



Podcast 11:

Work Zone Road Safety Audits: Teaming up To Improve Safety

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 provide an introduction to the work zone road safety audit concept, outline its benefits, address when and where to conduct a work zone road safety audit, and discuss who should be part of the audit process.

This podcast is a companion to the document entitled *Work Zone Road Safety Audit Guidelines and Prompt Lists*, 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.

A work zone road safety audit...that sounds a little intimidating. What is it?

A work zone road safety audit, or work zone RSA for short, is a work zone safety evaluation performed during project planning and design or while the work zone is active. It identifies opportunities for work zone safety improvements and culminates in a final report citing work zone safety enhancement recommendations. Some agencies also use work zone RSAs as a performance measurement tool.

That sounds a little bit like a work zone inspection. How is a work zone road safety audit different?

That's a good question, and it's important to understand the difference. Typically, work zone inspections examine compliance with the *Manual on Uniform Traffic Control Devices* (or MUTCD) along with State-specific policies and analyze the work zone's conformance to the design plans. By contrast, a work zone RSA focuses on specific safety concerns by assessing crash frequency, type, and severity and identifying safety treatments to improve the safety of workers and road users. Here are some other differences:

- First, work zone inspections can only occur during an active work zone and are often performed on a daily or weekly basis, whereas work zone RSAs are conducted during planning, design, or active work zone phases. Typically they only occur once due to the large time commitment required of the RSA team.



- Second, a work zone inspection follows a checklist focused on complying with standards while a work zone RSA identifies potential safety risks through prompt lists. For example, unlike an inspection check list, a RSA prompt list for an intersection work zone might include pedestrian access considerations, sign readability, and the traffic mix.
- Finally, while a work zone inspection is performed by a limited number of inspectors who are intimately familiar with the project, a work zone RSA is performed by an independent, multi-disciplinary team. We'll talk more about this team in a moment.

In essence, a work zone RSA is designed to answer the following questions:

- First, what are the road elements that may present a safety concern – to what extent, to which road users, and under what circumstances?
- Second, what opportunities exist to eliminate or mitigate identified safety concerns?

Okay, I see the difference. But inspections are required. Are work zone RSAs required also? Why should my agency perform them?

Work zone RSAs are not required, but many agencies have employed them as part of a work zone safety program and in support of the agency leadership's commitment to work zone safety.

As we briefly mentioned earlier, the value in work zone RSAs is that they can occur at any stage of the work zone life cycle to produce important safety recommendations that are relevant to the overall construction effort. For example, planning-related work zone RSA recommendations could lead to revised project schedules to minimize the impacts of overlapping projects. Design-related work zone RSA recommendations can offer improvements in pedestrian, bicycle, and other non-motorized user safety. An active work zone RSA may offer recommendations to resolve actual or potential safety issues such as crashes, unforeseen traffic impacts, and conflicts with construction methods. Regardless of the work zone phase, RSA recommendations can be used to improve work zone design, plans, specifications, or, ultimately, agency policy.

Okay, that covers the why and when, but what about the where? I mean, can I perform a work zone RSA in a busy urban setting, or are they better for rural high-speed roadways?

An RSA has the potential to improve any work zone on any kind of facility, but there are circumstances when the benefits may be more significant, such as when the project location is in close proximity to another work zone and either one may have overlapping effects on the other. High-profile projects, project locations with a history of safety and mobility issues, and projects with complex traffic control plans are also good candidates for realizing the benefits of work zone RSAs. Projects at locations that are more affected by high volumes, high speeds, or a dramatic change in driving conditions can also particularly benefit from RSAs.

In terms of the type of work zone that would be best candidates for an RSA, short-term, mobile, and long-term work zones, as well as night time operations may qualify, and might even be prioritized by the agency according to potential impact on road users. For example, long-term work



zones have a greater impact on road users than short-term ones, and nighttime work zones may have visibility and safety issues that daytime work zones do not.

What kind of benefits can I expect from a work zone RSA?

