

Memorandum
AASHTO / AGC / ARTBA Joint Committee

Task Force 13 Fall 2001 Meeting Minutes
Sheraton Waterside – Portsmouth, New Hampshire
October 1 and 2, 2001

TO: Members of Task Force 13
FROM: Nicholas Artimovich, Task Force Secretary
Federal Highway Administration, Safety Design Division
nick.artimovich@fhwa.dot.gov
SUBJECT: Minutes

Monday, October 10, 2001

Chairman **Arthur Dinitz** welcomed all participants to Portsmouth. In light of the tragic attacks on the US and the concern that some members had regarding our meeting, Dinitz spoke to the importance of our responsibility to improve the safety and security of our Nation's highway transportation system.

John Durkos showed a memorial presentation on the events of September 11, 2001.

Dinitz asked for the members present to introduce themselves. He then asked for approval of the minutes of the Spring 2001 meeting held in Sarasota, Florida. The motion was made by **Durkos**, seconded, and the minutes were approved.

Secretary **Nick Artimovich** gave a brief recount of the progress made during the various subcommittee meetings held in Sarasota, and **Dinitz** described the Task Force's format using subcommittees to accomplish the work of developing our publications.

The subcommittee meetings commenced with Subcommittee # 1, Publications, chaired by **Nancy Berry**. As all members are concerned with advancing our work to the publication stage, no competing meetings were held (# 9, Environmental Barriers, was scheduled at the same time, but there were not enough members present to hold a meeting.)

#1 Publications Subcommittee

Nancy Berry summarized the preliminary results from a nationwide survey she conducted on what the States' needs were with respect to Task Force 13 publications. Seventeen states have replied so far.

Briefly, some of the topics covered were:

- Metric v English: Most states want one book with dual units.
- Word processing format: Microsoft Word was the favorite.
- CAD format: Most states use MicroStation.
- All states had standards in electronic format.
- Format: All 17 wanted our information available on the Internet, 15 use Adobe and 10 can access via HTML.
- Number of copies needed ranged from 1 to 15-20

New topics to be covered? Most wanted to see the Noise Walls, Work Zone, and RXR guides published.

Assistance: 3 states offered assistance, others were not as positive.

Berry indicated that she did not receive the information on publications that she had requested from all of the subcommittees. Some subcommittees responded that they had provided this information in their Sarasota minutes. She will compile the survey data and send it to anyone who requests it.

She also noted that Virginia advances projects electronically with drawings on-line. It would be a great benefit to them and others if TF-13 publications were on line and they could copy the TF drawings directly to their files.

Dinitz noted that we must find some way of getting people who are willing to volunteer with the electronic formatting, as funding for these efforts has not been as easy to arrange as we had hoped. Publishing is the reason for our existence and we must develop new technologies to get the information out to the users. A comment from the members advocated printed copies for the use of field engineers and Dinitz reiterated the TFs intention to publish in both media.

Dinitz mentioned his participation in the AASHTO / AGS / ARTBA Joint Committee executive meeting, where electronic formatting of standards was an important topic. Unfortunately our publications generate very little income compared to the effort needed to pull the information together and to format and to print the hard copies. However, very few copies should be necessary if each state uses their copies to upgrade their standards books. There is money available through AASHTO but most goes directly to support AASHTO committee publications and activities. Additional funding from AASHTO and/or FWWA is needed to get TF-13 publications on the Web and to maintain them as current as possible. Consultants and vendors ought to be tapped to help with the financing of our operations as some of them benefit greatly from the use of our standards documents.

#2. Barriers – Dick Albin

The following working groups were identified at the April, 2001 meeting. All of these groups got a late start on this work but all had started the process.

