

Safe Practices

for Law Enforcement
Personnel Operating in
Highway Work Zones

A Pocket Guide



U.S. Department of Transportation
Federal Highway Administration

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Background

Highway work zones can be a hostile environment for workers and present challenges for users. High levels of safety and mobility are the goals that we strive to achieve by minimizing delay and preventing work zone crashes, and the associated injuries or fatalities.

To the extent possible, the primary objectives of temporary traffic control in highway work zones are to:

- » Provide for the safe and efficient movement of road users, including motorists, pedestrians and bicyclists, through or around the work area.
- » Protect workers, equipment and law enforcement personnel.

Consideration for road user safety, worker and officer safety, and the efficiency of road user flow is an integral element of every work zone, from planning through completion.

In an attempt to reduce work zone crashes (especially rear-end crashes with higher speed variability), most state highway agencies use uniformed police officers to enhance motorist awareness. These officers commonly serve a “presence” function and can be effective in gaining the attention of drivers so that they can maneuver safely through the work zone.

Law enforcement assistance in work zones can make a positive safety improvement for driver compliance and should be considered as part of work zone strategy planning. While presence is the primary function, engineering and standard traffic control solutions can also be enhanced through active enforcement of the work zone. Driver compliance improves as the presence and enforcement activities are implemented.

This pocket guide is based on best practice information from transportation agencies, guidance published by leading transportation institutes, reports from academia and input from law enforcement agencies. The FHWA training course, “Safe and Effective Use of Law Enforcement Personnel in Work Zones” is an excellent resource (contact your State DOT or local FHWA Division Office) for more detailed information on the law enforcement component of work zone traffic control. Always be aware of and follow your local requirements.

This guide focuses on the relationship between law enforcement, contractors, project managers and owners as well as other stakeholders and other agencies. The elements necessary to build a successful partnership with

law enforcement agencies to enhance safety in work zones is presented. This guide does not constitute a recommended procedure or regulation of any kind. Specific standards and procedures may apply to the use of law enforcement officers in your jurisdiction. You should supplement the information in this guide with applicable State and local regulations, standards, and requirements.

Projects, Stakeholders, and Roles and Responsibilities

Safe and effective work zones are the result of good planning and execution. Several agencies may have roles and responsibilities in the process.

Typically, the project owner designs the work zone and hires a contractor to execute the work. The contractor may have workers and supervisors monitoring the work in the field and may use a traffic control services vendor to implement the traffic control plan. The contractor may also hire the services of law enforcement officers to assist with various tasks. The DOT may also have agreements with law enforcement agencies to use officers in work zones.

The roles and responsibilities of the typical work zone stakeholders are summarized in the following table.

Stakeholder	Typical Roles and Responsibilities
<p>Project owner</p> <p>(State department of transportation, county and/or city government, etc.)</p>	<ul style="list-style-type: none"> » Conceive the project » Fund the project » Design the project (may contract out) » Develop and approve a traffic control plan (TCP) » Hire a contractor to execute the project » Require and hire (directly or indirectly) law enforcement officers (LEO), if needed » Supervise the project
<p>Highway contractor</p> <p>(Construction company, etc.)</p>	<ul style="list-style-type: none"> » Execute the project » Ensure the work zone conforms to the approved plan each day » Perform temporary traffic control » Install/remove traffic control devices » Document the project » Designate a field point of contact (POC) » Ensure approved TCP is followed » Hire LEO if needed

Stakeholder	Typical Roles and Responsibilities
<p>Contractor's POC</p> <p>(Traffic control supervisor, foreman, highway agency inspector, etc.)</p>	<ul style="list-style-type: none"> » Represent the contractor in the field » Make minor modifications to the approved TCP, if authorized » Supervise field workers » Communicate/coordinate with LEO » Inspect the work zone periodically » Be trained in safe traffic control practices » Be visible and alert
<p>Field workers</p> <p>(Traffic control technicians, workers, etc.)</p>	<ul style="list-style-type: none"> » Report to the work zone supervisor » Install and remove devices as instructed » Notify supervisor of problems and close calls » Understand and support the role of law enforcement » Be trained in safe traffic control practices » Be visible and alert

Stakeholder	Typical Roles and Responsibilities
Law enforcement officers (State police agency, police department, etc.)	<ul style="list-style-type: none"> » Reduce likelihood of speeding through presence » Enforce traffic laws » Control traffic, if applicable » Maintain communication with POC » Be visible and alert » Position officers and vehicles in safe/effective areas » Be informed about the project's objectives, schedule and progress » Drive through the work zone » Notify POC of potential problems » Be trained in safe traffic control practices

Most Common Law Enforcement Services in Work Zones

Law enforcement officers may provide various services when assigned to a highway work zone. Depending on the type of service, officers may be involved in a variety of activities. It is important for officers to have a complete understanding of their role in a work zone.

A transportation agency may have an agreement with law enforcement personnel to cover the associated costs, or a contractor may hire off-duty police officers to provide the presence function.

Here are some of the roles and types of activities that law enforcement personnel will typically serve.

- » **Presence** – a strategic use of visible law enforcement can be effective in controlling traffic speed. This is a primary function for officers in work zones.
- » **Patrolling** – some work zones may benefit from patrolling and showing a visible presence at different locations or moving through the work zone. Random patrolling may be even more effective so drivers aren't aware of when enforcement is active.
- » **Motorcycle Patrols** – Motorcycles are very fast and maneuverable, and are well suited to work zone enforcement.
- » **Active Enforcement** – probably the most effective tactic in work zones with excessive speeding and plays to the expertise of law enforcement.
- » **Emphasis Patrols** – some work zones can benefit from this high exposure type of enforcement where several officers/cars are involved.
- » **Rolling Roadblock/Slowdown** – a common type of traffic control where law enforcement personnel slow or stop traffic to create a time window for work activities (placing bridge girders, etc.).
- » **Photo Radar Enforcement** – part of a specialized enforcement campaign using technology to cite speed limit violations – must be authorized prior to use.
- » **Road Closures** – law enforcement will increase drive compliance of short term closures.

- » **Operational Restriction Enforcement** – some work zones may have restrictions on truck size, lane use, oversize loads and turning movements. Violations may require enforcement.
- » **Informal Work Zone Patrolling** – a “handshake” agreement where law enforcement agrees to extend or increase patrols through work zones on an as available basis.
- » **Unconventional Enforcement** – Officers with or without vehicles are strategically located within the work area and may pose as surveyors, for example. Special law enforcement access may be built into the work area.

Coordinating the logistics and operational needs is important and necessary to ensure that the desired traffic control effect is delivered.

Law enforcement personnel should consider performing the tasks highlighted in the following table for each project.

Necessary Task	Activities
Communicate	<ul style="list-style-type: none"> » Report to the POC at beginning of shift » Contact project engineer for clarification and directions » Remain in contact with local dispatch
Be visible	<ul style="list-style-type: none"> » Consider emergency lights on – headlights off » Consider light intensity when applicable » If outside patrol vehicle and within work zone, must wear retroreflective vest

Be alert	<ul style="list-style-type: none"> » Stay alert at all times » Avoid activities that may be distracting » Keep your eye on traffic
Plan Ahead	<ul style="list-style-type: none"> » Become familiar with the work zone and activities each shift » Determine safe places to investigate crashes and for enforcement » Identify hazardous conditions » Notify the POC of any possible deficiencies and/or potential problems
Investigate crashes	<ul style="list-style-type: none"> » May investigate minor property damages crashes in work zone, if time to investigate is minimal » Do not abandon position if serving “presence” function » Call for assistance with investigation of crashes
Arrive early and leave late (“15-minute rule”)	<ul style="list-style-type: none"> » Be present when traffic control devices are being installed or removed » Arrive at least 15 minutes before install » Leave 15 minutes after removal
Monitor compliance with TCP	<ul style="list-style-type: none"> » May inspect the TCP for problems » Detect safety violations » Notify supervisor of possible problems

Setting clear expectations is the single most important element in a successful work zone law enforcement assistance operation.

- » The expectations need to be clear for each shift. What tactics are we using today and what are we trying to accomplish.
- » Policy, training, communication, clear direction and coordination are all important elements in establishing proper expectations regardless of your role in the process
- » Project managers and law enforcement commanders need to ensure clear expectations and establish means of communication, process to follow and identification of roles and responsibilities of those involved.
- » A pre-activity meeting that establishes who, what, and where are involved in the operation is recommended.
- » All involved with law enforcement assistance in work zones have roles and responsibilities to fulfill. Expectations are directly related to your position in the process, training, experience, and level of communication.

Law enforcement assistance operations should only proceed after prior planning and approval with clear expectations in place.

