

**AASHTO TIG/FHWA RSA Peer Exchange**  
**April 29-30, 2008**  
**The Peabody Hotel, Little Rock, Arkansas**  
**Meeting Notes**

**INTRODUCTION**

The following link contains the Peer Exchange presentations from the States and counties, the attendee list, the meeting notes, the reimbursement form, etc.:

<http://tig.transportation.org/?siteid=57&pageid=2820>

The following link is for the FHWA RSA web site:

<http://safety.fhwa.dot.gov/rsa/index.htm>

**MEETING NOTES**

The information below provides some key points from each presentation and a summary of the roundtable discussions.

**Tuesday, April 29, 2008**

1:00 – 1:15 pm

**Welcome Remarks by Arkansas**

- Derrell Turner and Scott Bennett of Arkansas welcomed the attendees. Derrell noted that nearly the entire nation was represented at the meeting, including many FHWA leaders. He added that FHWA now places much importance on RSAs, as an effective method to improve safety on the roads. Scott added that all the meeting attendees have different road safety concerns. He noted that the aim of the meeting should be to look at similar issues that State and local agencies are dealing with, and to learn some solutions.

1:15 – 1:45 pm

**Purpose and Expectations (Tom Welch, Iowa DOT, [Tom.Welch@dot.iowa.gov](mailto:Tom.Welch@dot.iowa.gov); Beth Alicandri, FHWA, [Beth.Alicandri@dot.gov](mailto:Beth.Alicandri@dot.gov))**

- Tom Welch explained that AASHTO and FHWA held the first Peer Exchange last year. There was an opportunity to select an underrepresented region from last year's meeting for the second Peer Exchange, so Little Rock was selected. The overall meeting is a chance to discuss safety issues and concerns; it is sponsored by the AASTHO/FHWA Technology Implementation Group (TIG), whose aim is to promote the implementation of innovative technologies. Tom's co-chair on the TIG is Terecia Wilson of SCDOT, who could not join the meeting today. Tom noted that when safety became a major concern, they did an international scan to identify innovative safety strategies; RSAs were identified in New Zealand and Australia. RSAs were brought as a best practice to FHWA/AASHTO, but were not implemented immediately by the states for many reasons: funding, design focus of engineers, concerns about an outside team of inspectors, legal concerns, limited resources. He

added that RSAs can be time-consuming. There has been hesitation based on past experiences with value engineering. Clearly, some states were reluctant to commit their resources based on this history. Tom explained that there is no one RSA solution across the states, since there are different ways to define RSAs. He noted that the process is often evolutionary, and not revolutionary.

- Beth Alicandri provided quotes from last year's RSA Peer Exchange. She noted that many attendees from last year are present today to discuss their RSA program's successes. Beth noted that agencies should take the concept and make it work wherever they are. RSAs do not work the same way everywhere. She noted that Nevada had a recent 14% reduction in fatalities in a year, which meant roughly 60 lives were saved. Beth explained that this is the same number of people as the number of meeting attendees present. She added that FHWA has been interested in moving forward with RSAs for roughly 10 years; the Office of Safety partnered with the Highways for Life team on these types of activities. They developed an Implementation Plan and Implementation Team. Beth requested that the members of the RSA Implementation Team stand. She added that the presence of Division level leadership shows the importance of RSAs to the FHWA Division offices. She noted that a colleague shared the following critical questions on how to implement RSAs in developing countries: who can be hurt, in what way, and what can we do about it? Beth explained that the answers might not be simple, but these questions are simple and asking these questions formally and systematically makes a difference.