A summary of the status of this work is as follows:

- Weak steel post cable (SGR01a-b)
 - Dean Alberson (lead) Dean indicated that drawings had been sent to the other team members for a review. No other action to report.
- Weak Post W-beam (SGR02)
 - Nancy Berry (lead) Nancy indicated that she had sent the system drawings, including all of the components out for a review of the rest of the team. She had marked up the drawings with changes that were based on crash testing. They also included the metric and English dimensions.
- Weak Post Box Beam (SGR03)
 - John Rohde (lead-volunteered in absence) John Durkos reported for John Rohde who was not in attendance. All drawings were sent out for review. Errors were identified and drawings were marked up.
- Strong Post W-Beam (SGR04a-b)

- Ron Faller (lead) Ron was not able to attend this meeting. No report from this group.
- Strong Post Thrie Beam (SGR09a-c)
 - Bill Bryson (lead) Bill / Chad reported that drawings were sent out for review. No other action at this time

While the amount of work completed was small, starting the process was a significant step in updating the guide.

The committee considered other systems for review. Three concrete barriers, the F Shape (SGM 10ab), Safety Shape (SGM 11a), and Tall Wall (SGM 12) were discussed. However, there was little interest in these plans at this time and no concrete barrier experts to volunteer. After no interest was expressed in the existing Minnesota Bullnose (SEW10), there was some interest in the new bullnose guardrail design. A group was formed to identify the details for this design.

The other groups should continue with the designs identified at the last meeting and be prepared to report on the status

Harry Taylor addressed the committee to discuss making video clips available on the internet. His intent is to make the video available to anyone who wants it and reduce the need for special requests. Creating these digital video clips would also reduce the storage needs of FHWA. The manufacturers were somewhat mixed on this proposal. While some did not see a problem, others were concerned that this would reveal information that would not be in their best interests (failed tests, proprietary details, etc.). It was also noted that few people would want to view an entire test sequence on the internet. One suggestion was to have manufacturers provide a clip for access on the internet. This would not meet Harry's objective and would result in another set of video clips to manage. Another suggestion was to link to manufacturer's web sites for this information. No clear direction emerged from this discussion.

#3. Bridges – Lance Bullard (Filling in for Ron Faller)

Initial discussion revolved around funding the publication of the Guide to Bridge Railing and Transition Hardware. Options considered included

- NCHRP 20-7 – this project is for funding AASHTO Committee efforts and money must be requested through an AASHTO Task Force or Subcommittee.
- Midwestern States pooled-fund effort.
- Industry
- FHWA

The committee decided to establish working groups to develop funding. Harry Taylor and Dick Powers were asked to look into FHWA funding sources.

The existing RFP for developing and publishing the committee's Guide may be used, with revisions to accommodate the information gleaned by Nancy Berry. This RFP should be submitted to NCHRP after a final review by Committee #3 and TF-13.

Dick Powers noted that the FHWA website already has two locations that include information on bridge hardware. The 1986 memo listing all tested railings to that date is posted. Newly crash tested bridge railings and transitions are also placed on the website shortly after they are accepted by FHWA.

#5 Sign and Luminaire Supports Subcommittee:

Both co-chairs were absent. **Rick Mauer** agreed to lead the meeting and Artimovich kept notes. **Greg Fredericks** of Wyoming DOT will be replacing **Pat Collins** as chair. This subcommittee has two efforts underway at this time, the books on luminaire supports and small sign supports.

A contractor selected under a pooled-fund study will update the Guide to Standardized Luminaire Support Hardware. 15 states are participating and \$160,000 has been obligated. A total of \$260,000 is anticipated from the pool states, with Wyoming taking the lead. It was noted that the new proposed changes to the AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals would call for an infinite fatigue life for overhead structures like mast arm traffic signals and cantilever sign supports. If adopted this would require the redesign of most large pole structures and may lead to additional crash testing. Also, some states are concerned that anchor bolt designs are not redundant – the failure of one may lead to the collapse of the structure. These states are considering six and eight bolt anchor designs. It was recommended that this pooled-fund effort by Wyoming be closely coordinated with the AASHTO Bridge Subcommittee Task Force on structural supports. If **Fredericks** continues to hold the positions **Collins** did, this coordination will happen.