DOT, Contractor, and Law Enforcement Partnerships

Many transportation agencies have a program in place to provide a structure for work zone law enforcement assistance. This program is scaled to fit the agency size and scope of need for assistance. The program is usually based on agency policy that identifies the major program elements and may also involve a joint operating policy with a law enforcement agency.

Large state level transportation agencies may have a formal policy that sets forth the requirements for a program, process, training, documentation, cost reimbursement, responsibilities and more. Smaller local transportation agencies may have less formal or basic level policy such as a memo of understanding between the transportation and law enforcement agencies. Large or small, the details must be addressed to a level that sets clear authority, responsibilities and a process to make the partnership work.

In practical terms, an appropriate level of direction is needed to initiate and operate law enforcement assistance. Identification of actions and responsibilities pull the appropriate people together to implement and manage the law enforcement assistance activities.

At the operational level, it's useful to know that a program or process exists and how it works so law enforcement assistance can be utilized effectively and not get bogged down in administrative issues.

Standards for Work Zone Traffic Control

Not all work zones are exactly the same. They vary depending on many factors, such as specific state requirements, duration and/or location of the work, and others. Work zones do share some basic concepts and terms. For example, all work zones have an “advance warning area”, where motorists are warned, through the used of warning signs, about the conditions ahead.

Agencies use a “forgiving design” for work zones, that is, anticipating driver safety issues and reducing the likelihood of injury. This section outlines some of the common devices and their locations. It is important for law enforcement personnel to recognize potentially unsafe situations and traffic control setups.

Common Work Zone Devices

Regulatory Signs – white with black lettering, or red with white outline and letters.



Temporary Signs -

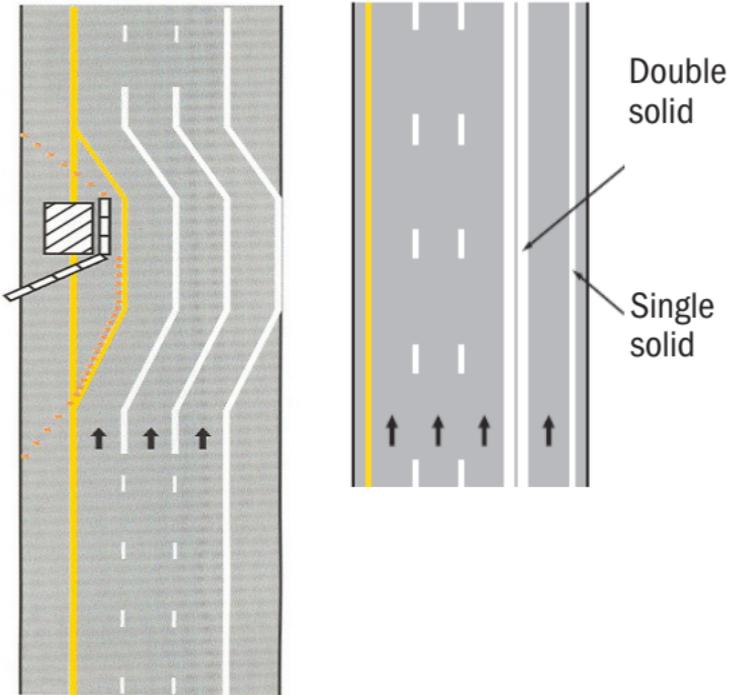
Orange with Black
Letters or Images

**Permanent Signs -**

Yellow with Black
Lettering or Images



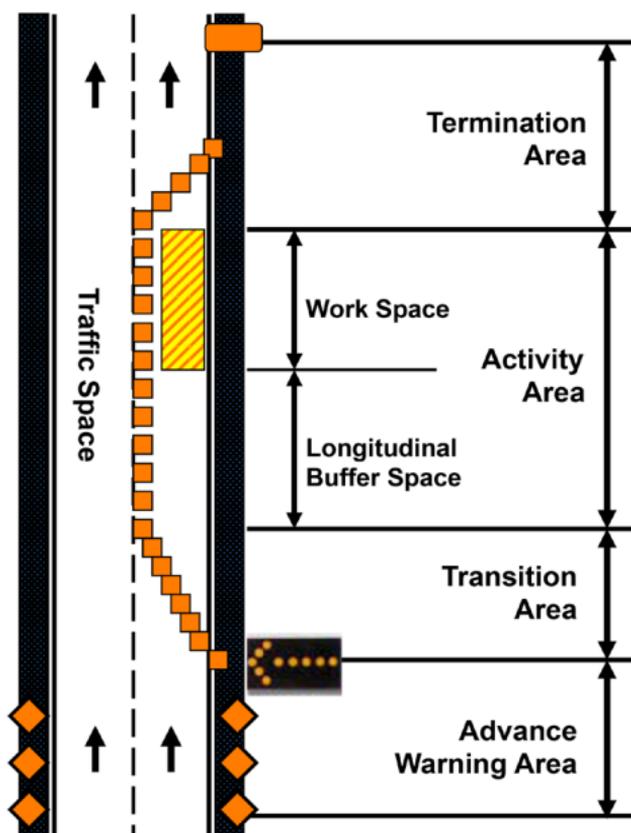
Pavement Markings – Single solid white line means crossing is discouraged. Double solid white line means crossing is prohibited. Single broken white line means crossing is permitted.



Law enforcement personnel may play a role in alerting drivers ahead of a lane shift if queues are evident, such as the one shown in the above left picture.

Although work zones vary in design, the following figure illustrates the component parts of a typical work zone.

Component Parts of a Typical Work Zone



1. The Advance Warning Area

Advance warning area—where drivers receive information about the work zone.

1. Sign A alerts motorists.
2. Sign B shows restrictions.
3. Sign C tells how to move safely.



Portable changeable message signs—Trailer-mounted signs with illuminated text.

- » Optional; cannot replace standard signs.
- » Generally placed before the advance warning area.

Minimum Sign Guidelines for Reference

Size	<ul style="list-style-type: none"> » 48" x 48" in high speed highways » 36" x 36" in moderate speed highways
Color	<ul style="list-style-type: none"> » Orange in work zones » Fluorescent pink in incident management areas (optional)
Material	<ul style="list-style-type: none"> » Aluminum if post mounted » Vinyl "rollups" if attended » Mesh for daytime only
Height (from elevation of pavement to bottom of sign)	<ul style="list-style-type: none"> » 7' for post-mounted signs in urban areas » 5' for post-mounted signs in rural areas » 1' for signs mounted on temporary supports
Lateral clearance (from corner of the sign to travel surface)	<ul style="list-style-type: none"> » 2' to 4' in urban areas » 6' to 12' in rural areas » May be used on both sides of highway facility.
Spacing between signs	<ul style="list-style-type: none"> » 100' in low-speed urban areas* » 350' in high-speed urban areas* » 500' in rural areas » 1000' to ½ mile in freeways and expressways
Sign covering	<ul style="list-style-type: none"> » Cover or remove the sign completely if sign is not applicable, even for short periods of time » Covering of only the legend is not permitted

* Individual states define "low speed" and "high speed" but the dividing line is generally 40 to 45 mph. Use your jurisdiction's rules and/or guidelines.

2. The Transition Area

Transition area—where road users are redirected out of their normal path. These usually involve tapers, or gradual transitions.

- » Lane closures require merging tapers in which traffic is required to merge from one lane to another.
- » Formed by traffic control devices such as cones, drums, barricades
- » Long tapers help traffic maintain speed, eliminating congested conditions quickly.
- » Short tapers encourage drivers to slow down. As a general rule, long tapers are better than short tapers.



IMPORTANT EXCEPTION

Flagging taper—When closing one lane of a two-lane road, the transition area requires short tapers (50' minimum to 100' maximum) and flaggers, who may need to stop traffic in one direction to prevent head-on collisions. There may be no shoulder, and therefore the safest location for law enforcement may be at a driveway or side street upstream, or beyond the flagger if accounted for safely in the TCP.

Law enforcement vehicles should never be placed in live traffic lanes. If located in advance of the taper, the vehicle should be on the shoulder or off the shoulder if possible.

Work zones utilize traffic control devices to warn road users of the conditions created by the work activities and to provide the necessary guidance and control.

The following table provides general guidelines for the use of various devices (may vary by jurisdiction).