1:45 – 3:00 pm State Presentations

**Kentucky's RSAR Program (Jo Anne Tingle, KYTC, [Jo.Tingle@ky.gov](mailto:Jo.Tingle@ky.gov))**

- Learned much from last year's Peer Exchange. Focused on RSA Reviews since.
- KY is an Opportunity State – greater than 900 fatalities. Also a Focus State for rural roadway departure. Safety efforts are working to save lives, and RSAs are another way to do this. Large portion of roads are rural roads.
- History: 1999 – pilot state for RSAs, all twelve districts trained; program died in 2000 due to a lack of funding; 2006 champion and funding returned, 2007 focused on RSARs (stage 5 audits).
- Goal is to reduce injury/fatality collisions with low-cost, quick implemented projects.
- System-wide approach. 13 high crash corridors – 4 E approach. District-led multidisciplinary team.
- Since last year's Peer Exchange – “caught the fever”. Wanted to transition from thought to action.
- Fall 2007 – trained twelve districts (100+ people). Winter 2007/08 – began RSARs. Projects submitted by late Jan 2008. April 2008 – turning RSARs into projects.
- RSARs – 85 routes completed in less than three months. 10 to 12 Districts have participated. 91 projects submitted – low cost countermeasures can be applied on these. HSIP – lane departure is an emphasis area.
- Reviewers needed to have funding confirmation/credibility. Within 10-15 years, hope to RSA every State route; lane departure resurfacing.

- 3 Cs of Safety – Concern type submitted (e.g., lack of signage), average cost (91 projects – \$10.1M; average = \$108,000), countermeasure (e.g., install guardrail).
- Challenges – time to complete RSARs, impending retirements. Turning RSARs into estimates and submitted projects. Incorporating funding to local roads.
- Unanswered questions - systemwide vs. spot approach? Chasing fatalities/injuries? Separate or combined funding circles? In-house vs. consultant? Incorporate into resurfacing program?
- Q – Were state district team members swapped across districts to perform RSAs?  
A – Yes, initially they were swapped across districts. Recently had district-specific teams, with the exception of the maintenance engineer.

#### **RSA Efforts in Tampa Bay (Peter Hsu, FDOT, [ping.hsu@dot.state.fl.us](mailto:ping.hsu@dot.state.fl.us))**

- 460 fatalities in District 7 last year. RS Audit (RSA Guidelines, for State roads) versus RS Assessment (simplified approach, for local roads, Community Traffic Safety Team of volunteers from various agencies, leads to low-cost improvements)
- Look at existing or future roads. Started program after FHWA training in 2006.
- Eight step process for RS Audits. Three consultants provide support (two authored the Guidelines).
- RSA Tracking Database – MS Access – share report content into database; have addressed more than 60% of concerns in database
- 35+ RSAs since 2006. Benefits of RSAs – do what we can with what we have; group effort
- Q – Can you share the tracking database? A – Yes, will share with Tom for distribution.
- Q – Was any upfront training held? A – Florida provided additional training (250 people) to have more people looking for issues.

#### **Minnesota's RSA Program (David Engstrom, Minnesota DOT, [david.engstrom@dot.state.mn.us](mailto:david.engstrom@dot.state.mn.us))**

- Recent bridge collapse; additional funding, much will be spent on bridges.
- Highly decentralized agency. Allocated funding per districts/counties, need to rethink how to spend safety funds.
- Toward Zero Death (TZD) Program – Hwy Safety Plan developed in 2004.
- SHSP approved in 2007, guidance for future funding.
- RSAs are one of MN's 15 critical strategies (within engineering).
- First generation RSA (reactive, District must respond to recommendations, independent team members); second generation (larger scope, funded through solicitations, consultants inspected sites); Road Safety Plans are latest evolution.
- Systematic set of signage and delineators in State at major intersections.
- Funding of implementation of RSA recommendations – jurisdiction, legislative, HSIP, Central Safety Fund (cable median barrier funding). Focused on low-cost safety improvements.
- Greater MN proactive spectrum.
- Project Safety Reviews proposed for all MNDOT projects; safety opportunities in pavement preservation.