Through the RSA, work zone safety and mobility issues are identified and reported in a manner that circulates through the agency and starts a process to fix or improve the issue at either the project-level, program-level or policy-level. The fix is incorporated into agency standards and practices if it's determined to be appropriate. Fixes could take the form of new or revised training, specifications, or possibly a policy change, such as how to deal with local or federal regulations.

At the policy level, identifying issues can lead to better intra-agency communication among construction, safety, mobility, and design engineers, which in turn can lead to improved specifications. Specification-related issues may include traffic restrictions that cause congestion-related crashes or proper selection of positive protection devices.

It's also possible that overall agency policy may be revised based on work zone RSA findings. For example, an RSA on an active work zone on Florida's I-275 resulted in a recommendation that ramp metering be used to control traffic entering from an on-ramp during peak periods to reduce congestion and improve safety on the mainline. Although ramp metering was not a strategy used by FDOT at that time, after the RSA team explained their observations and discussed how ramp metering could improve the situation, ramp metering became the approved solution.

It sounds like work zone RSAs really could be beneficial, but I don't think we have people with the right expertise at my agency. How do I identify potential team members? What should their qualifications be?

Depending on the nature of the project and the phase in which the work zone RSA is to be conducted, a work zone RSA team may include individuals from a variety of agencies, organizations, and stakeholder groups. These may include, but not be limited to:

- DOT safety, pedestrian and bicycle, and maintenance staff;
- Law enforcement;
- Regional, city or county level transportation agency staff;
- First responders;
- Motor carriers; and
- Those with specialized expertise, such as transit operations, ITS, or the design of special facilities such as bridges, tunnels, and roundabouts, to name a few.

Keep in mind that a vested interest in improved safety is the primary motivator for team members. Not everybody who's invited will join. The best bet is to try to find team members who are directly connected to the location where the RSA is to take place. For example, those who live or work along the corridor, first responders for the area, local police who have nearby patrol assignments, and representatives of a local transit agency with a stop or hub nearby might be good choices.



Work zone RSA team members combine their expertise to make well-thought-out recommendations on the identified issues, which brings substantial value to the project. For more information on how to build the best team for specific project stages, refer to the *Work Zone Road Safety Audit Guidelines and Prompt Lists*, available at workzonesafety.org

Okay, so once I pull my team together, what happens next? What are the steps involved in performing a work zone RSA?

The work zone RSA is an eight-step process, with responsibilities divided between the agency and the audit team. The first two steps, conducted by the agency, include identifying the project or projects to be audited and selecting the audit team. The next four steps are the auditing team's responsibility. They include conducting a pre-audit meeting; performing a data and field review; analyzing results and preparing a report of the findings; and presenting the findings to the road owners. Then the ball goes back to the agency's court. It's the agency's responsibility to prepare a formal response to the audit team's report, indicating which recommendations will be implemented and incorporating the approved recommendations into the planned or existing work zone. The final stage of the effort is to evaluate the results after the recommendations have been implemented.

What if the work zone RSA team members have never performed an audit before? How will they know what to do?

That's a great question. Anyone interested in developing a work zone RSA policy or learning how to conduct a work zone RSA just has to go to workzonesafety.org. There they can access the *Work Zone Road Safety Audit Guidelines and Prompt Lists*, which was designed to provide a process to individuals or agencies for performing formal work zone safety examinations. The document includes guidance on conducting work zone RSAs at all phases of work zone planning, design and deployment, and considerations for each project phase. It also includes prompt lists specifically developed for each project phase that auditors can use during their reviews.

This concludes today's podcast. Remember, the material presented in this podcast is for informational purposes only and users should always check their local requirements for additional information. 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.



References [not to be read aloud]

ATSSA, "Work Zone Road Safety Audit Guidelines and Prompt Lists," available at: http://www.workzonesafety.org/files/documents/training/fhwa_wz_grant/atssa_wz_RSA_guideline.pdf

FHWA, Road Safety Audits Resources web page, available at: <http://safety.fhwa.dot.gov/rsa/resources/>

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