The second publication is the Small Sign Support Hardware guide. A task group, led by **Joe Frazetta**, has marked up the old book and is ready to have these changes made in the artwork and additions added. It was recommended that the corrected book be sent to task force members for a final review and comment. Volunteers to handle the redrawing of the book would be most welcome. Another meeting of the task group was tentatively set up to coincide with AASHTO's annual meeting in Dallas in December or at the February, 2002, ATSSA meeting in Fort Worth.

#6 Work Zone Hardware

A key issue discussed at the last meeting was the standardization of truck mounting hardware for the various TMA manufacturers. It was concluded that it would be a difficult task for TF-13 to handle this as it would involve State DOTs, vehicle manufacturers, and TMA manufacturers. This opportunity for standardization would be better handled by the TRB Committee on Maintenance Equipment, A3C08 chaired by Mr. Glen Hagler. A letter from the Task Force has been prepared to submit this to the TRB committee.

The subcommittee reviewed what information was already on work zone devices, and the sites maintained by FHWA – Safety Design Division, TTI's Work Zone Safety Information Clearinghouse, and the WPI site by **Mac Ray** on Highway Barrier Rail Hardware contains nearly all the information available on work zone traffic control devices. The Subcommittee will therefore ask the WZSIC if we can work with them to better index the material available on their site to make it more user friendly.

#7. Certification of Test Facilities – John La Turner

Representatives from five crash test laboratories were present for the meeting, which began with a brief overview of the subcommittee's history. The charge is to support a laboratory accreditation effort over the long term. A short term goal is to effect inter-laboratory comparisons which will target on six areas.

The results of various surveys to the labs were discussed: "Test Vehicles – Characteristics/Dimensions/Measurements," "Vehicle Damage and Occupant Compartment Deformations," "Test Reporting – Format / Content," and "Data Acquisition Systems." Responses to the surveys varied, but more discussion will be needed before consensus is reached.

Harry Taylor gave a brief presentation on FHWA's policy on accreditation that is still in the formulation stage. FHWA sees a long-term effort before they will mandate accreditation, but strongly supports the effort.

In wrapping up, it was suggested that more labs participate in the surveys and discussion process, especially among European labs. CEN standards ought to be considered in the accreditation process. Also, any suggestions to the crash testing process that arise from these discussions should be forwarded to the NCHRP Panel responsible for updating Report 350. Finally, FHWA input was solicited on suggestions to improve the consistency and quality of test results.

#8. Railroads – Dean Alberson

Opening remarks were made by Dr. Alberson as to the direction this sub committee should be taking in its attempts to create and promote safety for at grade level railway crossings. The minutes from the last meeting were reviewed and adopted amongst the members of the sub-committee.

New business was to look at where the committee should go from here. A new “focus” should be developed and tasks will be given to individual members for completion. The subcommittee also adopted new mission statement:

“Develop a concise, exhaustive list of resources available for Highway Safety individuals in both a written and electronic format, including but not limited to contact individuals, phone numbers, addresses, and web sites of State DOT Standards, Railroad Associations, Suppliers, and Railroads.”

Actions to be undertaken were to list all State Standards, Associations, Suppliers, and Railroads. The subcommittee also intends to produce a tri-fold brochure and web page that will promote the safety features at grade railway crossings by listing addresses, contact individuals, phone numbers and web sites of State Standards, Organizations, Railroads, and Suppliers. Individual subcommittee members were assigned various duties and their goal is to have this information compiled by the next meeting in Seattle.