- Road Safety Plans – use SHSP, identify low-cost reactive solutions.
- Future – continue with first generation RSAs, implement SHSP through Project Safety Reviews.
- Q – It seems easy in MN to fund cities or local counties. A – Yes, they are eligible for State aid.
- Q – When dividing funds across counties, how were projects selected? A – Each jurisdiction needed to submit proposals. Had ranking system among districts in terms of problems.
- Q – Were consultants used for the first generation RSAs? How expensive were they? A – Had list of 10 to consultants to readily use. Usually cost \$5-10K, where the audit and subsequent report take up to three months to complete.
- Q – How to integrate preservation and RSAs together? A – Joined at pavement reclamation projects, not necessarily brought up to standards. Reviews include proactive spectrum. At a minimum will choose low-cost items.

3:15 – 4:30 pm

### **FHWA/Local Agency Presentations**

#### **RSA Program in Collier County, Florida (Gene Calvert, Collier County, Florida, [eugenecalvert@colliergov.net](mailto:eugenecalvert@colliergov.net))**

- Traffic increase of 5% from 2005 to 2006. Five-year, multimillion Capital Highway Improvement Program; proactive and relatively inexpensive to complete.
- Program Goals – reduce the number and severity of crashes.
- 29 miles of Collier County roads have had RSAs.
- Immokalee Road RSA is included as an FHWA RSA Case Study.
- Have formal RSA Policy targeted at preliminary design stage of projects.
- Must be consistent with design stage (90% versus 30% recommendations).
- Auditors provide suggestions only – engineers responsible for design decisions.
- Focus on Capital Improvement Projects; RSAs also on new developments (site development permits required).
- Use in-house expertise for audit team, but use consultants for lead auditor role.
- Annual RSA contract – objective is to lead 5-6 local transportation specialists (e.g., traffic operations engineer, geometric design engineer, law enforcement) in the audit process.
- When selecting RSA consultants, several wanted to provide things other than RSAs (RSARs, etc.).
- Human factors, members of the public serve as volunteers after training.
- Q – Are pedestrian/cyclist considerations included? A – Yes, included as an important issue.
- Q – How were the crash costs developed? A – Developed by FDOT from typical cost of lawsuit. Grouped all costs to determine amounts.
- Q – For existing project plans for a road, how do you handle safety suggestions? A – Will consider these after construction.
- Q – Are estimated costs of crashes included in the RSA reports? A – No, since they are averages. County may not be able to implement issues immediately.

**Road Safety Audits and Locals in Tennessee (Jessica Rich, FHWA TN Division, [Jessica.Rich@fhwa.dot.gov](mailto:Jessica.Rich@fhwa.dot.gov))**

- August 2005 – RSA for Locals course; November 2005 – first pilot RSA in State (short term, intermediate term, long term improvements).
- In 2007 implemented Safety Circuit Rider Program.
- Goal is to identify safety hot spots, implement low-cost safety improvements, provide an educational experience.
- Tennessee Transportation Assistance Program (TTAP) provides training and RSA execution.
- Project owner conveys roadway issues (e.g., vandalism).
- Issues with signage, pavement markings, guardrails.
- New practices – MUTCD, collecting crash data, FHWA “Little White Crosses” video for high school students.
- Tips – host a free RSA course, managers = students = implementation.
- Q – How much buy-in from local governments? A – Still educating local governments, but should not have a difficult time.
- Q – How are improvements funded? A – Allotted funds to local roadways, specific functional class. Interagency agreement is planned.
- Q – RSAs being held across road types, correct? A – Using Federal safety funds for all roads. Training more staff to have more eyes on the roads Statewide.

**Iowa’s RSA Program (Tom Welch, Iowa DOT, [Tom.Welch@dot.iowa.gov](mailto:Tom.Welch@dot.iowa.gov))**

- Advancing safety by incorporating low-cost safety improvements in resurfacing projects.
- Transition from Central office to Districts – thinking beyond pavement/context sensitive design workshop.
- Arranged safety training: 3R workshops, intersection safety workshops, etc.
- 3R Safety Audit Field Reviews – experience resided in Central office, needed methods to share information.
- Performing basic crash analysis and GIS analysis in advance (e.g., crash types).
- Free signage program to small towns.
- Next step: identifying “Safety Corridors”; performing formal RSAs on Corridors.
- Multidisciplinary team – local law enforcement, first responders, etc.
- Q – 3Rs done with resurfacing? Asphalt contractor performing work? A – Yes, asphalt contractor does several tasks.

