warning beacons and dipped headlights are in operation prior to joining and at all times whilst on the hard shoulder, that the driver is instructed to proceed at a speed appropriate for the prevailing conditions and never to exceed 20 mph and finally, is specifically advised to exercise extreme care having particular regard to the likelihood of both vehicles and pedestrians entering the hard shoulder from lane one without anticipating upstream traffic approaching from 'behind' their direction of travel.

Sub-Phase 2 – Ongoing emergency response

The ongoing emergency response sub-phase is typically the more significant phase in terms of stabilising the incident scene. With scene protection in place and a robust command and support structure, the emergency services will be able to tackle the incident safely and efficiently.

The priority for the Highways Agency and Service Providers during this sub-phase must be to continue to protect the scene, support the emergency services and to manage traffic in the surrounding area to minimise congestion. The RCC will continue to set signs and signals. The RCC will aim to minimise congestion on the immediate network through wider traffic management including junction closures, diversion routes and Local Authorities partnership working. Both the RCC and the Service Provider's control room will liaise with NTCC on the status of the incident to allow the NTCC to undertake strategic traffic management. The RCC and Service Providers must also liaise with the NILO to ensure all information is shared effectively and escalation procedures can be followed without delay.

The first priority for the Fire and Rescue Service is to handle fires that involve or are trapping casualties. Second priority is additional fires at the incident scene, which could be vehicle fires, embankment fires or road surface fires. The third priority for the Fire and Rescue Service is to help the Ambulance Service access casualties that are trapped at the scene.

The Fire and Rescue Service are also responsible for securing, containing and making safe any hazardous materials at an incident scene. The Service Provider's control room and ISUs must keep copies of drainage information, pollution control plans and plans showing location of highway electrical equipment. The identification of hazardous materials can be done by reading the vehicle's Hazard Warning panels. Once a material has been identified, the Fire and Rescue Service will seek advice from their contractors regarding how the material can be made safe. Industry guidelines are in place for how certain materials in certain states must be managed ranging from handling techniques, cooling processes or exclusion zones, the responsibility for which rests with the Service Provider. The Fire and Rescue Service are not responsible for the clearance of hazardous materials, but must leave it in a state that allows its removal from the scene. This includes any contaminated items used to contain the materials, e.g. contaminated water reservoir, foam, grit, etc.

The Fire and Rescue Service are responsible for health and safety of the inner cordon and will take primacy within the confines of the inner cordon, as recovery of trapped and injured persons takes precedence over any other investigative activity. The police will become responsible for the inner cordon following handover from the Fire and Rescue Service. The police will also establish an outer cordon restricting access to authorised personnel only.

The Fire and Rescue Service must ensure the scene is as safe as practicably possible and that all responders are aware of risks or hazards. The Fire and Rescue Service will advise on what personal protective equipment (PPE) is required and what equipment should or should not be used. When the Fire and Rescue Service leave the scene, they must advise remaining responders on risks, hazards and appropriate action to take.

The RCC and Service Provider's control room will utilise both Traffic Officers and Service Provider resources to implement traffic management. Traffic management may also involve dealing with traffic stranded between the incident scene and the road closure prior to the incident scene.

When it has become necessary to divert traffic away from the Highways Agency's network there, are in general, recognised diversionary routes. If a diversion is necessary, the RCC is to arrange the setting of signals (if available) informing motorists of the diversion. Further guidance on tactical diversion routes is included at Section 7.6.

The system of rearward relief is to turn the vehicles in the queue around and escort them back to the intended exit along the hard shoulder or, in some cases, via a cleared carriageway lane. Rearward relief should only be used if absolutely necessary and if traffic cannot be released by any other means, e.g. by opening a lane or creating hard shoulder running around an incident. Service Providers must only carry out this procedure under the instruction of Police and Traffic Officers. On trunk roads, cyclists and pedestrians should, if safe to do so, be escorted past the carriageway obstruction.

An emergency crossing point is a gap in the central reservation barrier. Service Providers must have the location of these emergency crossing points electronically available. These emergency crossing points should only be used by the emergency services or Traffic Officers, and only in extreme circumstances. The onus for carrying out such a manoeuvre safely is always on the driver, and all necessary care must be taken. It may be considered inappropriate to use crossing points during normal traffic flows. A short cut may be used instead. A short cut is a link road provided by the Highways Agency to reduce the distance travelled by emergency services attending incidents. Short cuts exist to enable emergency service vehicles and Traffic Officers access to another carriageway without travelling to the next junction.

When it is considered preferable for road users to leave their vehicles on the trunk road to enhance safety, e.g. as a result of chemical spillage or a fire, a pedestrian egress procedure will enable road users to leave the trunk road network in safety, e.g. via a pre-constructed pathway to a nearby local road. Careful consideration must be made to ensure that implementation of any pedestrian egress procedures does not increase the existing risk to road users. There are a number of standard infrastructure amendments that could assist with such a procedure, e.g. steps up/down a steep verge. Service Providers must address this issue within their contingency plans.

The Service Provider will also deal with damaged infrastructure obstructing the emergency services in their duties or creating potential danger, non-hazardous spillages and the mobilisation and, when required, deployment of secondary resources. Service Providers must also begin to assess the damage to the infrastructure and plan recovery but will typically not be able to start recovery. This will allow for preparations to be made in terms of arranging resources to be available as soon as the scene is handed over for recovery. Any access for the Service Provider or Highways Agency to

the scene for assessment must be with the permission of the leading commanding officer. If the scene is a crime scene, the Service Provider and Highways Agency will often need to be accompanied.

7.7.5 Scene Management

The scene management phase begins when the stabilisation and containment of the incident is completed. It covers the activities that are undertaken, predominantly by the police, to bring the scene to a state where the Highways Agency and others can begin recovery.

OBJECTIVES FOR SCENE MANAGEMENT PHASE

The main objectives for this phase are:

- any investigation by the police to take place in the event of criminal activities, fatalities or serious injury;
- containment of hazardous substances;
- assess as far as possible the requirements for the recovery phase and mobilise resources in readiness
- hand over from the police to the Highways Agency to undertake the recovery phase.

During this period, the following activities may be taking place to ensure the complete management of the scene: The TO Service and SP provide support to the emergency services.

1. Scene Investigation

During this phase, the police will be concentrating on their core responsibilities, determined by the type of incident. Incident scenes involving criminal acts, fatalities or serious injuries will need investigating for evidence collection. Any scene that still poses a risk to public safety will also require on going Police presence that will restrict the Highways Agency beginning recovery.

The scene management phase will end when the police agree to hand over control to the Highways Agency for recovery. Whilst the incident scene will in some cases remain protected and kept 'sterile', increasing efforts to mitigate resultant congestion will be made.

The scene management phase can be considered into four sub-phases:

1. Highways Agency and Incident Support Unit support
2. Police scene management
3. Hazardous materials substances
4. Scene handover

Sub-Phase 1 – Highways Agency and Incident Support Unit support

Highways Agency resources at the scene and in the RCC will jointly plan for recovery and restoration during the emergency response phase. The priority will be scene protection and safety, whilst supporting the emergency services in their role. The RCC, the Service Provider's control room, Traffic Officers and Service Provider resources will continue wider traffic management activities.
The police and Highways Agency will work together to ensure evidence collection or debris clearance is done in away that will allow the Highways Agency to open lanes to traffic as quickly as possible. Further guidance on incident investigation is held at Section 7.16.

The Highways Agency and Service Providers must continue with the planning of the recovery phase. All responders will begin alerting specialist recovery services through their control rooms and arrange holding points and rendezvous points. Resources will typically be held at a nearby junction rather than at the scene location. The RCC and Service Provider's control room must update the NTCC and NILO, who must ensure strategic traffic management and media updates are based on current information.

The Service Providers and Traffic Officers should seek to gain access to the incident scene to assess the damage and continue to plan the recovery phase. The Service Provider is responsible for identifying what, if any, remedial action will be undertaken and to provide advice to Traffic Officers as to when it should be carried out. This must be done at the earliest possible time as structural damage will inevitably cause the entire road to be closed for long periods. However, this may need to wait until the recovery phase, depending on the scene investigation. Depending on the level of delegation, Service Providers will consult the Area Performance Teams in relation to emergency works. The Service Provider must use the risk based decision process for safety fence and barrier repairs as included at Chapter 3.7.

If during an incident a highways structure, such as a bridge, is hit or is in close proximity to a fire, the affected road will be closed until a structural inspection and assessment has confirmed it safe. Service Providers must arrange and undertake the inspections, with police authorisation if necessary. The Area Performance Team and Service Provider may decide that work can be left until a later, more convenient or less critical time. Should the Highways Agency become the incident lead, the Traffic Officer Service or Service Provider (in conjunction with the appropriate Area Performance Team) will have the ultimate decision as to whether a road can be reopened. Continuous evaluation of the scene will happen throughout the scene management and recovery phase.

Sub-Phase 2 – Police Scene Management

The scene management phase is crucial to the police. During this phase, the cause of an incident is investigated, evidence is collected and suspects are identified. Much of the police work can be within a secure incident scene that will be restricted to other responders. This will keep the scene sterile ensuring evidence is not contaminated. Traffic Officers and Service Providers may not be given access unless accompanied by police.

When an incident involves a fatality, serious injury or criminal act, the Police will manage the incident in line with specific procedures. The scene will have been identified, secured and stabilised by the emergency services and, where possible, victims and suspects will have been identified. Other responder vehicles may need to be moved to capture all scene details. Before the scene management phase has started, additional Police resources needed will have been identified.

Precipitating and contributory factors will be identified through witness statements, CCTV, visual inspections. A scene conference will be held if necessary with all police resources and relevant supporting agencies. Scene investigation may be carried out by any number of specialists from several agencies. The police will collect evidence from the scene to support future prosecutions and Coroners inquests.

There may also be an investigation of areas beyond immediate scene including structures adjacent to the road, embankments, down stream of the incident. In some circumstances additional evidence can be collected after the incident has been cleared. It is, however, important for the Police that all evidence is collected from the scene before recovery starts. Any vehicle damage can be investigated on scene but can continue at a police holding yard.

Incidents can remain in police control due to risks to public safety. The role of the police will typically be to identify resource needed to manage the incident, coordinate resources, and consider

what safety measures are needed including exclusion zones and make operational decisions to reduce the risk of escalation. The RCC will continue its command and control role in these instances by calling Service Providers and responders identified by the police.

Sub Phase 3 – Hazardous Materials Substances

The Fire and Rescue Service is not routinely involved in the scene management phase as once fires are managed, trapped casualties freed and hazardous materials made safe, the scene will pass to other responding organisations. Scenes that will require Fire and Rescue Service may include ongoing hazardous materials containment or securing crime scenes that require input from a fire investigation team.

Service Providers must make arrangements for the cleanup of any spillages and the transportation of any hazardous materials through the utilisation of specialist services. Early notification of requirements to specialist contractors (through the Service Provider's control room) can reduce incident duration. In order to minimise overall incident recovery times it is possibly preferable to take steps to mobilise a service which may be required, even if they are subsequently stood down, than to delay mobilisation and possible jeopardise restoration of normal conditions. In the event of the incident being at an inappropriate stage for the specialist then they can be held at a convenient nearby location (e.g. service station) until the scene is ready for them.

Sub Phase 4 – Scene Handover

Once the Police are satisfied that a scene can be recovered, the incident lead is transferred to the Traffic Officer Service. The handover must be a managed process to ensure all parties are aware of the change. Once handover is complete and the Highways Agency have control, the incident will move to the recovery phase.

It is imperative that, throughout the incident, the handover of control from one organisation to another is recorded and communicated to all responders. The organisation receiving control must be aware of the hand over and this fact recorded. When receiving control of an incident whilst on scene, a Traffic Officer or Service Provider resource must obtain details of the person handing over control, inform the RCC and/or Service Provider's control room and request it is recorded on the Command & Control or incident logging system. The Service Provider must also inform the RCC from which organisation the incident has been handed over and their Unique Reference Number if known.

7.7.6 Recovery

The recovery phase begins when the police complete their investigations (if any) and hand over the incident scene to the Highways Agency.

OBJECTIVES FOR RECOVERY PHASE

The main objectives of this phase are:

- The removal of vehicles involved in the incident.
- The removal of debris as a result of the incident.
- The repair of any damage to the infrastructure (if circumstances are appropriate).
- Opening of the roads.

The key aim for the Highways Agency and Service Provider is to return the road back to its normal state safely, with minimum disruption to traffic flow.

The recovery phase involves the recovery of the network including the removal of vehicles and the repair of the infrastructure. Recovery largely depends on specific aspects of incidents, any restrictions placed on the recovery responders (local utilities, land ownership and usage) and the particular responder called by the incident lead. The key objective for the Highways Agency and Service Provider is to return the road back to its normal state safely, with minimal disruption to traffic flow and road users. Vehicle recovery objectives will be to remove the vehicle in the most appropriate manner, but this may not always be the quickest.

The number of responders will vary depending on the scale of the incident and recovery. Where there is simply debris on the road, the Traffic Officer may recover it themselves or may request the Service Provider to assist. More complex debris, spillages or damage to infrastructure will also often only require a Traffic Officer and Service Provider. It becomes more complicated when vehicles are involved and need to be recovered. Vehicle recovery, specialist recovery and additional resources should have been contacted by the Police, RCC and Service Provider during the scene management phase or earlier and should be at/nearby the scene or en route.

The Area Performance Teams will be aiming to get necessary repairs completed within minimum impact on congestion. Should the Highways Agency become the incident lead, the Traffic Officer Service or Service Provider (in conjunction with the appropriate Area Performance Team) will have the ultimate decision as to whether a road can be reopened.

This phase can be considered in three sub phases:

1. Arrange recovery
2. Scene recovery
3. Remove traffic restrictions

Sub Phase 1 – Arrange recovery

In most cases, vehicles that need recovering from the motorway network can be recovered by a service requested by the vehicle owner. The vehicle owner can request their own recovery service (e.g. AA or RAC) but the chosen service must attend within 30 minutes. If the owner is not a member of a recovery organisation they can arrange for recovery from a recovery organisation

through the police or RCC control room operators. Currently the process for deploying a vehicle recovery operator will depend on the contractual arrangements that the local Police force operate.

The police can invoke a statutory removal. Traffic Officers and Service Providers must also make a request to the police, through the RCC, to invoke a removal, particularly if the driver's preferred service can not attend within 30 minutes or if the driver will not accept the rota recovery operator and associated costs. Once alerted, a police contracted recovery operator must be on scene within 30 minutes or 45 minutes for a large goods vehicle (LGV).

A vehicle involved in a collision that results in a carriageway being blocked will be removed by police operators immediately with no owner preference. If the vehicle can be moved to the hard shoulder safely and the road reopened, the vehicle owner is able to request their own recovery. The trigger point for alerting a vehicle recovery operator varies nationally based on whether vehicle recovery operators receive an early warning of an incident or a just-in-time approach. Commercial aspects can drive this choice.

Requesting and arranging recovery operators can be undertaken by police, Highways Agency and Service Provider control rooms. Typically, the RCC will arrange for vehicle recovery contractors to attend a scene and the Service Provider's control room will arrange for contractors to enhance the Service Provider's capability (see Secondary Response section). Section 7.5 details the response times for secondary response. Where a Service Provider does not have the required capability for recovery, they are responsible for arranging the necessary resources. In these circumstances, the Highways Agency and Service Provider will work together to establish the best course of action.

Sub Phase 2 - Scene recovery

The overall objective of this sub phase is to remove all obstructions to traffic flow and repair any damaged infrastructure in the safest way and that will cause minimal disruption to road users. The scene recovery phase is the least predictable in terms of routine processes and procedures. Small scale debris clearance must be in line with Traffic Officer and Service Provider procedures, but more complex recoveries are managed in a more dynamic way. The number and type of responders will depend on the magnitude and complexity of the clearance. Service Provider's Incident Support Units are typically well equipped to deal with most incident clearances but will not always hold the equipment needed.