Guidelines for Traffic Control Devices

Cones (if used)	<ul style="list-style-type: none"> » Two white retroreflective bands for night use » At least 28" in height for high-speed facilities
Drums (if used)	<ul style="list-style-type: none"> » Alternating orange and white stripes » May be supplemented with steady-burn warning lights when used to form a taper or tangent (straight line)
Barricades (if used)	<ul style="list-style-type: none"> » Diagonal stripes slope down to the traffic side
Arrow panels (if used)	<ul style="list-style-type: none"> » Use in addition to signs, not instead of signs » On the shoulder, displaying an arrow, for lane closures » May be inside taper if no shoulder is available » Not in buffer space » Do not use on two-lane roads » 50% dimming for nighttime use
Warning lights (if used)	<ul style="list-style-type: none"> » Yellow lens » At least 30" high » Steady-burn for delineation (used in series along the taper and/or work areas) » Flashing if used on signs or to draw attention to hazardous areas

Arrow Panels

- » Arrow panels (or arrow boards) can supplement static signs on lane closures.
- » Some states require them for high-speed lane closures and high traffic density.
- » When used for a lane closure on a multilane highway, placed at the beginning of the transition, on the shoulder.
- » If shoulder is not available or too narrow, placed inside the taper, as close to the beginning of the taper as possible.
- » Arrow panels (displaying arrows) are not used on two-lane roads, as they may confuse drivers.



Tapers are critical to the effective operation of lane closures and other transitions. They are created using channelizing devices (cones, barricades, or drums) and/or pavement markings to move traffic out of or into the normal path. Improper tapers may create unnecessary congestion and unsafe conditions.

The appropriate taper length (L), maximum channelizing device spacing and buffer length (BL) should be determined using the following table.

Taper Lengths and Device Spacing

Speed Limit (mph)	Merging Taper, L (feet)	Shifting Taper, $\frac{1}{2}$ L (feet)	Device Spacing On Taper (feet)	Device Spacing Past Taper (feet)	Buffer Length, BL (feet)
< 25	125	63	25	50	55
30	180	90	30	60	85
35	245	123	35	70	120
40	320	160	40	80	170
45	540	270	45	90	220
50	600	300	50	100	280
55	660	330	55	110	335
60	720	360	60	120	415
65	780	390	65	130	485
70	840	420	70	140	585

Distance between devices < speed limit in mph

L—length of a merging taper.

$\frac{1}{2}$ L—length of a shifting taper.

Note: A merging taper generally reduces the number of lanes, while a shifting taper moves traffic over, maintaining the same number of lanes. Shifting tapers are used when a lateral shift is needed.

3. Activity Area

The different areas within the work zone are described in the table below.

Activity area	<ul style="list-style-type: none"> » Section of the highway where the work takes place. » Includes work space, traffic space and buffer space.
Work space	<ul style="list-style-type: none"> » Area closed to road users and set aside for workers, materials, work equipment and work vehicles. » Usually marked off by cones, drums or other channelizing devices.
Buffer Space (BL)	<ul style="list-style-type: none"> » Separates road users from the work zone » May provide recovery space for an errant vehicle. » Should be completely empty. Do not position your patrol vehicle in the buffer space. » A stopping sight distance table may be used as a guide for longitudinal buffer space distances (MUTCD Sec. 6C-06). » Some buffer is better than no buffer at all. » See taper table above for recommended buffer lengths (BL)
Traffic space	<ul style="list-style-type: none"> » Area open to road users.

4. Termination Area

Termination area—used to return road users to their normal path.



- » Extends past the work area to normal traffic.
- » May include (optional) a termination taper (100 minimum) and an END ROAD WORK sign.

Administrative Roles & Responsibilities Summary

- » Training – those involved in law enforcement traffic control assistance should be trained as required by the FHWA work zone rule.
- » Communication & Coordination – key elements of a work zone assistance program and many agencies coordinate at the program level though the public information staff and law enforcement counterparts.
- » Reimbursable Agreement and Task Order – key tools in managing the program and accounting for cost.
- » Speed Study & Enforcement Analysis Report – How are we doing? Capturing and analyzing the speed data and producing a report can provide good insight on the effectiveness of the enforcement effort. Correlating the contact and citation information from law enforcement will provide specific detail of the enforcement activities. Usually and traffic operations office function.

- » Media Campaign – usually produced and implemented by public information and communications staff and can be instrumental in educating the public on the safety issues involved and related enforcement strategy.

The following field checklist can be used to determine if appropriate law enforcement activities have been performed.

Field Checklist

- | | |
|--------------------------|--|
| <input type="checkbox"/> | I have a complete understanding of the work zone in which I have been assigned to work (type of work, duration, advance warning signs, tapers, buffers, etc.). |
| <input type="checkbox"/> | I know and understand my role at this work zone. |
| <input type="checkbox"/> | I have identified and contacted the point of contact in the field. |
| <input type="checkbox"/> | I have driven through the work zone, from both directions and major entrance points, to familiarize myself with the work zone. |
| <input type="checkbox"/> | If applicable, I have expressed concerns about my safety and I am satisfied with the resolution. |
| <input type="checkbox"/> | I arrived at least 15 minutes before traffic control devices were installed, if applicable. |
| <input type="checkbox"/> | I have identified the safest, most effective location to position my patrol vehicle. |
| <input type="checkbox"/> | I have my patrol vehicle's headlights off. |
| <input type="checkbox"/> | I have my emergency lights on. |
| <input type="checkbox"/> | My patrol vehicle is as visible as it can be. |
| <input type="checkbox"/> | My vehicle is facing traffic, if applicable. |

-
- My patrol vehicle IS NOT parked in the buffer space or in an open lane of traffic.

 - I am alert and paying complete attention to traffic.

 - If traffic backs up, I have identified a relocation procedure.

 - My patrol vehicle is positioned at least ¼ mile before the beginning of the queue of traffic.

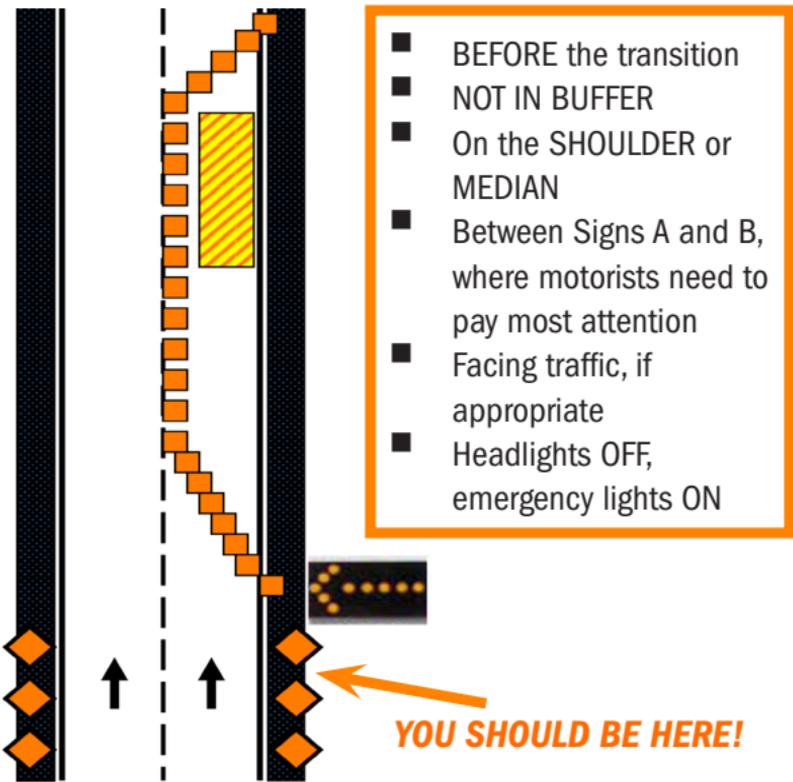
 - I have an approved retroreflective vest in case I need to be outside my patrol vehicle.

 - I will leave the work zone at least 15 minutes after the traffic control devices are removed, if applicable.

Example Scenarios and Industry Practices

The following recommendations may assist officers who are assigned to “presence” duty in a highway work zone.

- » These are not standards or regulations
- » Specific standards and procedures may vary from jurisdiction to jurisdiction
- » Do not rely only on this information, but use it to develop your own specific procedures
- » Obtain information about state-specific regulations, local requirements, best practices and successful lessons learned.



General Layout Example for Cruiser Positioning for a Lane Closure on a Multi-Lane Highway

The general layout shown in the image above for a lane closure is an example with little to no traffic queuing. One benefit the presence officer has is to alert traffic approaching the end of the queue. Consider queuing in position selection, as staying upstream of the queue will enhance safety for approaching drivers. It is important to understand the engineering standards mentioned above, as they may be enhanced with additional signs if queues are expected. These are minimum standards.

The following table highlights recommended practices for use by law enforcement officers.

