SUMMARY OF TRAFFIC CONTROL GUIDELINES FOR CONSTRUCTION AND MAINTENANCE WORK ZONES SUMMARY REPORT 410-2(S)

FROM

Guidelines for Utilization of Police Officers In Traffic Control and Enforcement on Urban Freeways

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SUMMARY OF TRAFFIC CONTROL GUIDELINES FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

by

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This summary report highlights general traffic control guidelines for construction and maintenance activities on urban freeways where a uniformed officer is needed to reinforce an existing traffic control plan for optimum traffic flow. The officer functions as an authority figure with the capability of citation; however, for the purpose of traffic control, only the threat of enforcement is necessary.

The material presented in this summary report is intended to serve as a general reference guide for field personnel responsible for implementing traffic control plans on urban freeways.

The Manual on Uniform Traffic Control Devices (MUTCD) defines the following four categories or types of work zones:

1. Major Construction or Major Maintenance. Major Construction or Major Maintenance are those activities that last for more than a normal workday and occur on the roadway, within 12 feet of a roadway without curbs, or within 2 feet of a roadway with curbs. In addition, operations on the roadway lasting only a few hours should be considered major if the work is done under conditions of high volumes and high speeds.

2. Minor Construction or Minor Maintenance. Minor Construction or Minor Maintenance are those work activities the duration of which is usually not more than a normal workday which occur on the roadway or within 30 feet

of the roadway. The particular job is normally completed during the workday and the roadway is cleared of obstructions at the end of the workday.

3. Fast Moving Work Zone Activities. A fast moving activity may involve operations such as sweeping and striping, which move at a relatively rapid pace, making traffic control device set-ups for stationary work zones impractical.

4. Slow Moving or Intermittent Stop Work Zone Activities. Slow moving operations may involve such work as raised pavement marker placement, while intermittent stop operations may involve such work as pothole patching.

Traffic control plans for each category of work zone identify the requirements for signing and pavement markings. In that construction and maintenance activities are planned functions, adequate opportunity exists to make use of standard traffic control measures. Attention to and compliance with these traffic control devices are further reinforced by utilization of police officers to enhance safety and traffic movement.

OBJECTIVES

The objectives of the use of police officers for traffic control in construction and maintenance work zones are to 1) insure the safety of the project site, and 2) facilitate the movement of traffic through the site.

Effective traffic control by police officers does not have to involve issuance of citations, only the threat thereof. However, where safety and movement of traffic through a construction or maintenance work zone are jeopardized by the non-adherence to posted traffic warnings/regulations, then additional police personnel are required for enforcement. Each project is unique in this respect and should be monitored to determine if there is a problem with compliance which could be solved by enforcement. The supervising engineer is responsible for this decision based on his experience and field observations.

GENERAL GUIDELINES

The requirements for traffic control by police officers in construction and maintenance work zones are affected by such factors as: 1) Type of work (major, minor, fixed, moving); 2) Location of work zone (on roadway, adjacent to roadway); 3) Magnitude of the activity (lane narrowing, lane blockages, roadway closure); 4) Length of work zone (feet, miles); 5) Duration of activity (hours, days, months); and 6) Time period of activity (peak, off-peak, 24-hour).

Each of these factors must be considered in assessing the requirements for police traffic control at a specific site. However, the following general requirements will apply to most construction and maintenance activities.

1) High Visibility of a police authority by motorists is extremely important. The officer, by his position and actions, should be in clear view of traffic moving through the construction and maintenance work zone. Attention value of the police officer is further heightened by the presence of a marked patrol vehicle.

2) Location of a police officer at points of transition from normal to impeded traffic flow is also extremely important. These transition areas (such as lane changes, lane narrowing, lane blockage, detours, etc.) require increased driver attention and caution. The conspicuous presence of a uniformed officer accentuates communication of essential operational information. Police officers have been found to be most effective in speed control when pointing to or positioned near advisory signing.

Location of a uniformed police officer immediately adjacent to critical safety points of conflict (equipment, personnel, work activity, etc.), or important traffic control devices (signing, markings, flagmen, etc.) is equally important. The authority of the officer reinforces the communication to motorists of special conditions within the work zone and the necessary driving adjustments for safe operation.

