

Smart Motorways (all lane running and hard shoulder running)

Initial Incident Response

Emergency Services and Highways England

National Operating Agreement

December 2017

Document Control

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1.0 Introduction

1.1 Purpose of agreement

This operating agreement is non contractual and its principal function is to guide the operational partnership between Highways England, the emergency services and strategic partners, applying to smart motorways all lane running (ALR) and hard shoulder running (HSR) schemes.

1.2 Scope of agreement

This agreement is primarily in relation to initial incident response as shown in Figure 1-1 (incident discovery, incident verification, incident access and initial incident response).



Figure 1-1: Highways England incident timeline

The remaining components of the timeline, scene management and recovery to normality, should be addressed as per the Strategic Road Responders Agreement (SRRA) and in line with each responder's respective policies and procedures.

The term smart motorways also encompasses controlled motorways (CM), which share many of the ALR and HSR technologies and traffic management measures, however have a permanent hard shoulder. Initial incident response on CM is effectively the same as a conventional motorway, and therefore is outside the scope of this agreement.

1.3 Strategic Road Responders Agreement

It is intended that this document sits below the SRRA (which applies to all motorways and trunk roads that together form the Strategic Road Network).

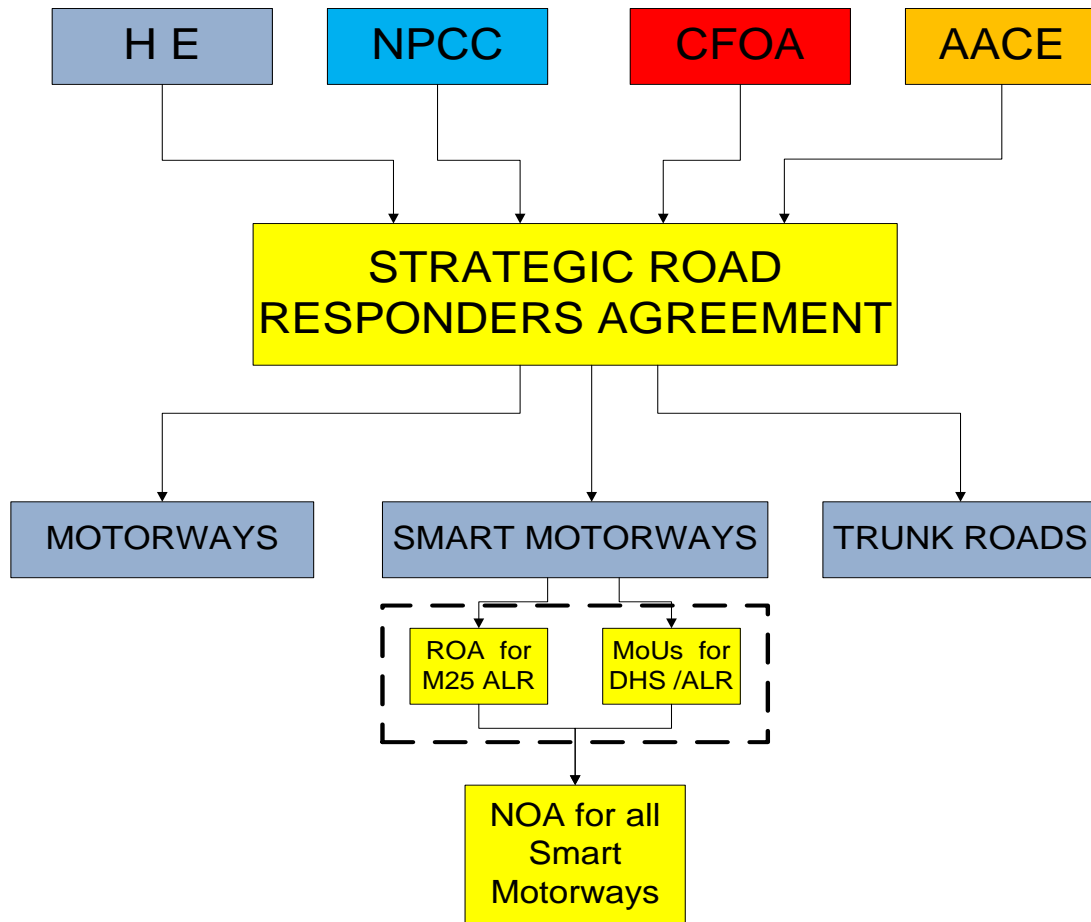


Figure 1-2: Relationship of SRRA and NOA

1.4 Consistency of approach

This National Operating Agreement (NOA) has been developed from the M25 Regional Operating Agreement (ROA), the Memorandum of Understanding (MoU) documents for the M1 junction 28 to 35a in Derbyshire and South Yorkshire and the MoU for smart motorways in West and South Yorkshire. It is intended to standardise joint operating procedures between emergency services and Highways England’s Traffic Officers Service (TOS) associated with ALR and HSR. As such it is envisaged that this agreement will be used in all regions across England where ALR will be introduced to ensure consistency of approach.

1.5 Review

This agreement is a “living document” which will be regularly reviewed by representatives from Highways England and emergency services. These reviews will consider notable practice identified from operation of ALR and HSR, incident debrief processes and any new legislation.

1.6 Roles and responsibilities

The aide memoir CLEAR outlines the roles and responsibilities of the key organisations involved in traffic incident management on the strategic road network, setting out a joint outcome. CLEAR has been referenced to help improve the understanding of the priorities of each organisation and the collective joint working principles in formulating this NOA between stakeholders, to improve communications and collaboration, more effective incident management and a reduction in incident duration.



Figure 1-3: CLEAR aide-memoire

Collision

Collisions and other incidents can close carriageway lanes which adversely affects the economy.

Lead

Effective leadership needs to be established to co-ordinate the incident response.

Evaluate

Understanding the scale of the incident ensures a proportionate response.

Act

All incident responders act in partnership, recognising and respecting differing organisational priorities.

Re-open

Carriageway lanes are re-opened ASAP to reduce the impact of incident closures on road users and the economy.

2.0 Joint operating principles

Implementation of this operating agreement should improve the following key areas:

- Tactical management of traffic to enable more expedient access.
- A greater degree of operational cooperation between agencies.
- A greater degree of information sharing between agencies.

The above will be evident throughout the initial response to an incident:

Incident discovery – the initial identification of a potential incident by an organisation or one of its staff members and informing the Highways England Regional Control Centre (RCC). Initial setting of variable message signs (VMS) and signals to warn and instruct approaching road users.

Incident verification – by use of CCTV and other available technology, clarification and confirmation of the location, extent and details of the incident as far as it is possible so that appropriate resources, TOS and emergency services, can be alerted and deployed. Informing responders of traffic conditions within the area, if known. Co-ordinate and co-operate with core responders to ensure efficient, effective and appropriate initial response.

Incident access and initial response – the determination of the most appropriate access route for the deployment of appropriate resources, setting of appropriate signals, stabilise the situation and provide support for those involved. This may include the decision of TOS, police or fire services to close all or part of the carriageway. Identify a rendezvous point if likely to be required and advise responders. Establish interim command, control & co-ordination of incident until members of lead organisations arrive and assume lead.

3.0 Terminology

It is important that all responders are fully aware of the terminology to be used. Responders' operational procedures and personnel training must reflect this common terminology. This will maintain a high level of understanding and interoperability.

3.1 Smart motorways

All smart motorways use of a range of technologies and traffic management measures to monitor and respond to fluctuating traffic conditions. Signals are used to inform road users of conditions on the network and to indicate a lower variable mandatory speed limit (VMSL) in response to congestion or incidents. On ALR and HSR smart motorways additional capacity is provided by either temporarily or permanently opening the hard shoulder to traffic.