Recommended Practice During Highway Lane Closures

Stage	Recommended Activities
Before	<ul style="list-style-type: none"> » Attend the preconstruction conference, if possible » Familiarize yourself with the project » Identify POCs and establish communication: <ul style="list-style-type: none"> · Project Inspector · Contractor » Ask questions about your role » Voice concerns about your safety, if any
Upon arrival	<ul style="list-style-type: none"> » 15 minute rule » Contact your POC » Identify your role and safest location » Gather information about the project » Drive through the work zone » Note signs in the advance warning area » Identify possible relocating procedures » Turn emergency light on and headlights off
During	<p>Be alert, paying constant attention to traffic</p> <p>If applicable, face traffic</p> <p>Be visible—Do not assume drivers see you</p> <p>Expect the unexpected; be ready to react</p> <p>Be in contact. Contact POC for adjustments or deficiencies</p> <p>Relocate with queues as necessary</p>

Stage	Recommended Activities
If WZ is not moving	Position vehicle on shoulder, between signs A and B in advance warning area Do not park in buffer space Relocate as needed, ¼ mile behind the end of the queue
If WZ is moving	Move with the work zone, if appropriate, depending on the speed of the work If not facing traffic, pay as much attention to traffic as possible Relocate as needed, ¼ mile in advance of the end of the queue
When done	Stay at least 15 minutes after the work is completed to monitor traffic conditions

Typical Applications

The following example illustrations show typical applications of various highway work zones. These examples, taken from the Manual on Uniform Traffic Control Devices, cover a variety of situations commonly encountered in work zones and provide suggestions for law enforcement personnel to help them anticipate the needs of each project.

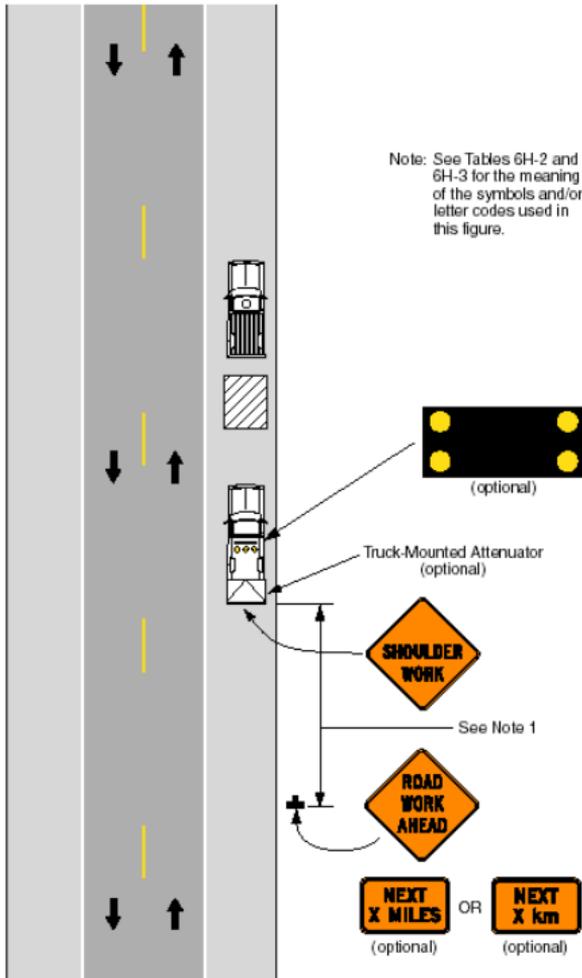
These illustrations include considerations (not requirements or standards) for positioning a law enforcement vehicle for presence. They are also intended as a guide to help you identify possible inappropriate and unsafe traffic control setups and conditions.

You must study the roles of law enforcement officers in work zones carefully on a case-by-case basis. State and local standards, guidelines and regulations may vary. Always follow the traffic control plan.

Table 6H-2. Meaning of Symbols on Typical Application Diagram

	Arrow panel
	Arrow panel support or trailer (shown facing down)
	Changeable message sign or support trailer
	Channelizing device
	Crash Cushion
	Direction of temporary traffic detour
	Direction of traffic
	Flagger
	High level warning device (Flag tree)
	Luminaire
	Pavement markings that should be removed for a long term project
	Sign (shown facing left)
	Surveyor
	Temporary barrier
	Temporary barrier with warning lights
	Traffic or Pedestrian signal
	Truck mounted attenuator
	Type III Barricade
	Warning lights
	Work space
	Work vehicle

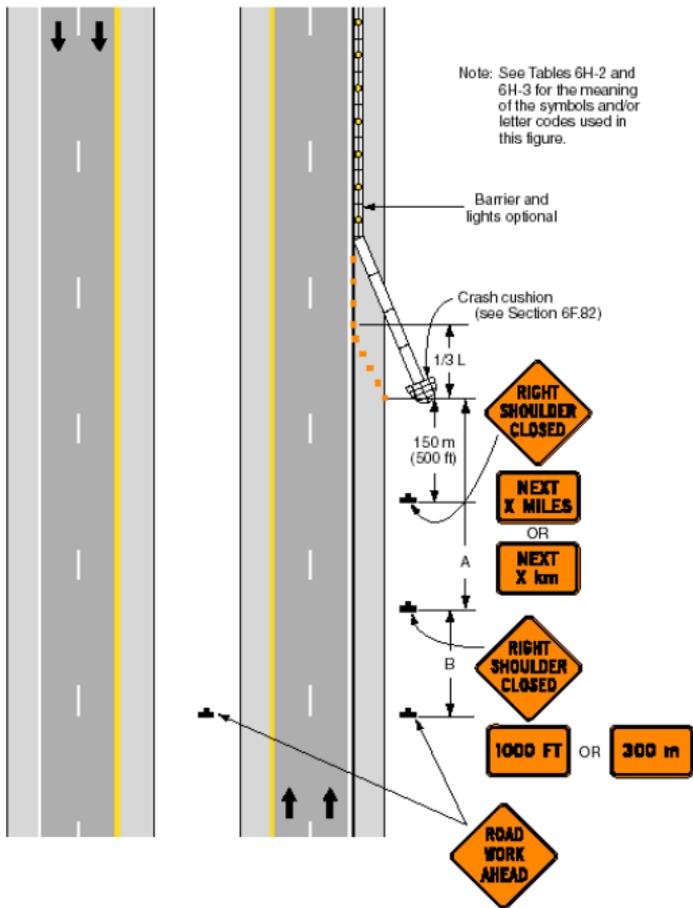
Figure 6H-4. Short-Duration or Mobile Operation on Shoulder (TA-4)



Typical Application 4

Positioning: Consider upstream on the right shoulder (or beyond the shoulder if practical) but do not block driver line of sight to the operation.

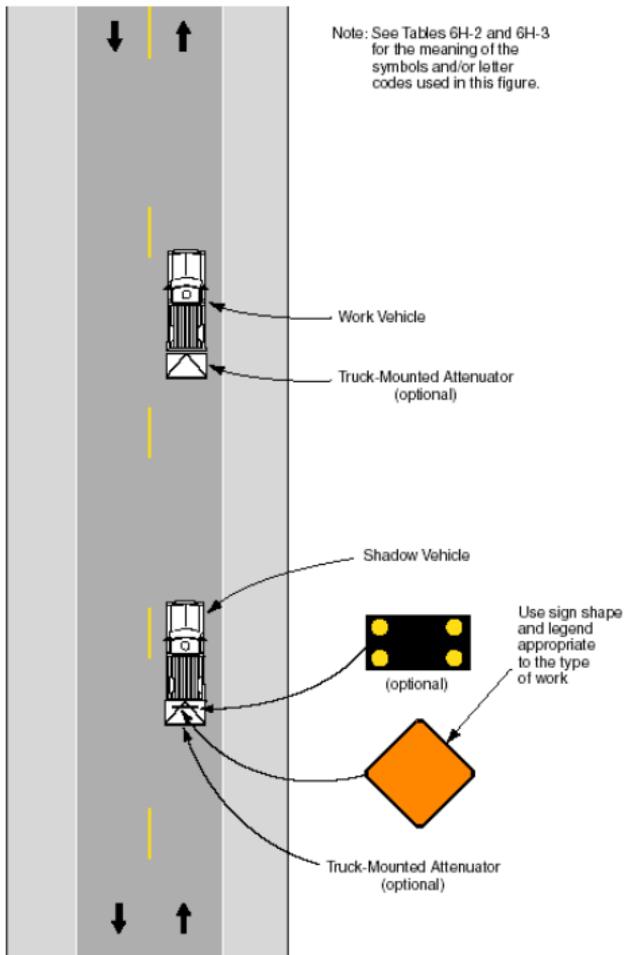
Figure 6H-5. Shoulder Closure on Freeway (TA-5)



Typical Application 5

Positioning: Consider upstream on the right shoulder (or beyond the shoulder if practical).

