

Memorandum
AASHTO / AGC / ARTBA Joint Committee
Task Force 13 Meeting Minutes
Spring 2002 – Seattle, Washington
April 11 & 12

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 - For review and comment

Opening Session

Chairman **Arthur Dinitz** opened the meeting at 8:30 am with a welcome to all in attendance. The attendance figures are encouraging in light of state agency budgetary restrictions and today's travel concerns. We all must deal with transportation concerns, especially the 42 000 transportation fatalities in the USA every year, most of which are on streets and highways.

Dinitz explained the Task Force's organization and subcommittee operations, followed by self-introductions of all attendees. The Chairman then asked for approval of the minutes of the Fall 2001 meeting minutes (Portsmouth, New Hampshire). Acceptance of the minutes was so moved, seconded, and approved. Secretary **Nick Artimovich** then summarized the activities of the subcommittees from the Fall meeting.

Chuck Neissner of the National Cooperative Highway Research Program detailed the progress of more than a dozen NCHRP projects related to roadside safety that are underway. Status reports for these projects are maintained by NCHRP on the Internet at <http://www4.nationalacademies.org/trb/crp.nsf/NCHRP+projects>

[17-24](#) Use of Event Data Recorder (EDR) Technology for Roadside Crash Data Analysis (Pending)

[17-22](#) Identification of Vehicular Impact Conditions Associated with Serious Ran-Off-Road Crashes (Active)

[17-14](#) Improved Guidelines for Median Safety (Active)

[17-11](#) Determination of Safe/Cost Effective Roadside Slopes and Associated Clear Distances (Active)

[17-10\(2\)](#) Structural Supports for Highway Signs, Luminaires, and Traffic Signals (Active)

[17-10](#) Structural Supports for Highway Signs, Luminaires, and Traffic Signals (Completed)

[22-19](#) Aesthetic Concrete Barrier and Bridge Rail Designs (Pending)

[22-18](#) Crashworthy Work-Zone Traffic Control Devices (Active)

[22-17](#) Recommended Guidelines for Curbs and Curb-Barrier Combinations (Active)

[22-16](#) Development of an Improved Roadside Barrier System (Active)
[22-15](#) Improving the Compatibility of Vehicles and Roadside Safety Hardware (Active)
[22-14\(02\)](#) Improved Procedures for Safety-Performance Evaluation of Roadside Features (Pending)
[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)
[22-13](#) Performance of Roadside Barriers (Completed)
[22-12](#) Guidelines for the Selection, Installation, and Maintenance of Highway-Safety Features (Active)
[22-11](#) Evaluation of Roadside Features to Accommodate Vans, Mini-Vans, Pickup Trucks, & 4-Wheel Drive Vehicles (Active)
[22-09](#) Improved Procedures for Cost-Effectiveness Analysis of Roadside Safety Features (Completed)

Niessner also mentioned that “F-SHARP”, the Future Strategic Highway Research Program, will have a safety component.

Dr. Gerald Ullman demonstrated the National Work Zone Safety Information Clearinghouse website, located at on the Internet at: <http://wzsafety.tamu.edu/>
The purpose of the Clearinghouse is to provide general information on traffic operations and safety in highway work zones, which it does through its 100-plus web pages, help pages, access to seven different internal clearinghouse databases, and links to over 400 other web sites. It also responds to specific requests from the public and members of the industry.

The Clearinghouse was established by the FHWA in 1997 with full Federal Funding. FHWA financial support tapered off as planned, and the Clearinghouse is now operating through an agreement with ARTBA and Texas Transportation Institute. Other sponsors include AASHTO, NACE, ENR, and C.N.A. Insurance. However, a permanent funding source is still being sought.

Subcommittee Meetings

Subcommittee 1 – Publications Maintenance. This subcommittee is co-chaired by **Nancy Berry**. Berry indicated that she had received three more state survey responses since the Fall meeting, bringing the total to 20. The subcommittee’s primary goal is to provide information to the other subcommittees that are preparing publications, such as recommendations for funding their efforts, metric/English units, publication type, etc.

