



## Podcast 7:

### Rolling Roadblocks for Work Zone Applications

Hello and welcome to the American Traffic Safety Services Association's Work Zone Safety podcast series. This podcast is based on work supported by the Federal Highway Administration under the 2011 Work Zone Safety Grant. The purpose of this podcast is to help practitioners learn more about what a rolling roadblock is and how it can be used in a work zone environment to balance work zone safety with improved work zone mobility.

This podcast has been developed as a companion to the *Guidelines on Rolling Roadblocks for Work Zone Applications* along with a web-based training module of the same title. These resources provide step-by-step guidance for planning and executing a safe, effective rolling roadblock, provide State DOT practice examples, and describe how to find additional examples. All of these documents are available at [workzonesafety.org](http://workzonesafety.org).

This podcast will run for about 12 minutes.

Let's start by talking about what a rolling roadblock is. A rolling roadblock, sometimes called a rolling slowdown, may not be what you're thinking. It's not a congestion-related reduction in speed, like you may experience in your daily commute. A rolling roadblock is a temporary traffic control method that removes traffic from the roadway work zone activity area, allowing road work to be performed by slowing or stopping traffic prior to the work area. The rolling roadblock effectively closes all lanes of traffic prior to the work zone. This is accomplished by using pacing vehicles to create a gap between traffic and the work area so that short-duration construction activities can be performed. When appropriately planned and executed, rolling roadblocks are a useful traffic control strategy to add to your work zone toolbox.

**Hey, before we get into the details about how to conduct a rolling roadblock operation, can we talk a little about the kinds of activities a rolling roadblock should be used for?**

Sure. The idea of using a rolling roadblock as a traffic control strategy has its roots in law enforcement procedures to slow or stop traffic due to enforcement activities or as part of an emergency response. When used properly in a work zone setting, the rolling roadblock is most appropriate for short duration activities. Short duration in this context means roughly 10 minutes, about the length of this podcast, although a longer duration may be possible as some States allow up to 20 minutes.

There are several kinds of activities that may warrant the use of a rolling roadblock, including:

- Setting bridge beams;



- Placing overhead sign structures; or
- Pulling wires or cables across the roadway, among others.

These work examples require a complete road closure since all lanes are affected and the work would either be too hazardous or simply not possible with live traffic present in the work zone.

### **Okay, but when and where should a rolling roadblock be used?**

The rolling roadblock works best on a multi-lane, access-controlled highway, expressway, or freeway during low volume traffic periods. A non-access-controlled two-lane or multi-lane road would generally not be a good candidate for a rolling roadblock since traffic can access the roadway from uncontrolled intersections and driveways. Instead, traditional flagging traffic control would be the safer option on those types of facilities.

A thorough work zone impact analysis should be conducted to determine the most effective choice as rolling roadblocks can create significant traffic congestion. Time duration of the work operation is usually the determining factor, but some work zone operations may not be compatible for a rolling roadblock and would be better served by traditional lane closure traffic control. This includes work operations like paving, pavement repair, and pavement marking.

### **Got it. I think I'm ready to hear more about how to set up and run the operation.**

Well, as the name implies, the rolling roadblock is a dynamic traffic control operation. The success of the rolling roadblock relies heavily on driver compliance combined with active coordination and constant communication among the work and traffic control crews.

It works like this. At a predetermined location, pacing or blocking vehicles enter the traffic stream, preferably from an on-ramp but possibly from the shoulder, and occupy each available lane side by side. Law enforcement, roadway agency, or contractor or traffic control vehicles may be used depending on agency requirements. An additional vehicle, known as the lead or chase vehicle, follows the normal traffic flow ahead as the blocking vehicles uniformly slow down to start building the gap (20 mph is considered an acceptable pacing speed). As the operation progresses and traffic slows to about the 20 mph range, the gap increases. When the lead vehicle reaches the work space, the work operation can start. At that moment the gap time countdown begins as the rolling roadblock approaches the work area. For example, a work space 4 miles away at a pacing speed of 20 mph would equate to approximately 12 minutes of closure time. This is really just a simple calculation based on the speed difference created by the rolling roadblock. More detailed information on pacing calculations is included in the *Guidelines on Rolling Roadblocks for Work Zone Applications*.



**It sounds like there needs to be a lot of coordination to operate a rolling roadblock the right way. What's the best way to do that?**

To be safe and effective, the rolling roadblock does require a good bit of prior planning, including establishing the timing of the procedure, coordinating all the work crew movements, and notifying the public about the operation in advance. A temporary traffic control plan is the key to pulling all these elements together. The temporary traffic control plan should include the roadblock operation plan—also known as a Pacing Plan, which shows the location of advance warning signs and devices—and the rolling roadblock pacing calculations. This calculation will determine the starting point for the procedure and establish which on-ramp access points will need to be closed using flaggers or by blocking the entry points with law enforcement vehicles. Other design considerations include: roadway geometrics, interchange spacing, traffic volumes, and maximum queue length, all of which are covered in more detail in the *Guidelines on Rolling Roadblocks for Work Zone Applications*.

Communications plans may also be needed for more complex operations. Such plans should be developed by the agency responsible for the operation to outline the procedure for communications among contractor, DOT, and law enforcement personnel. Two-way radios are a reliable tool for these participants to use during the procedure. The communications plan should also include an outreach element to warn the public in advance about expected delays and to explain the nature of the procedure.

It's important to understand that only the initial vehicles in the traffic queue are directly controlled by the pacing vehicles. The safety of the rolling roadblock operation depends largely on passive traffic control through warning messages. These messages must be highly visible and obvious to warn drivers as they encounter unstable traffic flow created by drivers slowing at different rates. Portable changeable message signs in advance of the operation are a key device for effectively disseminating warning messages to drivers. Where to position these signs is a strategic decision based on the individual rolling roadblock and should be outlined in the temporary traffic control plan. Permanent message signs may also be employed if they happen to be located in advance of the area that will be affected by the operation. Another method to help control traffic congestion and increase safety is the use of a Highway Advisory Radio system.

**In general, what kind of considerations should I take into account when I'm thinking about using a rolling roadblock?**

In conclusion, here are some things to think about:

- Is your road type appropriate for a rolling roadblock?
- What will the closure time in minutes be?
- How will you provide critical advance warning for approaching drivers?
- What are the local law enforcement requirements?
- Have you run your pacing calculations?



- Have you developed your advance notice messages for media and other outlets?
- How will you address on-ramp closures?
- Do you have a plan for coordination and communication among contractor, DOT, and law enforcement personnel?
- Do you have an approved temporary traffic control plan?

And remember: advance plans should be developed to address these issues prior to implementing a rolling roadblock.

Here's one final point to think about. Although the Manual on Uniform Traffic Control Devices does not address rolling roadblocks, many State DOTs have adopted guidance for safely and effectively using this approach to traffic control. As mentioned in the beginning of this podcast, ATSSA has also developed two resources on rolling roadblocks: *Guidelines on Rolling Roadblocks for Work Zone Applications* and the companion web-based training module of the same title. The guidelines document in particular contains several examples of State practices for rolling roadblock operations that you may find helpful.

To view these and all the guidelines and web-based training products developed under the Work Zone Safety Grant Program, or to find out about upcoming Grant-sponsored training courses, please visit the FHWA Grant page on the National Work Zone Safety Information Clearinghouse at [workzonesafety.org](http://workzonesafety.org).

This podcast has been a presentation of the Federal Highway Administration's Work Zone Safety Grant Program. Thank you for joining us, and please visit [workzonesafety.org](http://workzonesafety.org) often to view the latest training and guidance products.