Report on Subcommittee Activities

The following individuals presented a brief summation of the discussions:

1. Publications – **Berry**
2. Barriers – **Dick Albin**
3. Bridges – **Lance Bullard**
5. Signs and Luninaires – **Artimovich**
6. Work Zones – **Barry Stevens**
7. Certification of Test Facilities – **John La Turner**
8. Railroads – **Dean Alberson**

Affiliated Committees / Activities

Donna Clark of **ATSSA** has replaced **Vic Leibe** as that organizations representative to TF-13. **Clark** is already the liaison person to the ATSSA Guardrail Committee, which began 3 years ago. ATSSA has nearly completed work on a Guardrail Installation Training PowerPoint presentation. WPI has the contract to write the student manual and a student test. Those passing the test may receive a certification from ATSSA. TF-13 Members may preview this course at the annual ATSSA convention in Fort Worth next February. Clark also offered the ATSSA FLASH, her association’s newsletter, to publicize Task Force 13 publications or other efforts.

Areas of new standardization

Berry’s report from Publication showed that the most-request proposed TF-13 books would be those on Noise Walls and on Rail Highway Crossings. As always, members are requested to suggest new areas of standardization.

Update on related NCHRP projects.

Chuck Neissner of TRB gave us a summary of the following NCHRP Projects, all of which may be seen on their web site at:

<http://www4.trb.org/trb/crp.nsf/NCHRP+projects>

17-10(2)	Structural Supports for Highway Signs, Luminaires, and Traffic Signals (Active)
17-11	Determination of Safe/Cost Effective Roadside Slopes and Associated Clear Distances (Active)
17-13	Strategic Plan for Improving Roadside Safety (Active)
17-14	Improved Guidelines for Median Safety (Active)
17-22	Identification of Vehicular Impact Conditions Associated with Serious Ran-Off-Road Crashes (Active)
17-24	Use of Event Data Recorder (EDR) Technology for Roadside Crash Data Analysis (Proj. Statement)
22-09	Improved Procedures for Cost-Effectiveness Analysis of Roadside Safety Features (Completed)
22-11	Evaluation of Roadside Features to Accommodate Vans, Mini-Vans, Pickup Trucks, & 4-Wheel Drive Vehicles (Active)
22-12	Guidelines for the Selection, Installation, and Maintenance of Highway-Safety Features (Active)
22-13	Performance of Roadside Barriers (Completed)
22-13(2)	Expansion and Analysis of In-Service Barrier Performance Data and Planning for Establishment of a Database (Active)
22-14	Improvement of the Procedures for the Safety-Performance Evaluation of Roadside Features (Active)
22-14(02)	Improved Procedures for Safety-Performance Evaluation of Roadside Features (Proj. Statement)
22-15	Improving the Compatibility of Vehicles and Roadside Safety Hardware (Active)
22-16	Development of an Improved Roadside Barrier System (Active)
22-17	Recommended Guidelines for Curbs and Curb-Barrier Combinations (Active)
22-18	Crashworthy Work-Zone Traffic Control Devices (Active)
22-19	Aesthetic Concrete Barrier and Bridge Rail Designs (Proj. Statement)

Executive Board Meeting – Monday October 1, 2001

Members present: **Dinitz, Artimovich, Bullard, Stevens, Ghara, Mauer, Berry, Alberson, Albin, Lohrey, Kota**

This meeting had 72 full registrations and 20 guests, with 8 no-shows. Our appreciation to **Kota and Mauer** for their excellent arrangements.

For future meetings it is desirable to keep room costs to \$100 to \$125 to encourage participation by State DOT people, especially Task Force for Roadside Safety members. Monday evening dinners continue to work well and are enjoyed by all.

Dinitz recounted a meeting with John Horsley of AASHTO where he was told that Joint Committee Task Forces are not a priority. However, if TF-13 were to get DOT CAOs to write in requesting increased attention to our need it would improve our potential for AASHTO funding. **Dinitz** proposed a pooled-fund study to pay for development of TF-13 publications and to pay for travel of state people working on national issues. Our goal is to have an action plan to get priority from AASHTO to fund our needs.