Subcommittee 2 – Barrier Hardware. Co chaired by **Dick Albin and John Durkos**. The complete subcommittee minutes are appended to this document.

Subcommittee 3 – Bridge Railing and Transition Hardware Co-chaired by **Mark Bloshock and Ron Faller**. This subcommittee wishes to pursue a separate guide from the Standardized Highway Barriers guide and are pursuing funding through the Midwest Pooled Fund states. Two major questions are “how do we approach industry for a contribution to our publication” and “which state is willing to lead the pooled fund effort.

Subcommittee 5 – Sign and Luminaire Support Hardware Co chaired by **Mike Stenko and Richard Frederick**. This subcommittee continues to pursue the publishing of updated versions of its two guides, one on small sign supports and the other on luminaire supports.

The Sign Support guide was circulated to members beginning in January and continues. The use of metric and English units is still a significant issue. Many states are returning to English units while a few stick to Metric. The situation seems to be that the entire US market is ruled by the Steel industry, which “will never convert to metric.” Because highway construction use of steel is now only a very small fraction of what is fabricated in this country, the steel industry feels no pressure to convert.

Discussion ensued on bolt designation, as errors in “converting” units could result in diameters and threads of nuts that do not match the bolts. It was concluded that the “standard” would be the English unit bolt, and the metric unit version would be a Metric Bolt of the appropriate size. There would be no attempt to “convert” the dimensions of English unit bolts, rather the corresponding metric bolt would be shown.

All subcommittee reviews of the draft shall be completed by the Fall 2002 meeting.

Frederick noted that 16 states are now signed on for the pooled fund effort to revise this guide. The existing guide is outdated to the extent that some hardware does not meet Report 350 criteria. Wyoming, the lead state, is now developing the problem statement. Some of the manufacturers pointed out that there is no standardization within the lighting pole industry as they all have their own wall thicknesses, tapers, etc. **Dinitz** noted that past efforts had gone into standardizing the way in which the base, mast arm connection, luminaire pole splices, etc, were fabricated.

Subcommittee 6 – Work Zone Hardware Co chaired by **Hossein Ghara and Barry Stephens**. The bulk of the deliberations dealt with the TTI – National Work Zone Safety Information Clearinghouse. **Gerald Ullman** demonstrated the site through an Internet link (generously provided by Barry Stephens and Energy Absorption). Ullman reviewed the sorts of questions they answer and led us on a virtual tour of the web site. **Berry** was selected as a guinea pig to see how well an intelligent but unfamiliar user could navigate through the site. Berry’s dead ends and repeat hits led Ullman to consider a number of minor changes to the site that will improve its utility to practitioners. Several attendees volunteered to review the web site and provide feedback and suggested improvements. Barry Stephens will collect this information and present it at the next meeting. Ultimately the information will be forwarded to Dr. Ullman.

Subcommittee 7 – Certification of Test Facilities Co-chaired by **Ron Faller and John La Turner**. **Harry Taylor** discussed the FHWA position. FHWA is in favor of accreditation, but accommodating the concerns of A2LA, an accrediting body, has delayed implementation. Ultimately FHWA expects to require accreditation by a Guide 58 organization.

The subcommittee then discussed whether the requirement would cover labs that only deal with FHWA Category 2 work zone devices (much less sophisticated instrumentation

and reporting is required for these tests.) **Ron Faller** went through his handout which provided a brief history of accreditation efforts, the Task Force's position supporting accreditation, and a proposed implementation plan.

Sample data had been distributed to a number of the labs with a request that it be processed according to their lab's standard procedures. Three laboratories presented their results, and the scatter was significant. This argued in favor of more standardized procedures.

Subcommittee 8 – Rail Highway Crossing Hardware Co-chaired by **Dean Alberson and ??** This subcommittee produced a brochure highlighting the significant work done by others in this area and provided contact information.