3) Additional Support by police personnel for traffic control in construction and maintenance work zones may be required on projects of extended length to reinforce initial regulatory advisements, or on projects where it is necessary to close a freeway and establish diversion routing. In the latter case, the number and location of additional police officers depends on the specific project site, along with length and time duration of closure.

Other factors in a specific construction or maintenance work site that may increase the requirements for traffic control by police personnel are unusual roadway alignments, restrictive sight distance, and high traffic volumes. The appropriate utilization of uniformed officers under these conditions may enhance traffic flow and safety.

EXAMPLES OF TYPICAL SET-UPS

The number and location of police officers and flagmen shown and discussed in the following examples are given illustrative purposes only. The actual number and/or location required is dependent on specific site needs.

Example 1: Construction/Maintenance Site Located Adjacent to Freeway Mainlanes (Figure 1). An active flagman located off the roadway prior to the work zone should provide adequate warning, protection, and control of any potential traffic safety problems. Under conditions of unusual roadway alignment, poor sight distance, and/or high traffic volumes, the utilization of a uniformed police officer is recommended either in place of or in conjunction with the flagman.

Example 2: Construction/Maintenance Site with Lane Closure (Figure 2). A flagman or police officer should be positioned just prior to the signs or markings indicating the lane closure. The transition may be from multiple full width lanes to an equal number of narrow lanes or from multiple lanes to a single lane.

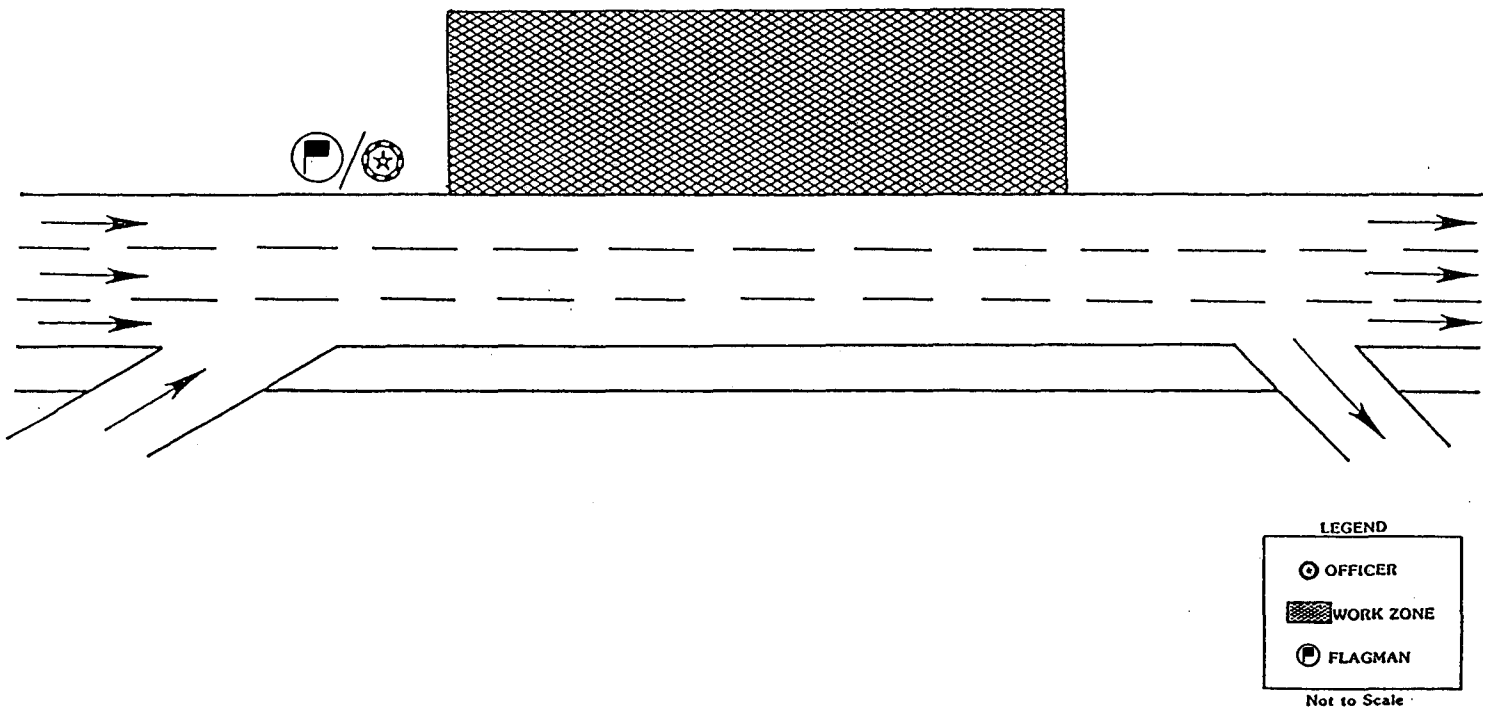
Additional flagmen and police support may also be necessary in advance of the lane closure for speed control, and/or immediately adjacent to the site if no other physical protection is provided to equipment and work personnel. This decision should be at the discretion of the project engineer based on safety and operational considerations.