3.2 Smart motorways – CM

Queue protection and congestion management algorithms within the motorway incident detection and automatic signalling system recognise differing traffic conditions and automatically set appropriate message signs and VMSL on signals to actively manage traffic conditions. Safety specific intervention is provided by the queue protection algorithm which protects the back of queuing traffic and congestion is managed by introducing reduced speed limits to increase traffic throughput and safety. The display can also be manually adjusted and set as required or requested. Both safety and capacity are therefore improved without any additional physical lane space being provided.

3.3 Smart motorways – HSR

HSR uses the same systems, algorithms and VMSL settings as the controlled motorway operational regime in addition to actively opening the hard shoulder to running traffic during busy periods. This measure therefore adds capacity to the carriageway at a reduced cost to conventional carriageway widening. The operational regime allows differing levels of automatic and manual intervention dependent on the traffic conditions.

Gantries with supporting VMS and signals are installed at nominal 800m intervals. Emergency refuge areas (ERAs) with emergency roadside telephones (ERTs) are spaced at nominal 800m intervals and are generally located after a gantry. These areas offer improved protection from oncoming vehicles, being set back from the path of passing traffic and being wider than the existing hard shoulder.

Enforcement cameras are positioned on some gantries and will automatically detect and record vehicles travelling at excessive speeds to the VMSL of the same gantry.

More than 95% of the carriageway is covered by the Highways England pan tilt zoom CCTV network. These can be used to inform responding emergency services of incident details, traffic conditions and access routes. 100% of the dynamic hard shoulder is covered by fixed CCTV cameras. These are used to check the dynamic hard shoulder before it is opened to traffic.



Figure 3-1: HSR motorway

Figure 3-1 shows a view of an HSR motorway when the hard shoulder is being used as a running lane with VMSL of 60mph (maximum speed when the hard shoulder is open to traffic). Additional driver information is provided as shown on VMS.

3.4 Smart motorways - ALR

ALR shares many technologies and traffic management measures as described above for a CM or an HSR scheme. An ALR scheme generally consists of:

- **No hard shoulder throughout the scheme** – all lanes are live running lanes with national speed limit applying under normal operating conditions.
- Through junction running on most junctions; all lanes continue through the junction (lane drop / gain can be implemented if traffic requires it).
- Reduced number of overhead gantries to that of an HSR scheme.
- Additional verge mounted VMS that feature pictograms and speed limit / lane closure information (see figure 3-2).
- Reduced frequency of refuges – a maximum 2500m spacing (refuges may include ERAs, motorway service areas, hard shoulders on exit slips or within junctions where there is a lane gain/drop).



Figure 3-2: ALR motorway with a VMS showing lane 1 closed



Figure 3-3: ALR motorway with lane signals showing queue protection



Figure 3-4: M25 ALR showing ERAs

Figure 3-4 shows two ERAs on the M25 ALR motorway (1m black hard strip and 3.6m white concrete, 100m long at the edge of lane one), signals and VMS on an overhead gantry, pan tilt zoom CCTV cameras with intra-red lighting on carriageway and a concrete barrier in the centre.

3.5 Lane terminology - general

Through engagement workshops with emergency services it has been recognised the common terminology should be used when passing information between Highways England RCCs and the emergency services. To maintain a high level of interoperability and to avoid error or confusion, all stakeholder operational procedures and training of personnel must reflect this common terminology.

Smart motorway carriageway lanes, in common with all motorway lanes, are numbered in ascending order from the left. The nearside (left) lane is therefore lane 1 and the offside (right) lane will be lane 3, 4 or 5, depending on the total number of lanes available. Where there is a permanent hard shoulder it is always referred to as the hard shoulder.

3.6 Lane/signal terminology – HSR

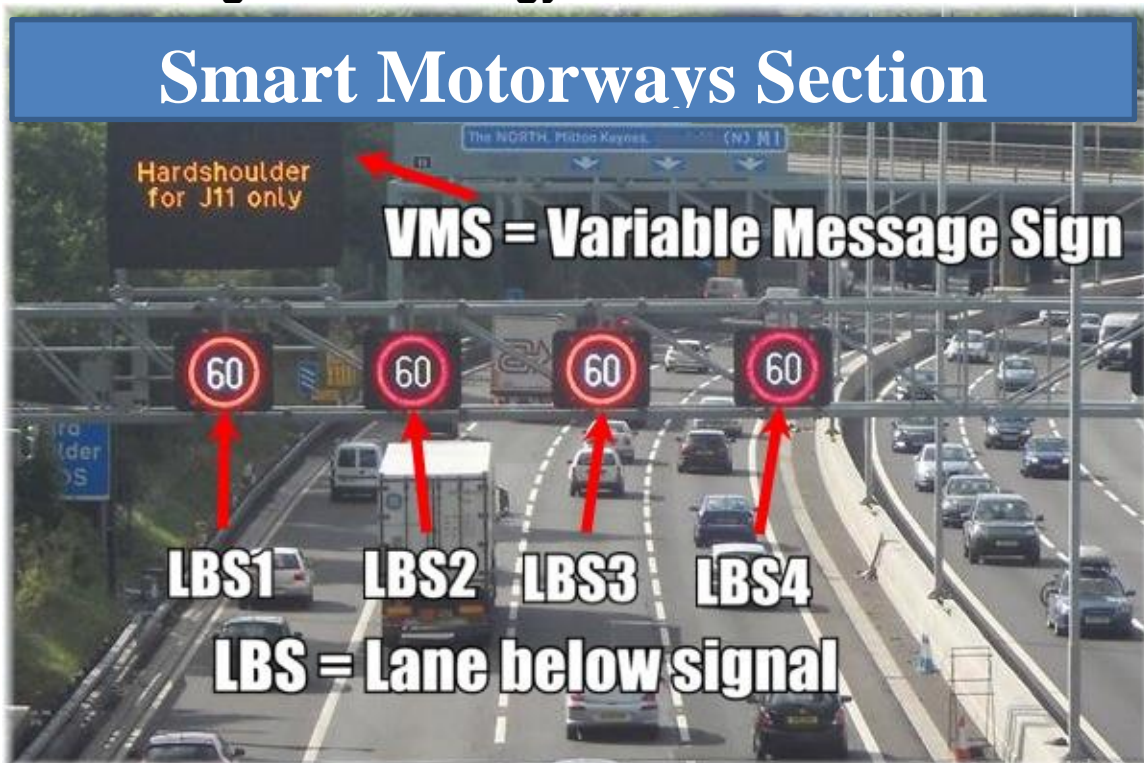


Figure 3-5: HSR motorway with lane below signal terminology

HSR carriageway lanes are identified as per picture above. Identifying the lanes in this way - “lane below signal – LBS” removes any ambiguity and this nomenclature never changes, regardless of whether the hard shoulder is open to traffic or not. Some emergency responders may still refer to the hard shoulder or lane 1 when what they are referring to is LBS1 or LBS2. RCC operators will need to be aware of this differing terminology, as they may be responsible for confirming which lanes are affected and the signs and signals which need to be altered.

3.7 Carriageways/slip roads identification

Main Carriageways on all motorways are identified by the letters “A” or “B”.

Carriageway “A”

Ascending junction numbers. Away from origin (junction 1) of motorway (clockwise carriageway on orbital M25 and M60).

Carriageway “B”

Descending junction numbers. Back to origin (junction 1) of motorway (anti-clockwise carriageway on orbital M25 and M60).