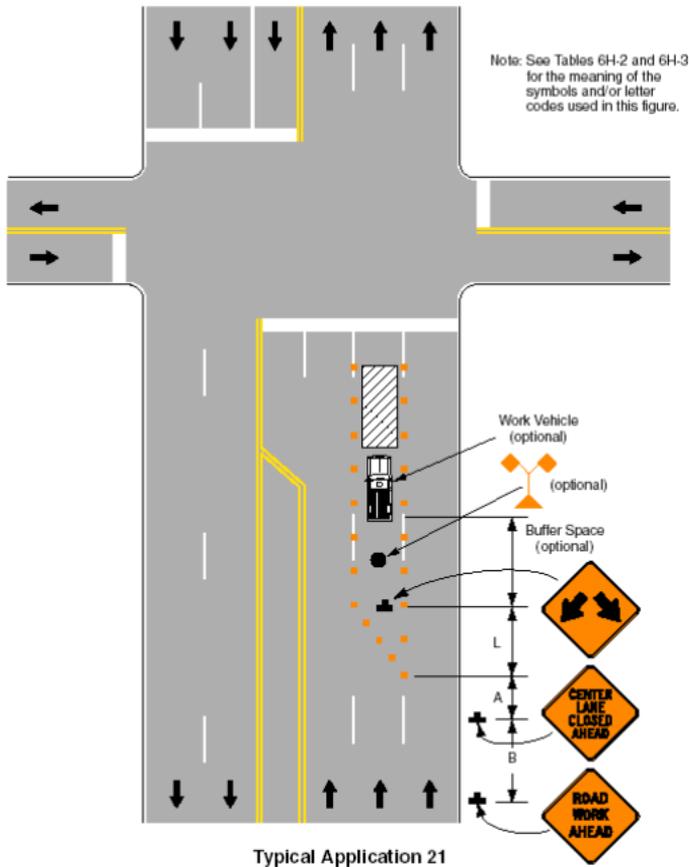
Figure 6H-17. Mobile Operations on Two-Lane Road (TA-17)



Typical Application 17

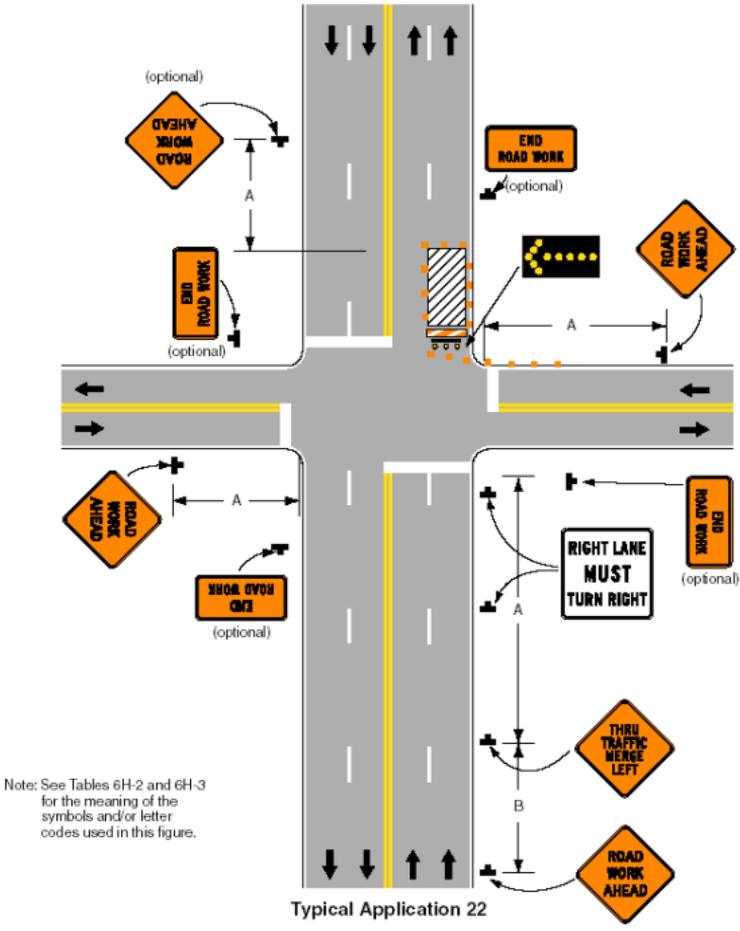
Positioning: Consider in advance of work vehicles on the shoulder (or beyond the shoulder if practical).

Figure 6H-21. Lane Closure on Near Side of Intersection (TA-21)



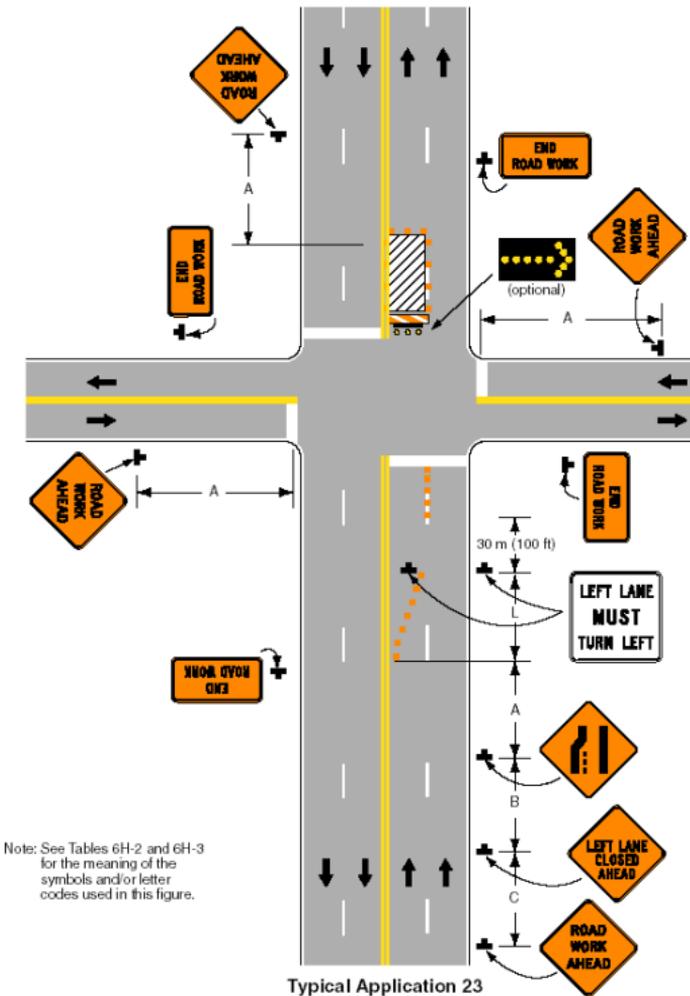
Positioning: Consider driveways and side streets in advance of the work zone, or driveways between the second and third (top) sign. Law enforcement flagging may also be considered.

Figure 6H-22. Right Lane Closure on Far Side of Intersection (TA-22)



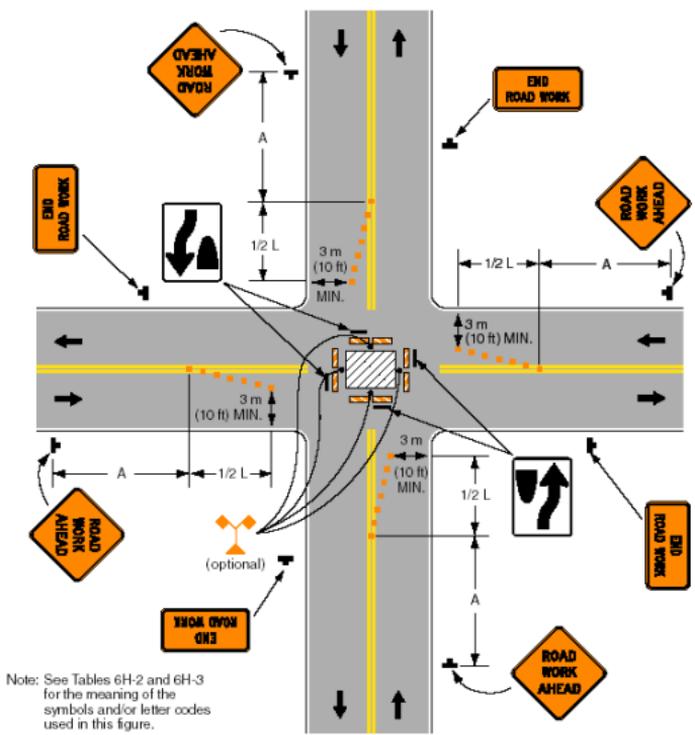
Positioning: Consider driveways and side streets in advance of the work zone and in between signs. Law enforcement flagging may also be considered.