Example 3: Construction/Maintenance Site with Single Lane Closure and Traffic Diversion (Figure 3). Flagmen and/or officers should be located to intercept traffic approaching the lane closure, to direct traffic onto the diversion route, and to re-route traffic back onto the freeway beyond the work site. Each site should be considered unique as to utilization of police support in this regard.

Example 4: Construction/Maintenance Site with Multiple Lane Closure (Figure 4). A flagman or police officer should be located just prior to the signs and markings advising traffic of the lane closures. Additional flagmen or officers may be required in advance of the lane closures to reinforce the signing and to manually direct traffic into the lane or lanes which remain open. Other flagmen or officers may need to be positioned at intermediate points along the closed lanes or adjacent to the work site itself.

Example 5: Construction/Maintenance Site with Complete Freeway Closure (Figure 5). Figure 5 illustrates two possible types of freeway closures and suggests locations of police officers for traffic control support. One type of closure would involve work activity closing the freeway between exit/entrance ramp pairs such that the ramps served as the diversion route to and from the frontage road. The second type of closure would involve diverting traffic off the freeway by an exit ramp and onto a nearby parallel arterial. Either type of closure could involve several officers and additional support for traffic control. These same types of closures for complete diversion and example applications of police utilization could also result from a major incident (accident, breakdown, emergency, weather, etc.) closing the freeway.

It should be noted that Figures 1 to 5 are simple illustrations to provide reference positions of flagmen/officers relative to a type and location of construction and maintenance work area. Signing and delineation details of the traffic control plan associated with a particular work site are not included. However, in all cases, the MUTCD for work zone traffic control devices should be adhered to and police officer traffic control implemented in concert and complement to these standards.



Notes:

1. Traffic control plan depicted is for illustration purposes only. It is not a standard or specification. In all cases, the MUTCD should be adhered to for location and placement of traffic control devices.
2. The officer/flagman symbol indicates the possible location of either a flagman or a police officer (or both) depending upon specific site conditions and the judgement of the supervising project engineer.