Reports from Special Subcommittees

Special Subcommittee on Marketing Committee Co-Chair **Andrew Atar** reported that recently there have been some synergies between subcommittees and the outside. For example, the survey conducted by the Publication Maintenance Subcommittee has generated interest in our products in some of the states.

The most important factor in increasing the participation by state personnel has been the practice of holding joint meetings with the AASHTO Task Force for Roadside Safety. A flyer was prepared prior to the first such joint meeting at Lincoln, Nebraska. **Dinitz** noted that the Task Force had a brochure at one time but that it is in need of updating. On that line, **Durkos** recommended a press release be written that would tell others, like AGC and ARTBA, about our activities. This would help to draw contractors to our organization. **Albin** asked since our partnership with TFRS has worked so well for the Fall meeting, is there any group that we could meet with in the Spring? It was suggested that the AASHTO Highway Subcommittee on Maintenance or the National Association of County Engineers <http://www.naco.org/affils/nace/index.htm>

Special Subcommittee on New Areas of Standardization No additional areas have been identified beyond Rail Highway Crossings and Noise Walls. It was suggested that the Special Subcommittee on Marketing bring up this topic when making contacts with new organizations that we might partner with.

Executive Committee Meeting

The Executive Committee consists of the TF-13 Chair, the Secretary, and the Co-Chairs of all the subcommittees. In attendance were **Dinitz, Artimovich, Stenko, Ghara, Frederick, Faller, Atar, Alberson, Durkos, Berry, Stephens, Bullard, Bloschock, Albin, and Leahy**. **Dinitz** thanked the co-chairs for all their hard work as they made the job of Task Force Chairman significantly easier. To that end, **Dinitz** repeated that he is trying to find a new Chair for the Task Force – five years in that position was enough. Balloting will be by email, and he hopes to be able to transition to his successor at this Fall's meeting in St. Louis. **Berry** asked if Art could give us a position description. Art

indicated that the chair ought to be in private industry in order to facilitate the funding of the Task Forces meeting expenses by opening up a checking account in their name “Doing Business As” Task Force 13.

Some advance planning is necessary for the Spring Meeting if we are to have it in conjunction with the AASHTO Maintenance Committee or some other organization. The previous meeting the Maintenance Committee was seen as very productive in that the maintenance people learned a lot about crashworthy hardware. The National Association of County Engineers was seen as a potential partner as well (Jim Keaton to contact.)

The Fall meeting will be September 23 and 24 in Westport, Missouri, a suburb of St. Louis.

The Task Force’s mailing list will be distributed to all members with a note that it not be used for commercial solicitation.

Dinitz noted that he spoke with AASHTO’s Ken Kobetsky regarding funding for all Joint Committee task forces. Their goal is to get \$2 million per year for supporting research, publications, and web site development. These AASHTO / State funds would be supplemented by money from the hardware manufacturers in order to link to their websites. Dinitz will present this request to the AASHTO/AGC/ARTBA Joint Committee meeting this summer. He will approach ARTBA as well.

Berry suggested that our website (www.aashtotaskforce13.org) at least have a summary of what TF-13 is all about...

Frederick suggested that the first order of business would be to display the standards we already have.

Bullard noted that TTI has space on the NWZSICH page

The day’s activities were adjourned at approximately 5:00 pm. The evening dinner was held at Tillicum Village on Blake Island (see <http://www.tillicumvillage.com/>)

Friday, April 12

Reports on Other Affiliated Committees

Greg Frederick reported that the AASHTO Highway Subcommittee on Structures was meeting in Atlantic City, New Jersey, on May 19 – 23. Attendance at this meeting is highly appropriate for anyone dealing with bridge railings or lighting and sign supports. For more info see <http://www.state.nj.us/transportation/temp/aashto>

Donna Clark reported that ATSSA has a new introductory rate for new members. ATSSA is also the primary supporter of the National Work Zone Awareness Week, which was April 8-12 this year. ATSSA is lobbying Congress for mandatory training for

guardrail installers, and for a \$3 billion set-aside for low cost safety improvements as part of the upcoming reauthorization of the highway program. ATSSA is also promoting money for safety improvements to low volume rural roads and the upgrading of all safety hardware to NCHRP Report 350 standards. ATSSA's Guardrail Training Course – Level I is active and the Level II course is in preparation.