Tom Welch solicited questions for Wednesday’s session. The following questions were submitted from the audience:

- 1) How does one develop an RSA policy?
- 2) How do agencies work around design requirements when using Federal funds?
- 3) Is the usual arrangement such that one consultant conducts the RSA and then writes the report? Is it possible to package short-term improvements together to get one low-cost bid?

- 4) Do any States have experience to share with rural intersections? Do any States have experience with reduced access intersections?
- 5) Do (safety, crash) data drive the selection of RSA sites?
- 6) When and where should agencies conduct RSAs?
- 7) Should there be a single manager to run RSAs or have multiple managers?

**Wednesday, April 30, 2008**

8:00 – 10:30 am:

**Roundtable discussion (moderated by John Dewar).**

Additional questions posed by the group for discussion include:

- More on how states are combating fear of litigation.
- How LTAPs are getting involved in RSA programs.
- The future of training and how to access it.
- Quality control of RSA countermeasures.
- How to link RSAs to HSIP projects.
- How to get an RSA program started.
- How to fund results of RSAs.
- Good ways to establish community themes.

*How do you go about developing an RSA policy?*

States with RSA policies include MD, AZ, NV, CO (assessments), and Collier County.

States with specific, full-time RSA Coordinators: MO, TN, KY, NV, MA, AZ.

Maryland has a policy that they are willing to share; it might even be on their website. Arizona has a policy as well. Anyone interested in RSA policies should contact FHWA and they will put you in touch with the appropriate state personnel.

Need to target high fatality areas, essentially focus areas and opportunity areas. Note any similar cross-sections across State when locating data driven sites. Cannot afford to bring everything up to standard, but at least document issues. RSAs are part of the risk management procedure. Consistency with Federal policies (HRRR, HSIP). Worst scenario is not even looking at the sites, at least look at them and document them.

MI – not having funds to do the work is a valid reason.

NV – RSAs at 30% of project – low-cost recommendations factored into cost savings.

IA – send consultant to perform RSAs for specific cities or counties (countermeasures specific to that area).

LA – do not have county/parish engineers, received 80 applications, but could not fund all RSAs. Universities are a great source for inexpensive data collection; maybe make the work part of the curriculum.

Suggestion to post existing policies on the FHWA website as examples.

How do you work around design expectations when using Federal funds?

Are design exceptions needed to obtain Federal funds? Comment that policies seem to go in one direction and standards and designs go in another. Depends on Division offices, if outside NHS, the design standards are localized so FHWA does not usually get involved. Division offices have different, individual agreements with the States. Consider getting a blanket exception.

Document what the agency did, and why. Document that a multidisciplinary review was conducted and the countermeasures deployed. Court isn't going to challenge that, they will challenge no documentation. Better to explain why you did something and not why you didn't do something. Don't avoid a project because you're afraid of bringing everything up to standard. You are worse off having data that shows you have a problem but that you didn't do anything about it.

Safety countermeasure effectiveness guidebook from FHWA. NCHRP series 500 booklets show shoulder paving as a good countermeasure. New Highway Safety Manual should have RSAs in them.

Measure safety strategies to determine if the countermeasures are effective. If crash numbers have not changed four (4) years later, should consider not using that countermeasure since it's not effective

IA - does write design exceptions when using federal funds and they pass through.

NV - looks at enhancing minimum standards. For example, if there is a stop sign, add an advance warning sign. If there is a warning sign, add flashing lights.

IN - IN LTAP is lead for RSAs for local counties. IN DOT provides support by providing data to determine corridors. Now trying to ramp up MPOs and train them. About 1/3 of MPOs have a qualified RSA person. Leadership of RSA Team is done by RSA Coordinator at LTAP.

PA – measures whether or not strategies are effective in a given location, despite what the manuals may indicate. Need to use engineering judgment and guidance books.

When and where should RSAs be conducted?