Where possible, a Traffic Officer or Incident Support Unit personnel can enter the live lanes without emergency traffic management to recover small pieces of debris. Where an incident scene contains manageable pieces of debris, the Service Provider must begin removing as much as possible from the carriageway. Where debris is too large to be recovered immediately, and where deploying a vehicle capable of handling it would further prolong the recovery phase, the Service Provider and Traffic Officer must consider moving debris to the hard shoulder or verge and recovering it later.

Spillages of non-hazardous materials or loads that are available for recovery must be cleared by the Service Provider. The Service Provider must also be responsible for recovering any substances the Fire and Rescue Services have used to contain and stabilise hazardous materials including water, foam, grit, etc. Where there is an environmental risk, the Service Provider must contact the Environment Agency for advice and in some cases, a response from Environment Agency officers. In some cases, the Service Provider will request support from additional responders (e.g. explosives, gas cylinders). This support will typically come from the relevant industry for which the material is used.

Any structures damaged or hit in an incident must not be used by traffic until an inspection has approved its use. The inspection and assessment of infrastructure will typically have taken place before full recovery gets underway. Where this has not been possible (e.g. due to investigations) the Service Provider must start assessing the damage as soon as possible. During peak periods the Service Provider must try to make the infrastructure safe and open the road as much as possible, and then return during off-peak periods to repair the damage. Damage to electrical infrastructure, such as lighting, must be assessed and isolated by a qualified engineer before it can be recovered.

Once all debris has been removed, the Service Provider will sweep the carriageway and inspect the surface for damage, if appropriate. The responders will pass the details of the owner to the Service Provider who must consider claiming compensation from the owner.

Sub Phase 3 – Removing traffic restrictions

Once the recovery of the incident has been completed and all recovery responders have left the scene, Traffic Officers, Service Provider and Area Performance Team will need to agree that the road can be reopened.

The repairing of the infrastructure may not have been completed with the Area Performance Team and Service Provider agreeing to it being completed at a more convenient time (typically off-peak period). The Area Performance Team and Service Provider will recommend the road is reopened to the Traffic Officer Service but the decision to open rests with the Traffic Officer Service.

The closures that have been put in place throughout the incident duration will need to be removed. Physical closures (emergency traffic management and Chapter 8 lane closures) must be removed following the specific layouts removal procedure. Signal closures implemented by the RCC will stay in place whilst the physical traffic management is removed. Service Provider and Traffic Officers typically remove their own traffic management. The Service Provider must confirm with the RCC that the traffic management has been fully removed.

The RCC will lift signed lane closures following all physical closures being removed. Cancelling signs should be done as soon as possible to avoid confusion or ambiguity to the road user. Diversion signs should be removed and media announcements made. This phase only includes removing closures, not speed restrictions implemented by RCC. These will remain in place to help restore the traffic to normal conditions.

7.7.7 Restore

The restoration phase follows the incident scene being fully recovered and cleared. This phase represents the period of time necessary to restore the traffic conditions to a level expected for that time of day.

OBJECTIVES OF RESTORATION PHASE

The main objectives of this phase are:

- the restoration of traffic flow back to normal
- **use signs and signals by the RCC and NTCC to control congestion and assist traffic flows** to return to normal

The key aim for the Highways Agency and Service Provider is to return traffic conditions back to their normal state in a safe manner.

The restore phase represents the period of time necessary to restore the traffic conditions to a level expected for that time of day. The RCC is the key responder in this phase as all other responders will have left the scene following the recovery phase. The RCC will use the signs and signals to control congested traffic and allow conditions to return to normal quickly and safely. The NTCC will also continue to set strategic signs across the wider network to avoid traffic levels building up around the scene. The traffic management, tactical and strategic signing, that will have been implemented through the previous phases of the incident will have an impact on how quickly traffic conditions can be restored back to normal conditions.

Speed restrictions, warning signs and supporting information can be used by the RCC to control and inform road users in the vicinity of the incident. Signs and signals can be used as they would be for normal recurrent congestion. The Service Provider may also have mobile VMS available to assist although the deployment times often restrict their use in these circumstances. Service Providers will typically continue, in conjunction with the Traffic Officer Service, with the removal of traffic management during this phase. This will include removal of signing for slip road closures and tactical diversion routes when required.

The RCC and Service Provider's control room must continually liaise with NTCC and the NILO to ensure the media are up to date on the incident status and that the relevant information is disseminated to the public.

The Service Provider must ensure that records, reporting, hot debriefing and staff welfare requirements are attended to. The Service Provider must prepare for carrying out any permanent infrastructure repairs at the agreed time and ensure that normal levels of incident response resources are available to deal with any further incidents.

7.8 Debriefing

7.8.1 Incident Hot Debriefing

Routine de-briefing of incidents is without doubt the best way for the Highways Agency and its Service Providers to develop their abilities in incident management, congestion management, develop and maintain an effective safety culture, and share the experience gained to the benefit of all.

The incident cold debrief process, which is usually initiated following a major or critical incident, is discussed in Section 7.8.2. As can be seen from the cold debrief process chart, the decision to hold a cold debrief is influenced by the outcome of the hot debrief. It is therefore imperative that a consistent approach is applied when carrying out hot debriefs to ensure that outputs are captured and disseminated, locally, regionally and nationally.

Although this guidance is not intended to be prescriptive on the structure of the hot debrief as they are carried out in many different circumstances and situations, from the end of shift meeting to a post incident multi-agency debrief. It is however important to identify and capture the elements as outlined in 'Rationale' below as soon as possible after the incident, and in any case within 24 hours.

Purpose and objectives of the hot debrief – Unlike the cold debrief a hot debrief is an informal meeting to review a particular incident or situation from a Highways Agency perspective. Its objective is to review an incident from an operational perspective whilst fresh in the minds of those involved.

Rationale – Hot debriefs are carried out to:

- Identify what did, and did not go well during an incident
- Identify and address any staff welfare issues
- Identify any training issues
- Identify best practice
- Identify and capture any actions requiring referral to line manager/cold debrief process
- Identify any operational or procedural issues relating to other agencies

Roles and Responsibilities – The roles and responsibilities of those commonly involved in the Hot Debrief process are outlined below.

- Duty Supervisor
  - As a matter of routine, carry out end of shift debriefs covering all incidents occurring within their tour of duty.
  - Identify specific incidents occurring during their tour of duty requiring a hot debrief and make arrangements regarding time, location and attendees.
  - Notify duty operations manager of the intention to hold a hot debrief on specific incidents.
  - Where necessary record outcome of debrief on hot debrief report form.
  - Provide feedback to on-road and off-road staff.

- Duty Operations Manager
  - Where appropriate conduct hot debrief (e.g. following a major or critical incident).
  - Review hot debrief form submitted by supervisor, identifying any action at local, regional or national level.
  - Endorse hot debrief report form with comments and clearly identify further actions and direct the debrief form accordingly.

- Line Manager
    - The Line Manager should carry out the responsibilities as outlined for the duty operations manager where either the duty operations manager is not available or the issues revolve around personnel / welfare matters of one of their staff.

Hot Debrief Process – Service Providers must carry out hot debriefings routinely at the end of every tour of duty. It should be carried out by supervisors of both on road staff and control room staff. This may take the form of an end of shift meeting to review the day's events or a more focussed debrief on a specific incident or situation. A hot debrief of a specific incident must be carried out within 24 hours of the incident occurrence. The importance of debriefing as soon after the incident as possible cannot be overstated.

A hot debrief will always be carried out following major and critical incidents. For example where:

- Exceptional/significant damage has occurred to infrastructure
- Road users *(or others)* have experienced exceptional/significant disruption
- There has been multiple stakeholder involvement
- There was exceptional/significant environmental impact or potential impact
- Exceptional/significant delay duration
- Exceptional/significant number of vehicles involved

Annex 7.8.2 outlines the hot debrief process following the closure of an incident or end of tour of duty.

- Attendees - As a general rule, members of the Traffic Officer Service and/or Service Provider will attend the hot debrief. Where possible this should also include representatives of the RCC or the Service Provider's control room. It may be appropriate for representatives of other agencies to attend the hot debrief following critical or major incidents. In these circumstances the police in particular may choose to take the lead in a hot debrief. Even though this is the case it is important that the reporting and recording procedure for the Highways Agency is still followed.
- Facilitation – The duty supervisor should facilitate the hot debrief. Where appropriate, for example in relation to major and critical incidents or personnel/welfare issues, the debriefing will be carried out by the duty manager.
- Actions arising from the hot debrief – Where further actions are identified following the debriefing a hot debrief report form (Annex 7.8.9) should be completed by the senior person present and directed accordingly.
- Outcomes from debriefs – It is important to ensure that were actions are identified from hot debriefs appropriate feedback is given to the staff involved.
- Cross Boundary Arrangements – Where an incident has an impact on operations within another area a single Hot Debrief should be held if possible, in the Area where the incident occurred.

7.8.2 Incident Cold Debriefing

The Highways Agency believes that positive benefits can be gained from holding structured debrief meetings following incidents. It is the aim of this section to ensure that the Service Provider requirements are met for the needs of the cold debriefing.

The following information and data will be required for the incident cold debriefing:

- Incident logs in chronological order, starting with the earliest recorded entry in any of the participating stakeholders. The advantage of taking a chronological approach to debrief arrangements is that the process is in no way constrained by looking at specific aspects of incident management.
- CCTV footage
- Photographs

Annex 7.8.3 contains a suggested agenda for a cold debrief, which should be a simple 'walk-through' of an incident.

Initiation – As a general rule, a cold debrief should be considered for major and critical incidents, and initiated where:

- Exceptional/significant damage has occurred to infrastructure
- Road users (or others) have experienced exceptional/significant disruption
- There has been multiple stakeholder involvement
- There was exceptional/significant environmental impact or potential impact
- Exceptional/significant delay duration
- Exceptional/significant number of vehicles involved

A cold debrief must be called if specifically requested by any individual stakeholder.

Attendees – The attendees will be determined by the Service Manager, who should fully involve the Traffic Officer Service, where appropriate, in the debrief process. The decision on which attendees to invite should be dictated by stakeholder attendance at the incident, and those who are most likely to make effective contribution. Anyone who cannot attend, but who may have a contribution to make, should be given the opportunity to provide written input to the Service Manager.

Facilitation – The cold debrief will be undertaken using the suggested agenda in Annex 7.8.4 with actions recorded as in Annex 7.8.5. The cold debrief will catalogue, in chronological order, all events related to the incident until a clear picture is established (Annex 7.8.1). Once all information is catalogued, consideration should be given to the identification of lessons to be learned. In addition to actions arising, these should become the main outputs from the post-incident cold debriefs (Annex 7.8.1).

For information:

Actions formulation – A major documentary output from a post-incident cold debrief is the Traffic Operations Action Spreadsheet that is managed by the Area Performance Manager. This spreadsheet must clearly identify actions, owners of actions and provide mutually agreed timescales for any local, area or regional actions for completion. Failure to manage actions through to closure seriously undermines the validity of the post-incident Cold Debrief process. The spreadsheet will be disseminated across respective Area Performance Team's and Traffic Officer Service, and to Service Providers.

Lessons Learning & Dissemination – The Traffic Incident Management Workstream Leader will, with the assistance of Network Access & Resilience, filter the aggregated Regional Actions Spreadsheets in order to determine lessons to be learned and, good/bad practice in order of priority, and directorate. Following agreement at Network Resilience Team Meeting these must be submitted to the appropriate Divisional Directors, or TIM governance as considered appropriate, for approval and action to address identified problems (Annex 7.8.7)

Verification & Closure – The Traffic Incident Management Workstream Leader is responsible for monitoring progress on action resolution at a national level. They must also ensure that Divisional Directors responses are fed-back to the Network Resilience Team and that actions are implemented. Actions raised with Divisional Directors at a national level must be taken forward through the Network Resilience Team Meetings. At a regional level Network Performance Managers or Service Managers be accountable for achieving action closure within their area by implementing changes to existing practice within the mutually agreed timescales (Annex 7.8.8). Closure of actions, which are derived from the post-incident cold debrief, is a critical activity.

Cross Boundary Arrangements – Where an incident has an impact on operations within another area, or across national boundaries, a single Cold Debrief should be held in the Area where the incident occurred. The Service Manager must ensure that all attending agencies and appropriate neighbouring teams, are invited to the debrief.

TIM Bulletin - One method for the promotion of good practice identified in the debrief process is the TIM Bulletin, which is available for all (including Service Manager, Service Provider and stakeholders) through the Highways Agency's website at www.highways.gov.uk/timbulletin. The bulletin is updated monthly and the team that produce it encourage your comments, articles and contributions by e-mail to TIMbulletin@highways.gsi.gov.uk.

7.9 Service Standards and Requirements of Service Providers

7.9.1 Introduction

This section identifies the service standards required of the Highways Agency and Service Providers in relation to their respective roles within incident management. These standards include response times, level of service and equipment requirements.

The principal requirement for incident management is the provision and use of an incident management team, comprising on- and off-road services. An effective response includes suitably qualified staff to support, direct and advise the on-road services, such as Incident Support Units. The Incident Support Units and other on-road response services must work closely together with the emergency and Traffic Officer services to provide repairs to the highway. The ISU and control room will have all the information on local highway assets, such as drainage systems, and act to prevent damage to infrastructure and contamination of outfalls and soakaways from incident spillage.

7.9.2 Control Room

The Service Provider must establish a 24 hours a day, 7 days a week control room to ensure that the Service Provider is the first to be contacted, after the emergency services, when an incident occurs. This service can be based in one of the RCCs which will assist in the development of communication and relationships. Regular communication with the police and Traffic Officer Service is essential to establish good relations to ensure early notification of incidents. The Service Provider must develop procedures with escalating service to respond to an incident.

7.9.3 Emergency Procedures and Planning Exercises

Participation in emergency procedures and planning exercises is considered an important part of engendering good communication between the parties involved in incident management. Further advice and information can be found in the Network Security Notices issued by the Service Manager.

Contingency planning takes place at a high level for emergencies on the network. However, there will be occasions when an incident takes place which, whilst not sufficient to invoke a full scale emergency, may cause a significant problem that will require special attention. The Service Provider must develop a Contingency Plan in accordance with Annex 7.8.12, that will deal with all incidents that occur on the network, including environmental incidents. It must include the legislative framework under which certain actions will be taken and the consultative interfaces that need to be followed in the decision-making process (e.g. emergency services, Environment Agency).

In developing this plan reference must be made to the Environment Agency's Pollution Prevention Guidelines (PPG21 – Pollution Incident Response Planning and PPG22 – Dealing with Spillages on Highways).

7.9.4 Meeting the Performance Requirement

The Service Provider must advise the appropriate bodies (e.g. Police, Traffic Officer Service) of any emergency or category 1 defect that may disrupt traffic flow, immediately the defect or emergency has been identified. The role of Incident Support Unit is crucial in working with the emergency services/Traffic Officer to deal with the incident and restore the operation of the network. The Traffic Officer Service use incidents grading to determine the measure of the response required. These gradings are given in the table below.

Grading	Definition
EARLY RESPONSE	Any incident where immediate deployment is required and a lack of early resolution will lead to deterioration in circumstances surrounding the incident.
ROUTINE	Any incident where attendance can be programmed within normal duties with a maximum time limit of 24 hours.

Service Provider's Incident Support Unit response times must be defined in the Service Provider's contract. The response time is defined as the time elapsed from initial notification to the Service Provider's control room to the time of notification of arrival on the scene of the emergency incident by the ISU. However, the table below should be taken as a baseline and any amendments to these response times must be in written agreement of the Service Manager. Route classification must be in agreement with the Service Manager.

National Response Times Framework[1]	Priority 1 Routes	Priority 2 Routes
04:00hrs-20:00hrs	**20 minutes**	**45 minutes**
20:00hrs-04:00hrs	**60 minutes**	**60 minutes**

[1] The response times are an ABSOLUTE and shall not be taken as an average.

