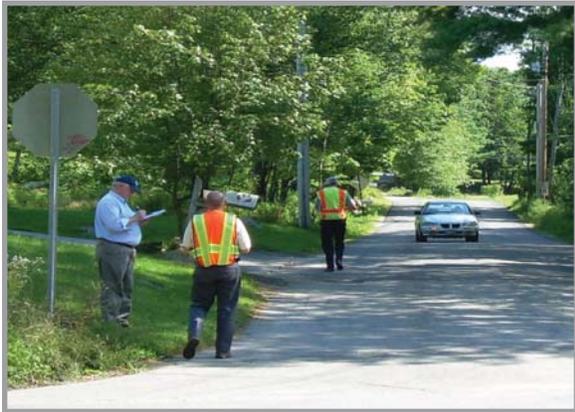


Road Safety Audits



Students perform an audit at a workshop in Rochester.

Each year nearly 43,000 people are killed and 3 million people are injured in crashes. Road safety Audits (RSA) can reduce the number of crashes as 28% crashes are due road environmental factors. Audits provide an informed approach to improve the usage of limited town funds on safety improvements. The estimated cost of highway fatalities and injuries is more than 230 billion dollars annually. Research shows that approximately one-third of fatalities could be avoided if road conditions such as outdated geometry, and/or road hardware were improved.

What are Road Safety Audits?

RSA is a formal safety evaluation of existing or future roads by an independent team. The primary goal is to identify safety issues for all users and consider measures to eliminate or mitigate safety issues. Teams study crash potential and safety performance and then prepare a 3-5 page report to identify potential issues. The report provides information and tools for the agency manager to evaluate, select, and justify improvements. Audits can be done during any stage or any size project.

Audits help towns to identify improvements to be made on a roadway when there are many competing interests such as:

- Cost,
- Right of way,
- Environment,
- Topographic and geotechnical conditions,

- Capacity and efficiency,
- Politics, and
- Safety

The benefits of audits are many. A few benefits are:

- Reduces the number and severity of crashes,
- Promotes awareness of safety practices,
- Process identifies and addresses problems,
- Considers human factor, and
- Low cost.

Audit Teams

Teams are made up of 3-5 people with interdisciplinary backgrounds such as maintenance, enforcement, pedestrian/bicycle, bridges, signage, etc... A core skill set is desirable at every audit. The skills include traffic operations, geometric design, and road safety. Other skills may be equally desirable based on the location of the audit. These skills include someone with familiarity with human factors, special skills (hydraulics, bridge design, or signage), enforcement, maintenance, design, and construction.

Steps to Conduct an Audit

There are several steps involved in conducting an RSA. The following list can be used as a guideline:

1. Identify the project or road,
2. Select a multidisciplinary team,
3. Conduct a preaudit meeting to review project information and drawings,
4. Perform field reviews under various conditions,
5. Conduct an RSA analysis and prepare a report of the findings,
6. Present the RSA finding to the project/owner design team,
7. Prepare a formal response, and
8. Incorporate the findings into the project when appropriate.

The audit report provides background information on the roadway, describes the members of the

continued on page 7

continued from page 6

team, the information used for the audit, provides site information, and the findings of the audit. The findings identify and prioritize safety issues, and may include suggestions for improvements.

The report should be met with a response letter from the local agency identifying what actions will be taken and what actions will not be taken with a brief explanation. Lack of money to complete a project is not an adequate response however, stating that the project will be placed in a queue for a year when adequate funding is available is acceptable.

Checklists

RSA's use checklists to identify issues and problems. However, checklists are not a substitute for experience. Use checklists to consider all factors and provide a reminder of potentially overlooked safety issues. They also provide a measure of continuity from audit to audit.

Potential safety issues to consider during a field review:

- Roadside features,
- Road surface conditions,
- Pavement markings
- Signing and delineation,
- Intersections and approaches,
- Bridge structures,
- Road users (motorized and non-motorized), and
- Consistency of design parameters.

Typical Recommendations

Typical recommendations for improving a new or existing road that may result from an RSA include:

- Remove sight distance obstructions,
- Add or change turn lanes,
- Add illumination,
- Install median barriers,
- Consider pedestrian movement,
- Improve to superelevation,
- Improve drainage,
- Modify the roadway shoulders and lane widths,
- Manage driveway access, and
- Realign the approaches to intersections.

RSA and agency liability

Tort liability at the State and local level is decided in accordance with State and local jurisprudence. RSAs provide suggestions for safety improvements. Data from audits can help to establish priorities for roadway improvements as well as provide a time-frame to make improvements.

Exposure to liability is not a reason to avoid an RSA. The audit and response does not expose the agency to legal liability as it demonstrates a proactive approach to identifying and mitigating safety concerns. An audit and the response letter is an effective approach to safety. It can be used to implement a plan that reduces crashes and improves safety. A written plan may be used in defense of lawsuits and an RSA may refute or counter an expert witness' report as it demonstrates an effort to improve safety.

Conclusion

RSAs have the potential to reduce road departure, intersection, speed-related, pedestrian and bicycle fatalities, and injuries. An increasing number of State Departments of Transportation (DOT) are using RSAs to enhance safety. Most DOTs have a traditional safety review processes to identify and correct high-hazard areas. An RSA and a traditional safety review are different processes. It is important to understand the difference between the commonly performed road safety audit reviews that and the newer RSAs.

Agencies that are interested in conducting an audit may contact Kathy DesRoches at the UNH T² Center for assistance. ❖

Sources:

<http://www.roadwaysafetyaudits.org>, August 15, 2006

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Technology Transfer Center
New Hampshire LTAP at UNH