Other strategies: Have paid links on our websites to go to industry web sites rather than have our site show all the details. Ask TFRS members to ask their CEO/CAOs to write AASTO requesting participation in TF-13 costs.

Next TF-13 meetings:

Our Spring 2002 meeting will be held on April 25 and 26 at the Westin Seattle (go to <http://www.starwood.com/westin/> and look up room availability in Seattle WA, then select Westin Seattle.)

Our Fall 2002 meeting will again be held in conjunction with the AASHTO TFRS. They will meet in St. Louis, Missouri.

Nominating committee:

Dinitz will select a committee to nominate a new TF-13 Chair and Co-Chair one from AASHTO and one from Industry. The positions should have a time limit placed on them, such as a three year term, but should be staggered so that both officers will not be newbies at the same time.

Tuesday, October 2, 2001

Technical Presentations

Jim Kennedy of Battelle described a new steel guardrail post sponsored by HALCO. It has a hat-shaped cross section with a flat plate staked across the opening. It is 12 ga steel and has a depth of 5.5 inches. It has been successfully crash tested with w-beam rail with a 1.3 m dynamic deflection and 0.7 m permanent.

Dick McGiniss of Bucknell presented an update to the Brifen Wire Rope installations on the Lake Heffner Parkway in Oklahoma City. A total of approximately 7 miles is now installed with very good performance and low maintenance and good public acceptance.

Chad Heimbecker of Bryson Products described the RE-BLOCK recycled plastic blockout. It was the blockout used with the HALCO post described above, and has received FHWA acceptance.

Hossein Ghara gave a presentation on new materials that should be incorporated into future highway construction projects because of their improved long-term performance. All were listed in the hand-out that Ghara distributed.

Jim Keaton of Barrier Systems detailed the Safe Guard Gate system for openings in median barriers. It is a static system with wheels that deploy so that the barrier segment can be rolled out of its position, creating a gap for traffic. He also described the Tau-II crash cushion that was developed using finite element modeling and TL-3 crash testing.

Ralph Crafts of Easi-Set showed a number of slides highway features, asking if they were Report 350-compliant. Many were obviously obsolete devices, but the slides of concrete barrier segments were impossible to differentiate. Some states are requiring that barrier segments be marked on the top, on the face, or on the end. This lack of consistency in marking of new Report-350 compliant barrier segments makes it difficult to produce precast barrier segments for use by contractors working in different states. Krafts asked for recommendations for standardizing barrier markings. It was recommended that an industry group (ie a precaster's association) develop a mark and present it to the states for their concurrence.

Joe Yodock described his company's free-standing signpost systems, which consist of the Yodock Wall segment with the sign support mounted to it. He also showed a road closure barricade system consisting of three Wall segments with striped rails mounted above.

Phil DeSantis of DeSantis Engineering Software made a presentation on the status of the use of LEDs for highway lighting. The high mast applications are on hold, but work is progressing on sign lighting and portable work lights. The low energy use and long life of the LEDs is making

this application feasible.

John Durkos presented a variation on the Box Beam Energy Absorbing Terminal (BEAT) designed as a single sided crash cushion. It can attach directly to the end of a concrete barrier, but is not for use in the median.

Durkos also showed recent crash test videos from Midwest Roadside Safety Facility of a crashworthy variable message sign (VMS) trailer. It uses the same tube-bursting technology of the BEAT device to absorb energy of the crash while the impacting vehicle accelerates the trailer forward. The results were far superior to the “baseline” test run with an 820C into a conventional VMS as the message panel struck the roof of the test vehicle as the vehicle was pitching forward. Roof crush in the baseline test appeared significant.

Mike Hwang of Inteplast showed his company’s lightweight plastic sign substrate material. It is a 10 mm thick wood-plastic composite material that has similar thermal properties of reflective sheeting.