7.10 Temporary Traffic Management Vehicles

Vehicles used for the installation, maintenance and removal of static traffic management on high speed roads must comply with the requirements of the Traffic Signs Manual Chapter 8, Part 2, available for download from the DfT website (http://www.dft.gov.uk/pgr/roads/tss/tsmanual/). For ease of reference those requirements are duplicated in the following paragraphs. Compliance with these specifications is also recommended for use on all types of highway irrespective of speed limit.

7.10.1 Inspection/Supervisor vehicles

- Conspicuous colour (yellow or white is recommended);
- 70mm capital letter height "HIGHWAY MAINTENANCE" sign to diagram 7404 (externally mounted on rear of vehicle)
- Roof-mounted amber light bar (visible 360^0) with a minimum of two independent light sources;
- "Class Ref 2" to BS EN 12899-1 or microprismatic reflective markings on the rear of the vehicle in accordance with 7.10.6 (c) or (d);
- Company or client livery on side of vehicle.

7.10.2 Traffic Management/maintenance vehicles (personnel/equipment carrier)

- Conspicuous colour (yellow or white is recommended);
- 140mm capital letter height "HIGHWAY MAINTENANCE" sign to diagram 7404 (externally mounted on rear of vehicle);
- "Class Ref 2" to BS EN 12899-1 or microprismatic reflective markings on the rear of vehicle in accordance with 7.10.6;
- All seats must be fitted with head restraints and 3 point inertia reel belts;
- Working lights;
- Reversing bleeper;
- Front roof-mounted amber light bar (visible 360^0) with a minimum of two independent light sources, and rear mounted amber flashing beacons (visible 360^0);
- Company or client livery on side of vehicle;
- High visibility strip along side of vehicle; and
- CCTV for rearward vision.

7.10.3 Equipment installation/removal vehicles

- Conspicuous colour (yellow or white is recommended);
- 140mm capital letter height "HIGHWAY MAINTENANCE" sign to diagram 7404 (externally mounted on rear of vehicle);
- "Class Ref 2" to BS EN 12899-1 or microprismatic reflective markings on the rear of vehicle in accordance with 7.10.6;
- All seats must be fitted with head restraints and 3 point inertia reel belts;
- Working lights;
- Reversing bleeper;
- Front roof-mounted amber light bar (visible 360^0) with a minimum of two independent light sources, and rear mounted amber flashing beacons (visible 360^0);
- Company or client livery on side of vehicle;
- High visibility strip along side of vehicle;
- Special adaptation to provide a low level working platform with a guard rail arrangement within the normal width of the vehicle (e.g. tail lift or well);
- Driver/operative intercom system; and
- CCTV for rearward vision.

7.10.4 Impact protection vehicles

- Conspicuous colour (yellow or white is recommended);
- 10 tonne minimum on the road weight;
- Lorry-mounted crash cushion (LMCC) ;
- Automatic brake activation system ;
- Signing equipment;
- Light arrow sign;
- Reversing bleeper;
- 140mm capital letter height “HIGHWAY MAINTENANCE” sign to diagram 7404 (externally mounted on rear of vehicle);
- “Class Ref 2” to BS EN 12899-1 or microprismatic reflective markings on the rear of vehicle in accordance with 7.10.6 (c) or (d) when the cushion is in the stowed position;
- Front-mounted amber light bar with two independent light sources, and rear mounted amber flashing beacons visible when the cushion and the light arrow are in the stowed position;
- All seats must be fitted with head restraints and seatbelts with a minimum of three points of anchorage to the vehicle; and
- CCTV for rearward vision.

7.10.5 Notes

1. A vehicle complying with this specification can also be used for the installation and removal of longitudinal coning as long as it is fitted with a special adaptation to provide a low-level working platform with a guard rail arrangement within the normal width of the vehicle i.e. a “coning well”.

The light arrow sign must not display any form of arrow when on a hard shoulder of a dual carriageway or when on a two-way single carriageway road.

7.10.6 Rear Markings

High visibility rear markings should comprise either:

(a) signing to diagram 7403, or
(b) the alternative light arrow sign, or
(c) chevron markings comprising alternate strips of fluorescent orange-red retroreflective material and fluorescent yellow non-retroreflective material, of not less than 150mm width each, inclined at 45-60° to the horizontal and pointing upwards, or
(d) a solid block of fluorescent orange-red retroreflective material.

7.11 Incident Support Units: Livery

This chapter contains details of the Specification for ISU Vehicles: ISU Vehicle (Section 7.11.2) and Flat Bed Lorry (Section 7.11.3).

7.11.1 General

Further advice concerning this chapter, and on manufacturers of material meeting the specification, can be obtained from the Service Manager.

The Highways Agency's swoosh is no longer specified for inclusion on vehicles. New vehicles should be branded in accordance with the requirements of this chapter. The original photographs showing vehicle livery have been artistically manipulated to illustrate the revised branding requirements.

All open cell prismatic material must be sealed at the edges to prevent water and dirt ingress.

The correct corporate proportions of the Highways Agency logo must be maintained within the constraints of the vehicle's body panel contours. Further advice on the HA logo is included at 7.11.6 and contained in the HA **Communications Strategy** and **Brand Guidelines** documents.

Any vehicle stopping on the highway for works purposes or inspections should be of a conspicuous colour (e.g. yellow or white). The Traffic Signs Manual Chapter 8, Part 2 recommends a non-reflective yellow colour, No. 355 (lemon) to Table 1 of BS 381C: 1996 "Specification for colours for identification, coding and special purposes" be used.

7.11.2 ISU Vehicle

PROFILE	SPECIFICATION
FRONT 	Fluorescent yellow vinyl material so far as vehicle contours allow on bonnet and above windscreen permit. Refer to 7.11.4 for Vehicle Colour / Material Specifications and 7.11.5 for Livery Film Specifications. "INCIDENT SUPPORT", with "UNIT" centrally placed there under, on bonnet in reverse script Helvetica font, 100mm high, in glass bead material and colour Pantone® 287 (HA Blue 1). 50mm (or 25mm depending upon width available) white retro-reflective high grade material* to fit front windscreen pillars.

PROFILE	SPECIFICATION
LOWER SIDE PANEL 	Diagonal stripes in alternate fluorescent yellow retro-reflective (dual-purpose) material* and fluorescent orange vinyl material at 45˚ and 600mm wide. Both stripes to extend as high as highest side window bottom edge. Chevrons should run from front to rear of vehicle, and begin with orange stripe at front wing. No additional vehicle outline markings are required.
MIDDLE SIDE PANEL 	To be filled with fluorescent yellow vinyl material overlaid with non-reflective 'HIGHWAYS AGENCY' corporate logo. See 7.11.6 for HA Vehicle Corporate Branding Guidelines. "INCIDENT SUPPORT UNIT" to be non reflective black vinyl material in Helvetica font, nominal 150mm high, however can be amended to fit with HA corporate logo depending upon size of middle side panel.
TOP SIDE PANEL See Previous 2 photographs	Diagonal alternate stripes to be fluorescent yellow retro reflective (dual-purpose) high grade material* and fluorescent orange vinyl material at 45˚ and 600mm wide Both sets of stripes to continue as extended diagonal from lower side panel.

* All retro reflective materials must be of the highest available grade, unless stated otherwise.

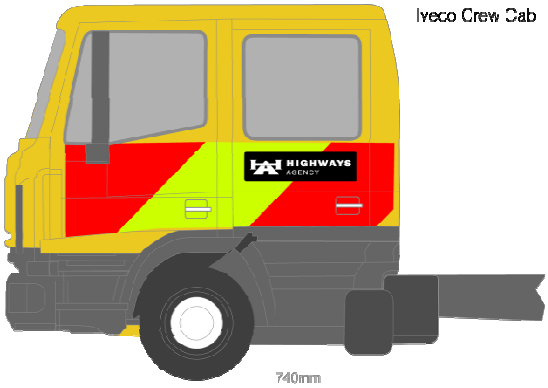
PROFILE	SPECIFICATION
REAR 	Chevron scheme (pointing 'Up') at 60˚ in fluorescent yellow retro reflective (dual-purpose) material* and fluorescent red retro-reflective (dual-purpose) material*, in stripes 250mm wide. "HIGHWAYS AGENCY" to be 100mm high in Helvetica font at top of rear doors in blue glass bead material colour to be Pantone 287 (HA Blue 1) on fluorescent yellow vinyl background. "MOTORWAY MAINTENANCE" to be 100mm high, Transport Alphabet (Heavy) font in black non-reflective material at bottom of rear doors. (Ref: Traffic Signs Regulations and General Directions, 7404.) The rear vehicle outline in red retro-reflective high grade material* 25mm wide around door pillars and roof edge (and on rear bumper if space permits).
Additional 'Internal' Vehicle Markings 	The internal outer edges of the open rear doors to be marked in red retro-reflective high grade material*, 25mm wide, and across open roof edge and floor sill where space permits. Similar treatment to be applied to side door internal door surrounds.

* All retro reflective materials must be of the highest available grade, unless stated otherwise.

7.11.3 ISU Flat Bed Lorry

PROFILE	SPECIFICATION
FRONT 	Fluorescent yellow vinyl material so far as vehicle contours allow on bonnet and above windscreen Refer to 7.11.4 for Vehicle Colour / Material Specifications and 7.11.5 for Livery Film Specifications. “INCIDENT SUPPORT”, with “UNIT” centrally placed there under, on bonnet in reverse script Helvetica font, nominally 100mm high, in glass bead material and colour Pantone® 287 (HA Blue 1). Letter height can be amended dependant upon size of vehicle front panel.

* All retro reflective materials must be of the highest available grade, unless stated otherwise.

PROFILE	SPECIFICATION
SIDE (INDICATIVE ONLY)   	Diagonal stripes in alternate fluorescent yellow retro-reflective (dual purpose) high grade material* and fluorescent orange vinyl material at 45˚ 600mm wide. Both stripes to cover lorry side panels and to extend as high as bottom edge of highest side window with sufficient space being left for HA logo to be fitted on side of lorry cabin. Chevrons should run from front to rear of lorry and begin with orange stripe at front wing. Highways Agency corporate logo to be located immediately above or below cab window – as space permits, dependent on cab design but leaving sufficient area of red/yellow stripes (preferably minimum 600mm high). [See Note at end of this Specification] Refer to 7.11.6 for HA Vehicle Corporate Branding Guidance. Vehicle outline markings in 50mm, (or 25mm dependent on space available) to be applied in yellow high visibility reflective marking tape (to ECE104 Regulations) as appropriate, dependent on vehicle type, including on any vertical struts.

* All retro reflective materials must be of the highest available grade, unless stated otherwise.

PROFILE	SPECIFICATION

REAR (Indicative Only)

Chevron scheme (pointing 'Up') at 60˚ in fluorescent yellow retro reflective (dual-purpose) material* and fluorescent red retro-reflective (dual-purpose) material*, in stripes 250mm wide.

"MOTORWAY MAINTENANCE" to be 100mm high Transport Alphabet font (medium) in black non-reflective material on yellow (non-reflective material) background to be located towards bottom of rear chevrons.(Ref. Traffic Signs Regulations and General Directions, Sign 7404.)

Rear vehicle outline in red retro-reflective high grade material* 50mm (or 25mm depending upon space available) wide around edges, on any vertical struts and on rear lower 'fender'. Consideration should also be given to infilling the rear framework, where appropriate, in order to enlarge the area of rear chevrons

See alternative arrangement below.

Alternative Arrangement for Rear of Lorry

Note – the photo opposite shows the preferred livery arrangement, incorporating an in-filled rear framework and high level panel with chevron and rear amber beacons.

Chevron scheme (pointing 'Up') at 60˚ in fluorescent yellow retro reflective (dual-purpose) material* and fluorescent red retro-reflective (dual-purpose) material*, in stripes 250mm wide.

Where rear crash cushions are used, the same rear diagonal chevrons should also be added on both vertical and horizontal faces.

NOTE - national requirement for the client livery to be shown on the side of the vehicle (see Traffic Signs Manual Chapter 8, Part 2).

* All retro reflective materials must be of the highest available grade, unless stated otherwise.

7.11.4 Incident Support Unit: Livery details

Position	Colour	Colour Ref:	Use	Material	Film Manufacturers[1] 1. 3M United Kingdom Plc 2. Rennicks (UK) Limited 3. Reflexite UK Ltd Part Numbers	Comments
FRONT	Yellow	See part number	Bonnet / Above Windscreen	Fluorescent vinyl	1. 3M™ Scotchcal™ Saturn Yellow 3485 2. Nikkalite™ Hi-Cal Fluorescent Film 7F-310 3. Reflexite VC312 Daybright Fluorescent Yellow (L1)	Bonnet livery is to be one complete 'body wrap'. It is recommended that the fluorescent panel above the windscreen be applied as a single panel
	Blue	Pantone 287	'Highways Agency' lettering	Glass bead	1. 3M™ Reflective Film SL680-10 plus White with digitally printed blue ink to match Pantone 287 2. Nikkalite™ Flexible Engineering grade (SEG) 48006 3. n/a	
	Yellow	See part number	Top of windscreen	Fluorescent vinyl	1. 3M™ Scotchcal™ Saturn Yellow 3485 2. Nikkalite™ Hi-Cal Fluorescent Film 7F-310 3. Reflexite VC312 Daybright Fluorescent Yellow (L1)	
SIDE	Yellow	See part number	Side Top and Lower Panels - Diagonal Stripes	Fluorescent retro reflective	1. 3M™ Diamond Grade™ Fluorescent Yellow Green 9963 2. Nikkalite Crystal Microprismatic Vehicle Conspicuity Film (CRG) 92844 3. Reflexite VC312 Daybright Fluorescent Yellow (L1)	It is recommended that the fluorescent yellow retro reflective top and lower sections be applied as a single panel with the fluorescent orange diagonal Stripes superimposed on top.
	Yellow	See part number	Side Middle Panel	Fluorescent vinyl	1. 3M™ Scotchcal™ Saturn Yellow 3485 2. Nikkalite™ Hi-Cal Fluorescent Film 7F-310 3. Reflexite VC312 Daybright Fluorescent Yellow (L1)	It is recommended that the fluorescent yellow middle section be applied as a single panel with the HA Logo and 'Incident Support Unit' lettering superimposed on top.
	Orange	See part number	Side, Top and Lower Panels Diagonal Stripes	Fluorescent vinyl	1. 3M™ Scotchcal™ Fluorescent Film 3484 Orange 2. Hi-S Cal Orange Fluorescent Vinyl 7F-240 3. Reflexite VC312 Daybright Fluorescent Orange	
	White	See part	Front windscreen	Retro reflective	1. 3M™ Diamond Grade 980-10 White	

Position	Colour	Colour Ref:	Use	Material	Film Manufacturers[1] 1. 3M United Kingdom Plc 2. Rennicks (UK) Limited 3. Reflexite UK Ltd Part Numbers	Comments
		number	pillars		2. Nikkalite Crystal Microprismatic Vehicle Conspicuity Film (CRG) 92802 3. Reflexite VC312 Daybright Silver (15)	
	Black	See part number	'Incident Support Unit' Lettering	Non-reflective vinyl	1. Scotchcal 100/12 (Non-reflective black) 2. Hi-S Cal Black Non-Reflective Vinyl V803 3. Black Non-reflective vinyl	
REAR	Yellow	See part number	Chevrons	Fluorescent retro reflective	1. 3M™ Diamond Grade™ Fluorescent Yellow Green 9963 2. Nikkalite Crystal Microprismatic Vehicle Conspicuity Film (CRG) 92844 3. Reflexite VC312 Daybright Fluorescent Yellow (L1)	It is recommended that the fluorescent retro reflective yellow be installed as a single panel with the red chevrons applied on top.
	Red	See part number	Chevrons	Fluorescent retro reflective	1. 3M™ Diamond Grade™ 980-72 Red 2. Nikkalite Crystal Microprismatic Vehicle Conspicuity Film (CRG) 92805 3. Reflexite VC312 Daybright Fluorescent Red (12)	It is recommended that the fluorescent retro reflective red chevrons be applied on top of a single panel of fluorescent retro reflective yellow.
	Black	See part number	'Motorway Maintenance' lettering	Non-reflective vinyl	1. Scotchcal 100/12 (Non-reflective black) 2. Hi-S Cal Black Non-Reflective Vinyl V803 3. Black Non-Reflective Vinyl	
	Blue	Pantone 287	'Highways Agency' lettering	Glass bead	1. 3M™ Reflective Film SL680-10 plus White with digitally printed blue ink to match Pantone 287 2. Nikkalite™ Flexible Engineering grade (SEG) 48006 3. n/a	
	Red	See part number	Vehicle Outline + Internal Edges of Open Rear Door	Retro reflective	1. 3M™ Diamond Grade™ 980-72 Red 2. Nikkalite Crystal Microprismatic Vehicle Conspicuity Film (CRG) 92805 3. Reflexite VC312 Daybright Fluorescent Red (12)	

Position	Colour	Colour Ref:	Use	Material	Film Manufacturers[1] 1. 3M United Kingdom Plc 2. Rennicks (UK) Limited 3. Reflexite UK Ltd Part Numbers	Comments

Notes

1. All retro reflective material must be of the highest available grade, unless stated otherwise.
2. This list does not form a recommendation, nor is it exhaustive. Other companies may offer film manufacturer services and it is the responsibility of individual procurement officers to determine their suitability.
3. Reference should be made to 7.11.5, with regard to Livery Film Specification.
4. Pantone® is a register trade mark.