Dinitz reported that the AASHTO/AGC/ARTBA joint committee will meet this summer and he will propose \$2 million for funding of all the task forces and their publications.

New Business

Joe Frazetta will host the TF-13 portion of the September 23 & 24th joint meeting of TF-13 and the AASHTO Task Force on Roadside Safety. Technical presentations will be on Tuesday morning and a Joint Discussion on topics of mutual interest will take place in the afternoon. The Westport area of greater St. Louis has easy access to everything else in the metro area.

Technical Presentation

1. Ron Faller – Recent crash testing at MidWest Roadside Safety Facility.

The crash test covered a number of new devices including:

- Failed portable sign stand framed by perforated square steel tubing
- Retrofit portable sign stand successfully tested with bogie
- Failed ½ inch plywood sign on stand
- Passing ¾ inch plywood sign on stand
- Aluminum 0.120 thick passing on breakaway mast
- Aluminum 0.080 thick failing
- Failed portable sign stand with large diamond and small square advisory plate
- Bullnose guardrail design
- Failed three cable rail at edge of slope

2. Don Johnson – Trinity Industries King Blockout

The King Blockout is recycled plastic with voids for reduced weight, a hook at the top/back and a lip at the bottom/front to ease assembly on steel guardrail posts. The King Blockout has been accepted by the FHWA.

3. Chuck Norton – Trinity Industries “O-Post”

The O Post was crash tested successfully with W-beam guardrail. It is a modified “C” shape post, with deformations to ease driving. The post is rolled from 12 ga stock, just like the w-beam itself. The system was crash tested with vehicles impacting from the “closed” side as well as from the “open” side of the post (GR lapped in the direction of impact in both tests.)

4. Richard Moore – Valley Rubber Rectangular box blackout

This blackout is competitive in cost with wood blockouts and is one way of reducing the problem of used tires.

6. Dean Alberson – TTI Crash Tests

The following tests were shown and discussed:

- Three cable barrier terminal – each cable anchored separately. Auto and Pickup.
- Linear extruder terminal with steel yielding posts for w-beam GR.
- Ohio three beam transition to concrete safety shape
- Hawaii three beam transition
- New England Transportation Consortium test of MELT to TL-2

5. Hossein Ghara – Vibration in Bridge Cable Stays

Cable-stayed bridges are very common in Japan and Europe, and popular for new bridge in the USA. However, the diagonal cable stays are subject to extreme vibration at moderate wind speeds when wet. When raining, the water draining down the stays is forced by the wind, gravity, and the shape/slope of the cable to a position that drastically alters the aerodynamics of the cable. This shape change sets up vibrations of up to four feet in the cables leading to significant damage. These extreme vibrations are not seen at higher environmental wind conditions. Several retrofit options are available.

7. Jeff Shewmaker – Safe Technologies Inc.

Jeff described the process that he and STI went through to achieve ISA 17025 accreditation. The process does involve a modest investment in time and money but has numerous benefits to the test house, including documenting your own procedures, finding areas where improvements could be made, and being more attractive to overseas hardware manufacturers.

8. (Scheduled presentation on NWZSIC was given in a session on Thursday.)

9. Leo Yodock – Yodock Wall Company

Recent crash testing was shown for the following uses of the Yodock water filled cells:

- Type III Barricade / Road Closure
- Longitudinal Channelizer
- Barrier Wall – Channelizer with steel box beam rails added to device profile.

Meeting Adjourned at approximately 12:00 noon, Friday, April 12, with a call to reconvene on Monday, September 23 in St. Louis.