John LaTurner brought us up-to-date on E-Tech’s capabilities. They now have a FOIL pendulum with the crushable nose. He also presented information on an 18-inch high concrete curb developed by Florida for use as a TL-2 barrier in urban work zones. Next, the test of two type II barricade tests showed how important the plastic formulation was. The first was a PVC-framed barricade that carried a 360-degree warning light. The brittle PVC shattered, allowing the light to impact the windshield. The second used a different plastic formulation, and the barricade / light performed much better. Lastly, **LaTurner** showed the pendulum tests of the Transpo Industries multiple post supports for use on the New Jersey Turnpike.

Robert Blyth of Spec Structure Design described the weld-free joint connection system “Mast Cast.” The new AASHTO weld design code will require replacement of certain welded connections of bases and mast arms for luminaire supports, traffic signal mast arms, and cantilever sign supports. The joints are cast from Austin Tempered Ductile Iron, and they are looking for pilot states for installing them.

Ron Seitz showed the video from the Midwest Roadside Safety Facility on recent crash testing, including devices tested for the MW Pooled Fund effort:

Short radius guardrail (2 failures)
Iowa Barrier Tie down system (successful)
Stacked H-pile barrier (failed due to roll over)
W-beam bolted to the top of a box culvert.

The next order of business was the **workshop discussions** involving Task Force 13 and the AASHTO Task Force for Roadside Safety. Three topics were discussed:

1. Is a Quantum Leap for Roadside Safety obtainable?
2. What about funding for Task Force 13?
3. Should Roadside Safety be emphasized in Safety Audits?

1. Is a Quantum Leap for Roadside Safety obtainable?

Dinitz began by stating that 42000 highway fatalities per year are unacceptable. What can be done to make our roadsides more forgiving?

Dave Hubble suggested that we consider the new materials as presented by **Ghara** earlier. Start by finding non-critical locations to implement them, and use these pilot sites to get other states interested.

Durkos believes that we first must fully understand the problem of run-off-road crashes. The NCHRP project on EDRs will go a long way towards this goal, and then we can begin to address real countermeasures.

Berry stated that secondary roads need to get more attention. These roads may have low volumes, but definitely have high speeds and high crash rates.

Dinitz was present at the AASHTO/AGC/ARTBA Joint Committee meeting and said that the new highway bill may place more money at the disposal of designers of lower volume rural roads.

David Reese noted that nighttime work zones are more prevalent and causing more problems. Work zones in general have received a lot more attention recently, but nighttime projects are a special hazard. He also commented that side impacts of vehicles into roadside hazards ought to be considered when designing safe roadsides and when specifying roadside hardware. (It was noted that side impact air bags will begin to help reduce the seriousness of these impacts.)

Phil DeSantis said that sometimes work zone lighting is too bright and it causes a significant amount of time for a construction worker's eyesight to adjust to the change from dark to light, and vice versa.

Mort Oskard offered that Finite Element Modeling could be used to optimize barrier designs. There is a longrange program to optimize the performance of roadside barrier as a whole, using meshless FEM.

Dinitz asked if current standards are in some way limiting our innovations?

Dean Alberson said that we need to get "way out of the box" and ask that question. If we lower standards, would we be able to implement many more improvements at more locations. The legal system could get in the way by not allowing widespread use of sub-par hardware.

Dinitz followed on by saying that designers should be given more freedom to use performance based specifications for specific installations.

Larry Leahy stated that new products are added to Qualified Products Lists but older obsolete devices are not removed. For example, mono-directional slip bases are acceptable, but have few applications – omni-directional slip bases should be used wherever traffic from directions other than directly head on or from the rear, ie at intersections.

Hubble believes we are living the "Quantum Leap" by virtue of NCHRP Report 350. This document has inspired many states and other jurisdictions to "get their acts together" and eliminate a lot of old hardware.

Dinitz asked what we can do about making people aware that we are making hardware as safe as possible, but that we have no control over the design of automobiles. For example, bumper heights may vary significantly, but guardrail height is fixed. How can industry correct some of these deficiencies?

Berry noted that the public is completely unaware of our products and how they perform.

