PURPOSE

1. To comply with WAC 296-305 Safety Standards for Firefighters.

2. To provide guidelines for BEST PRACTICES for Seattle Fire Department members to use on all incidents on Limited Access Roadways.

3. To familiarize the Seattle Fire Department Personnel with procedures which will **enhance the safety of both Rescuer and Patient**.

REFERENCES

1. United States Fire Administration, "Limited Access Roadway and High Speed Arterial Response: Best Practices"

2. United States Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices (Chapter 4)

3. Seattle Fire Department, Operating Guideline 6000, "Accident Prevention"

4. Washington Administrative Code, 296-305, "Safety Standards for Fire Fighting"

5. Seattle Fire Department, Training Guide 8, "Driving"

KEY POLICY CONCEPTS

Buffer Space – The protected space on the roadway between blocking apparatus and the incident where responders work. The buffer space extends a minimum of 200 ft. longitudinally and laterally one lane. This area may be expanded to accommodate larger responses. The Buffer space will extend both upstream and downstream.

Downstream – The direction traffic flows past and away from the incident scene.

Upstream – The direction from which traffic is traveling as the vehicles approach the incident scene.

Shadow – The space at a roadway incident that is shielded from approaching vehicles by apparatus and emergency vehicles.

Blocking Apparatus – The apparatus positioned furthest upstream that shields the incident scene and workers from approaching vehicle hazards.

Limited Access Roadways – Generally considered "freeways" examples include I-5, 90, 405, 509, and other similar roadways.
Taper - Used in both the transition and termination areas. The length of the tapers may be adjusted when used in proximity to interchange ramps, curves, or other influencing factors.

Temporary Traffic Control Zone (TTCZ) – The area where temporary traffic controls are established to create a safe and effective work area in which we can render aid to victims and efficiently divert traffic around the scene.

Termination Zone – Area downstream of the incident that returns traffic to normal flow. This area must be large enough to safely accommodate Rescue, Aid, Medic or Ambulance units.

GENERAL INFORMATION

"When Your Feet Hit The Street, Your Vest Is On Your Chest!"

This Training Guide and the corresponding Operating Guideline is intentionally generic in scope to address all incidents on Limited Access Roadways. The Fire Alarm Center (FAC) will dispatch units appropriately commensurate with the needs of each incident, to include a minimum of two (2) engine companies. The primary responsibility of the second engine company is to establish the Temporary Traffic Control Zone (TTCZ); they are not to be code greened. Companies working on Limited Access Roadways should also make it a priority to work efficiently and get off the roadway as soon as practical (this will include using the most expedient methods of transporting patients off of the roadways such as Aid Cars and Medic Units).

This guideline is intended to enhance freeway incident safety and also complies with new federal high-visibility requirements (23 CFR 634) effective November 24, 2008.

A limited Access Roadway response includes the collaboration with other public safety agencies including the Washington State Patrol (WSP) and the Washington

State Department of Transportation (WSDOT). The terms listed as "key concepts" are generally accepted by the WSP and WSDOT. In order to effectively communicate with them, our department has adopted common terminology already in use by these agencies. Early consideration should be given to establishing a "Unified Command".

Members wearing safety vests should safely secure each scene as if they were operating independently. Response times for other agencies will vary. When supporting agencies arrive, they will take additional supportive actions and further enhance overall scene safety. Because Limited Access Roadways are inherently dangerous work environments, adherence to this policy is crucial to the safety of responders and citizens.

The initial stages of any incident are the most dangerous. Traffic moving at the posted speed limit may be unaware of workers. Until the TTCZ has been established responders remain highly vulnerable. Stabilizing, controlling, and mitigating incidents quickly will limit exposure time, enhance patient care/safety, enhance responder safety and return the roadway to normal traffic sooner.

Fire Alarm Center Protocol:

- The FAC shall dispatch a minimum of two (2) engines to every Freeway Response. This is done to ensure that there are sufficient apparatus to provide for scene safety, as indicated below under *Apparatus Positioning*.
- The FAC will notify WSP and WSDOT to advise them of all Seattle Fire Unit emergency responses located on Limited Access Roadways.