Slip roads are usually referred to as “the northbound/southbound” (direction as appropriate) entry (or “on”) slip road / exit (or “off”) slip road. Highways England makes use of the additional letters “J, K, L or M” (as described below) which will be seen on marker signs. *Emergency services personnel are not expected to know or refer to these, but should be aware that they exist.*

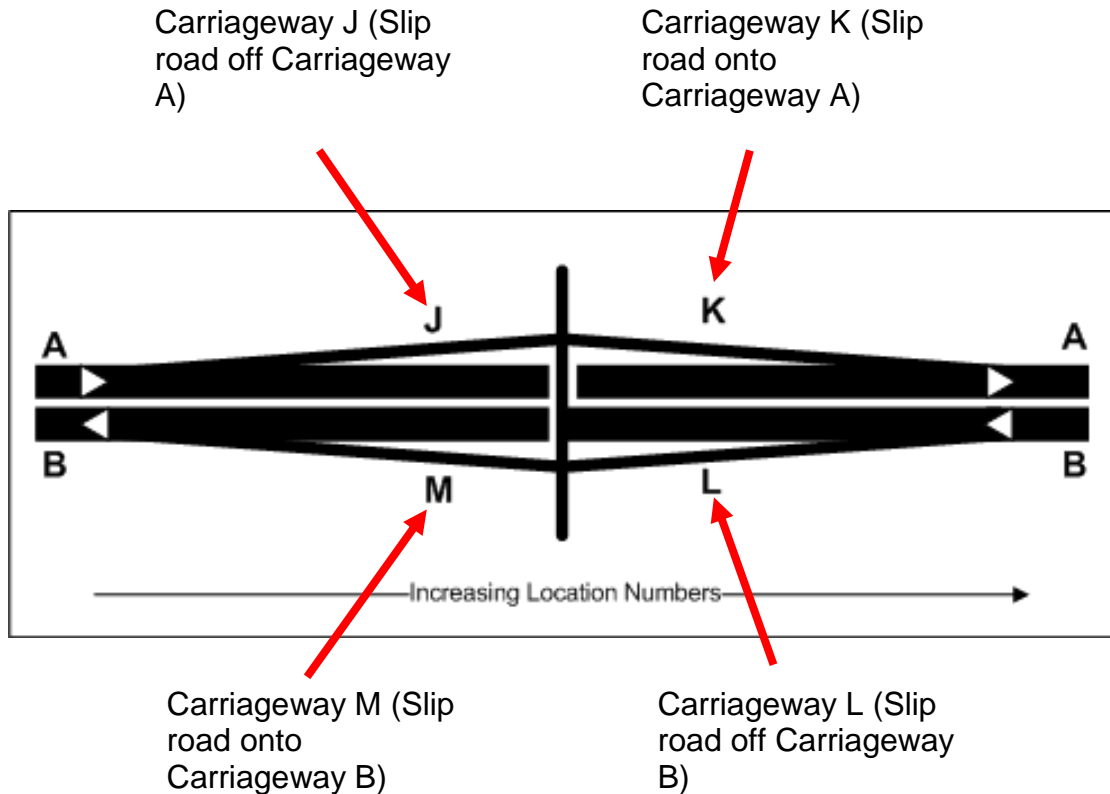


Figure 3-6: Slip road terminology – for information only

Similarly, marker post numbers ascend along the “A” carriageway as you travel from the origin of the motorway and decrease as you travel along the “B” carriageway. Marker post numbers include the carriageway identifier (e.g. 123/4A is on the A carriageway and 123/4B is at the same point but on the B carriageway).

Therefore any information passed including initial verification and any subsequent updates should be communicated as follows:

- “A” or “B” carriageway.
- Junction numbers on the carriageway.
- Marker posts.

For example, incident is on the “A” clockwise carriageway, between junctions 24 & 25 at Marker post XX/X.

When identifying slip roads at junctions “Exit Slip or Off Slip” and “Entry slip or On Slip” should also be used.

For example, incident is on the “B” anticlockwise carriageway, just after the “entry or on slip” at junction 25 at Marker post YY/Y.

4.0 Communication

4.1 General points

Where the facility exists, the most expeditious means of transferring information from one control centre to another is via electronic interface. Where this facility does not exist, communication between control centres will typically be by phone.

A key principle for joint operation is that when any emergency service is informed about an incident on a (smart) motorway, they should contact the relevant RCC. The RCC can set signals and VMS to warn approaching vehicles of the incident, and provide an accurate location.

Many smart motorway schemes cross multiple service boundaries and, until the exact location (i.e. marker post) of an incident can be established, this is likely to result in duplication when deploying resources, with the same emergency services response being resourced by more than one partner (for example, a response from both London Ambulance and East of England Ambulance). As the majority of partners to this agreement do not have an electronic interface with the Highways England RCC, it is expected that multiple phone calls to several agencies will be necessary to share information and the speed with which this can be achieved will be directly affected by the prevailing demand and personnel in the respective control centres.

4.2 Hailing channel

The Highways England hailing channel can be used for initial contact and passing of information about an incident. When such communication occurs, it will still remain the responsibility of the individual resource to keep their respective control centre updated. It is noted that most fire appliances only have one Airwave set which must be kept open to their control room.

The facility also exists within the Highways England RCC to dedicate a common incident channel if required that all police services can access via their hand held Airwave sets (at the time of writing this agreement this facility does not exist for Fire and Ambulance services)¹.

4.3 Interoperability channels

For multi-agency incidents one of the interoperability channels (ES1, 2, 3 or IC) should be used by all control rooms to facilitate timely and efficient communication of information (see figure 4-1). This could be particularly useful for incidents requiring reverse access. The lead police service will need to decide which interoperability channel to use.