2. What about funding for Task Force 13?

Dinitz This is not a new topic. He recounted a meeting with John Horsley of AASHTO where he was told that Joint Committee Task Forces are not a priority. However, if TF-13 were to get DOT CAOs to write in requesting increased attention to our need it would improve our potential for AASHTO funding.

Dinitz proposed a pooled-fund study to pay for development of TF-13 publications and to pay for travel of state people working on national issues. Our goal is to have an action plan to get priority from AASHTO to fund our needs.

Seitz believed the pooled-fund study would be a hard sell because of the budget constraints. TF13 members see the need, but putting it in terms that management could accept will be difficult.

Another commenter stated that the legislators are the stumbling block when it comes to expenditures such as task force travel. They compare them to their own travel junkets and believe them to be equally superfluous.

Kent Isreal noted that each AASHTO subcommittee has similar travel funding problems. AGC should contact legislators to lobby for increased funding.

Dinitz believes states need to be made aware of how much they benefit by virtue of their professionals participating in national committees such as TF-13.

Dave Little suggested that TF-13 representatives make presentations to AASHTO committees to make them aware of what we do.

Dinitz decided to reconstitute the TF-13 marketing committee to develop the tools necessary for others to learn about who we are and what we do, and how it benefits them.

Durkos noted that the current ATSSA “SIGNAL” contains an article about TF-13.

Berry suggested we get “www.aashtotaskforce13.org up and running and put something up there to let people know about us.

Ghara noted that TF and Subcommittee participation is a “culture” in certain states. For example, Louisiana is convinced that TF-13 is of value to them, and have sent professionals to meetings for many years. (The Wyoming Structures Division is another example.) FHWA is not as effective as it had been in pulling states together to develop pooled fund studies.

3. Should Roadside Safety be emphasized in Road Safety Audits (RSA) ?

George Steitzmiller said that RSA are done on all projects in North Dakota, and these reviews are sent forward with the project documentation.

Mack Christenson said that RSA in Utah don't go into full depth detail on all projects.

Little indicated that in Iowa all barriers are upgraded on resurfacing projects. They do not have a multi-disciplinary team and don't call them RSA. There is also growing pressure to cut down on the barrier upgrading coming from the paving contractors – they want their payment but have to wait until the GR contractor is done.

Dinitz responded that we must convince all contractors of the necessity of safety improvements, and that they are not just “add-ons” to the really important pavement work.

Ghara was surprised to learn that there is no guardrail inspection program in his states. He doesn't believe that there is a *real* safety audit program in most states, and that no one is auditing projects once the work is complete.

Keith Kota stated that New Hampshire's paving committee reviews all projects to identify necessary safety improvements.

Dinitz asked how many believe that a professional RSA should be conducted on all projects. Most participants concurred, but noted that formal safety reviews will continue to vary from state to state.

Hattaway and Seitz discussed state definitions of “3R” work, what is “resurfacing”, and what is “reconstruction.” Seitz participated in a PennDOT RSA and saw the review as very advanced. However, he saw that level of review was necessary because of the way PennDOT designs projects. In Kansas, this review is a continual review of all safety on all projects, and a full RSA is time consuming and expensive.

Ray Amick said that RSA ought to be done early on in a project's life by a multi-disciplinary team with checks and balances represented.

Finally there was a general discussion of topics of interest in roadside safety.

Mark Ayton of Ontario asked that sloped culvert ends be included in the next update of the Guide to Standardized Highway Drainage by TF-13.

Dinitz called for any new areas of standardization that the Task Force should take on?

Little said that any new areas of standardization will likely benefit from our previous work, as developers of new hardware tend to use standardized components already.

Dinitz adjourned the Fall 2001 Meeting of Task Force 13 with the request that all state DOT members contact their CEOs and that industry members contact their state legislators and encourage monies be set aside for publications and travel to national meetings.

The meeting was adjourned.