



U.S. Department
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Federal Highway
Administration

Memorandum

Subject: **INFORMATION:** Guidance on Rolling
Roadblock Operations

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From: Martin C. Knopp *Mart. CK11*
Associate Administrator for Operations

In Reply Refer To:
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To: Associate Administrators
Directors of Field Services
Federal Lands Highway Division Engineers
Chief Technical Services Officer
Division Administrators

The Federal Highway Administration's (FHWA) Office of Operations has issued the attached Guidance, dated October 17, 2018, on the Use of Rolling Roadblock Operations by State and local transportation agencies receiving Federal-aid highway funding. While agencies around the country reference the rolling roadblock technique by a variety of names (including traffic breaks, temporary road closures, pacing operations, and traffic pacing), the term "rolling roadblock" is used here to encompass all similar traffic control techniques used during, but not limited to, highway construction, maintenance, or utility work.

This Guidance is issued in response to National Transportation Safety Board (NTSB) recommendations following an investigation into the cause and contributing factors of an October 2016 crash between a motorcoach and combination vehicle near Palm Springs, CA resulting in the death of 13 highway users. The NTSB investigation found that, among other factors, the local policy on rolling roadblocks was a contributing factor to the crash, and subsequently recommended that FHWA:

- Advise State departments of transportation (State DOT) officials about the circumstances of the crash,
- Distribute exemplar State guidance on the safe implementation of rolling roadblocks,
- Urge each State to adopt a policy for conducting rolling roadblocks, and
- Encourage State DOTs to utilize their next biennial Work Zone Process Review to evaluate their policies on rolling roadblock operations and, if necessary, adopt a policy for their safe implementation.

Pursuant to NTSB recommendations, the attached Guidance provides information on the background, causes, and contributing factors to the 2016 crash; information on rolling roadblock operations; the state of the practice in State DOT rolling roadblock policies; best practices and guidance on developing rolling roadblock policies; and exemplar State policies on the use of rolling roadblocks. This Guidance also provides

recommendations and guidance for utilizing Work Zone Process Reviews for evaluating the existence and/or effectiveness of State policies on the use of rolling roadblocks. Information on additional resources are also provided, including FHWA-sponsored guidance documents and training.

Please discuss the recommendations of the Guidance with your State and local partners including law enforcement agencies.

If you have any questions regarding the recommendations, please contact Jawad Paracha at 202-366-4628 or Jawad.Paracha@dot.gov.

Attachment

FHWA Office of Operations

Guidance on Rolling Roadblock Operations

(Response to NTSB Recommendation H-17-46 and H-17-47)

October 17, 2018

Purpose

On the morning of October 23, 2016 on Interstate 10 (I-10) near Palm Springs, CA, a 47-passenger motor coach ran into the rear of a stopped combination vehicle, killing the bus driver and 12 passengers, and injuring 30 others. A National Transportation Safety Board (NTSB) investigation found that at the time of the crash, the combination vehicle was stopped in a travel lane and had remained stopped since reaching the back of a traffic queue that had formed due to a rolling roadblock initiated in support of highway utility work. Though the rolling roadblock had ended, and the traffic queue had dispersed two minutes prior to the crash, the combination vehicle remained stationary in the travel lane, likely due to driver fatigue. Though the motorcoach driver had approximately 20 seconds to observe the stopped vehicle and determine that it was stopped, NTSB found that driver fatigue likely contributed to his minimal action to avoid the crash.

Among other factors, the NTSB crash investigation identified the State policy on rolling roadblocks (also commonly referred to as traffic breaks, temporary road closures, pacing operations, or traffic pacing) as a contributing factor to the crash. As the utility work did not meet the definition of a “significant” project as defined by 23 CFR 630 Subpart J, the Transportation Management Plan (TMP) for the rolling roadblock did not require the provision of early communication to the public about the temporary work zone or the involvement of enough law enforcement vehicles to monitor and respond to problems that developed because of the traffic queue. Additionally, the project’s Temporary Traffic Control (TTC) Plan required only minimal advanced warning of slow or stopped traffic ahead.