AASHTO - ARTBA - AGC Subcommittee on New Highway Materials Task Force 13 - Standardization of Details for Bridge and Road Hardware

Committee #2 - Barrier Hardware

Co-Chairs: Dick Albin (WSDOT) and John Durkos (Road Systems Inc.)

April 11-12, 2002 meeting minutes

Seattle, Washington

Committee Position

The Barrier committee met for the seventh time on April 11-12, 2002 in Seattle, Washington. At the first meeting when the “break-out” concept was implemented in April 1999, the committee developed a mission statement which was:

Mission of the Committee- Oversee an agent that compiles, updates, and maintains data on barrier systems and assures conveyance of the information in a user-friendly medium. The primary product of this committee is “A Guide To Standardized Highway Barrier Hardware”. The purpose of this guide is to provide users (barrier researchers, designers, manufacturers, and contractors) with standardized components for barrier systems and general information on proprietary devices.

During subsequent meetings, methods of funding the update were discussed with no progress being made toward getting the guide revised. At the April 26th, 2001 meeting, a new strategy was proposed that relies on a portion of the updating being accomplished by volunteers from the committee. This is a departure from the mission statement but it was felt to be necessary to start the ball rolling on an update. Although we seem to be making progress on the funding issue, the volunteer effort will continue. This meeting focused on the continued accomplishments of this volunteer effort.

Progress of Recent Meetings

The following generic barriers were identified at the April 2001 meeting and the results were discussed at the October 2001 meeting:

- Weak steel post cable (SGR01a-b)
- Weak Post W-beam (SGR02)
- Weak Post Box Beam (SGR03)
- Strong Post W-Beam (SGR04a-b)
- Strong Post Thrie Beam (SGR09a-c)

At the October 2001 meeting, 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 since no concrete barrier experts were in attendance to volunteer. After no interest was expressed in the existing Minnesota Bullnose (SEW10), there was some interest in the new Thrie Beam Bullnose guardrail design. A group was formed to identify the details for this design and they were asked to report the findings at the next meeting.

Meeting Minutes

Most of the meeting consisted of a review of the Thrie Beam Bullnose. The group is that did the review consisted of:

Chuck Norton (lead)
John Rohde
John Durkos (made the presentation)
Don Bennett
Chad Heimbecker
Clark Dorrard
Steve Garrett

Although this is a system expected to be in the revised Guide To Standardized Highway Barrier Hardware, there were a number of concerns expressed about the design, the manufacturing, supply and the installation of the system. Specifically, they were:

- 1.) The number of the varying slots configurations
- 2.) Costs for specialty parts
- 3.) Number of specialty parts not used compatible with other systems
- 4.) Grading requirements
- 5.) Difficulty in manufacturing some parts such as the short radius nose section (which is different than the "Short Radius" project currently in development)

At the October 2001 meeting, there were no concrete barrier experts to volunteer. Dean Frank with N.P.C.A. (National Precast Concrete Association) attended this meeting. Dean will be the lead on the concrete barrier systems. Dean also said he would re-do the National Survey/Checklist on Concrete Traffic Barriers that was presented at TF13 April 1997 in Williamsburg, VA. A report will be given at the Fall 2002 meeting.

The Strong Post W-Beam (SGR04a-b) lead person was Ron Faller. The new lead person will be Bill Bryson who is also the Strong Post Thrie Beam (SGR09a-c) lead person.

All of the Barrier Systems in the new Guide will fall into one of 4 categories:

- 1.) Currently in the Guide (meets NCHRP 350) and needs to be updated
- 2.) Currently in the Guide (Non-NCHRP 350) to be eliminated or in a separate section
- 3.) New hardware to be added
- 4.) Proprietary (which will be one of the 3 cases above)

At the October 2001 meeting, Harry Taylor had addressed the committee to discuss making video clips available on the Internet. His intent was to make the video available to anyone who wants it and reduce the need for special requests. The manufacturers were somewhat mixed on this proposal and no clear direction emerged from the discussion. At this April 2002 meeting, Harry reported that the issue still needs resolved.