Figure 6H-23. Left Lane Closure on Far Side of Intersection (TA-23)



Positioning: Consider driveways and side streets in advance of the work zone, or driveways between the second and third sign. Law enforcement flagging may also be considered.

Figure 6H-26. Closure in Center of Intersection (TA-26)

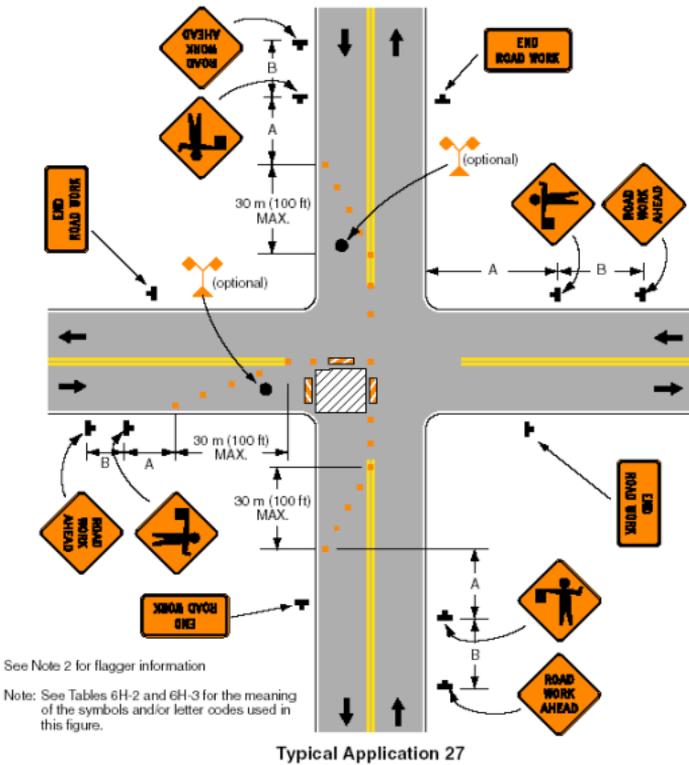


Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 26

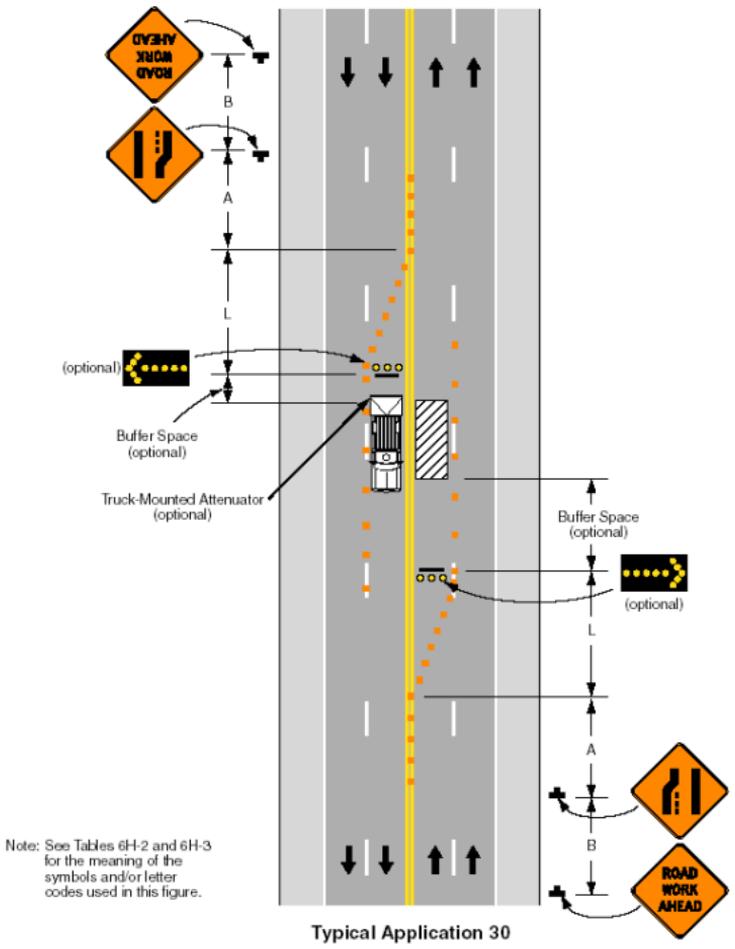
Positioning: Consider driveways and side streets in advance of the work zone, or driveways after the road work ahead sign. Law enforcement flagging may also be considered.

Figure 6H-27. Closure at Side of Intersection (TA-27)



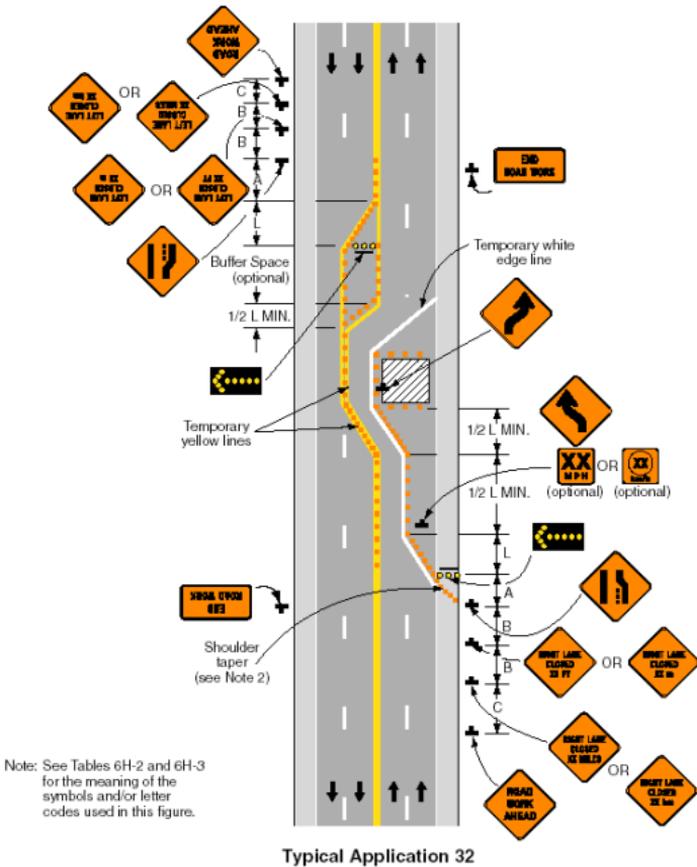
Positioning: Consider on the shoulder (if available) or in a driveway in advance of the work zone, especially in the direction of the tapers (west and north). Off the travel way, in between signs if possible. Law enforcement flagging may also be considered.

Figure 6H-30. Interior Lane Closure on Multi-lane Street (TA-30)



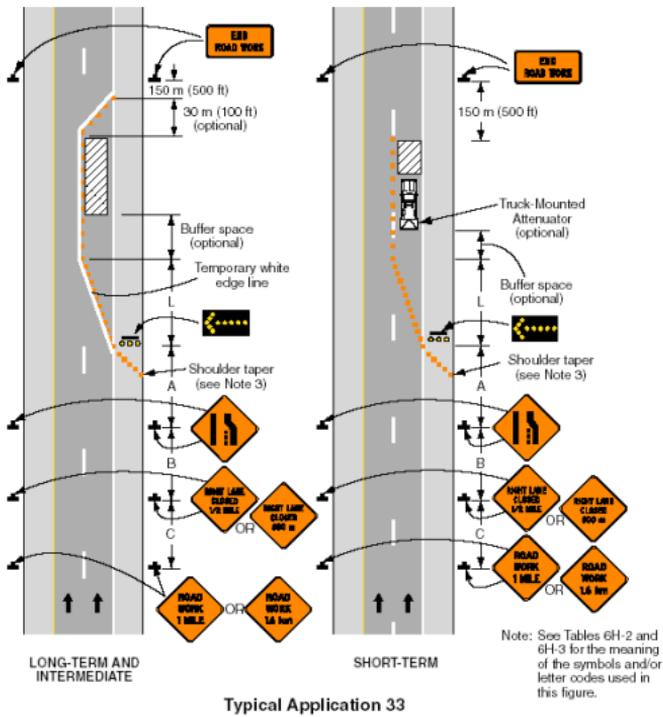
Positioning: Consider on the shoulder (or beyond the shoulder if practical) in between signs.

