



General Safety at an RTC



Advancing Professional Rescue

Common Hazards at an RTC >>>

Road traffic collisions present a variety of different hazards to emergency service responders. There are, however, commonalities that can be found in these hazards but the severity of the risk changes dependant on the circumstances. The hazards found at a Road Traffic Collision fall broadly under three headings: the environment, vehicles and casualties. Let's start by considering the hazards posed by the environment. The actual location of the incident has a significant impact on the safety of emergency service responders with the road infrastructure influencing the severity of the risks. Also, motorways, urban roads and rural roads all present different considerations such as the amount and speed of traffic, the road layout such as bends or hidden dips, the proximity to waterways, train lines, tunnels, bridges or embankments. The weather conditions may also exacerbate the situation; Poor visibility caused by rain, snow or fog may affect the response of emergency vehicles, with surface water or icy roads further increasing the potential of a secondary collision as well as making conditions underfoot tricky for responders. High winds can also cause problems with disruption to roadways and creating the potential for unstable structures and flying debris.

If involved in the collision, another environmental consideration is street furniture such as crash barriers, bollards, streetlamps, traffic lights and bus stop to name just a few. These items individually present different risks, and some may even be live creating an electrical hazard. A further environmental consideration could be members of the public who may be aggressive, anxious, stressed or may even be trying to help in rescue operations. There may be just a small number of individuals or more massive crowds, in either case, they need to be controlled for their safety and to ensure they don't impact on rescue operations.

Next, let's look at some of the hazards that may be created by the vehicle or vehicles that have been involved in the collision. If a van or lorry is involved in the collision, the most significant hazard may be from the vehicle cargo. With UK road infrastructure used extensively to transport goods throughout the county, it is not uncommon for hazardous materials, animals, ammunition, and other volatile loads to be transported. In the event of a collision, these loads can easily be left unstable or unsecured, apparently has the potential to cause significant issues to emergency service responders during an incident. In most circumstances, the emergency service responders are informed at some point before they have arrived at the scene about what is involved, including any cargo. If this is not the case, then identifying any cargo should be a primary consideration, the outcomes of which impact the dynamic risk assessment process and subsequent control measures.

The vehicle its self also may pose a significant risk to firefighters if hazards are not identified and effectively controlled. So, it is essential that a full assessment is completed so suitable control measures can be put in place. The damage caused from an impact, along with the vehicle's age, make, size, construction and fuel type all have a bearing on the type and severity of hazards emergency service responders may need to consider. Newer vehicles incorporate Supplementary restraint systems and composite materials, which bring with them their unique considerations. Further details can be found in the 'New Vehicle Technology' and 'Supplementary Restraint Systems' modules. Other potential hazards are the casualties themselves, who may be distressed, anxious and potentially under the influence of drugs or alcohol and acting aggressively. Finally, although relatively low, there may also be the risk of infection from bodily fluids.

Personal Protective Equipment >>>

All Fire Service personnel are expected to wear full fire-fighting or rescue kit at a Road Traffic Collision. Helmets should be worn always, and it is recommended that the helmet has a full-face visor and secondary goggles, or safety glasses are also worn, mainly when using rescue tools. Cut resistant gloves should also be worn throughout the incident unless you are handling a casualty in which case medical

latex gloves should be worn. Fire or rescue kit should be flame retardant and offer protection from sharp edges, while fire or safety boots should incorporate a steel toecap and sole. It is also recommended that respiratory protection is worn in the form of dust masks during glass management or when dealing with composite materials that are compromised and create a hazard from dust particles. Do not forget that the casualty also requires protection, which usually is in the form of a soft protective sheet.

As you are likely to be working on a roadway; it is also essential that you increase your visibility to other road users by wearing a reflective surcoat. Other emergency service personnel should also be wearing appropriate Personal Protective Equipment if they are within the risk area. Don't forget the Fire and Rescue Service is responsible for the health, safety and wellbeing of everyone in the inner cordon.

On Arrival at the Incident >>>

When first arriving on scene think carefully about the siting of your appliance. The first consideration is to position the appliance in such a way to protect the scene of operations; this is referred to as the Fend-off position. More information on this can be found in the Scene Safety, Vehicle Fend-Off Module. The appliance needs to be positioned close enough to ensure equipment is readily available but always ensure a route remains clear for other emergency vehicle's so they can reach the scene. Where possible, dismount the appliance by stepping off the side away from any hazards, such as moving traffic. Quickly establish a safe cordon, using traffic cones, Till-dawn lamps and police accident signs to warn other road users of the accident. Remember, you are approaching a potentially hazardous environment, and many factors are involved, some of which could have been the initial cause of the incident, such as icy roads.

Assessing the Scene >>>

When faced with an incident, it's a natural reaction to want to help. However, if actions are not controlled, they can compromise the safety of everyone involved and may well impede the effectiveness of the rescue. It's important therefore to assess the scene on arrival and tactfully but firmly control the actions of emergency service personnel, other agencies, and the public.