7.11.5 Livery Film Specification

The following forms a recommendation for the minimum level of performance of livery films that would be acceptable if the conspicuity benefits of the livery scheme are to be realised over a typical three year vehicle lifespan.

General Product Information

Material thickness	Preferably less than 1.7mm
Orientation requirements	As per manufacturer's instructions
Applicable automatic cutting methods	Die, plotter or manually cuttable using laser or knife
Life expectancy	As per manufacturer's advice
Warranty period	As per manufacturer's advice
Temperature range	-25ºC to 50ºC

Coefficient of Retro reflection (R_A) Minimum Values

Observation Angle	**Entrance Angle**	**R_A**				
		Fl. Yellow-(Green)	**Fl. Orange**	**Blue**	**White**	**Red**
0.20º	5º	300	160	25	350	60
	30º	150	80	12	150	25
	45º	33	18	3	40	7
33º	5º	80	80	10	150	25
	30º	60	50	4	60	10
	45º	16	20	2	30	5
0.50º	5º	50	45	7	110	20
	30º	20	20	3	60	10
	45º	9	8	1.3	20	3.6
1.00º	5º	8	8	1	9	2.5
	30º	6	4	0.75	6	1
	45º	2	2	-	3	-
Coefficient of retro reflection, R_A, is a measure of the amount of light radiation retro reflected from a surface relative to the amount of light radiation incident upon the surface, per unit area. Units are candelas per lux per square metre, $cd.lx^{-1}.m^{-2}$. Further details are available from CIE publication 54.2 - 2001						
NOTE: These values are similar to those quoted in BS873: 1983 and ASTM D 4956 – 01a.						

Maximum Permissible Retro Reflectivity Degradation

Performance Degradation	**Fl. Yellow-Green**	**Fl. Orange**	**Blue**	**White**	**Red**
Acceptable maximum degradation	50%	20%	20%	20%	20%
Degradation period	3 years	3 years	3 years	3 years	3 years
NOTE: These values are per ISO 4892-1: 1994 and ISO 4892-2:1994.					

Daytime and Night-time Chromaticity

Daytime Chromaticity	**CIE D65 Illuminant**							
	1		2		3		4	
	x	y	x	y	x	y	x	y
Fl. Yellow-Green	0.375	0.620	0.460	0.532	0.398	0.450	0.350	0.508
Fl. Orange	0.506	0.404	0.570	0.429	0.655	0.345	0.560	0.340
Blue	0.065	0.216	0.190	0.255	0.245	0.210	0.144	0.030
White	0.285	0.325	0.335	0.375	0.355	0.355	0.305	0.305
Red	0.550	0.358	0.640	0.365	0.735	0.265	0.660	0.233
NOTE: These values are similar to those quoted in BS 873: 1983 and ASTM D 4956 – 01a.								
Footnote: Night-time chromaticity data are not yet available. This Highways Agency will publish a revised livery film specification when necessary.								

Fluorescent and Non-Fluorescent Luminance Factor

Fluorescent materials	**Luminance factorβ, min**		
	CIE D65		
	β_{Total}	$\beta_{Fluorescent}$	β_{Total}
Fl. Yellow-Green	30	15	40
Fl. Orange	15	7	15
Blue	0.7	N/A	N/A
White	17	N/A	N/A
Red	0.5	N/A	N/A

(N/A – *Not Applicable*)

Standards Compliance

Impact Resistance	ASTM D4956 – 01a: 6:10 or ASTM D2794 –93
Shrinkage	ASTM D4956 – 01a: 6.6
Flexibility	ASTM D4956 – 01a: 6.7
Chemical/solvent resistance	BS 873: Part 1:1983 section 12 (solvent wipe test) **Chemicals** – at minimum, must be resistant to diesel, petrol and LPG that can occur during refuelling **Solvents** – at minimum, must be resistant to white spirit, turpentine, kerosene and cleaning solutions likely to be used

Power Washing

The film, as applied to the vehicle and conditioned as necessary, must withstand washing during routine maintenance under the conditions specified below.

Maximum fluid temperature	38ºC or higher
Minimum incident angle of spray axis	15º or less to perpendicular of surface i.e. as near to 90º (right angles) with surface that is being cleaned, as possible
Nozzle distance from surface	1.2 meters or further – any closer risks damaging the livery edge seal
Nozzle pressure	75 bar/ 80 psi or less.
Spray fan pattern required	As per manufacturer's instructions i.e. direct jets of water should be avoided, water should be 'sprayed' out if possible

When time permits, vehicles should be hand washed with soapy water, using a soft sponge.

NOTE: These values should be considered to be minimum performance guidelines for livery film materials. If specific films are resistant to cleaning at a higher temperature, incident angle or pressure or at a shorter distance between the nozzle and the film surface, this may be considered to be superior performance.

7.11.6 HA Vehicle Corporate Branding Guidelines

Vehicle Artwork – for intended use scale up or down in proportion only. Always use master artwork files for this and never change the direction of the artwork. To obtain these files refer to contact details in notes at end of this specification. The colours on this page are meant to be representational only. When specifying colour always include the relevant Pantone® colour chip.

The full colour logo is the preferred logo and should be used - where practicable - on white or light backgrounds.

Alternative logos are shown, in order of preference of colour use – most preferred on the left. The black logo should only be used on winter service spreading and maintenance vehicles that have a yellow or orange background.

A reversed out logo (white out of a blue or black panel) should be used on difficult backgrounds e.g. reflective stripes.
The 'square' logo should only be used in exceptional circumstances. Shown in order of preference of colour use – most preferred on the left.

Logos should be applied to door panels wherever possible.

DO NOT USE THE ABOVE BITMAP AS ARTWORK

7.11.7 Incident Support Unit Vehicle / Lorry Livery: Additional Information

The overall scheme livery must include the following:

- All panels must be hermetically edge sealed. (Reference should however be made to the Manufacturer's instructions as some livery materials do not required edge sealing.)
- All stripes must be cut in the same orientation to maximise reflectivity and colour
- All work must be Quality Assured to ISO 9002
- Livery film must not be folded over the edges and cut-outs of vehicle panels, but instead must be cut short of them. It is recommended that a clear fuel-resistant film is fitted over the fuel filler area; reference should be made to the manufacturer's instructions as this may not be necessary.

Cutting of Livery Materials

Livery film can be easily cut using a sharp knife or scissors. Every panel / stripe must be edge sealed to prevent water and dirt ingress; where in doubt the manufacturer's instructions must be followed. Some companies offer livery film panels pre-cut to the correct size and shape for application to specific vehicles. A list of some of these companies can be found in below.

Material Performance

It is for individual procurement officers to secure warranties on material performance and edge sealing, however the following is offered as a guideline:

- Fluorescent retro reflective materials: yellow (light colours) 2 years, with darker colours e.g. red, having a working life of up to 5 years. Also high grade materials e.g. Crystal / Diamond / Daybright tend to perform to specification, for longer
- Fluorescence only materials, especially lighter colours, 2 years
- Vinyl Films – 3 years

It is the vehicle marking companies (See below) who will offer warranties on livery markings, not the material manufacturers. These figures are for guidance purposes only, warranties on livery life will vary according to the materials used and the application process, which should always be in accordance with the manufacturers' instructions.

Care should be taken when power washing vehicles, edge sealing is not a barrier against pressure washing, to damage to the livery film. (See 7.11.5 – Power Washing.)

Vehicle Marking Companies and Film Manufacturers

Vehicle Marking Companies

HALO Bluelite Limited
64 Victoria Road, Burgess Hill, West Sussex, RH15 9LH
Telephone: +44 (0) 1444 232366
Fax: +44 (0) 1444 232376
Website: http://www.halogroup.co.uk

Kay Premium Marking Films Ltd.
Oakwood Close, Penyfan Industrial Estate, Crumlin, Newport, NP11 3HY, Wales, UK
Telephone: +44 (0) 1495 242300
Fax: +44(0) 1495 249446
Email: sales@kpmf.com
Website: http://www.kpmf.com

PVL UK Ltd. (formerly Preview Graphics Ltd.)
Unit 1, Avocet Trading Estate, West Sussex, Burgess Hill, RH15 9NH
Telephone: +44 (0) 1444 258 980
Fax: +44 (0) 1444 258 981
Email: info@pvluk.com
Website: http://www.pvluk.com

Ringway Vehicle Graphics
Winterstoke Road, Weston-Super-Mare, Somerset, BS24 9BQ
Telephone: +44 (0) 1934 421400
Fax: +44 (0) 1934 421401
Email: sales@rvgonline.co.uk
Website: http://www.rvgonline.co.uk

Fenn Graphics Ltd
Fenn House, Duke Street, Fenton, Stoke-on-Trent, ST4 3PT
Telephone: +44 (0) 1782 344199
Fax: +44 (0) 1782 344055
Email: admin@fenngraphics.co.uk
Website: http://www.fenngraphics.co.uk

Please Note: This list does not form a recommendation, nor is it exhaustive. Other companies may offer professional livery application services and it is the responsibility of individual procurement officers to determine their suitability.

Film Manufacturers

3M United Kingdom Plc.
3M House, 28 Great Jackson Street, Manchester, M15 4PA
Telephone: +44 (0) 161 237 6394
Fax: 0800 378127
Website: http://www.3M.com/uk
Reflexite UK Ltd
4420 Nash Court, John Smith Drive, Oxford Business Park South, Oxford, OX4 2RU
Telephone: +44 (0) 1865 396 959
Fax: +44 (0) 1865 396 960
Website: http://www.reflexite-europe.com

Rennicks (UK) Limited

Stuart Road, Manor Park, Runcorn, Cheshire, WA7 1TS
Telephone: +44 (0) 1928 579 966
Fax: +44 (0) 1928 579 965
Website: http://www.rennicksuk.com

Please Note: This list does not form a recommendation, nor is it exhaustive. Other companies may offer film livery materials and it is the responsibility of individual procurement officers to determine their suitability.

7.12 Incident Support Units: Equipment

The temporary traffic management equipment must at least be in accordance with the Design Document of Chapter 8 (2006). All items of equipment used for temporary traffic management must fulfil their intended legal and informative function throughout the period they are in position. This applies to all signs, delineators, markings, traffic signal equipment and road danger lamps.

Each ISU must carry a comprehensive range to deal with a wide range of emergency situations. The minimum equipment to be carried is as set out in the table below. Additional equipment may need to be carried to reflect the nature and frequency of incidents within particular areas.

A GPS system should be fitted to each vehicle to allow the Network Control Centre, and possibly Regional Control Centres in the future, to continually track ISU movements and allow response time performance to be monitored. Direct communication links with the Network Control Centre must also be provided. Communication links with the Police must be agreed locally.

The Network Control Centre must keep copies of drainage information, pollution control plans and plans showing location of highway electrical equipment. Each ISU must carry a comprehensive range of equipment to deal with a wide range of emergency situations. The equipment must reflect the needs of the local network. A typical list of equipment to be carried is as set out in the table below.

7.12.1 Minimum Equipment for Motorways

MATERIALS	TOOLS	TM EQUIPMENT (minimum)	INFORMATION
Pot hole repair material	Disc cutter	60 (750mm) Traffic Cones	Route maps and plans
Oil absorbing material	Hand saw and bow saw	15 road danger lamps (sequential flashing)	Generic Risk Assessments
Oil absorbing booms	Manhole lifting keys	Road narrows signs	Method Statements
Carcass disposal bags	Sledge hammer	5No. Keep Right/Left (610) arrows (900mm)	ISU Operations Manual
Lamp batteries	Brushes	2No. Road Closed Sign	Diversion route plans
Marker paint	Shovels	2No. Flooding Signs	GPS
Cutting discs	Safety fence spanners / Stillson	4No. Traffic Light inoperable signs	Contact telephone list
Temporary Fencing	Sharps box	3No. Incident Slow Signs	Availability for future use of Airwaves
Gully seals	Torches	2 No. Diverted traffic signs	
	Drain rods and stoppers	Sandbags (sufficient to anchor signs above)	
	Pickaxe		
	Cable Avoidance Tool (CAT)		
	Task lighting		
	Digital camera		

7.12.2 Minimum Equipment for All Purpose Trunk Roads

MATERIALS	TOOLS	TM EQUIPMENT (minimum)	INFORMATION
Pot hole repair material	Disc cutter	30 (750mm) Traffic Cones	Route maps and plans
Oil absorbing material	Hand saw and bow saw	15 road danger lamps (sequential flashing)	Generic Risk Assessments
Oil absorbing booms	Manhole lifting keys	Road narrows signs	Method Statements
Carcass disposal bags	Sledge hammer	5No. Keep Right/Left (610) arrows (900mm)	ISU Operations Manual
Lamp batteries	Brushes	2No. Road Closed Sign	Diversion route plans
Marker paint	Shovels	2No. Flooding Signs	GPS
Cutting discs	Safety fence spanners / Stillson	4No. Traffic Light inoperable signs	Contact telephone list
Temporary Fencing	Sharps box	3No. Incident Slow Signs	Availability for future use of Airwaves
Gully seals	Torches	2 No. Diverted traffic signs	
	Drain rods and stoppers	Sandbags (sufficient to anchor signs above)	
	Pickaxe		
	Cable Avoidance Tool (CAT)		
	Task lighting		
	Digital camera		

7.12.3 Secondary Response Times

The response time for secondary response is defined as the time elapsed from the request for additional assistance to the Service Provider's control room to the time of arrival on site of the emergency incident by the secondary response. Response times must be as set out in the table below unless stated otherwise in the Service Provider's contract.