Figure 6H-32. Half Road Closure on Multi-lane, High-Speed Highway (TA-32)



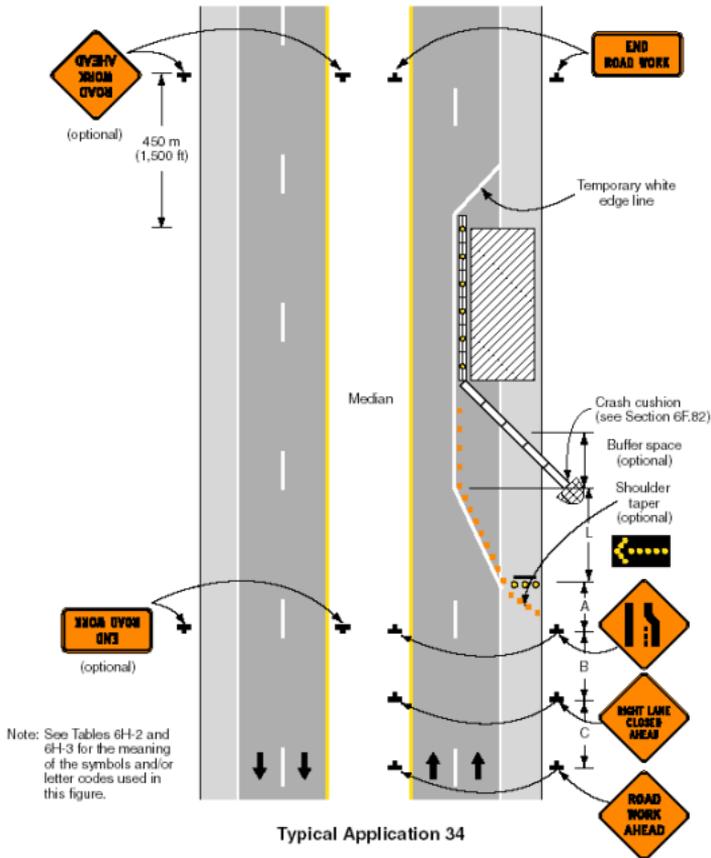
Positioning: Consider on the shoulder (or beyond the shoulder if practical) in between the second and third sign. The first advance warning sign will tell drivers to look for you and the work operation.

Figure 6H-33. Stationary Lane Closure on Divided Highway (TA-33)



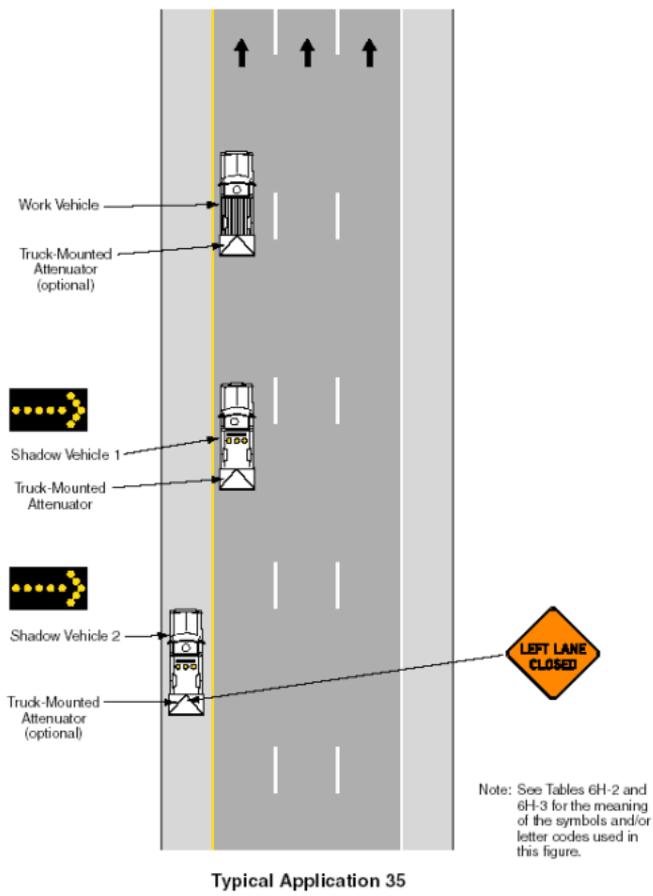
Positioning: Consider on the shoulder (or beyond the shoulder if practical) in between the second and third sign. The first advance warning sign will tell drivers to look for you and the work operation.

Figure 6H-34. Lane Closure with Temporary Traffic Barrier (TA-34)



Positioning: Consider on the right shoulder (or beyond the shoulder if practical) in between the second and third sign. The first advance warning sign will tell drivers to look for you and the work operation. This is a long term project and the most critical time for law enforcement is during queuing. Try to stay in advance of the back-of-queue.

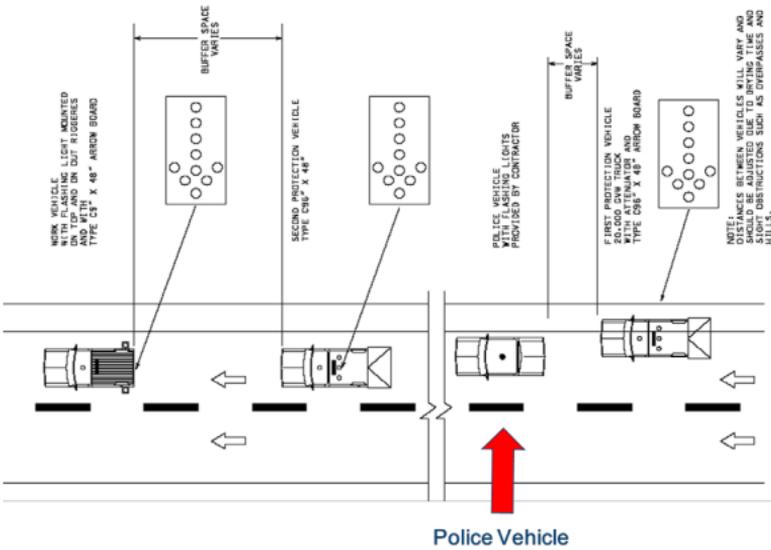
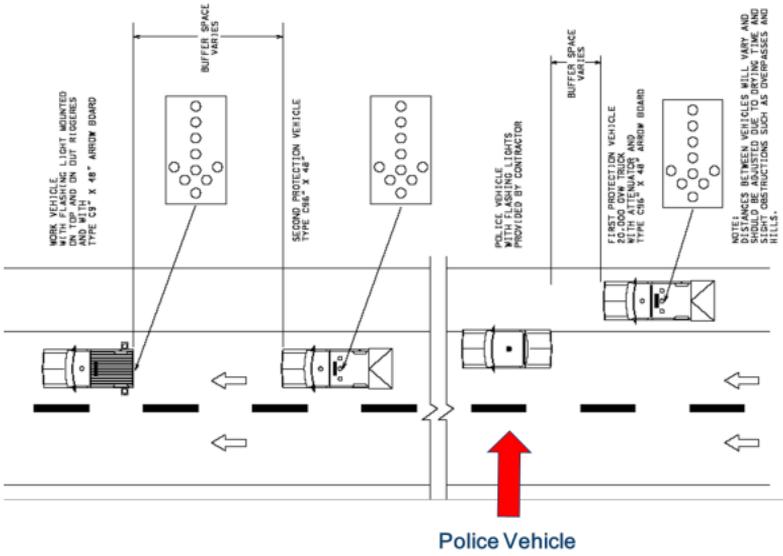
Figure 6H-35. Mobile Operation on Multi-lane Road (TA-35)



Typical Application 35

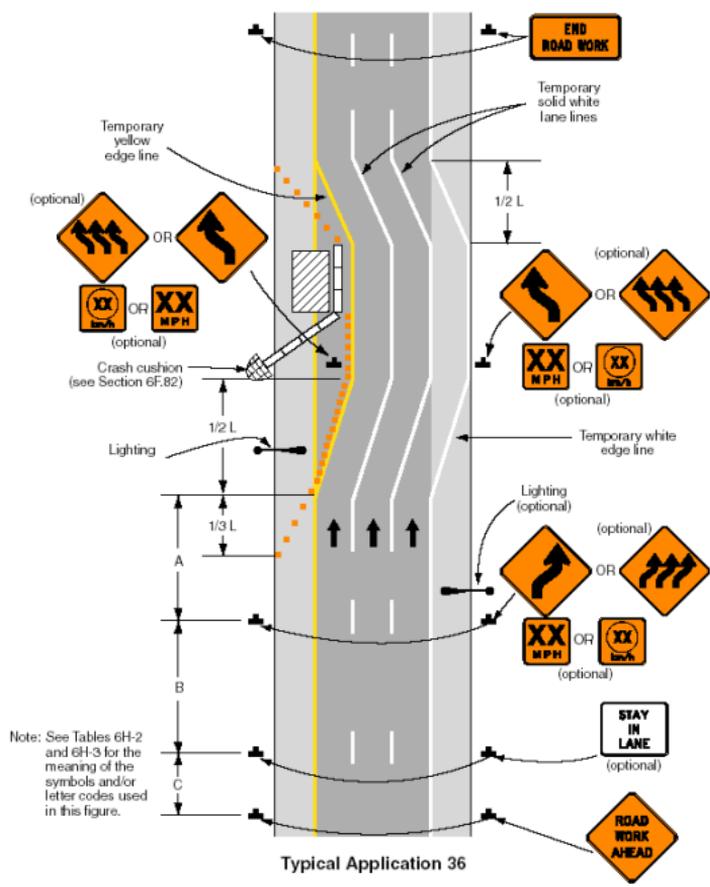
Positioning: Consider on the left shoulder (or beyond the shoulder if practical), downstream of shadow vehicle 2 (discuss shadow vehicle roll-ahead distance with project personnel).