Taking control of the situation quickly and efficiently, the Incident Commander should complete a rapid three-hundred-and-sixty-degree initial assessment, identifying what is involved, the number and location of casualties and, importantly, any risks to emergency service personnel. This approach provides the Incident Commander with an opportunity to gain a visual appreciation of the situation and the hazards present. This circular survey of the incident ensures a holistic understanding of what is being faced, saving valuable time and enabling the development of an adequate plan of action.

Once the hazards have been identified, clear channels of communication should be established with crews and other emergency service responders. Control measures must then be rapidly introduced and only when the risks have been reduced to an acceptable level should rescue work start, keeping in mind that the situation is in constant flux and new hazards may be introduced as the rescue progresses. When gathering information, the Incident commander should not only rely on what they can see but seek a range of sources to increase situational awareness and understanding of the incident. Information sources may come from vehicle occupants, witnesses, the Police or the Highways agency to name but a few.

The incident commander should identify whether any vehicles involved are of a specialist nature that may require further or specialist resources, balancing the need to perform rescues that pose unknown risks. It is possible that some specialist vehicles carry contents that present unique hazards, so early identification of the vehicle type and confirmation of its load is essential. Where guidance is required for the type of vehicle being tackled, specialist knowledge should be sought either from the vehicle owner, Standard Operating Procedures, mobile data terminals or fire service control.

This initial assessment of the situation should be immediately followed by a more detailed assessment of the vehicle and casualty. A team activity where the tool operators survey the vehicles, identifying the hazards that become prevalent during the rescue operation, while the casualty carer or medical personnel assess the casualty to determine their condition and level of entrapment. This is an ongoing process throughout the incident with new information being communicated throughout the team to ensure the control measures remain adequate and a safe working environment is maintained for emergency service responders. This approach provides the Incident Commander with a full ongoing appraisal of the situation, so they can ensure suitable and sufficient controls are introduced, and appropriate plans are implemented and adjusted where required.

Control Measures >>>

From the moment the call has been received the Incident Commander, and their crew begin a dynamic risk assessment continually

assessing the situation and introducing control measures. Through training and experience, most controls are introduced naturally without instruction, such as the donning of Personal Protective Equipment which we all know is a primary control measure in all incidents. On arrival at the incident, the appliance is positioned in the fed-off position as previously mentioned. Crews must NOT self-deploy but await instruction from the Incident Commander. Some initial instruction may have been already given on route to the incident.

The information gathered during the initial and ongoing assessments allows the Incident Commander to continuously monitor safe systems of work to ensure the safety of all those at the scene. Remember, safety is the responsibility of everyone at the scene. Once the initial safety assessment has been carried out, then an action circle should be established and maintained around the vehicle. It's the Incident Commander's responsibility to set up a working area around the vehicle, co-ordinating casualty care and rescue activities while keeping this area clear of debris.

This inner cordon should be established taking in to account the environment and geographical surroundings. When resources permit, this area should be marshalled to ensure adequate controls. The creation of the inner cordon provides more command and control for the Incident Commander. It is essential that activities in this area do not impede on the progress of the rescue. This inner cordon is used for tool preparation along with briefing and communication with personnel. This is usually achieved by laying down a salvage sheet an appropriate distance from the working area for the tools and rescue equipment that might be needed. The Incident Commander also uses this area to keep a general overview of the incident.

Once the police are in attendance, they establish an outer cordon. Generally, this is a physical barrier utilising their vehicles, signs and traffic cones. The size of the outer cordon is dependent on the location of the incident and can in some cases expand several miles away from the actual scene of the accident. The establishment of the outer cordon protects the approach of unwanted people who may compromise safety or rescue activities.

Its position should be carefully considered; too far away and valuable time might be lost in collecting and returning the tools, but too close and it may impede the rescue activities. Adopting a systematic approach ensures tools can be located when required and make the rescue safer, more comfortable and quicker.

As the incident progresses, an incoming appliance is also able to quickly locate a position for their tools when they arrive on the scene. Any tools not in use should be returned to the tool staging area. Personnel not actively involved in the rescue should congregate in a safe area within the inner cordon, ensuring that they are not impinging on rescue activities and are available immediately should they be needed. A Debris Dump for vehicle parts should also be established in a place that won't impact on rescue activities but near enough so as not to delay the rescue, ensuring parts from different vehicles remain separated as mixing them impinge on the accident investigation.

Summary >>>

- There are commonalities in hazards at all RTCs, but the severity of risks differs significantly depending on the environment, the vehicles involved and the number of casualties.
- The positioning of appliances should be considered in conjunction with the incident and be placed in the Fend Off position while ensuring they do not impede the rescue or other emergency vehicles.
- It's the Incident Commander's responsibility to complete a full three-hundred and sixty-degree assessment of the scene, identify risk and ensure suitable controls are implemented. The tool operators and medics must complete a more detailed assessment of the situation.
- Inner and outer cordons are set up to coordinate the rescue and the resources required. It is essential to maintain a clear channel of communication throughout and report everything back to the full team the Incident Commander.
- A tool staging area and debris dump should be organised, and everyone should observe the requirement to maintain and use these effectively. This ensures that the current and arriving teams know precisely where equipment is located and provide an area for additional personnel to congregate while awaiting instructions.