Response Protocol:

- Members shall don their protective ensemble and their fire retardant traffic safety vest prior to all responses on Limited Access Roadways. During fires, visibility is obscured for many different reasons requiring increased vigilance by all members on scene.
- Exceptions:
  - Firefighter/Paramedics shall wear vests; bunkers optional when not actively engaged in extrication duties.
  - At fires, the Traffic Vest can be worn under the SCBA due to the fact they are fire retardant rated.

Apparatus Positioning:

- The first arriving Engine Company shall position their apparatus to block/shield the accident scene plus one additional traffic lane. This company should construct a shoulder taper that continues the line from the rear of the apparatus to effectively close the shoulder with cones.

- Officers/Acting Officers should be alert to request additional resources as soon as possible.
- Drivers should position their apparatus at (but not over) the striping of the closed lane with their tailboard angled upstream toward the roadway shoulder and front of apparatus pointing in the direction we are diverting traffic (typically about a 45 degree angle).
  - Exception: We have a few Engines in service that do not have midship pump panels. These apparatus will position with the side pump panel on the downstream side.
- Drivers should turn the front wheels away from the firefighters.
- Company Officers' shall deploy their members from the downstream side of the apparatus to the extent possible.
- The Company Officer and a tailboard member shall perform additional scene safety and patient assessment duties as required.
- The apparatus driver and one tailboard member should install the shoulder taper and a line of cones that extends downstream past the accident, parallel with the roadway striping of the closed lane. Note: Leave <u>all</u> excess cones stacked on the shoulder taper cone located closest to the apparatus.
- Once cone placement is completed, the driver and tailboard member will assist with the incident scene.

- The second arriving Engine Company (Blocking) shall position their apparatus approximately 200 ft. upstream with their front bumper at (but not over) the striping of the closed lane and their tailboard angled upstream toward the roadway shoulder and front of apparatus pointing in the direction we are diverting traffic. Apparatus placement will shadow the striping cone placement.
- The second Engine Company's primary function is to establish a second upstream block and complete the TTCZ, not to work the incident scene. Appropriately deployed, multiple apparatus and cones provide advanced warning oncoming motorists.
  - Company Officers' shall deploy their members from the downstream side of the apparatus to the extent possible.
  - Company Officers' shall construct a TTCZ with their apparatus and cones while remaining in the shadow of their apparatus and maintaining awareness of oncoming traffic at all times.
  - One tailboard member places striping cones while the other tailboard member spots for him/her.
  - After completing the striping cone placement, these two members proceed around the non-traffic end of the initial apparatus, gather their shoulder taper cones and complete the Termination Zone past the incident. Once this is complete, these members assist on scene.

- When secondary movement is necessary for the second arriving company, the driver and officer will remain with the apparatus until movement is complete.
  - Driver remains on apparatus
  - Officer places shoulder taper cones and stands by until his/her tailboard members are working in the shadow of the initial apparatus
  - Officer removes taper cones and becomes the backer (from the downstream side) for the driver to seal off the shoulder with the apparatus
- Once final placement of the second apparatus is complete, this apparatus is to remain unstaffed until the demobilization phase of the incident. The officer and driver will walk to the incident scene under the shadow of their apparatus to assist with mitigation of the incident.

Position Specific Assignments

Member Responsibility:

- The member that places cones in a Shoulder Taper formation while incorporating the parked apparatus into the Transition Area shall maintain constant awareness of oncoming traffic.
- Striping Cones shall be spaced at approximately 25 ft. intervals while remaining in the shadow of the apparatus.
- Never turn your back on oncoming traffic.
- Placement and retrieval of striping cones requires a spotter that is working in the shadow of the blocking apparatus and remains about 15 ft. behind the cone placer. The spotter needs to be able to see the cone placer and oncoming traffic at all times.
  - Cone placement should be just to the inside of the lane striping so that we do not reduce lane width in the lane we are diverting traffic to.
- The Company Officer of the first arriving company will complete scene size up, transmit a request for additional resources if necessary, and establish command.
  - Note: Never leave civilians on the Freeway. Provide shielding for even the most benign accidents/incidents with vehicles on the shoulder until persons are transferred to WSP, WSDOT or tow company.
  - Note: When deploying the cone formations, work in the shadow of the apparatus and use spotters whenever possible.
- Activate and deploy two road flares upstream of the blocking apparatus in darkness. Place the flares 5 ft. from the apparatus on each end, unless flammable liquids are present.
- Use additional flares as necessary.

