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Fire Service Guide Series

9 / *Fire Department Operations (FDO) on Limited Access Highways*



STATE OF NEW YORK

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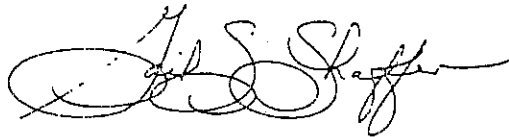
A message from the Secretary

In response to the rapidly changing nature of the firefighting profession, the Department of State's Office of Fire Prevention and Control (OFPC) has developed the Fire Service Guide Series.

This useful set of booklets was designed to help the fire service prepare for and respond in a variety of unusual emergency situations. The Guides also offer helpful suggestions for implementing new technologies or administrative procedures, and explain regulations that bear on fire service operations or preferred procedures to follow in the absence of such laws.

The Guides are meant to be retained as references and are conveniently designed for inclusion in a looseleaf binder. If you should need additional Guides, please contact:

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INTRODUCTION

This guide is intended to assist the fireground commander with information to pre-plan emergency responses on limited access highways. Response to incidents at facilities on these highways such as service rest areas, maintenance buildings or motor vehicle accidents and fires present many of the problems found in day-to-day fire protection. However, the difficulty of operations is compounded due to their isolated nature and the fact that entrance ramps vary from a few blocks apart to over ten miles apart.

The specific problems presented by limited access highways are:

1. Delay and Alarm:
Many limited access highways lack communications facilities, the receipt of an alarm for a motor vehicle accident or fire will generally be delayed. The use of citizen band radios and the development of cellular telephones may relieve this problem somewhat.
2. Remote Access:
As mentioned above, entrance ramps on limited access highways may vary between a few blocks or up to 10 to 20 miles apart. This will compound the response problem by delaying or rerouting fire apparatus.
3. Generally, the limited access highway is a high-speed thruway. These speeds may increase the magnitude of a motor vehicle accident and, most importantly, the measures necessary to control traffic and to secure the emergency incident.
4. The potential for multiple vehicle/mass casualty incidents is quite high on a limited access highway.

An inner-city bus traveling from Albany to Syracuse will usually carry 75-80 people. All these individuals could become victims in a motor vehicle accident.

PRE-PLANNING

It is essential that fire departments pre-plan for responses on limited access highways within their jurisdiction. This pre-planning should involve all other agencies concerned, such as:

- Police, local/state
- Medical, ambulance
- Public Works
- Environmental Conservation
- Health Department

Basic considerations for this pre-planning should include minimizing the number of responders and apparatus on the scene. Sufficient personnel and apparatus should be involved in any incident. However, they should be minimized to limit exposure and increasing the chance of an additional accident.

In urban areas, pre-plans should consider the advantages of operating from adjacent access roads. Generally, these will provide staging areas, water supply and a relatively safe area to operate from.

In rural areas, operating from access roads will usually not be possible. Therefore, consideration should be given to establishing an entry-control point at the nearest entrance ramp to the scene of an emergency incident. Again, this area will serve as the staging area for apparatus, personnel and water supply.

Apparatus response is dictated by the type of incident. These are suggested as minimums.

EMS (non MVA)	1 Ambulance
Motor Vehicle Accident	w/Police 1 Engine ¹ 1 Heavy Rescue 2 Ambulances
Vehicle Fires	2 Engines ¹ 1 Heavy Rescue
Truck Fires	2 Engines ² 1 Ladder 1 Heavy Rescue
Hazardous Materials	Same as truck fire, with addition of specialized units.

¹ 1,000 gallon minimum water supply is recommended. Additional engines of tanker combinations may be necessary

² 2,000 gallon minimum water supply.

RESPONSE

Access to limited access highways is usually only available through interchanges, with the exception of the New York State Thruway which has provided "crash gates" established for those departments with which the Thruway Department contracts.

Regardless of the method of alarm, the response phase of an incident on a limited access highway is probably the most critical. In many instances, the exact location will not be known until the first arriving vehicle is close enough to the scene to give a visual report.

One hazard in this situation is the potential for a second collision or accident due to improper warning of approaching traffic. As emergency vehicles approach the scene, they must be positioned to shield and protect the incident scene and operating personnel.

RECOMMENDED APPARATUS PLACEMENT

Type of Incident	Min. Distance From Incident - in Feet
EMS (Non MVA)	50
Motor Vehicle Accident	100
Motor Vehicle Fire	100
Truck-Cargo Identified	200
Non Hazardous	
Truck-Cargo/ Unidentified	2500
Hazardous Materials	2500

*Note, if possible, all apparatus should be located uphill and upwind from an incident

The first vehicles arriving at the scene should locate on the "APPROACH" (direction of traffic flow) side of the incident. This placement will warn oncoming vehicles of an incident and shield the scene from approaching traffic. Emergency vehicles should be positioned in the same lane of traffic as the accident or fire and be facing in the direction of normal traffic flow. As additional vehicles arrive upon the scene, they should be positioned on the "DEPARTURE" side of the scene or an off-road location.

TRAFFIC CONTROL

Generally, traffic control is a police function. Depending on police resources, fire police may be needed to assist. Procedures should be established by pre-plan with the police agencies having jurisdiction. Additionally, long-term incidents will require the assistance of highway agencies and these procedures should be pre-planned with the appropriate highway authority.

Scene traffic control must be established as soon as possible. If possible, the flow of traffic should be maintained at a reduced speed. Police and highway traffic authorities agree it is better to slow and maintain traffic flow rather than attempt a complete blockage. On high volume limited-access highways, a complete stoppage of traffic can result in traffic backups at the rate of one mile per minute. This blockage can make scene access and departure difficult for emergency vehicles.

Warning distances for oncoming traffic depends upon the highway geometry and posted speed limits. Traffic cones, vehicles, signs and flagperson should be used to warn oncoming traffic. Highway flares or fuses should not be used within 500' of a motor vehicle accident or 2500' of a hazardous materials incident.

OPERATIONS

Any necessary fire suppression activities will probably involve the use of water. Lack of a sufficient and readily available water supply is common to all limited-access highways. Provisions for obtaining additional water at a scene may be managed through dispatching a mutual aid tanker or pumper/tanker vehicle and using an off-highway water "drop point." With this arrangement, apparatus brings water from off-site locations to nearby service roads, "crash gates" or overpasses. From this location, water supply companies either support a tanker shuttle operation on the highway or pump directly to the scene if it is in close proximity.

Service and maintenance areas and other permanent installations should be protected by an established water supply. This may consist of a municipal system or a static supply such as a

pond. Some service or maintenance facilities may require sprinkler extinguishing agents. Again, identifying these hazards and planning for sufficient quantities of extinguishing agents should be performed before an incident.

TERMINATION

When leaving an incident, it is preferable to go the next interchange or access point. While this is longer, it is safer when returning to quarters. When responding to or returning from emergencies on limited-access highways, U-Turn's should be avoided.

If necessary, the emergency vehicle should signal their intention, decelerate, move to the left shoulder of the roadway and then pull into the cross-over location. Once it is safe to complete the U-Turn, the emergency vehicle should pull directly across the lanes of traffic and begin to accelerate along the right shoulder of the highway. Vehicles should keep to the right shoulder until achieving a safe speed for merging.

CONCLUSION

Fire and rescue services are more difficult on limited-access highways. The critical difference is the increased hazards operating personnel are exposed to on the scene of the emergency. Special precautions must be initiated for the safety of all concerned. It is only through a team effort that safe operations on limited-access highways in New York State can be assured.