Figure 1. Example of Set-Up for Work Zone Located Adjacent to a Freeway

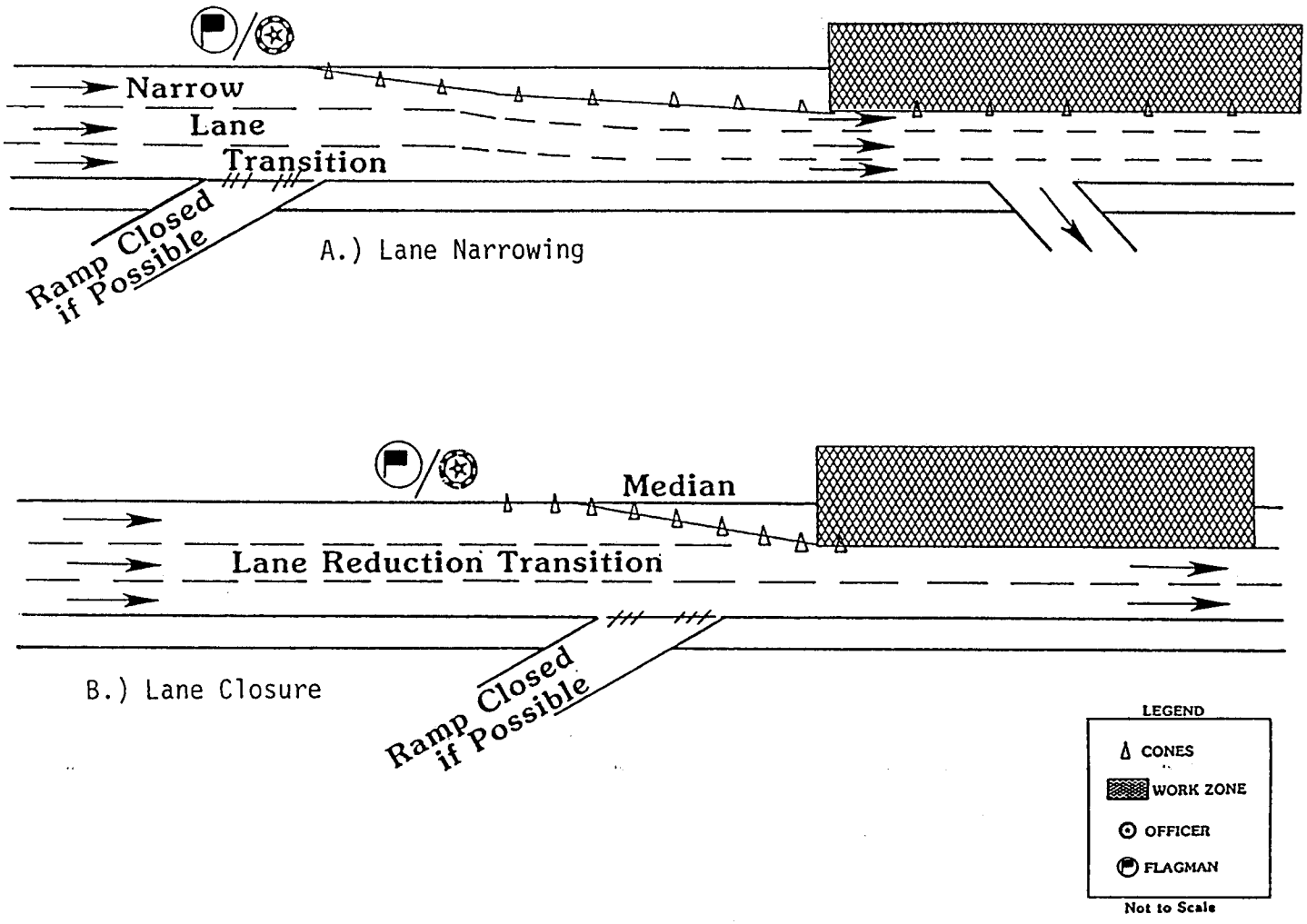


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Figure 2. Example of Set-Up for Single Lane Closure