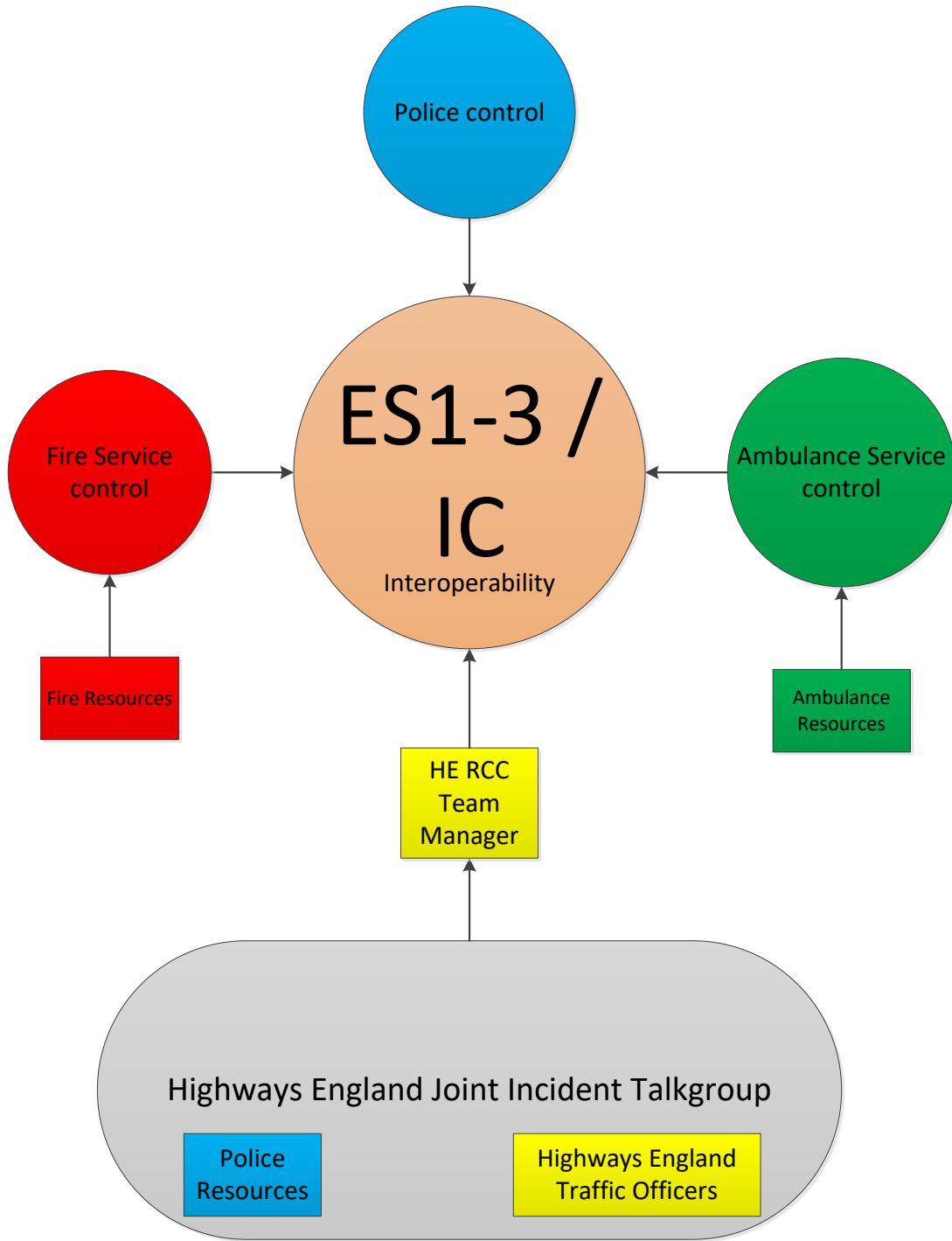


Figure 4-1: Proposed use of interoperability channels

5.0 Initial response

5.1 Incident discovery

The discovery phase of an incident is the period between an incident occurring and someone being made aware of the incident. Following the detection incident details will require verification to ascertain that information gathered about the incident will enable the most appropriate deployment of responders.

Incidents will either be reported to the emergency services from the Highways England RCC, or by other means direct to the emergency services control room operators. Emergency services control room operators may have access to Highways England CCTV cameras. Emergency services control room operators and Highways England RCC operators will use this information to communicate and confirm the location of incidents with all agencies as soon as possible.

During periods of heavy traffic flows, this is often a very short period of time but incidents can go undetected for longer periods when traffic flows are lighter on ALR motorways.

The most common discovery sources are:

- Members of the public alerting the emergency services via 999
- Members of the public alerting the Highways England RCC via emergency roadside telephones (ERT)
- Police patrols
- TOS units
- Service provider personnel
- Technology within the RCC (e.g. queue protection systems)

5.1.1 Highways England

Upon notification of an unconfirmed incident occurring within the ALR or HSR area the Highways England RCC will:

- If it is not possible to quickly verify the location of the incident, set a blanket 50 mph speed restriction along the entire length of the affected link(s) (junction to junction) in conjunction with a legend appropriate to the nature of the reported incident (e.g. Incident, Collision, Obstruction, Debris, etc).
- Use CCTV to verify the location and extent of the incident and disseminate this to other responders via their respective control rooms (either by electronic interface or by phone).
- Deploy TO units as appropriate.
- Confirm or arrange the attendance of other stakeholders as required.
- Adjust VMS and signal setting as necessary to provide more accurate advance warning and instruction to road users of the incident and to control the flow of traffic.

- Identify the most appropriate route and/or access point for all responders (as per Section 9 of this agreement) and disseminate this to other responders via their respective control rooms.

5.1.2 Other responders

Upon notification / detection of an incident occurring within the ALR or HSR area, the receiving responder will:

- Notify the Highways England RCC to instigate location verification.
- Deploy appropriate resources in line with that responder's own deployment strategy and policy.
- Redirect resources as required following notification from the Highways England RCC of the most appropriate route and/or access point or via an agreed rendezvous point (as in section 5.3 of this agreement).

5.2 Verification

5.2.1 Location verification

It is recognised that to achieve full incident verification it is generally going to require resources on site. This will be no different to an incident that emergency services and TOS attend, as described in the previous section.

The key with ALR / HSR is location verification, as this will inform access routes (see also section 5.3). This can be done remotely, before any on-road resources have arrived at the incident scene, as Highways England CCTV cameras are positioned to provide 100% coverage of ALR and 95% coverage of HSR sections of the network (these cameras are equipped with infra-red capability for low light conditions where there is no carriageway lighting).

The Highways England RCC will use CCTV to confirm the location of the incident and to provide or expand on the information initially provided. This information will be disseminated to other responders via their respective control rooms and will include the relevant CCTV camera number(s). Responder control centres may also have access to the Highways England CCTV system and, where possible, they too may use this system to gather information relevant to their own incident response.

To register and access Highways England traffic cameras please go to:

<https://www.highwaystrafficcameras.co.uk/HETCOperational/login.jsp>

5.2.2 Incident verification

Once location has been verified, the primary objective 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.

The Joint Emergency Services Interoperability Programme (JESIP) and traffic officers use the mnemonic **METHANE** to structure and deliver initial information:

M is this a Major incident?

Exact Location

Type of Emergency

Hazards, Present and Potential

Access / Egress routes

Number and types of Casualties

Emergency services present and required

Upon notification / detection of an incident occurring within the ALR / HSR area the receiving stakeholder will attempt to confirm:

- The location of incident, specifying which carriageway and between which junctions as a minimum requirement and providing marker posts where possible
- If the incident is between slip roads
- If the incident is on an entry slip or exit slip
- The type of incident
- The extent/size of the incident
- If a road traffic collision, the vehicle type(s), number involved and the nature of the collision
- The number of casualties
- If any casualties are trapped
- If any responder is already on scene
- Any identified hazards

The receiving stakeholder will then be responsible for notifying all other required responders (either by electronic interface or by phone).

5.3 Incident access and initial response

Following verification and notification to all required responders, each responder is responsible for deploying appropriate resources in line with their own risk assessments, deployment strategy and policy.

The Highways England RCC will use CCTV to assess traffic flows at and on the approach to the incident to determine the most appropriate access route which will then be notified to all other responders via their respective control rooms (see also section 4.0). The access route will typically be one of the following options and will be considered in this order:

1. **With flow access** – with the normal flow of traffic on the affected carriageway (most incidents)
2. **Reverse access (standard or dynamic)** - against the normal flow of traffic on the affected carriageway by accessing the carriageway via the next available point after (downstream of) the incident. This may be an emergency turnaround/access point or the next junction. (Interchanges between motorways, where all traffic movements are catered for by free flowing connector roads, are generally not suitable as access points.) Access can be one of the following two methods:
 - **Standard reverse access**
Operational commander in place at the head of the incident (forward control point (FCP)).
 - **Dynamic reverse access (optional in extreme circumstances)**
No operational commander in place: access is made from a point after (downstream of) the incident following a dynamic risk assessment.

5.3.1 With flow access - via normal flow of traffic on the affected carriageway
Where traffic flows indicate that access can be achieved by travelling with the normal flow of traffic on the affected carriageway, the Highways England RCC will set red X lane closure signals to provide an access lane to the incident scene. To encourage compliance the red Xs will be supplemented by the legend “Lane closed for incident access” (see figure 5-1). The access lane will be established well in advance of the incident and can be set back as far as the previous junction, or beyond, where necessary. Typically, the access lane will be established in lane one for incidents occurring in nearside lanes and in lane four (offside lane) for those occurring in offside lanes, as below:

- RTC in lanes 1 & 2 – Highways England RCC will close lane 1 to provide the access route.
- RTC in lanes 3 & 4 – Highways England RCC will close lane 4 (or outermost lane) to provide the access route.

- RTC in lanes 2 & 3 – Highways England RCC will close lane 1 to provide the access route (as first preference).