The NTSB concluded that advance warning devices notifying the motorcoach driver of the upcoming rolling roadblock could have influenced and modified his expectations sufficiently to have prompted him to identify the truck as stopped. Additionally, NTSB found that had an additional law enforcement vehicle been used to respond to the rolling roadblock, it could have been in a position to notice and respond to the truck driver’s failure to move his combination vehicle. The NTSB ultimately concluded that these additional traffic management countermeasures could have prevented the deadly crash.

NTSB Recommendations

Pursuant to the findings of the NTSB Highway Accident Report, three recommendations were made to FHWA regarding rolling roadblock policies, the first two of which are addressed in this guidance:

- Advise State Department of Transportation (State DOT) officials about the circumstances of this crash; distribute to them exemplar State and American Traffic Safety Services Association (ATSSA) guidance on the safe implementation of traffic breaks; and urge each State to adopt a policy for conducting traffic breaks that includes procedures similar to those used in other temporary traffic control operations, such as (1) providing drivers with advance notice of slowed or stopped traffic, and (2) monitoring the formation and dispersal of traffic queues. In addition, the implementation of the policy should be documented in every encroachment permit involving a traffic break in the State.
- During your next process review with each State DOT, ask about the State's policy for conducting traffic breaks and, if necessary, urge the State to adopt a policy that includes procedures similar to those used in other temporary traffic control (TTC) operations, such as (1) providing drivers with advance notice of slowed or stopped traffic, and (2) monitoring the formation and dispersal of traffic queues. In addition, the implementation of the policy should be documented in every encroachment permit involving a traffic break in the State.
- Develop recommended guidance for traffic break operations based on exemplar State and ATSSA guidance on the safe implementation of traffic breaks, and include your recommended guidance in the next edition of the Manual on Uniform Traffic Control Devices (MUTCD).

While the primary audience of this guidance is State DOTs, the recommendations and guidance contained herein are pertinent to all agencies that receive Federal-aid highway funding for roadway construction activities. The FHWA intends to address the third recommendation in a future revision to the MUTCD.

What is a Rolling Roadblock?

A rolling roadblock is a TTC technique frequently used by State DOTs to temporarily slow or stop traffic in order to provide a gap in the flow of traffic in advance of downstream construction activities. Temporarily removing or slowing traffic at the site of construction activities enables the completion of short-term work where a long-term closure using standard TTC devices is not needed. Rolling roadblocks are frequently used for short periods on urban and rural freeways where traffic would normally flow unimpeded. By initiating a rolling roadblock, traffic is slowed or stopped such that work may be completed without being in direct conflict with live traffic. This is frequently necessary to accomplish work that

requires exclusive access to the roadway itself or involves activities (e.g. overhead work) that present a significant risk to motorists. Policies and procedures governing the use of rolling roadblocks for highway construction activities vary by State and are typically documented in a project's TTC plan or technical specification. While State DOTs around the country reference the rolling roadblock technique by a variety of names (including traffic breaks, temporary road closures, pacing operations, and traffic pacing), the term "rolling roadblock" is used here to encompass all similar traffic control techniques.

State Rolling Roadblock Policies

At the request of NTSB, FHWA conducted a scan of State DOTs usage of rolling roadblocks and associated policies. This scan indicated that 23 of the 28 responding agencies use rolling roadblocks, with the frequency of use ranging from infrequent to routine. Of the 23 States using rolling roadblocks, 16 do so routinely, but five of those States do not have policies in place for their implementation. More than 40 percent of the responding States that use rolling roadblocks at least infrequently do not have standard policies or procedures for their implementation.