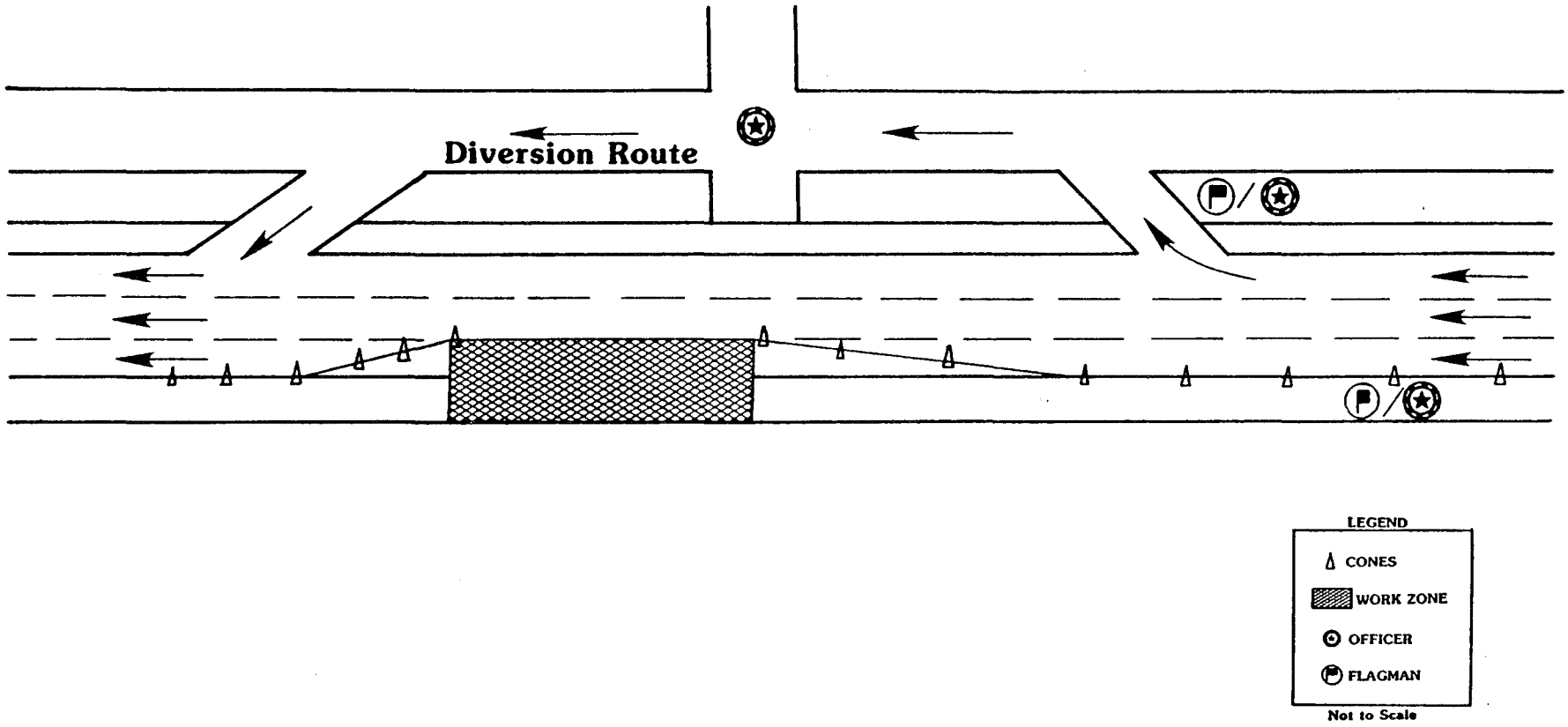

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Figure 3. Example of Set-Up for Lane Closure with Traffic Diversion

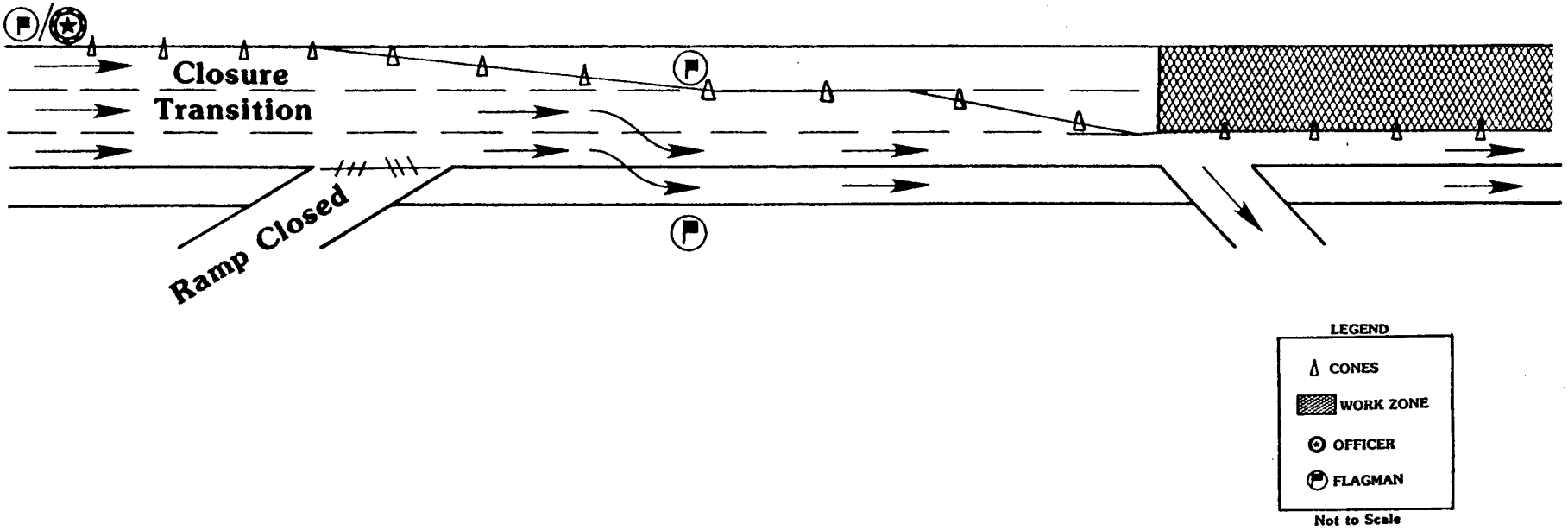

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Figure 4. Example of Set-Up for Multiple Lane Closure