This approach aims to keep as many lanes as safely possible open past the incident to keep traffic flowing and facilitate emergency response from prior to (upstream of) the incident through traffic on the affected carriageway. It is noted that whilst more than one lane may be closed at the incident scene, only one lane will be closed for incident access.

The Highways England RCC will notify all responder control rooms as to which lane has been closed to provide the access route and they, in turn, will be responsible for disseminating this information to their respective resources. Should there be any delay in the sharing of this information, those attending the incident should use the lane indicated by the signs and signals (see figure 5-1).

It should be noted that an incident scene may not specifically be within an ALR section however access to the scene may be through an ALR section of motorway and as such will require management of traffic through the use of signs and signals, for example by providing an incident access lane. This would also help deal with medical emergencies in the ALR section traffic.

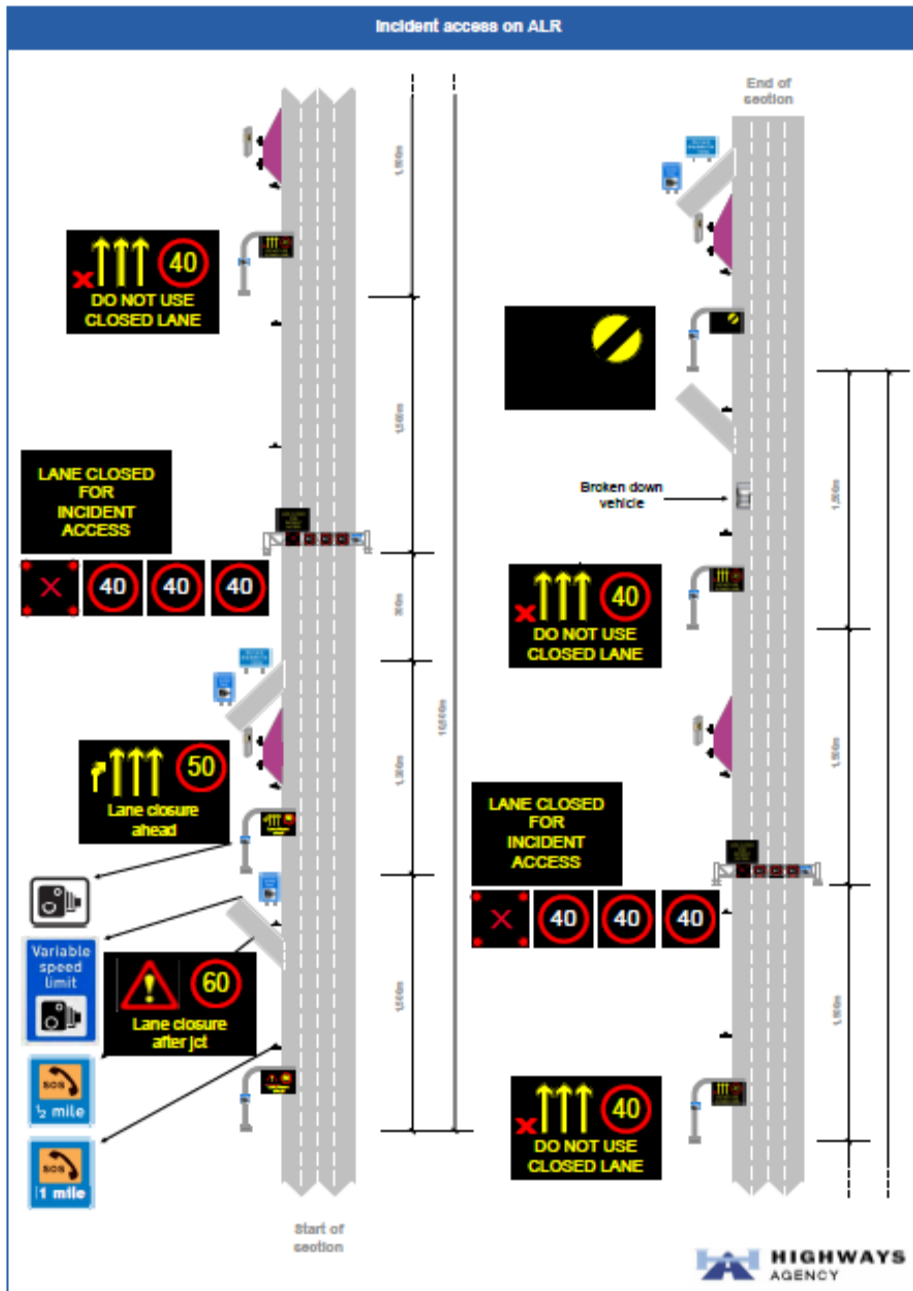


Figure 5-1: Incident access lane signalling – ALR

5.3.2 Reverse access (standard or dynamic)

Summary of minimum criteria

1. Operational commander has control of head of scene, FCP (by physical presence prevents traffic flowing past the scene, supported by Highways England RCC closing the carriageway with VMS and signals)
2. Confirm no vehicles after (downstream of) incident scene to chosen access point (on ALR this can be by through the Highways England RCC using CCTV, line of sight or vehicles in attendance)

Note: In order to establish an operational commander at the incident, Police and Fire Services may consider attending via the opposite non-affected carriageway using their standard operating procedure for stopping in a live carriageway. (This should only be used in extreme circumstances to access the head of the incident e.g. known life risk, or to prevent a catastrophic escalation of events). Each emergency service will advise the Highways England RCC if their resources will be deployed to the non-affected carriageway. The Highways England RCC will use VMS and signals to support access to the incident from the non-affected carriageway as directed by each emergency service.

Note: Highways England traffic officers are prohibited from accessing incidents from the non-affected carriageway.

5.3.2.1 Standard reverse access

The option to implement reverse access will need to be considered if it is not possible to access an incident with the flow of traffic on the affected carriageway (see appendix B for a flowchart). The Highways England RCC will advise the emergency services if access on the affected carriageway is impeded.

Reverse access entails responder vehicles entering the affected carriageway at an agreed access point somewhere after (downstream of) the incident (e.g. at the next junction or an emergency turnaround point) and travelling against the normal flow of traffic, using lane 4 (or outermost lane), to the incident scene. Interchanges between motorways, where traffic movements are catered for by free flowing connector roads, are generally not suitable as access points.

The most important and overriding requirements before reverse access can be implemented are:

- 1. The establishment of an operational commander at the incident scene, FCP, to verify that no vehicles can pass the scene.** This may include vehicles that have stopped in the immediate vicinity, but beyond the actual incident site.
- 2. The RCC to confirm whether there are any vehicles stopped between the incident site and the proposed access point** (for instance at downstream ERAs). The RCC will make efforts to contact drivers (via ERTs, mobile phone or by directing TOS to location) to warn them to remain stationary until instructed otherwise. RCC to confirm whether or not this has been possible.

Before vehicles can enter the carriageway from the access point it is necessary to check there are no vehicles between the head of the incident scene and the access point. This can be achieved in a number of ways including use of CCTV, line of sight or by using a suitable vehicle to drive from incident scene to the proposed access point. If there are vehicles in an ERA, the Highways England RCC will try to contact them to instruct them not to leave until advised otherwise.

It is for the operational commander or other Emergency Responder at the incident scene to carry out their own dynamic risk assessment to determine if it is safe for personnel to stop traffic passing the scene. Factors to be considered include the number of lanes of moving traffic and the speed of passing vehicles. However, it is anticipated that if passing traffic is moving at speed and/or in more than one lane, then reverse access is unlikely to be necessary.

If reverse access is deemed necessary and appropriate, the operational commander on scene will confirm that no further traffic is passing that point and the RCC will confirm that the carriageway downstream (i.e. beyond the line of sight of the operational commander) is clear of other moving vehicles. Both functions can be carried out by the operational commander only if the access point is clearly visible from the incident site.