Secondary Response	Response Times 04:00-20:00hrs	Response Times 20:00-04:00hrs
Chapter 8 Closure and Diversion Routes – closure to be established in accordance with paragraph O7.2.23 of Chapter 8 (2006) Part 2: Operations.	50 minutes	75 minutes
Silver Command – Command structure is as detailed in Chapter 3.2 of the Network Management Manual. The Silver Command may attend the incident scene and is responsible for formulating the tactics to be adopted to achieve the strategy set by Gold Command.	40 minutes	75 minutes

Secondary Response	Response Times 04:00-20:00hrs	Response Times 20:00-04:00hrs
Bridge/Structural/Pavement Engineer – The bridge/structural/pavement engineer may attend the incident scene and make an assessment of the status of the highway infrastructure, including but not limited to bridges, parapets, safety fencing, road surface, etc. The specialist expert(s) will report and advice on his assessment of the highway infrastructure and possible required action.	60 minutes	90 minutes
HI-AB – Vehicles/equipment, such as HI-AB, with lifting capacity of 1.0 tonne to recover, remove, re-load or make stable loads or obstructions from/on the carriageway.	50 minutes	75 minutes
Mechanical/Suction Sweeper – Vehicles/equipment, which can remove obstructions/spillages from drainage systems.	50 minutes	75 minutes
Gully Emptiers/Drain Jetting/Vacuum Units – Vehicles/equipment, which can remove obstructions/spillages from drainage systems	50 minutes	75 minutes
Electrical Team – The electrical team which consists of electrical operative(s) and all necessary electrical tools to assess, make safe and possibly repair damage to the technical infrastructure along the network.	50 minutes	75 minutes
Mobile Elevated Working Platform – Vehicles/equipment which provides a temporary working platform to assist working at height.	50 minutes	75 minutes
Patching Team – The patching team will be required to undertake temporary surface repairs to allow the carriageway to be opened. Maximum area 4m^2. Permanent works will be carried out as per the Service Provider's contract.	50 minutes	75 minutes
Vehicle Restraint System Repair team – The Vehicle Restraint system repair team which consists of operatives, fencing rig / equipment will be required to make safe and undertake immediate repairs as required.	50 minutes	75 minutes

Secondary Response	Response Times 04:00-20:00hrs	Response Times 20:00-04:00hrs
Fuel Spillage Team – Vehicles/equipment/resources, such as spill kits, which are able to make safe medium sized fuel spillages (petrol and diesel, up to 200 litres).	50 minutes	75 minutes
Specialist Chemical Recovery Team – Vehicles/equipment/resources, such as tankers, which are able to safely remove hazardous materials, such as oils, acidic solutions, causistics, tars, bitumens, heavy sludges.	90 minutes	150 minutes
Parapet breaches – Vehicles/equipment/resources which can make safe and possibly immediately repair parapet breaches.	90 minutes	150 minutes
Cranes (capacity > 10 tonne) – Vehicles/equipment/resources which can safely remove large goods vehicles (LGVs), obstructions and loads.	2 hours	180 minutes
Small Pumps (≤ 4") – Equipment to assist in the removal of large spillage and floods	50 minutes	75 minutes
Large Pumps (> 4") – Equipment to assist in the removal of large spillage and floods	90 minutes	150 minutes
Generator and Enhanced Task Lighting (> 3kW) – Equipment which can provide an isolated power supply and provide enhanced task lighting	50 minutes	75 minutes
Winches (> 1 tonne) – Equipment to assist in the removal of obstructions / loads.	50 minutes	75 minutes
High Pressure Water Hose – Equipment to assist in the removal of obstructions / spillages etc by water jetting.	90 minutes	150 minutes
Tipper Lorries/Skips – Vehicles/equipment/resources to assist in the removal of debris, spilled loads from the incident to tip	50 minutes	75 minutes
Lorries with Crane Attachments (6.0T) – Vehicles/equipment/resources, with a 6.0 tonne capability, which can safely remove obstructions and loads.	50 minutes	75 minutes
Compressor (> 100 PSI) and Tools – Equipment/resources to undertake any immediate repairs in making safe the highway infrastructure	50 minutes	75 minutes

Secondary Response	Response Times 04:00-20:00hrs	Response Times 20:00-04:00hrs
Tank Matting – Specialist equipment to allow access over verges and soft estate	50 minutes	75 minutes

This listing is not exhaustive and any amendments or additions must be as prescribed in the Service Provider's contract or in written agreement with the Service Manager.

7.12.4 Incident Clearance

Service Provider must record incident clearance times for specified types of incidents. Service Provider must look for continual improvement and national rollout based upon 'actual data' from the new Area 10 Managing Agent Contractor (MAC) contract.

The incident clearance time must be measured as follows:

- Time elapsed from the completion of emergency traffic management or Chapter 8 (2006) to the time of the end of the incident cleared (road open, possibly permanent repairs outstanding).
- Time elapsed from the handover to 'HA led' incident to the time of the incident cleared (road open, possibly permanent repairs outstanding)
- Time elapsed from vehicle recovery completed to the time of the incident cleared (road open, possibly permanent repairs outstanding)

The table below provides baseline incident clearance times which are designed to be used as incident clearance times targets.

Type of incident	Clearance time
Hand sweeping only	10 minutes
Mechanical sweeping	15 minutes
Sweeping and large debris	20 minutes
Minor infrastructure repairs	2 hours
Major infrastructure repairs	4 hours
Carriageway resurfacing	8 hours
Serious chemical spillage	12 hours

7.13 Health & Safety

7.13.1 Introduction

Most organisations operate within cultures where health and safety is an integral part of the work regime. Whilst the urgency of an incident may entail some risk taking, it is vital to ensure safe systems of work for the responding agencies and their personnel. Part 1 of the Network Management Manual addresses the management of health and safety.

7.13.2 Incident Support Units (ISUs) and Traffic Management

Risk analysis and management is an integral part of the provision of the Service Provider's Incident Support Unit (ISU) service. The Management of Safety at Work Regulations of 1992: HSE Approved Code of Practice 1992 (revised 1999/2000) requires risk analyses to be regularly carried out and to include for the safety of the public and those nearby.

The Service Provider must ensure generic risk assessments are carried out in advance for all those activities to be undertaken by the ISU crews and a process must be in place for monitoring compliance with the legislation. A dynamic risk assessment must also be undertaken, on arrival at the scene, prior to the tackling of an incident.

The complexity of traffic management arrangements varies from incident to incident, but the primary objective is always to maximise the safety of the workforce and the travelling public.

Guidance relating to the health and safety aspects of the setting up, maintenance and removal of traffic management arrangements is given in "Guidance for Safer Temporary Traffic Management" published on behalf of the Highways Agency, the County Surveyors' Society (CSS) and the Health and Safety Executive (HSE) and "Traffic Signs Manual Chapter 8, 2006; Part 1 – Design & Part 2 - Operations".

Incident Support Units must have a crew of at least two operatives whenever deployed operationally. ISU crews must be adequately trained in all the procedures needed to deal with the incidents they are required to attend, and evidence of that training must be demonstrated. The aim of the training, in addition to passing on the techniques to use, is to make sure that 'best industry practice' is passed on to new staff.

Each ISU operative must possess a level of competence at least in accordance with the requirements of Sector Scheme 12B. Details of this scheme can be found at the United Kingdom Accreditation Service website, www.ukas.com. In addition, for equipment included in section 7.13 above, each ISU operative must possess a level of competence at least to the appropriate 'best industry practice' such as Construction Skills Certification Scheme, Construction Industry Training Board, Sector Scheme.

7.13.3 Hazardous Materials

Where hazardous materials are involved, the ISU must not approach the spillage or enter the incident scene. The Service Provider must alert the Fire and Rescue Service and Environment Agency immediately through their control room, who must in turn alert the RCC or PCO. Mobile phones and radio communications will not be used near potentially flammable spillage. The ISU must provide as much additional information as possible without approaching the substance. The ISU will also look to confirm the location of drainage outfalls, water courses and other potential risks to the environment.

7.13.4 Chemical, Biological, Radiological or Nuclear (CBRN) Substances or Material

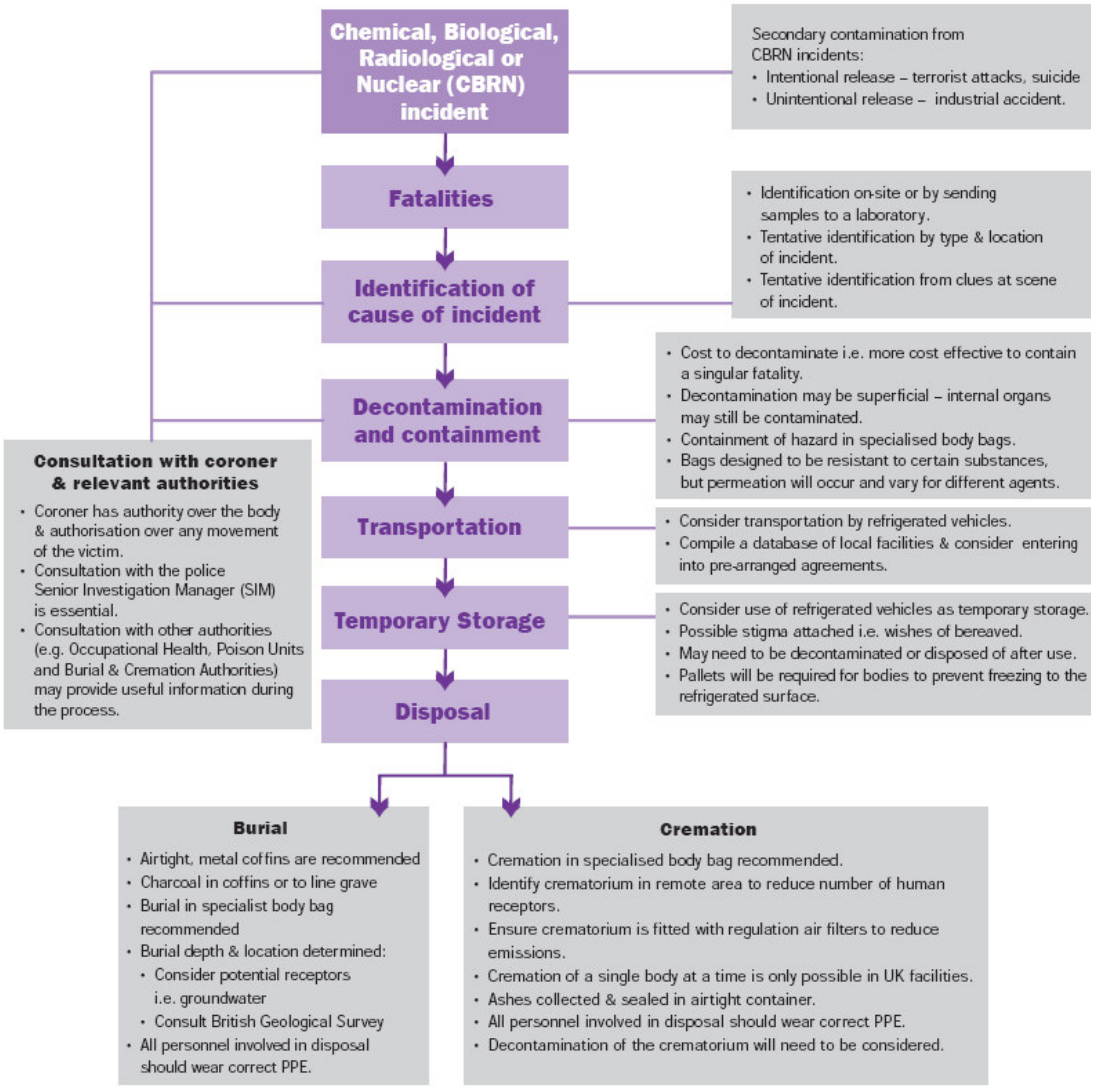
Dealing with fatalities may present physical, health and environmental risks. Persons at and near to the scene and other key facilities will be particularly at risk. The degree of risk could be particularly severe with an incident involving a chemical or biological release.

The Home Office has issued guidance for Local Authorities, and others with responsibilities for protection of the public (such as Service Providers), to develop practical strategies for dealing with chemical, biological, radiological or nuclear (CBRN) substances, whatever their cause. The guidance provides an agreed set of principles and a shared understanding of the key issues that may need to be addressed, which the Service Providers must include within their contingency plans.

Decision-making will always be complex. Much will depend on the nature of the containment, how much has been released, factors such as weather conditions and the nature of the environment in which the release has occurred or, in a terrorist incident, the effectiveness of delivery and any action that has already been taken to minimise it. Wherever possible victims will be decontaminated on site, but it is recognised that it may be necessary to remove victims from the area of greatest contamination.

A generic model for managing a CBRN incident is below for information.

Process Management of a CBRN Incident



7.14 Hazardous waste

7.14.1 Introduction

There are four sets of regulations applicable to England and Wales that came into force on 16 July 2005:

- The Hazardous Waste (England and Wales) Regulations 2005
- The Hazardous Waste (Wales) Regulations 2005
- The List of Waste (England) Regulations 2005
- The List of Waste (Wales) Regulations 2005

These are referred to as Hazardous Waste Regulations and List of Waste Regulations. These:

- Implement a definition of hazardous waste into domestic legislation.
- Require producers of hazardous waste to notify their premises (with some exceptions).
- End the requirement to pre-notify wastes to the Environment Agency, as previously required under the revoked Special Waste Regulations.
- Ensure safe management of hazardous wastes.
- Provide cradle-to-grave documentation for the movement of hazardous waste.
- Require consignees to keep thorough records of hazardous waste and provide the Environment Agency with quarterly disposal and recovery information.

7.14.2 Hazardous Waste Regulations

Hazardous waste is currently waste with one or more hazardous properties that are hazardous to health or the environment. The Hazardous Waste Regulations defines hazardous waste on the basis of:

(a) Any waste listed as hazardous in the *List of Waste Regulations*.
(b) Any specific batch of waste that the Secretary of State determines is exceptionally to be classified as hazardous.
(c) Any specific batch of waste produced in Wales, Scotland or Ireland that the Welsh Assembly Government, the Scottish Executive or the Northern Ireland Department of the Environment respectively determines as hazardous will also be treated as hazardous waste in England.

The Secretary of State can also make additional types of waste as hazardous by virtue of making regulations under section 62A of the Environmental Protections Act 1990.

With the above regulations in place it should be known if a vehicle is carrying hazardous waste. If so it can aid the first responders to quickly identify the specific or generic hazards of the material(s) involved in the incident and protect themselves and the general public during the initial response phase of the incident. For the purposes of this section, the “initial response phase” is that period following arrival at the scene of an incident during which the presence and/or identification of dangerous goods is confirmed, protective actions and area containment are initiated, and assistance of qualified personnel is requested. It is not intended to provide information on the physical or chemical properties of dangerous goods. It should also not be considered as a substitute for emergency response training, knowledge or sound judgement.

7.14.3 Hazardous Waste Identification and Test Methods

The first responder to the scene should assess the foreign material and determine whether it presents a safety risk in its current location and manage it appropriately. Suspected hazardous materials should be treated with extreme caution, whether spilled or contained. Any information that

can be gathered without risk to the personnel at the scene will be passed to the Regional Control Centre and/or the Service Provider's control room. If foreign material presents a safety risk and cannot be moved manually, then assistance must be requested via the RCC and/or Service Provider's control room from the Fire and Rescue Service, Environment Agency and specialist responders.

There are certain hazardous materials that, once made safe at the scene, still require a period of containment before being recovered, e.g. oxyacetylene cylinders. The Fire and Rescue Service will remain responsible for the hazardous materials and the containment process. This will typically require exclusion zones resulting in partial or full road closures depending on the substance and its state. The Fire and Rescue Service will take advice from their technical contractors or from the relevant industry specialists.

The test methods serve to give specific meaning to the definitions given in Hazardous Waste Regulations. The methods to be used are those described in Annex V to Directive 67/548/EEC, in the version as amended by Commission Directive 84/449/EEC, or by subsequent Commission Directives adapting Directive 67/548/EEC to technical progress. These methods are themselves based on the work and recommendations of the competent international bodies, in particular the OECD incidence.

7.14.4 Hazardous Waste Clean Up and Disposal

The Service Provider must consider the issue of waste materials, and arrangements must be made in advance to establish a procedure for dealing with disposal of all types of waste material in a sensitive manner. It may be necessary to deploy specialist waste companies to rapidly remove and dispose of all hazardous, clinical and human waste materials and waste matter, animal carcasses and the like arising from incidents and other emergencies as required. Significant spills may involve not only the hazardous materials (HAZMAT) service but also related environmental protection authorities from the Environment Agency. Therefore such companies should be identified in advance, to reduce response times when such incidents occur.

The duties of the Incident Support Unit include removing from the network and disposing of debris and waste material and animal carcasses of any shape or size which could be a hazard or distraction to road users. Individual items to be removed should not exceed 50 kg and exclude any hazardous, clinical and human waste materials and waste matter. Duties are limited to the removal and disposal of a maximum of 250 kg of waste in total at any one incident site. Waste materials outside these categories will be removed and disposed of using Service Provider's specialist waste services.

