



Podcast 8:

Proper Inspection of Temporary Traffic Control: Program, Process, and Projects

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. Its purpose is to explain the importance of work zone inspections for saving lives, reducing cost, and protecting against liability. This podcast will also introduce some of the elements necessary for a successful project-level work zone inspection.

This podcast is a companion to the *Safe and Effective Work Zone Inspections* guidance document, which was developed under the Work Zone Safety Grant. Both this document and many other resources on work zone inspection programs and processes, including training materials, are available at the National Work Zone Safety Information Clearinghouse at workzonesafety.org.

This podcast runs for about 12 minutes.

It seems like my agency has started to focus more on work zone safety and temporary traffic control for our construction projects, and I've been wanting to learn more about work zone inspections. Can we start with the basics? What does an agency work zone inspection program look like?

That's a good place to start. Work zone regulations based on the *Manual on Uniform Traffic Control Devices*, the Work Zone Safety and Mobility Rule, and state and local standards have become more specific, and agencies have evolved their programs to address these requirements. A transportation agency's work zone inspection program provides a framework and resources—such as training on agency policy and requirements—for the inspectors who will be conducting project-level assessments of temporary traffic control and of construction and maintenance work zones. Effective work zone inspection programs can improve safety, increase mobility, and reduce agency risk within and around the work zone.

Inspection programs differ in structure and responsibility across agencies. For example, some agencies may rely on detailed project inspections by statewide experts, while others may use a reporting system where the inspection report follows a chain of command. While each approach may differ, all programs involve proper inspection of the temporary traffic control plan. The bottom line is that every agency needs an effective process that fits the agency structure.

Where does the temporary traffic control plan fit into the overall picture when we're talking about work zone inspections?

Let's take a minute to talk about terminology. The terms "temporary traffic control plan" (TTCP) or "traffic control plan" (TCP) are both commonly used. We will use "TCP" during this podcast. The



TCP describes which temporary traffic control measures will be used, such as warning devices and lane closures, to help travelers navigate their way safely through a work zone. The degree of detail in a TCP depends entirely on the complexity of the work being performed. For example, a multi-lane freeway project to add a lane would probably require a complex and detailed TCP. On the other hand, a road paving project on a low-volume, two-lane rural highway will have less complex traffic control needs, so the associated TCP would be more basic.

Depending on the contract specifications, the agency that owns the roadway either designs the TCP itself or approves the contractor's TCP after ensuring it is consistent with Part 6 of the *Manual on Uniform Traffic Control Devices*, or MUTCD, as well as any applicable state and local standards. The TCP and related specifications are usually included in the contract proposal and explain the work zone requirements.

In the field, the inspector uses the TCP and other agency standards, specifications, policies, and guidance to review the traffic control devices and equipment being used and ensures that they are working effectively.

Let's talk about the actual inspection. What is the first step in a work zone inspection program?

Well, the first step in a work zone inspection program is to train the inspector! TCPs are developed to be consistent with an agency's policies, standards, and specifications as well as the MUTCD. An inspector must be trained and familiar with these agency- and project-related documents to conduct a thorough inspection. It's also a good idea for work zone practitioners to familiarize themselves with their agency's inspection program, the agency's approved or qualified product list, and quality standards for traffic control devices.

I get it; inspectors need to know what to look for. What are some other first steps the inspector takes?

Reviewing the project's TCPs against the contractor's work plan is a great place to start. If possible, discovering deficiencies prior to the actual placement of devices has the potential to improve overall safety and to save time and money for the agency. In addition, the inspector has the opportunity to confirm contractor procedures for temporary traffic control device placement and retrieval.

When performing an inspection on an active work zone, however, the inspector also needs to pay particular attention to how appropriate the traffic control measures being used are for the actual work activities and work location. Issues like work zone clear zone impacts, temporary roadway conditions, flagger safety issues, and traffic versus equipment conflicts are generally not part of the typical TCP, but are addressed within the contract documents. When performing a physical inspection, the inspector should be sure to consider the contract-specific provisions and Part 6 of the MUTCD in the review.

Sounds like there are a lot of items to review. Wouldn't a checklist be helpful?



Yes, and a number of State agencies have created work zone project inspection checklists with varying degrees of complexity. A comprehensive list of potential checklist items can be found in the *Safe and Effective Work Zone Inspections* guidance document, available at workzonesafety.org. We'll take a minute to go over a few inspection items here, but keep in mind the full list is fairly exhaustive. A few of the questions a work zone inspector should ask include:

- Does the TCP fit the work zone activities, or would a different or revised plan be more appropriate?
- Are flaggers or other workers in conflict with traffic and equipment operation?
- Are devices deployed per the TCP, MUTCD, and state requirements? Are the device types and designs consistent with these requirements?
- Are work zone ITS and all other temporary traffic control devices being used per the plan? Are they functioning correctly?