Once the two criteria above have been confirmed the reverse access procedure will be adopted. The affected carriageway essentially becomes a two-way road and it is imperative that all responders adhere to the prescribed procedure.

Confirmation of the decision to implement reverse access must be communicated to all control rooms (emergency services and Highways England). It will be the responsibility of each control room to inform its on-road resources that “**reverse access is being made**”, and that they may enter the motorway network via the on-slip (as preference), off-slip or other dedicated access point, depending on the ability of emergency service resources attending the incident and the physical layout of the access point. The access point and level of access must be communicated to all organisations.

NEVER ASSUME that reverse access is in place – unless circumstances are such that responders consider dynamic reverse access is appropriate (see below) – always ask for confirmation that “**Reverse access is being made**”.

The carriageway closure implemented by the operational commander will be supported by red X and VMS signals upstream of the incident which will indicate a closure of all lanes.

The reverse access approach will be supported by VMS and on ALR signals on the affected carriageway after (downstream of) the incident scene by closing all lanes except lane one, which will remain open in the correct direction with a speed restriction of 20mph, the legend “ONCOMING VEHICLE” will also be displayed. On HSR motorways vehicles leaving the incident scene should use LBS1 or LBS2 as indicated by signals and as per the instruction below.

The Highways England RCC will assign an operator to deal exclusively with all issues relating to reverse access until its conclusion. The operator will use CCTV to continually monitor all activities and developments which will be conveyed to all working partners.

A marshalling area should be established a minimum of 100m from the scene, emergency vehicles should park in the approach lane, allowing enough room for vehicles to turn and exit the carriageway. Only vehicles directly involved in rescue/medical treatment should progress past this point.

Note - It is important to remember that the dynamics surrounding an incident can change and this may necessitate a change to any previously agreed access arrangements.

It should also be noted that system faults (e.g. CCTV, VMS, and signals) may affect the operation of the Highways England RCC and limit their ability to conduct some of the above actions.

5.3.2.2 Reverse access – route

Emergency vehicles will usually enter the motorway on the offside lane of the on slip road and turn right across the motorway to enter lane 4 (or outermost lane). **On reaching the end of the on slip responders should treat the access point as a “give way”** and only enter the carriageway once satisfied that it is safe to do so. At some locations or in extenuating circumstances it may be preferable to use the OFF slip to gain access to the carriageway, however **standard procedure will be to use ON slip.**

RCC to confirm to all responders the selected access point and in either case, having entered the carriageway resources will travel to the incident site in lane 4 (or outermost lane) and leave the incident scene in the following lanes:

- On ALR motorways use lane 1 (see figure 5-2)
- On HSR motorways
 - Where LBS1 is open use LBS1
 - Where LBS1 is closed use LBS2

On reaching the next downstream junction responders will leave via the off slip in the normal manner.

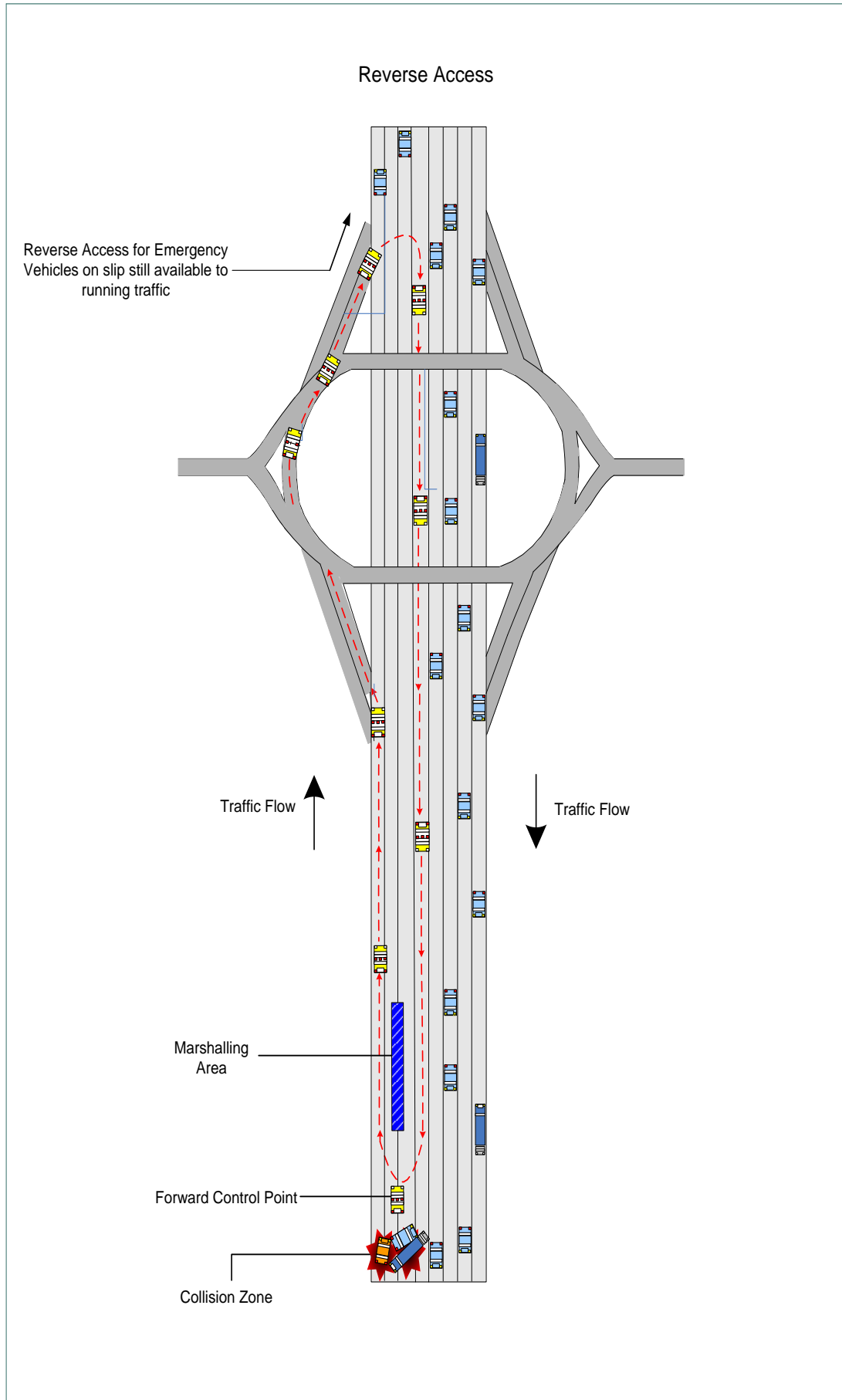


Figure 5-2: Reverse access route - ALR

5.3.2.3 Legal Powers to Close Roads

In any incident in which police service is involved, whether police officers are present on site or not, the police power to close a carriageway or road (see below) can be passed to other persons, including members of other emergency services or organisations. This is therefore the most commonly used legal power to close a road when responding to incidents and collisions on any highway. However, Fire and Rescue Services and TOS personnel may also close roads and direct traffic using their own powers under separate legislation. The powers can be briefly summarised as follows:

Section 67 Road Traffic Regulation Act 1984

This Act/Section allows police, or any persons acting under police instructions, to close a carriageway or road as a consequence of extraordinary (i.e. unforeseen and unplanned) circumstances, maintaining the closure for up to 7 days.

Section 6 Traffic Management Act 2004

This Act/Section allows TOS personnel, when engaged in the regulation of traffic, to stop and direct vehicles, or to make vehicles proceed in, or keep to, a particular line of traffic.