Developing State Rolling Roadblock Policies

As a best practice, State DOTs are encouraged to have policies and procedures in place for the use of rolling roadblocks. Noteworthy practices for these policies and procedures on planning, implementing, monitoring, and terminating rolling roadblocks include:

- Specifying the type of work activities, times of day, and days of the week where the use of rolling roadblocks are permitted and/or required, and clearly detail these points in TTC plans and/or technical specifications.
- Requiring the development of an emergency plan to handle traffic should unforeseen circumstances occur.
- Specifying whether the policy varies if the work is being performed by a contractor or the agency's own employees.
- Requiring an advance planning meeting with all stakeholders to define responsibilities and ensure activities required for successfully executing a rolling roadblock will be completed, including notifying fire stations and other emergency response agencies.
- Requiring a final meeting among stakeholders before the rolling roadblock is executed to ensure all requirements have been implemented.

- Requiring issuing press releases to radio/television stations, newspapers, the agency's website, and any applicable agency social media sites.
- Requiring advising the public in advance as to when the rolling roadblock will be performed, including using:
 - Portable changeable message signs (PCMS) to display appropriate messages to the public at least a week in advance of the roadblock;
 - PCMS on the day of roadblock to alert users that the operation will be happening that day, including hours during which the roadblocks will occur; or
 - Any permanent changeable message signs (CMS) boards within the activity area for public notification.
- Specifying appropriate advance warning signing to alert traffic to the downstream presence of a slow or stopped traffic condition; the placement of these signs should provide adequate advance warning to allow a driver to react and slow to a stop and be dependent on the anticipated queue length as determined from an engineering study.
- Considering the use of queue warnings systems to provide drivers with advanced notification of downstream queues.
- Ensuring that traffic queue formations and their dispersals are monitored.
- Ensuring that a rolling roadblock not be started until traffic from a preceding rolling roadblock has been cleared.

Policies for the use of rolling roadblocks should be documented in project TMPs and specifications, and in every encroachment permit involving a rolling roadblock in the State.

Exemplar State Policies

The Connecticut Department of Transportation's use of rolling roadblocks is governed by Construction Directive No. CD-2016-2. The directive details the type of roadways on which rolling road blocks are permitted and for which types of work. The agency's policy dictates that truck-mounted-attenuators (TMAs) equipped with arrow boards be used to slow traffic and State Police in marked vehicles may be used as needed. A pre-warning vehicle, consisting of a TMA equipped with a PCMS is required to be stationed ½ mile ahead of the traffic queue to alert motorists that work is underway.

The Florida Department of Transportation regulates the use of traffic pacing using Design Standard Index No. 655 and Section 10.12.8 of the State's Plans Preparation Manual (PPM). The PPM provides procedures for calculating the pacing distance and the time intervals during which a pacing operation will be allowed. Index 655 requires that the District Public Information Office, the District Traffic Operations Engineer, Local Emergency Management

Agencies, and Project Personnel be notified of the location, date, and time of an upcoming traffic pacing operation at least two weeks in advance. The agency also requires that the public is notified of the upcoming operation at least one week in advance using CMS. On the day of the pacing operation, the CMS are revised to indicate that the activity will occur that night or day. The CMS messages are further updated during the pacing operation to warn of slow and/or stopped traffic ahead.

The Georgia Department of Transportation's Special Provisions Section 150 allows for the pacing of traffic for a maximum of 20 minutes to work in or above all lanes of traffic for predefined purposes. Contractors are required to provide a uniformed law enforcement office with patrol vehicle and blue flashing light for each direction of traffic. The State also requires that at a point not less than 1,000 feet upstream of the beginning of the point of the pace, the contractor place a PCMS with the message "**TRAFFIC SLOWED AHEAD SHORT DELAY**".

The Maryland State Highway Administration allows for the use of temporary roadway closures in the Standard for Highways and Incidental Structures 104.06-12. This standard requires that intermittent roadway closures last no longer than 15 minutes, and that four sets of signs be used at predefined intervals upstream of the point of closure to warn highway users of stopped traffic ahead. The standard allows for the use of a PCMS in lieu of the first set of advance warning signs. Lane closure activity must be coordinated through the State's Traffic Operations Center (CHART) with information on pending and active closures broadcast through public information channels and variable message sign network.