Speaking of functioning correctly, what if something is not working right and can't be checked off?

It's very important for all deficiencies to be discovered, documented, and resolved. Deficiencies may include improperly used device type or design, unsatisfactory device condition or operation, improper device placement, and excessive queue length and motorist delay.

Agencies should have a process in place, including an acceptable time frame for reporting and rectifying a sub-standard condition. Industry guidance suggests a maximum of 12 hours, but the acceptable response time will vary according to the seriousness of the deficiency and agency policy. For example, deficiencies impacting safety, such as improper flagging or safety apparel, should be addressed immediately. Deficiencies impacting performance, like missing or damaged temporary traffic control devices, may be corrected within the course of up to several hours. Aesthetic deficiencies, however, such as dirty or leaning (but legible) signs, typically have a lower priority, so they may be replaced or corrected within a longer period.

The inspector must notify the party responsible for corrective action and ensure that a timeframe for correction is established and acknowledged. Once corrective action has been taken, it must be documented. Even if a deficiency is corrected immediately, a detailed account of the event and response must be noted. Some deficiencies may need to be escalated to higher authority for a decision. Never feel like you have to make the decision alone; consult upward as needed through your chain of command.

I understand the risks of reduced safety and mobility from a work zone that isn't set up properly, but you mentioned agency risk. What kind of risk were you talking about?

First and foremost, the risk of a vehicle crash or worker death or injury is *the* top priority, and we are all working to avoid them, but there are other risks as well, including the legal kind. The reason everything must be documented in detail is not just to provide an opportunity to rectify deficiencies,



but also to provide adequate evidence to defend against potential tort liability or contract claim action against an agency or contractor.

For example, you may have a project that ended 2 years ago, but today both the agency and the contractor are being held liable for damages stemming from a crash in that work zone. Inspection log reports will be needed to find out the TCP-related details and to determine what actions were taken during the project in response to inspector-identified deficiencies. These details help build a defense if the case goes to trial.

Yikes! Getting caught up in a law suit is definitely something to avoid! What agency activities can I support to decrease that risk?

Agency actions that lead to good risk management include requiring and implementing regular work zone traffic control inspections as a matter of policy; resolving any deficiencies in a reasonable and timely fashion; installing signing or other notifications for a hazardous condition if an immediate resolution is not possible or is too expensive; and demonstrating a priority list of actions on deficient conditions. Some deficiencies that may not be immediately correctable can occur due to unforeseen changes in site conditions, like design flaws, poor subsurface conditions, or material deficiencies, and it may take time to develop a solution. In the meantime an alternate TCP may have to be developed to mitigate the hazards associated with the deficiency.

As we mentioned, the *Safe and Effective Work Zone Inspections* guidance document and associated training materials can give you a more in-depth understanding of what work zone inspection programs and project-level inspections entail. Additional resources can be found in the script that accompanies the audio version of this podcast.

To view the inspections guideline and all the guidelines and web-based training products developed under the Work Zone Safety Grant Program, or to find out about the upcoming Grant-sponsored inspection training course, please visit the FHWA Grant page on the National Work Zone Safety Information Clearinghouse at 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 often to view the latest training and guidance products.



RESOURCES

Many states have developed their own work zone inspection training programs. Check with your own State DOT for the availability of inspection-related training near you.

APWA (American Public Works Association), “Construction Inspection: A Review - Training Package.” For more information, visit: <http://www2.apwa.net/bookstore/detail.asp?pc=pb.e09a>

ATSSA, *Safe and Effective Work Zone Inspections 2013*. For more information, visit http://www.workzonesafety.org/fhwa_wz_grant/atssa/atssa_wz_inspections

ATSSA, “Traffic Control Supervisor” (training course). For more information, visit: <http://www.atssa.com/TrainingCertification/CourseInformation/TrafficControlSupervisorTCS.aspx>

FHWA “Work zone Safety Inspection Training.” Available at: <http://www.workzonesafety.org/research/record/2021>

NHI (National Highway Institute) offers several courses related to work zone inspection, including:

- “Construction Zone Safety Inspection” (1-day or 1.5 day)
- “Construction Inspection, Workmanship, and Quality”
- “TCCC Maintenance of Traffic for Supervisors” (Web-based)

Visit http://www.nhi.fhwa.dot.gov/training/training_products.aspx for more information.

OSHA (Occupational Safety and Health Administration), *Inspection and Citation Guidance for Roadway and Highway Construction Work Zones*. Available

at: https://www.osha.gov/OshDoc/Directive_pdf/CPL_02-01-054.pdf