Louisiana DOTD Mobile Operation Example (Full Shoulder and Narrow Shoulder)



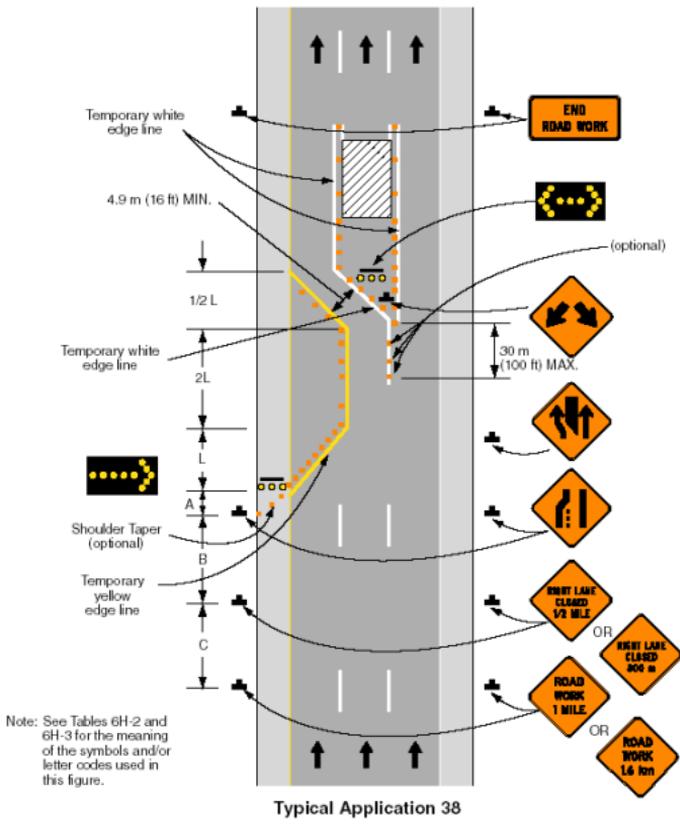
Note line of sight and offset of police vehicle with upstream shadow vehicle. If completely on shoulder, consider driver visibility of the cruiser given the blocking shadow vehicle.

Figure 6H-36. Lane Shift on Freeway (TA-36)



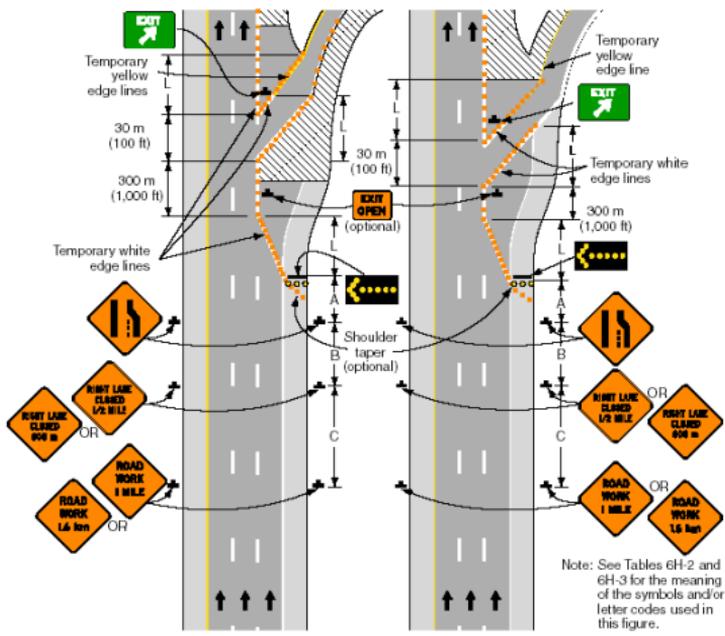
Positioning: Consider on the right shoulder (or beyond the shoulder if practical) downstream of the road work ahead sign. Solid white lines mean crossing is discouraged. Consider timing and need, especially if no queues exist due to capacity.

Figure 6H-38. Interior Lane Closure on Freeway (TA-38)



Positioning: Consider on the right shoulder in between the second and third sign.

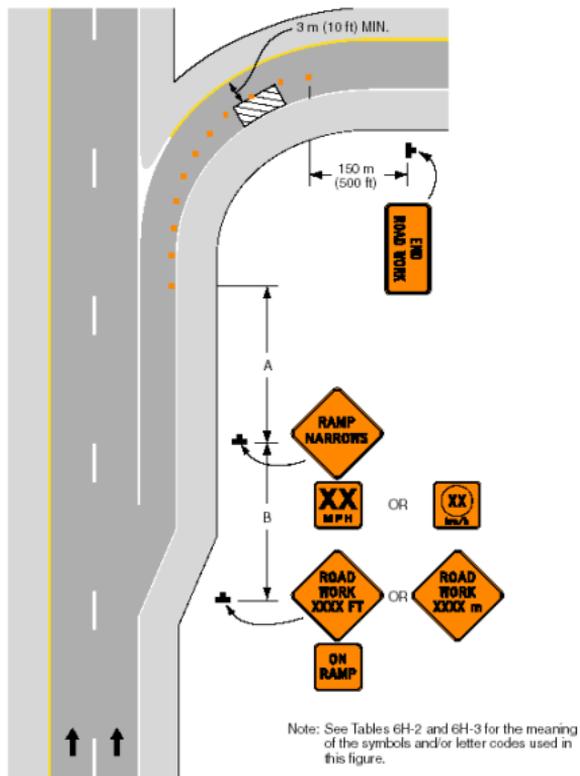
Figure 6H-42. Work in Vicinity of Exit Ramp (TA-42)



Typical Application 42

Positioning: Consider on the right shoulder in between the second and third sign.

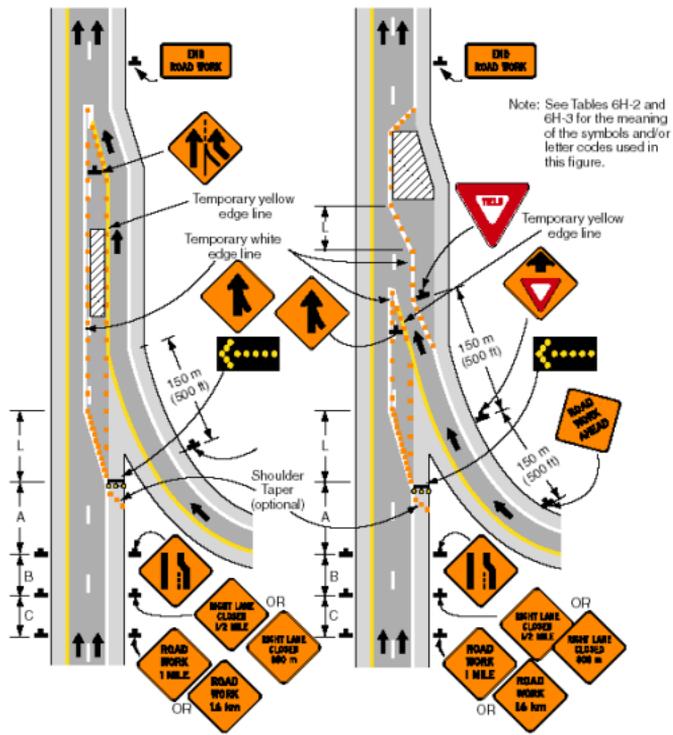
Figure 6H-43. Partial Exit Ramp Closure (TA-43)



Typical Application 43

Positioning: Consider on the right shoulder just after ramp narrows sign.

Figure 6H-44. Work in Vicinity of Entrance Ramp (TA-44)



Typical Application 44

Positioning: Consider on the right shoulder in between the second and third sign.

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