The Missouri Department of Transportation's (MoDOT) Engineering Policy Guide 616.13.17 requires that any use of traffic pacing be controlled by a law enforcement pilot vehicle with flashing blue lights driven by uniformed law enforcement personnel. Advanced signing warning motorists of the upcoming traffic pacing is also required. The agency utilizes a Traffic Pacing Worksheet when planning the traffic pacing technique to calculate allowable pacing distance and time intervals. The MoDOT also uses a Traffic Pacing CMS Layout plan detail to establish guidelines on the use of CMS and associated messages on the mainline and ramps, including alerting highway users one week prior to the pacing operation and during the day of the pacing operation. Additionally, the Traffic Pacing Mainline Pacing Details establish protocols for the use of police vehicles, crash trucks with rear mounted attenuators, and CMS when beginning and ending a pacing operation.

The Washington State Department of Transportation utilizes its Work Zone Traffic Control Guidelines Manual to encourage the use Washington State Police (WSP) during rolling slowdown operation whenever possible, and requires coordination with WSP at a minimum. The State's policy also provides a set of minimum requirements when performing a rolling slowdown, including the use of truck mounted PCMS on the pacing vehicles warning of slow or stopped vehicles and another PCMS located one mile in advance of the lane closure to warn highway users of the upcoming slowing traffic or stopped vehicles.

Evaluating Rolling Roadblock Policies in Work Zone Process Reviews

Under 23 CFR part 630 subpart J (Work Zone Safety and Mobility), each State and local transportation agency that receives Federal-aid highway funding must have a policy for the systematic consideration and management of work zone impacts on all Federal-aid projects. The policy should include state-level and project-level processes and procedures to address work zone impacts throughout the various stages of project development and implementation. This regulation requires that State highway agencies perform work zone process reviews every two years to determine the ability of existing policies and procedures to manage the safety and mobility impacts of work zones.

These process reviews present State DOTs with an opportunity to re-examine and take a holistic look at how well existing work zone safety and mobility management practices are working. State DOTs are encouraged to utilize their next process review as an opportunity to examine their existing policies and procedures, if any, related to rolling roadblocks, and evaluate their policy's effectiveness at mitigating potential safety impacts associated with the roadblocks. The FHWA will work with the State DOTs in examining their policies and procedures related to rolling roadblocks.

If a review of existing policies on the use and implementation of rolling roadblocks determines that existing policies are inadequate or nonexistent, States are encouraged to work rapidly to modify or establish policies using the aforementioned best practices.

Additional Resources

The FHWA has made additional resources available to transportation agencies for improving rolling roadblock practices. Among these resources is *Guidelines on Rolling Roadblocks for Work Zone Applications*, developed under the FHWA Work Zone Safety Grant Program. This guide establishes best practices in the use of rolling roadblocks and provides valuable information on:

- Planning and coordinating a rolling roadblock
- Executing a rolling roadblock
- Developing a rolling roadblock planning checklist

This guide and other resources, including information on an available rolling roadblock training course, are available on the National Work Zone Safety Information Clearinghouse Website: <https://www.workzonesafety.org/?s=guidelines+on+rolling+roadblocks>

Information on the FHWA Work Zone Safety and Mobility regulation under 23 CFR part 630 subpart J can be found at: https://ops.fhwa.dot.gov/wz/resources/final_rule.htm

Additional resources and information on work zone management and improving work zone safety and mobility can be found through FHWA's Work Zone Management Program at:
<https://ops.fhwa.dot.gov/wz>

Contacts

For more information on rolling roadblocks and policies governing their use, contact your local FHWA Division Office or the FHWA Office of Operations Work Zone Management Headquarters Team.