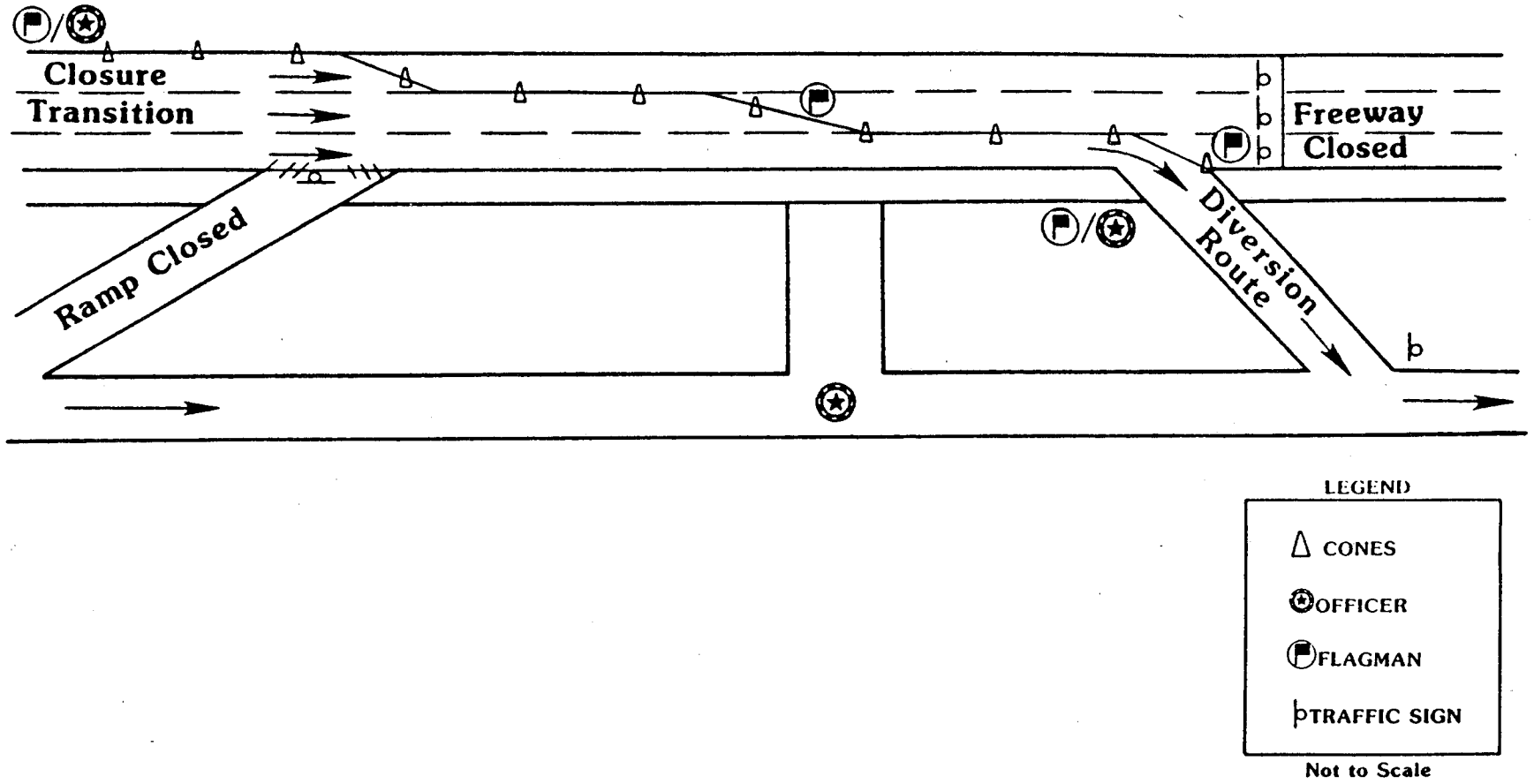

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Figure 5. Example of Set-Up for Complete Freeway Closure with Traffic Diversion