FL – screen based on severity and frequency of crashes.

NV – decided to have RSAs on all projects, conduct them on new roads, 3R projects, etc., targeting roads with severity (using fatality rate), if it is a stand alone project they struggle because of funding. Goes back to road after 3 years to re-evaluate.

IA – doesn't chase the fatal statistics.

Dewar – reminded that RSAs can be conducted during any phase of a project, but planning phase is probably the best time.

MN – agrees that best time to conduct RSA is early in planning phase, that's why they are going to Road Safety Plans.

NE – if more than one safety strategy installed at one time, there is no way to know which measure was effective.

Marie Walsh with the LA LTAP reported that 22 states have a Safety Circuit Rider and 17 states conduct RSAs right now. Most LTAPs operate at \$280K and have 6 tasks to perform. The LTAPs have contracts with the DOT. To get the centers to do more with safety, get in when the LTAP is developing their contract with the DOT. Funding will be an issue; if the LTAP is going to support RSAs more, they will likely have to stop funding something else.

CO LTAP – conducts RSA training as part of a training series. When conducting local agency outreach, they see that the locals know that there is a problem, but they don't know how to fix it. The locals collect crash data, but lean on the LTAP to help figure out how to fix the problem.

IA – hired a retired county engineer to visit locals and talk about safety programs.

Heather Rigdon reported on the purpose and benefits of the RSA Peer to Peer Program. Local and state agencies can obtain onsite assistance from an experienced Peer when conducting their first RSA. The Peer's travel is funded by FHWA. To contact the P2P coordinator, call toll free to (866) 727-3492 or email [safetyp2p@dot.gov](mailto:safetyp2p@dot.gov).

### Training

There might be a need for more guidance on guidelines for intersection RSAs.

A Manual on Pedestrian RSAs is available on the Office of Safety website.

Hsu suggested offering continuing education credits for workshops. The locals know the courses are free, but they want the credits too.

### How are RSA projects funded?



KY – uses HSIP funds. RSAs are typically conducted on high need roads. Implementing more low cost safety improvements so that they can do more in more places in hopes of reducing injuries and fatalities.

Virginia requires an RSA on all safety projects applying for HSIP funds.

How long does it take to conduct a typical RSA?

NV – 1 month: coordinate with project owner, field review is 1 day (daytime and nighttime on a 10 mile segment), following day is debriefing meeting, writing report is 2 – 5 days, submit to team for review, collect comments, submit final report, consultant compiles crash data

FL – 2 months from begin to end, use 3-4 weeks to get approval for consultant contract, actual RSA is about a week depending on size, 2-3 weeks to write report.

Actual RSA does not take a long time, assembling the team, other preparation and report writing takes time.

Do you have the same consultant that conducted the RSA do the design?

NV – No, design team is completely separate from the RSA team.

Consultant fees?

NV - \$8K, but it depends on project scope.

Hsu – brought up NPA for HSIP and suggested discussing it before leaving.

BREAK

Showed 2 videos; Road Safety Audits and Little White Crosses.

Any further discussion on litigation issues related to RSAs?

Allred reported that Hawaii and Arizona are the most litigious states, but they have embraced RSAs.

Welch suggests document, document, and document. You will still get sued, but your Attorney General will be happy if you have documentation.

Miscellaneous Discussion

KY – cautioned those starting RSA programs not to “policy yourself to death”.

Determine the safety benefits after countermeasures are installed. If using HSIP funds, you are required to report the benefits for 3 years.

Updated RSA software is under development, though waiting to add the Pedestrian prompt list. Anyone who would like a copy should contact Eloisa Raynault ([Eloisa.Raynault@dot.gov](mailto:Eloisa.Raynault@dot.gov)).

Florida DOT has a white paper on starting a Community Safety Team.

HSU reviewed the NPA for the HSIP. RSAs are mentioned 5 or 6 times. A webcast on this topic is scheduled for May 20, 2008 at 1:00 p.m. EDT.

Becky Crowe delivered closing comments and the Peer Exchange concluded.