Section 44 Fire and Rescue Service Act 2004

This Act/Section allows an employee of a fire and rescue service to do anything he/she reasonably believes to be necessary, including closing a highway or regulating traffic, in the event of a road traffic collision or fire, for the purposes of extinguishing fire, protecting life or property, or rescuing people.

5.3.2.4 Dynamic reverse access

Where one or more of the two **minimum criteria** for implementing reverse access are not met, in such an extreme circumstance, (e.g. known life risk, or to prevent a catastrophic escalation of event), emergency services may, upon their own dynamic risk assessment and based upon their own standard operating procedures, enter the carriageway to access the scene. (Dynamic reverse access will not be implemented by TOS units.)

The responder making the decision to undertake dynamic reverse access must confirm the following:

- **Based upon the latest information that an operational commander cannot make the head of the incident, FCP, within a time that is reasonably practicable.**
- **That they have spoken to the Highways England RCC to gather information from CCTV regarding vehicle movements and the incident scene (e.g. to confirm no motorcyclists filtering through traffic).**
- **That the Highways England RCC has set VMS and signals (where available) to support access.**
- **Communication is open to the Highways England RCC in case a vehicle movement, or other such danger is observed (as described above) and warning can be given directly to the responder making the dynamic reverse access.**

A message must be passed to respective controls stating that “**dynamic reverse access is being made**”.

- **Access should be in the outermost lane** to be consistent with the standard reverse access procedure and the signals set by the Highways England RCC.
- Access will be in a controlled manner using appropriate speed for the conditions and environment.
- All available warning lights and sirens are to be used.

Having accessed the head of the scene it will then be vital that the scene is sealed to enable **standard reverse access** to be safely implemented and communicated to their respective controls.

5.3.2.5 Air ambulance attendance during reverse access

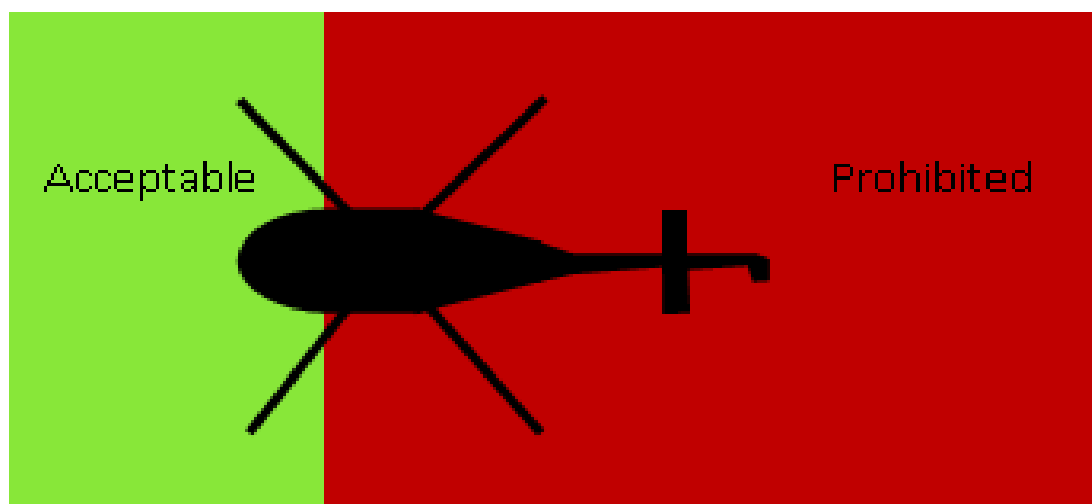
The current procedure of an air ambulance landing downstream of an incident would block reverse access. The following guidance has been developed:

- 1) Preference is for an air ambulance to land initially adjacent to the motorway as this would not block either carriageway.
- 2) If the air ambulance cannot land adjacent to the motorway / has to land on the motorway, reverse access will be stopped at this time, as well as the closure of the opposite carriageway to allow a landing. The air ambulance should land behind the forward control point and the marshalling area will need to be moved further away from the incident.
- 3) The helicopter will remain on the carriageway until the patient is loaded or the medical crew are no longer required.
- 4) The opposite carriageway can then be reopened until the Air Ambulance is ready to take off.
- 5) There may be a need for more than one aircraft to attend in which case the forward control point and marshalling area will be moved even further away from the incident.
- 6) Do NOT approach the helicopter at any time until the rotors have come to a complete stop
- 7) The key will be good communications between all parties organising the reverse access and the air ambulance.
- 8) **The final decision where to land will be made by the aircraft commander.**

Approaching



DO NOT APPROACH without receiving a visual instruction from the pilot. If in doubt do not approach the helicopter until the rotors have fully stopped.



Safety zones for approaching / leaving the helicopter. Stay where the pilot can see you at all times.

Briefing from Crew:

- Do NOT help the crew without direct instructions.
- Do NOT help load/unload the patient without a request from the crew.
- Do NOT help the crew with opening or closing the doors.
- Be prepared to control access to the landing site under direction from the crew in preparation for helicopter departure.



5.3.3 Menu of tactics

1. If a major incident occurs and a full carriageway closure is required just outside or inside a ALR section of motorway, consider closing the carriageway at the largest junction back to avoid traffic queuing.
2. If closures are required within or just outside ALR sections an emergency access lane should be established immediately to enable emergency services to respond to any incidents in the queuing traffic.
3. Use of the unaffected carriageway to be considered for air or land ambulance to attend medical emergencies in queues on affected carriageway. Initially rolling road block, thereafter consider temporary chapter eight traffic management.
4. Consider requesting police use motorcycles (solos) to access traffic queues in affected carriageway to deal with secondary incidents and emergencies.
5. If a junction or exit is available forward of the main carriageway closure consider batching traffic in all three lanes forward of the main closure and escorting to the next junction or exit.
6. Try to keep traffic flowing past an incident, if safe to do so, to make it easier / possible for responders to reach the incident through traffic.