- Aid Cars, Medic Units, or Ambulances should ideally position downstream of incidents within the Termination Zone. Regardless of upstream or downstream apparatus placement, patient loading doors should be toward the non traffic side of accident when at all possible.
- Ladder companies and Rescue Units position within the TTCZ to the best advantage of the truck for accessibility for needed equipment (this may be upstream or downstream of incident). Engine companies need to leave space for these apparatus.
- The WSP and the WSDOT will assess the incident scene and position themselves to supplement scene safety.
- Stage tow vehicles upstream in the TTCZ or off the Freeway.
- Larger responses will require additional units to park in on orderly fashion within the TTCZ. These units should mirror existing apparatus placement in order to maximize space
- If expansion of the TTCZ is required, the same procedures will be used by subsequent arriving units. The need for TTCZ expansion should be transmitted via radio by the IC.

Emergency Lighting

- Members will utilize apparatus emergency lighting and siren when responding Code Red, except when responding on Limited Access Roadways, where sirens will only be used for the purpose of clearing traffic.
- After arriving at the location, shut off all white lights i.e. headlights, wigwags, strobes. White lighting can cause blinding effects to motorists and responders.
  - Exceptions: Scene/Work lights to illuminate the emergency scene
- Members will utilize all red emergency lighting and four-way flashers.

Demobilizing the TTCZ

- Exiting the High Speed Limited Access Roadways as soon as possible will lessen exposure time. Units should plan for demobilization as soon as the following benchmarks are met:
  - Patients are secured from incident, treated and transported off freeway
  - Incident is stabilized
  - Scene control can be:
    - Transferred to WSP (through direct communication and ensuring that they no longer need our support)
    - Transferred to WSDOT
    - Vehicle is towed or cleared safely off the roadway

- The Upstream Blocking Apparatus is the last to leave the scene
- Termination Zone back to the first apparatus should be picked up first
- All other units will exit prior to the final demobilization of the TTCZ
- Attempt to have an on scene resource such as WSP or WSDOT control traffic or create additional shadow for retrieving your cones.
- Pick up cones in the shadow of a blocking vehicle starting at the point furthest away from the apparatus and working your way back. Reposition apparatus as necessary to shadow members picking up cones.

Special Considerations and Emphasis

- A strong emphasis should be placed on efficiently and rapidly mitigating the incident and removing members from the roadway as soon as possible.
- This policy is designed for limited access roadways but is useful on other roadways such as high speed arterials (Rainier Avenue, Aurora Avenue, etc). The officer should call for an additional Engine company for TTCZ procedures in these situations.
- The second arriving engine company's primary responsibility is to provide an effective upstream block by incorporating their apparatus appropriately into the shoulder taper and providing cone placement along the striping between the two on scene apparatus. The second arriving apparatus serves as an upstream block and Advanced Warning. After all Temporary Traffic Control measures are completed, the crew assists with the actual incident.
- Topography such as hills and curves must also be considered. The first Engine must use radio to notify the second Engine of any special considerations to include any locations "hidden" from normal line of sight for approaching traffic (hills or curves). The second arriving apparatus must position their apparatus in such a manner that it provides the best practical line of sight Advanced Warning for approaching traffic (crown of hill, preceding curves etc). This may result in expanding the 200 ft. Buffer Zone but not in reducing it.
- Be aware of the need to preserve crime scene evidence and reduce exposure to traffic. Refrain from removing debris off the roadway.
- Additional conditions to be considered:
  - Speed of traffic
  - Weather
  - Daylight or nighttime

SAFETY

Each member of the SFD is responsible to maintain a constant awareness of basic safety rules that apply to all operations. Consideration of specific hazards associated with a LAR operation will dictate what Personal Protective Equipment will be needed.

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