Service Providers must have capabilities for dealing with hazardous materials that have been made safe by the Fire and Rescue Service. The Service Provider will also be responsible for recovering any substances the Fire and Rescue Service have used to contain and stabilise hazardous materials. Where there is an environmental risk, the Service Provider must contact the Environment Agency for advice and in some cases, a response from Environment Agency officers. In some cases, the Service Providers will be unable to recover the substance due to its particular nature (e.g. explosives, gas cylinders). In these cases, support from additional responders must be requested.

Live animals must be treated in a manner appropriate to the risk that they present whilst avoiding unnecessary suffering. The Highways Agency and Service Providers must coordinate and arrange for their removal and request the assistance of specialists (such as vets). Specialist services (e.g. firearm units) will be requested from the police of the live animal presents an immediate threat to public safety.

Police will arrange for the removal of body tissues from the scene of incidents in accordance with Coroner instructions. The Highways Agency and Service Provider must clear the carriageway of residual body tissues (those not of interest to the police for evidential purposes) having due regard to biohazard and current contractual arrangements.

7.15 Reporting & Recording

7.15.1 Introduction

The Highways Agency and their Service Providers are not an investigatory body and do not, therefore, as a core function seek out evidence of offences. The nature of work will, however, mean that both Highways Agency and Service Provider staff will become witness to events that may result in criminal proceedings. There will also be circumstances when Highways Agency equipment will record events, either by way of audio and/or visual formats that become relevant in proceedings. The Highways Agency and Service Providers must cooperate with the police in ensuring that any evidence secured during its operations is made available to investigators. This will include the provision of witness statements from their staff.

In order to comply with the ACPO Road Death Investigation Manual, police officers investigating incidents involving (possible) fatalities may require detailed technical evidence from Highways Agency and Service Provider staff. This could include details of road infrastructure and how it has been managed, e.g. gritting in winter.

7.15.2 Reporting

Effective communication between the Service Provider and the other responders is imperative to ensure that the Highways Agency has accurate and up to date reports on incidents affecting traffic flows on the network. Throughout the incident, the Service Provider must continuously update the RCC on the status of the incident. The Service Provider must report to the RCC at the following points:

- Incident reported
- Incident verified
- Response dispatch, both ISU and secondary response
- Response arrival, both ISU and secondary response
- Completion of ETM, lane closures and diversion route implementation
- Handover(s), e.g. from police to Service Provider, from vehicle recovery to Service Provider
- Completion of recovery by others
- Completion of incident clearance, e.g. opening of lane(s)
- Completion of traffic restrictions

The Service Provider must liaise with the NTCC/NILO during major/critical incidents and update them with the incident details and anticipated or actual consequences, at least on an hourly basis.

7.15.3 Recording

The effective analysis of incidents and accurate assembly of information is essential if long term monitoring is to be meaningful and improvements in achievable performance. The Service Provider must keep a log of action taken for all incidents to which ISUs are deployed including times, date, location and nature of incident. This will provide a database of incident locations, response times and duration which can be used to undertake an ongoing analysis to monitor performance, optimise the use of ISUs and provide for the effective management of incidents on the Highways Agency's network. The Service Provider must complete and submit the incident data capture sheet as per Annex 7.8.10 and as prescribed in the guidance notes.

7.16 Incident Investigation

7.16.1 Responder Roles and Responsibilities

Any incident scene involving a fatality, serious injury or criminal act will be under the jurisdiction of the Police, until they hand it over to the Service Provider. At all times, the Incident Support Unit and all personnel must follow the instructions and directions given by the Police, including arrangements for reaching the site. All personnel attending an incident scene must report immediately to the senior Police officer at the scene, and obtain Police agreement before proceeding with any investigation and comply with any instructions given by the Police. The Police have the power to open or close a road affected by an incident.

Police incidents can be viewed as one of two eventualities:

- Crime scene including fatalities which are treated as murder scenes, this ensures the maximum amount of evidence is collected.
- Scenes where public order or safety are at risk (HAZMAT clearance, serious infrastructure damage etc.)

Crime scenes will be handled almost exclusively by the police and can be time consuming. Public order or safety will often include other responders, including Highways Agency and Service Providers but will be closely managed by the police.

The scene management phase of an incident is crucial to the police. During this phase, the police work to six key principles which are critical to the investigation. They include:

- Conducting an initial assessment (incorporating SAD CHALETS);
  - **S**urvey
  - **A**ssess
  - **D**isseminate

  - **C**asualties – approximate number of dead, injured and uninjured
  - **H**azards – present and potential e.g. fuel spillage, debris, weather conditions, terrain,
  - presence of gases, chemicals, fire or the danger of explosion
  - **A**ccess – best routes for emergency vehicles, parking, turning points, routes blocked and
  - suitable rendezvous points
  - **L**ocation of incident (if it is not easily identifiable, as in isolated areas, identifiers such as
  - landmarks or road junctions should be used to pinpoint the site)
  - **E**mergency services – present and required
  - **T**ype of incident – brief details e.g. of number of vehicles or buildings involved
  - **S**afety – all aspects of health and safety and risk assessment must be considered by all staff working at or close to the scene.
- On scene safety and preservation of life;
- Preservation of the scene;
- Securing material and identification of witness(es);
- Identification of victim(s); and
- Identification of potential suspect(s).

Preserving the scene maximises the chances of recovering physical material ensuring it is not damaged, disturbed or contaminated. The Traffic Officer and Service Provider will not typically be given access unless accompanied by police, however Traffic Officers may be called upon to assist with securing the scene provided the tasks allocated do not exceed their legal powers[2].

[2] Taken from Section 3.3.3 Preserving the Scene (ACPO Road Death Investigation Manual 2007), page 34.

Police – managing all aspects within a crime scene. Additional resource from within the police service is often deployed.

HA Regional Control Centre (RCC) – ongoing facilitating role although the Roads Policing Senior Investigating Officer or dedicated scene manager(s)[3] will facilitate the crime scene.

Traffic Officer – focussing on scene protection, traffic management and welfare.

Service Provider – supporting HA and police resources where possible.

[3] In cases where there are complex or multiple scenes, the RP SIO may appoint a dedicated scene manager or managers. Section 5.1 (ACPO Road Death Investigation Manual 2007), page 60.

7.16.2 Evidence Collection

Collection of evidence by Service Providers

1. Investigation at the Incident

Information to collect at the time of the accident must include but not be limited to:

- A photographic record of the site (but not of victims).
- Detail photographs (failed components, any unusual features, items with maintenance or design implications).
- Traffic details, traffic management, details of the approach to the site (including photographs and preferably a video record).
- Weather conditions (at the time of and prior to the accident).
- Details of unusual aspects of the incident.
- Malfunctioning highway equipment (e.g. lighting, signs).
- Winter maintenance operations in progress, if appropriate.
- Retention of damaged/failed components that may benefit further investigation.

2. Further Investigation

Information to gather after the incident should include but not be limited to:

- Details of the road layout and alignment design.
- Condition of the highway (including skid resistance tests etc. if appropriate), and samples of the surface material and items such as bolts from adjacent undamaged safety fencing
- Records of earlier highway inspections
- Testing of any components involved if appropriate (e.g. safety barrier)
- Copies of press reports
- Police records

Collection of evidence by Police (with Fire and Rescue Service resource)

The police will collect evidence from the scene to support future prosecutions and to service HM Coroners. This could be through:

- Debris collection
- Photographing the scene
- Other visual recording of scene details
- Surface marks on the road
- Witness statements (typically details are taken and statements collected later)
- CCTV footage
- Finger tip searches
- Weather reports and observations
- Body fluids on the road
- Other items gathered from the scene

There may also be an investigation of areas beyond immediate scene including structures adjacent to the road, embankments, down stream of the incident.

In some circumstances additional evidence can be collected after the incident has been cleared, this includes:

- Structural damage
- Road layouts

It is, however, important for the police that all evidence is collected from the scene before recovery starts.

Evidence collected by Collision Investigation Units may include:

- Location and measurement of marks and debris at the scene
- Collision positions and location of vehicles and bodies
- Extensive forensic photography
- Matching of vehicle damage to marks on other vehicles
- Vehicle condition (seatbelts, airbags)
- Skid tests on road surface

All of these aspects can take considerable time but it is essential that a thorough investigation be executed.

Evidence collection

This section provides an indication of what the Service Providers will be required to assist the Highways Agency and RCC's with. Current lists that detail the range of evidence that can potentially be requested are available in the Highways Agency Road Death Investigation Guidance (HA RDI Guidance) (revision expected Spring 2009) appendices 1-3 and in the CD version of the Road Death Investigation Manual (RDIM) (2007), under the additional documents folder in the 'Highway Authority Docs' file.

Table 7.16A (an updated version of that included in the Highways Agency and Association of Chief Police Officers – The Network Operations National Guidance Framework Second Edition – March 2005) sets out the process of evidence collection, capture, management, storage, retention and disposal.

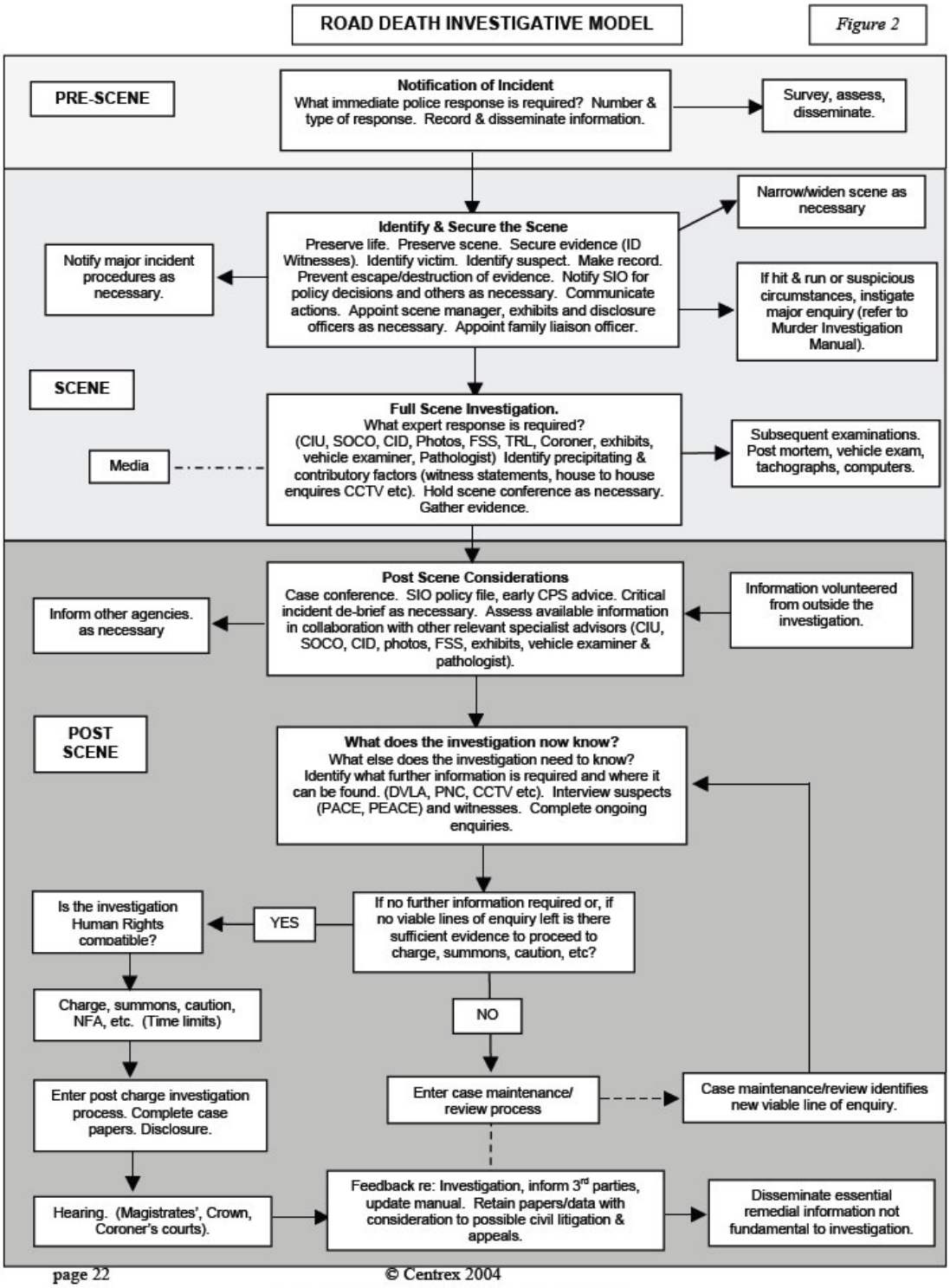
Table 7.16A Evidence collection and management

How is evidence collected?	The Highways Agency is not an investigatory body and does not, therefore, as a core function, seek out evidence of offences. The nature of its work will, however, mean that HA staff and the Service Provider will become witness to events that may result in criminal proceedings. There will also be circumstances when HA equipment will record events, by way of audio and/or visual formats, that become relevant in criminal proceedings. The HA will cooperate with the police in ensuring that any evidence secured during its operations is made available to investigators. This will include the provision of witness statements from HA staff. There will be occasions when investigatory bodies will seek assistance from the HA in using its equipment with a view to securing evidence. The Regulation of Investigatory Powers Act controls such activity. The HA will make its facilities available to such bodies whenever possible and, in particular, will provide primary access to the police to its CCTV system for the purpose of criminal investigation.
Capturing evidence	HA staff are likely to become aware of evidence in the following circumstances: • on-road - by patrolling HA Traffic Officers or ISU's through direct observation in attending incidents or through observing incidents which provide evidence of an offence • CCTV - through observing via monitors or recordings circumstances which provide evidence of an offence • telephone - by capturing audio information from telephone calls that are directed to the RCCs.

Evidence management	In the above circumstances evidence may be captured in the following ways: • Direct observation - will require staff to record evidence in writing in a pocket book or other official format • CCTV - by recording the event or, if not possible, by making a written record of the event in a manner similar to the above • Telephone lines - by recording the event. If recording is not possible, then by making a written record of the event in a manner similar to the above. Staff, whether in the RCCs or on patrol, may not be aware of the importance of what they have observed. Staff should apply good judgement and common sense to what is seen and heard when considering what may be evidence. It is better to capture details of an event that are not subsequently needed than to risk losing important information. Evidence must be recorded as soon as is reasonably practicable and its integrity must be protected at all times if it is to be of use. The Criminal Procedures and Investigations Act requires that all 'material obtained in the course of a criminal investigation' is disclosed to the defence in a court case. HA staff should notify the RCC supervisor as soon as practicable if they believe that they are in receipt of evidence. The supervisor will liaise with the police to ensure that they are aware of what is available and that arrangements need to be made for the evidence to be included in any case preparation. The recording of a scene or an individual piece of evidence by any means, whether digital, analogue, film or paper based, should only be undertaken for official and authorised purposes. An auditable record should always be maintained. No copies of evidential material will be made without the authority of a designated manager from the incident's lead organisation.
Storage of evidence	The HA will provide facilities for the initial storage of evidence in the original format in which it is obtained. It will be responsible for ensuring that access to storage is restricted to ensure that the integrity of evidence is maintained. Day to day management of storage facilities will be the responsibility of supervisors in the RCC. (HA storage requirements will be the subject of detailed internal procedures published elsewhere).
Retention and disposal of evidence	The advice of the police will always be sought with regard to retention and disposal of anything that may be, or has been, used as evidence.
Evidence regarding the management of HA roads and facilities	In order to comply with the ACPO Road Death Investigation Manual (2007), Police Officers investigating incidents involving death on the road may require detailed technical evidence from HA staff. This could include details of road infrastructure and how it has been managed, e.g. gritting in winter. It is not the role of the RCC staff or HA Traffic Officers to provide this information. Any requests to provide such details must be forwarded, without delay, to the relevant HA Area Manager who will coordinate the HA response. The types of documents that could be requested are in Appendices 1-3 of the HA RDI Guidance (revision expected Spring 2009) and on the CD version of the ACPO RDIM in the additional files folder under 'Highway Authority Docs'.
Statements regarding other evidential matters	For circumstances other than the above, where the police require a formal statement from HA staff to support a criminal case or the retrieval of evidence from the Highways Agency, this should be co-ordinated through HA line managers.