5.3.4 Dealing with potential suicides

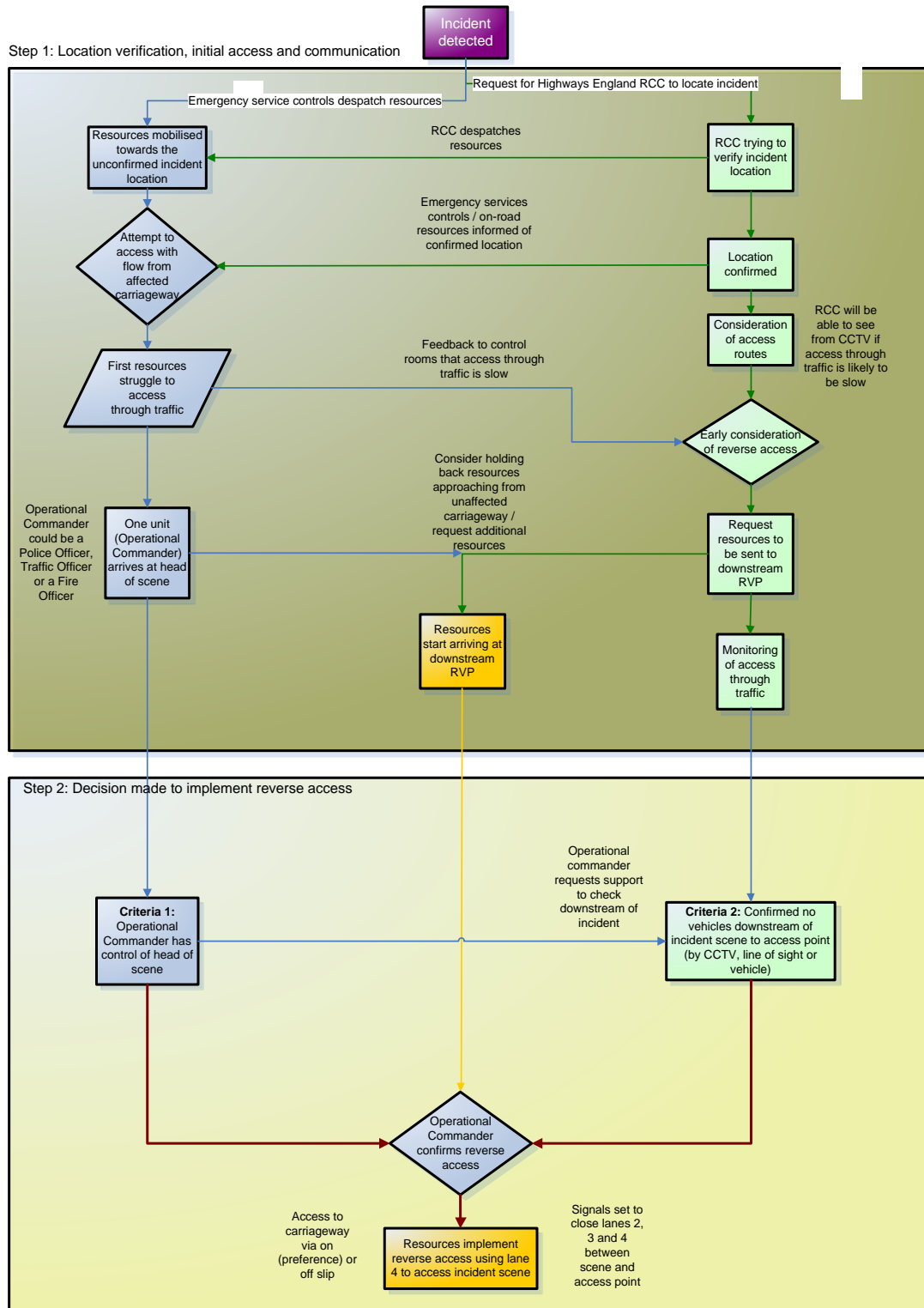
The procedure for dealing with potential suicides on ALR should be as follows:

- 1) Police or TOS would put on a rolling road block to stop traffic on both carriageways
- 2) TOS would close motorways at upstream junctions
- 3) Other resources would generally access the incident from off network
- 4) Could use reverse access to get resources to the incident

Appendix A – Glossary of terms and abbreviations

Acronym	Description
ALR	All lane running
CLEAR	Collision, lead, evaluate, act, re-open
CM	Controlled motorways
ERA	Emergency refuge area
ERT	Emergency roadside telephone
HSR	Hard shoulder running
JESIP	Joint Emergency Services Interoperability Programme
LBS	Lane below signal
MOU	Memorandum of understanding
NOA	National operating agreement
RCC	Regional control centre
ROA	Regional operating agreement
SRRA	Strategic Road Responders Agreement
TOS	Traffic officer service
VMS	Variable message sign
VMSL	Variable mandatory speed limits

Appendix B – Reverse access flowchart (ideal)



Appendix C – Airwave talkgroups

To be added – region specific.

Smart Motorway Incident Access

Option 1 - Access via normal flow of traffic

Where traffic flows indicate that access can be achieved by travelling with the normal flow of traffic on the affected carriageway, the Highways England RCC will set signals using red Xs to provide an access lane to the incident scene.

To encourage compliance the red Xs will be supplemented by the legend “Lane closed for incident access”.

The access lane will be established well in advance of the incident and can be set back as far as the previous junction, or beyond, where necessary.

Typically, the access lane will be established in lane 1 for incidents occurring in nearside lanes and in lane 4 (or outermost lane) for those occurring in offside lanes, as below:

- RTC in lanes 1 & 2 – Highways England RCC will close lane 1 to provide the access route.
- RTC in lanes 3 & 4 – Highways England RCC will close lane 4 to provide the access route.
- RTC in lanes 2 & 3 – Highways England RCC will close lane 1 to provide the access route (as first preference).

The Highways England RCC will notify all responder control rooms as to which lane has been closed to provide the access route and they, in turn, will be responsible for disseminating this information to their respective resources. Should there be any delay in the sharing of this information, those attending the incident should use the lane indicated by the VMS and signals (please see figure below).

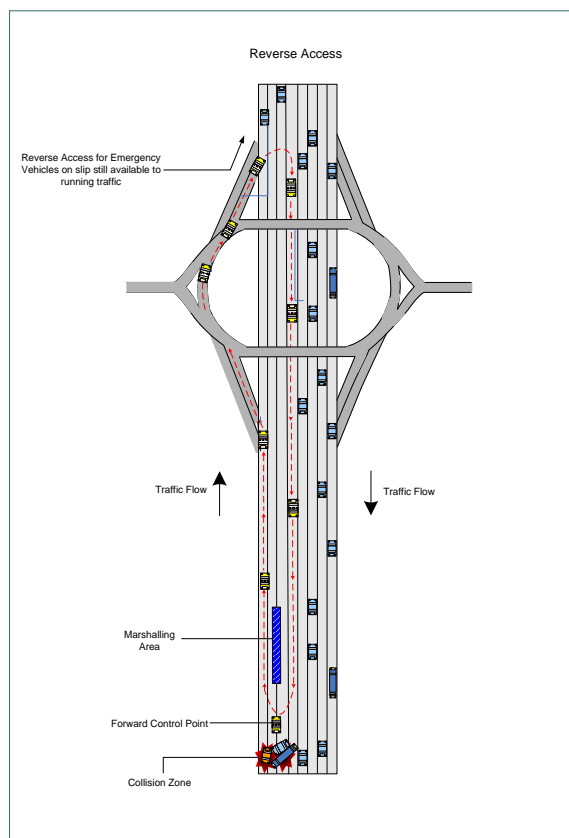
Option 2 – Standard reverse access

Before initiating reverse access:

1. Operational commander must have control of head of scene (Forward Control Point (FCP))
2. Get confirmation that there are no vehicles downstream of incident scene to access point (by CCTV, line of sight or vehicle) or if there are vehicles – that drivers have been contacted and told not to move.

Reverse access route:

- Access to the motorway via next junction on-slip (preference) or off-slip
- Access point for reverse access to be communicated to all responders
- All resources accessing the incident scene will approach in lane 4 (or outermost lane)
- All resources leaving the incident scene will exit motorway in nearside lane 1 (on HSR use LBS1 or LBS 2 as indicated by signals)



Option 3 - Dynamic reverse access

Where one or more of the two minimum criteria for implementing **reverse access** are not met, in extreme circumstances, emergency services may enter the carriageway to access the scene, following a dynamic risk assessment and based on their own standard operating procedures, enter the carriageway to access the scene. (Dynamic reverse access will not be implemented by TOS units.)

The responder making the decision to undertake dynamic reverse access must confirm the following:

- Based upon the latest information that an operational commander cannot make the head of the incident, FCP, within a time that is reasonably practicable.
- That they have spoken to the Highways England RCC to gather information from CCTV regarding vehicle movements and the incident scene (e.g. to confirm no motorcyclists filtering through traffic).
- That the Highways England RCC has set VMS and signals (where available) to support access.
- Communication is open to the Highways England RCC in case a vehicle movement, or other such danger is observed (as described above) and warning can be given directly to the responder making the dynamic reverse access.

A message must be passed to respective controls stating that **“Dynamic reverse access is being made”**.

- Access should be in lane 4 (or outermost lane) to be consistent with the standard reverse access procedure and the signals set by the Highways England RCC.
- Access will be in a controlled manner using appropriate speed for the conditions and environment.
- All available warning lights and sirens are to be used.

Having accessed the head of the scene it will then be vital that the scene is sealed to enable **standard reverse access** to be safely implemented and communicated to their respective controls.