Table 7.16B shows for information a generic model for a road death investigation from the RDI manual (2004)[4].

Road Death Investigation Manual



[4] This table is not included in the RDIM (2007). Some terminology has altered and some new techniques have been incorporated in to the process. However, it still provides a useful insight in to the RDI process.

7.16.3 Extracts taken from the Road Death Investigation Manual (RDIM 2007)

This section covers what evidence the Police will be looking for when a road death occurs.

The Police have a duty to conduct thorough investigations to establish the circumstances which have led to a road fatality and subsequently discharge their responsibilities to the HM Coroner. The Police will investigate any fatal collision from the viewpoint of it being an 'unlawful killing' until it is proved otherwise.

The starting point of the investigative evaluation will be establishing: what is known and unknown; consistencies and inconsistencies and any conflicts. To answer these points the police will consider the Why, When, Where, How, Who and What during the investigation.

The main objectives of a collision scene investigation involve:

- "Identifying, securing and recording the physical outcomes relating to the collision;
- Obtaining information at the scene, which may not be available later;
- Testing hypotheses; and
- Identifying material to be seized for examination at a later date".

Material, i.e. evidence, is defined as:

"material of any kind, including information and objects, which is obtained in the course of a criminal investigation and which may be relevant to the investigation. Material may be relevant to an investigation if it appears to an investigator, or to the officer in charge of an investigation, or to the disclosure officer, that it has some bearing on any offence under investigation or any person being investigated, or on the surrounding circumstances of the case, unless it is incapable of having any impact on the case."[5]

As well as the collection of material for the investigation, the police will record the scene. The methods that they can use for this are:

- "A written record;
- Formal scene plans (these can be undertaken by the collision investigator);
- Stills photography;
- Video photography;
- Three hundred and sixty degree photography;
- Aerial photography;
- Virtual systems;
- Surveying equipment, for example, theodolite equipment with or without global positioning systems (GPS)."

The purpose of the investigation is to ultimately be in a position to clarify the circumstances of the incident and a sequence of events. The focus of the investigation will be on human, vehicle and environmental factors. Examples of human, vehicle and environmental factors include, but are not confined to the following.

Human Factors

- Alcohol and/or drugs.
- Vehicle occupant restraint use – were restraints correctly worn?
- Fatigue.

[5] taken from Criminal Procedure and Investigations Act 1996 (CPIA)

• Bad or injudicious driving.
• Distraction of the driver, road user, pedestrian, e.g., through use of a mobile phone.
• Health and eyesight issues.
• Training and competence of the driver or road user.
• Other road user or pedestrian movements.

Vehicle Factors

• Roadworthiness and general condition.
• Suitability of vehicle for use or location, e.g., moped on a motorway.
• Potential design fault, e.g., an inbuilt blind spot.

Environmental Factors

• Road condition, e.g., condition of the road surface.
• Road geometry, e.g., curvature and grade.
• Roadside protection, e.g., purpose and condition of the central reservation barriers.
• Signage, lighting, automatic traffic signals.
• Weather conditions at the time of the collision.

While the Roads Policing Senior Investigating Officer has overall responsibility for the scene, the collision investigator is the one responsible for conducting a thorough examination. The collision investigator may decide to employ any of the methods listed below when conducting a scene examination:

- "Locating, measuring and describing marks and debris left at the scene.
- Locating and measuring post-collision positions of vehicles and bodies.
- Photographing marks, debris, bodies, post-collision positions of vehicles, damage to vehicles and street furniture. In some circumstances, this may be undertaken by specialist photographers.
- Attempting to match vehicle tyres to tyre marks on the road.
- Examining the condition and operation of traffic control systems and streetlights.
- Examining and noting or photographing the position of control systems within the vehicles, eg, light switches, gears and the condition of seatbelts and airbags.
- Examining the vehicle to identify whether a collision or journey data recorder is fitted to the vehicle. The investigator should record which areas of the vehicle have been examined and whether or not a data recorder has been found. Recording those areas searched and the fact that a data recorder was or was not found may become relevant if a claim is later made that a data recorder was fitted and material from this device is used as a defence.
- Establishing what type of data recorder is fitted to the vehicle and how material from it may be retrieved and preserved.
- Examining the vehicle to establish whether any devices are fitted, and if so of what type, location and whether they were in operation at the time of the collision. Examples may include satellite navigation systems, engine management systems, airbags or anti-lock braking systems (ABS). Again, consideration should be given to how this device and any material it may contain can be preserved as evidence.
- Examining the condition of vehicles and relevant street furniture. Where evidence permits, attributing physical marks to the vehicle or object which made them.
- Undertaking skid tests to establish coefficient of friction values between the road surface and vehicle. This will usually apply to tyres, but this technique can be used on bodywork if the vehicle overturned and slid on its roof.
- Recovery of any tachograph charts and related material".

In relation to vehicle factors, the vehicle examiner is tasked with establishing the pre-collision mechanical condition of the vehicle (so far as it is possible to do so), and considering the likelihood of a vehicle-related factor having caused or contributed to the collision. "Additional tasks involved with vehicle examination include:

- Obtaining forensic material from the vehicles involved;
- Establishing the pre-collision position of controls, switches and other components which may have had an influence on the position or movement of the vehicle prior to the collision;
- Recording details of the position and extent of any damage in order to ascertain the immediate pre-impact positions of vehicles and objects relative to each other;
- Identifying whether any devices have been fitted to the vehicle, for example, engine management systems, satellite navigation systems, airbags or anti-lock braking systems (ABS), and whether they contributed to the collision or hold material that would be useful to the investigation;
- Identifying any vehicle design implications and ascertaining if any defects may have caused the collision or have a potential to affect the overall safety of similar vehicle models. This may require checking vehicle maintenance records for vehicles involved in a fatal collision and, if necessary, reviewing records for vehicle fleets in cases of potential corporate manslaughter, in order to identify any system failures".

Duties and powers of Highway Authorities

The following is taken from the RDIM (2004) but is still particularly relevant guidance.

The highway authority has a wide range of duties and powers contained within a number of Acts of Parliament and regulations. In addition, national and local codes of practice promote good practice.

- Statutory duties are absolute and obligatory, i.e. they must be undertaken. An example would be: the highway authority's duty to maintain the highway under Section 41 of The Highways Act 1980. Further duties are contained within legislation such as: The Road Traffic Regulation Act 1984, The New Roads and Street Works Act 1991 (NRSWA) (Codes of Practice on the reinstatement of road excavations).

- Powers can be exercised when deemed appropriate. However, if a power is exercised, e.g. by undertaking highways improvement then there is a duty to maintain the resultant works.

When a collision has occurred and highway involvement is alleged then the highway authority should be able to demonstrate it took reasonable measures to ensure the safety of the road user was not compromised. It should be noted that when determining whether reasonable measures have been effected on any particular road, it is necessary to consider the character of the road and the nature of the traffic using it, i.e. not all roads are required to be maintained to the same standard. The prior knowledge held by the highway authority on a road is also of great significance, e.g. its collision record, whether any complaints had been received from the public or local councils, and when inspections and surveys of the road have been undertaken and their findings.

Highway authorities are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow and ice. In *Goodes v East Sussex County Council (2000) RTR 366 HL*, the House of Lords stated 'that a highway authority's duty under section 41(1) of the Highways Act 1980 to "maintain the highway" was an absolute duty to keep the fabric of the highway in such good repair as to render it reasonably passable for ordinary traffic at all seasons of the year without danger caused by its physical condition, but did not include a duty to prevent the formation of ice or to remove the accumulation of snow on the road …'

An in-depth investigation into the performance of the highway authority will typically seek answers to the following key questions:

- Were the policies, procedures and practices developed by the highway authority reasonable and well considered, when taking into account statutory duties, powers, and national and local best practice?
- Were the policies, procedures and practices developed by the highway authority consistently implemented?
- Did the highway authority act reasonably in response to all of the pertinent information it had available?

In order to answer the above questions, it is necessary to secure very specific information from the highway authority. This is an area where specialist assistance can prove extremely useful in developing detailed lists of documents and information to be sought and secured from the highway authority and other agencies. Securing information from a highway authority will often take time, so it is vital that the request to the highway authority is accurate, well considered and timely. Four distinct groups of documentation can be identified.

- High level, general policy statements – e.g. "A County Council will actively support the safe movement of traffic through the County". Such statements are typically contained within the authority's Local Transport Plan, public service leaflets.
- Specific local maintenance policies and standards – e.g. "the highway grass will be cut 4 times per year" or "any pothole reported by the public will be repaired within 24 hours". Such information is typically contained within the authority's Highway Maintenance Plan, Winter Maintenance Plan, Street Lighting Plan, Road Safety Plan.
- Authority Procedures – e.g. "skid test survey results will be analysed within one month of receipt"; and Programmes of Work/Prioritisation of Work – e.g. the application of policies set to develop a resurfacing, or Collision Investigation and Prevention works program. Such information is typically found in quality procedures, internal memorandums, procedure files and manuals etc.
- Works Records – e.g. works orders, invoices, work sheets, duty logs, diary entries, instructions to contractors/consultants; Inspection Records – e.g. inspection logs/print outs; and Customer Care Records – e.g. call and correspondence logs (including out-of-hours logs).

Contracts with agents and either term or specialist contractors may also be pertinent to all four of these groups of documentation.

For the types of documents that could be requested, full lists are available in Appendices 1-3 of the HA RDI Guidance (revision expected Spring 2009) and on the CD version of the ACPO RDIM in the additional files folder under 'Highway Authority Docs'. The lists are set out under three scenarios, circumstances in which:

(i) vehicles have skidded on frost or ice;
(ii) vehicles have collided on a relatively new surface, and the surface is thought to be a contributory factor; or
(iii) a single vehicle collision on a rural bend where the vehicle has left the carriageway.

It should be noted that in the request for some documentation it may be that a 3 to 10 year history is required as part of the investigation/location in question.

Analysis of the documentation and information obtained is obviously the next stage and the use of specialists (such as TRL) for this function is recommended. Typically, a specialist will be able to offer the option of: a preliminary verbal observation on the performance of the highway authority based on a brief assessment of the information obtained; a letter of advice on the key highways issues/the performance of the highway authority; and ultimately a full technical report.

7.16.4 Reporting of incidents

The effective analysis of incidents and accurate assembly of information is essential if long term monitoring is to be meaningful. Incident reports leading on to appropriate levels of investigation are the basis for all further analysis. The Service Manager should be consulted for the appropriate procedure for reporting incidents.

The Highways Agency requires incident reports for trunk roads and motorways in England to be reported on the web based Accident and Incident Reporting System (AIRSweb), and it may be considered good practice to carry out these measures on all classes of road; see "Guidance For Safer Temporary Traffic Management", paragraph 5.4.21 and Appendix C.

The police must be informed of all road accidents which involve an injury occurring on that section of highway open to public use and, on behalf of HM Coroner of any deaths occurring on site.

Under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR), basic reports, using form F2508, are required by the HSE for certain categories of accident and incident. These are not required for accidents unless they are caused as a result of the works.

7.16.5 Incident Management System

There is a statutory requirement on Service Providers to record and report incidents under RIDDOR 1995 and Section 25 of the Road Traffic Act 1972 needs to be augmented by the creation of a management tool for the project which records all site incidents, including particularly those which are traffic management related.

This incident management system needs to incorporate a feature which will identify unexpected levels or categories of incidents, and this will facilitate early action to ameliorate any unsafe features in the project. In England, for works on the trunk road network, there is requirement for service providers to employ a dedicated Traffic Safety and Control Officer (TSCO) under the terms of the contract provides a first line of reporting to assist in this procedure. The appropriate Service Manager should be consulted for works on other roads.

The incident management system should include:

- a formal reporting system;
- provide review meetings;
- establishing the person who has responsibility for record keeping;
- an operational structure; and
- outline contingency plans.

Further issues concerning incident management are considered in Appendix C of "Guidance for Safer Temporary Traffic Management" (CSS/HA/HSE 2002); see Section 13.7, References.

7.17 Managing & Identifying Canine Fatalities

Service Providers are required to have at least one microchip scanner available for use at depots and must ensure their staff know how to use it correctly.

The following processes must be followed when canine remains are found on the Network.

- Identification information must be collated using the Identification of Canine Fatalities form ((included at Annex 7.17.1) and a search must be made for a collar and disc at the site.

Where the owner's details are found on a collar and/or disc:

- The animal remains must be bagged separate from any debris, taken to the depot and the owner notified as soon as possible to be given the option of collecting their pet.

Where no collar/disc is found:

- The remains must be bagged separately from any debris found and returned to the depot where the entire body must be scanned for microchips and the ears checked for tattoos. Any positive identification must be marked on the form.
- Following positive identification the appropriate body must be notified; PetLog for microchips and the National Dog Tattoo Register for ear tattoos. The police or local authority dog warden must also be notified.

Remains that cannot be positively identified:

- The remains must be cold-stored where these facilities are available, for seven days or until the cold store is due to be emptied, whichever is sooner. The police or local authority dog warden must be notified of the details on the Identification of Canine Fatality form. If no owner has come forward at the end of the seven-day period the remains must be disposed of.

It must be noted that microchip scanners need to be used very close to the pet's body to register the presence of the chip although it should read the chip through a polythene bag.

The identification process should go as far as is reasonable however it is recognised that due to the high speed nature of our network it is impossible to guarantee that remains can be fully identified e.g. the microchip may have been lost in the collision. In this case, if the remains can be identified as canine, they should be cold stored and as much information as can be collected should be passed to the local police or dog warden.

Contact details for PetLog and the National Dog Tattoo Register can be found on the Identification of Canine Fatalities form included at Annex 7.17.1. It should be noted that PetLog is run by The Kennel Club and Service Providers will need to register with the site to use it.

7.18 Rapid Re-opening of Running Lanes Following Diesel and other Hydrocarbon Spillages

7.18.1 Introduction

This chapter is written to ensure the rapid re-opening of running lanes following a diesel spillage. It is not intended to prescribe treatment methods although does prescribe the use of a risk assessment methodology to ensure consistency of response.

7.18.2 Background

Dealing with diesel incidents on the network and determining the treatment required based on the information available is a matter of routine for Service Providers. Although this chapter does not change this it does however require recognition of some of the decisions made consciously or subconsciously on the risks inherent in the treatment of diesel affected pavement. The treatment implemented and the resulting outcome can differ betweens Service Providers, leading to a variation in service.

The Highways Agency is therefore looking to ensure that all Service Providers aim their treatment to the same objective, with priority for pavement treatments given to opening running lanes as quickly as possible. Consequently, the Highways Agency has provided a methodology within this chapter to assist its Service Providers to meet this objective. However, in considering improved or innovative solutions Service Providers should remember that the re-opening of running lanes is the priority and this may mean deferring some work to a later time.

This methodology does not absolve the Service Providers of obligations to attend incidents and resolve them in accordance with current Legislation and Contractual requirements including Quality Promises and working practices on Environmental, Health and Safety, Hazardous Materials and Safe Working operations.

7.18.3 Risk Assessment of Diesel Affected Pavements

The Service Provider must determine the likely probability and impact of the risks in treating a diesel affected pavement using the risk matrix table at 7.1.8.1. Although there are a large number of risks to be considered in treating a diesel affected pavement those considered most relevant to rapid re-opening of running lanes are given within the table as A to E.

In considering where a Risk sits, it should be noted that ‘Probability’ is the likelihood of the risk having occurred or occurring imminently and Impact is the resultant delay in the time it will take to re-open the lane. The first usage of Table 7.18.1 will be when the Service Provider has initial access to the scene of the diesel spillage. A worked example is included in Annex 7.18.1.

Risks may vary during the course of the incident and will therefore need to be constantly reconsidered.

Any Service Provider proposed methodology for treating diesel affected pavements to allow the rapid re-opening of running lanes must have a dynamic risk assessment element. This will require a re-evaluation of the risks in the light of analysis of emerging information at a number of stages during an incident.

Risk

A. Spillage of diesel as a result of recovery
B. Excessive treatment of the pavement for the level of damage
C. Skid potential
D. Rutting
E. Binder loss leading to break up of pavement material

Table 7.18.1 Risk Matrix Table

	Impact	Low (1)	Medium (2)	High (3)
Probability				
Low (1)				
Medium (2)				
High (3)				

An overall risk figure shall then be calculated by the summation of multiplying the value of the risk impact by the probability for each of the individual 5 risks.

If the overall risk figure:

I. Is below 13, then there should be no obstacle to rapid re-opening of the lanes affected (see sections 7.18.4.1 and 7.18.4.2)
II. Is between 13 and 20 inclusive, then consider the items raised in sections 7.18.4.1 and 7.18.4.2
III. Is above 20, then see sections 7.18.4.1 to 7.18.4.3

If an individual risk scores over 4 the treatment should be re-considered and addressed when practical before the final treatment is determined. Please see Section 7.18.5 for other factors to consider. The Service Provider is required to revisit the table as information becomes available, which can be after a change in the nature of the incident or following a change in the data available to consider the incident.

7.18.4 Pavement Treatment

7.18.4.1 Rapid Re-opening

Rapid re-opening can be achieved by the use of modern absorbents followed by the application of grit sand. This is considered the quickest and most effective and efficient method of dealing with diesel spillages in the vast majority of cases.

Modern absorbents can treat a greater volume of spillage than traditional absorbents. Although they can be more expensive to purchase they are generally more cost effective as less absorbent is required to treat a spill, less waste is generated, and less room is required on vehicles to transport the material.

Grit sand is usually readily available, does not require specialist equipment to apply, and is relatively cheap. Grit sand also allows skid resistance to be addressed.

Treating the pavement by washing with detergents and cleaning the carriageway is unlikely to provide the quickest re-opening of running lanes. Care should also be taken to avoid pollution when detergents are used.

A list of potential treatment options is given in Annex 7.18.2. The list is not exhaustive.

7.18.4.2 Risk Considerations

Where a number of the risks have been classed as medium or high impact or probability this will give rise to a degree of uncertainty over the most appropriate course of action to take, i.e. whether to treat minimally and re-open the lane or to undertake more extensive treatment increasing the duration of the restriction and creating potential further delays and journey time unreliability for road users.

It is useful to consider some of the factors that contribute to the specific risks A-E.

A: The fuel storage locations, be they the vehicle fuel tank or any containers being transported, may not be leaking or ruptured as a consequence of an initial incident. However, if there is potential to need to apply lifting ropes and forcibly drag, lift or rotate a vehicle, then the storage containers may rupture. If the containers rupture, the duration of the incident may be extended, the impact of the diesel spillage may be increased and any affected running lanes may remain unexpectedly closed.

There are a number of methods to reduce this potential risk; siphoning, introduction of saw dust or introduction of a foaming agent to the fuel. If there is already a hole, but no leaking diesel, use of proprietary putty to plug the hole may be an option. Each option has its own advantages and disadvantages. Siphoning may well take the greatest amount of time to implement. Introduction of saw dust or a foaming agent to the fuel will give a rapid spillage prevention treatment, but will incapacitate a vehicle if it is applied to a drivable vehicle's fuel tank. The vehicle owner's agreement is essential, and should be sought by the Service Provider / Traffic Officer, if a foreign agent is to be added to a fuel container. If the vehicle owner is made aware of the risks and costs associated with spilt diesel this may help them agree to this course of action.

B: Diesel spilt on the carriageway leads to temporary softening and loss of surface texture. However, this damage is likely to be transitory on pavements in good condition if the excessive diesel is removed without delay. Consequently, unless there is clear evidence that the pavement is likely to fail catastrophically or imminently, then the extent of the damage at the

time of consideration will determine the treatment. Treatment by removal and resurfacing of damaged areas is unlikely to be cost effective and is generally not considered commensurate with the risk.

C: Loss of friction leading to skidding is a concern in treating diesel spillages. Diesel on the pavement reduces the friction between tyres and the pavement, which can be exacerbated in wet conditions.

The risk of skidding from diesel remaining on the pavement when the lane is re-opened to traffic can be minimised. Application of an absorbent should remove surface standing diesel and any free diesel within the matrix of the pavement to a few millimetres in depth. The surface can then be treated with grit sand to prevent any diesel pumped to the surface from reducing the friction level provided.

D: Highways Agency guidance on ruts does not require their immediate removal. If it is believed that ruts will form, then the immediate risk is potentially less than when the ruts do form, if they pose a hazard even when formed. When rutting has occurred, the Service Provider should give consideration to determine if they warrant treatment and to what extent.

E: Where the degree of penetration of the diesel has broken down the majority of the binder, the pavement material may be susceptible to lifting by vehicle tyres. Under these conditions absorbents and grit sand may be inappropriate and a more intensive treatment may be required.

The Service Provider should consider if journey time reliability, or vehicle flow, can benefit from introduction of a reduced speed limit. Advisory speed limits may be set quickly where the technology is already in place; variable message signs can be used and matrix signs can be activated.

7.18.4.3 Further Considerations

If absorbents and grit sanding are not deemed adequate following assessment and amelioration, taking points in Sections 7.18.4.1 and 7.18.4.2 in to consideration, then an alternative treatment may be required.

The appropriate treatment may be determined by the factor contributing most to the risk assessment and potential for removal of the carriageway restriction.

A: Potential spillage from a diesel storage location can be eliminated as a risk, therefore this should not be a reason for an alternative treatment. If vehicle owners are consulted properly by Traffic Officers and / or Service Providers they are unlikely to resist the use of actions to reduce damage and reduce claims.

B: The approach of addressing each risk and continually re-evaluating its impact should enable lower levels of treatment to be considered.

C: With the current use of absorbents and grit sand, adequate skid resistance can be achieved. There are likely to be few occasions for the need for alternative treatment due to a lack of skid resistance.

D: Rutting may necessitate an alternative approach, but this should be considered in line with Highways Agency guidance on rutting.

E: Where the degree of penetration of the diesel has broken down the majority of the binder, the pavement material may be susceptible to lifting by vehicle tyres. Under these conditions

absorbents and grit sand may be inappropriate and a more intensive treatment, often planning and paving, may be required.

7.18.5 Other Factors

There are a number of factors that cannot be addressed during the course of an incident. These factors include the alignment of the carriageway, pavement material and the weather. These factors may prevent the usage of the preferred treatment and in such instances it may be necessary to keep lanes closed

If specialist equipment is being considered, treatment shall result in a rapid re-opening of running lanes and represent value for money.

7.18.6 Traffic Officer Service

On the motorway network, and a few all purpose trunk roads, the Traffic Officer Service (TOS) may be involved. The TOS is trained in managing a spillage, though not in determination of the treatment. The Traffic Officer will assess the extent of the spillage, report details to the Regional Control Centre and request Service Provider attendance. They will ensure adequate signs are utilised as necessary and assist with containing the spillage and ensuring any required restrictions are in place. They should not direct a course of treatment.

If a Service Provider has any concerns over the activity of Traffic Officers at the scene of a diesel spillage they should be reported immediately to the Traffic Officer Service and then to the relevant Service Manager.

7.18.7 Environmental Considerations

Statutory Regulations requires that all diesel spillages be contained as fully as possible. Where necessary the Environment Agency must be contacted by the Service Provider and/or Highways Agency Traffic Officer Service as required under established contingency plans, or as directed by other attendees at an incident.

All waste must be contained, removed from site and be disposed of in accordance with Statutory Regulations and Service Providers Quality procedures.

7.18.8 Health and Safety Considerations

The implementation of the methodology required within this chapter must be considered by all Service Providers in terms of the health and safety of their workforce, other attendees at an incident, motorists and any other party that may be affected.

7.18.9 Liability

In treating a diesel spillage the Service Provider has to ensure they meet the requirements of their Contract, any relevant Quality Promises and any legislation applicable to their activities.

7.19 Use of non-standard CCTV

7.19.1 Introduction

This section addresses the use of non-standard Closed Circuit Television (CCTV), including the use of wireless technology, on the Network. It advises of the conditions regarding its use.

7.19.2 Background

Regional Highways Agency teams are committed to delivering increased visibility of the road network to the Traffic Officer Service (TOS), the Service Managers and Service Providers. One of the ways in which this is being done is through the deployment of non-standard CCTV[6], particularly utilising wireless technology, for network monitoring purposes.

Over the last few years these installations have included:

- Fixed wireless cameras on the All Purpose Trunk Road (APTR) and motorways to monitor stretches of the network that do not have fibre optic cabling installed;
- Trailer mounted and other temporary cameras to monitor congestion around planned events, such as roadworks, and traffic conditions at major incidents; and
- Vehicle mounted cameras on Incident Support Units (ISUs) to aid in the handling of incidents on the network.

It is recognised that non standard CCTV offers value in supporting the Network Operator role as a low cost, short term alternative to the standard provided that certain conditions are met. Such conditions will ensure that such CCTV is used in a more co-ordinated, consistent and secure way.

7.19.3 Issues

Although the use of non-standard CCTV adds value it also brings with it a number of issues, including:

- Security concerns since the Highways Agency does not own the networks that these images are passed over or, in cases, the servers which they are stored on, though the images are our data asset;
- Difficulties viewing the images – these cameras are not integrated into our national network and thus have to be viewed on separate monitors either over the internet or through point to point connections. This means that operators in RCCs or the NTCC cannot easily access these images through the standard control office based systems and have to use separate monitors to view them. Although these cameras do not have the RCC as their destination, being able to view them would still be of value to the RCCs, NTCC, and other parts of the Highways Agency.
- Inconsistent maintenance of the equipment – non-standard CCTV it is not covered by the maintenance processes in place for our national systems. This means that users may not experience a common level of service across all the cameras that they use and that bespoke maintenance may not achieve best value.
- Bespoke installation standards – equipment deployed on the Network must be installed in accordance with Highways Agency standards so that it provides a safe and sustainable solution.
- Local investment decisions – investment into new installations of CCTV needs to be based on a sound business case which delivers them where they are most needed and can be of the greatest benefit to the Highways Agency as a whole. Currently, decisions are often

[6] Note that this section does not cover Automatic Number Plate Recognition (ANPR), enforcement cameras or CCTV mounted on TOS vehicles.

made at a local level in response to immediate needs, as opposed to as part of an overall future-proofed, national or regional plan for the deployment of cameras.

7.19.4 The Way Forward

Traffic Technology Division (TTD) is leading in addressing this and following consultation with appropriate representatives from other areas of the Highways Agency, have established a three phase plan:

- Phase One – Continue with the installation of non-standard CCTV, in recognition of the benefits offered, provided that the issues listed in Section 7.19.3 are mitigated. Guidance on how this can be achieved and the approvals necessary is given in Section 7.19.6.
- Phase Two – Implementation of quick-win options allowing greater integration and access to images from non-standard CCTV.
- Phase Three – The development of a robust and future-proofed means of integrating these installations and their images to our national network.

7.19.5 Requirements

Before any further non-standard CCTV is deployed on the Network a number of risks need to be managed and approvals gained which are listed in the sub-paragraphs below.

7.19.5.1 Security

It is essential that the security of servers and the inability of people, other than those designated by the Highways Agency, to access the images on them be assured before non-standard CCTV cameras are installed. To fulfil this, the Service Provider must confirm that the recording of images complies with the Highways Agency's *Closed Circuit Television (CCTV) Recording Policy in Regional Control Centres (RCCs)*. This may be obtained from the Service Manager (or from the HA Portal here).

To help prevent thefts of equipment from mobile CCTV sites the Service Provider must ensure that all sites be physically secured prior to or as part of the installation of cameras.

To guard against the threat of access to the Highways Agency's computer networks through the non-Highways Agency networks that these cameras utilise, the Service Provider must ensure that the obligations and approvals of Traffic Technology Division (TTD) Code of Connection MCH1514 are in place prior to connecting any non-standard CCTV to the Highways Agency's computer networks, NRTS or any CCTV/HATMS technology. The TTD Code of Connection should be completed through collaborative working involving the Regional Technology Team Leader, the Project Sponsor, any supplier organisations and the Technology Joint Security Working Group.

It should also be noted that even CCTV not connecting to any of the above Highways Agency owned networks is subject to the TTD Code of Connection, as all information produced (including CCTV images) for the purposes of the Highways Agency conducting its day-to-day business has to be appropriately managed and secured. This is in line with the TTD Information Security Policy MCH2459.

7.19.5.2 Viewing the Images

Installing non-standard CCTV cameras without a feed to RCCs or NTCC may be permitted. For such circumstance the Service Provider must obtain the approval of the Regional Technology Team Leader who will ensure they factored into the regional plan for the deployment of cameras

(see also section 7.19.5.5). As part of this process the RCC and the NTCC should be consulted on whether they would like access to the camera as well.

If cameras are to be viewed within an RCC or the NTCC then the Service Manager will seek approval for their use from the Network Operations Manager (RCCs) or Operations Manager (NTCC). The Service Provider should assist in developing a document which outlines the impact on operational working practices of having images which cannot be viewed on the main screens, the impact on space of the additional terminals required to view the images, the acknowledgement of the lower picture quality that these cameras provide, and that appropriate IT support and maintenance arrangements have been made for any RCC / NTCC based equipment. The Service Manager will seek a decision based on this document prior to the investment in the camera being finalised.

7.19.5.3 Equipment Maintenance

The Service Provider must follow MCH1349, which can be obtained through the Plans Registry website, and obtain the associated approval from the Regional Technology Manager to ensure that proper maintenance arrangements for the cameras and associated equipment and infrastructure will be in place. This will help ensure that issues such as spares, documentation, 3rd line support etc. are taken into account and that the parties responsible for the maintenance are identified and under the appropriate contractual cover.

The only departure from this is in the case where it can be demonstrated that the maintenance risk/liability remains with the supplier, e.g. where the maintenance and support issues are wholly provided by a service charge.

7.19.5.4 Installation Standards

The Service Provider is reminded that all installations are to have structural approval and to follow the fixing standards and approvals defined in MCHW Volume 1 - Specification for Highways Work - Series 1300 and BD 94/07.

7.19.5.5 Investment Decisions

Financial approvals for non-standard CCTV are subject to the appropriate ICF approvals processes. If the Service Provider writes business cases they should explain, before submitting business cases for approval, how the following issues are addressed:

- Lower picture quality – typically these cameras cannot provide the same picture quality that standard ones can and this should be considered when looking at the uses they are intended for.
- Future planning – non standard installations should be considered in the light of a regional plan for the deployment of cameras which recognises which locations offer the greatest benefit to the Highways Agency as a whole.
- Whole life cost – this area covers a number of considerations including: the life expectancy of these cameras is lower than that of standard cameras, maintenance costs may inflate the initial price, the cost of transmission of images from a 3rd party network (which is typically based on usage charges), and the possible cost of removal should they be replaced by standard cameras at some stage in the future.

The Service Provider must ensure that the Technology Gatekeeper (through the Technology Programme Performance Team) has signed-off the ICF Stage 1 before proceeding to installation.

7.19.6 Overall co-ordination of non-standard CCTV

CCTV Service Team in TTD will maintain a list of non-standard installations providing an overall national picture of where such cameras are deployed the Highways Agency's network. Once the appropriate approvals detailed above have been given, the Service Provider should inform the CCTV Service Team on CCTVServicesTeam@highways.gsi.gov.uk, and receive acknowledgement of the receipt of that information, of such installations.