

GranITE Chips

NEWSLETTER OF THE NEW HAMPSHIRE CHAPTER OF THE INSTITUTE OF TRANSPORTATION ENGINEERS
DECEMBER 2004



SUMMER TECHNICAL SESSION

June 22, 2004

Portsmouth, New Hampshire

(by Bob Bollinger, P.E. &
Louise Casseres, P.E.)

On June 22, 2004, at a joint meeting between the New England ITE Section, and the New Hampshire and Maine ITE Chapters in Portsmouth, New Hampshire, Gene Amparano and Keith Harrison, safety engineers with the Federal Highway Association (FHWA) Resource Center, presented the program entitled "Older Driver Design Workshop" to 31 attendees.

Gene Amparano began by asking attendees, "What do we notice about older drivers in general?" There was no shortage of responses from those in attendance.

- They are too slow driving and parking.
- They get confused.
- They are indecisive.
- They make sudden moves.
- They slow down well in advance of their turn.
- They seem to have a "deer in the headlights" reaction to oncoming cars.

It was stated that the primary reason for these characteristics of older drivers is "age-related diminished capabilities." As we get older our vision declines, perception/ reaction time increases, memory diminishes, mental processing speed slows down, and strength and endurance decrease. These are all contributing factors for the driving characteristics previously noted. Several visual aides were introduced that allowed attendees to try to identify with what it must be like to actually experience these age-related diminished capabilities. These included various forms of eyewear and even a neck brace. These aides were intended to demonstrate the effects of glaucoma, lost contrast sensitivity, and reduced head/neck strength and mobility.

Some alarming statistics were presented. By the year 2030 approximately 25-percent of the population in the United States will be over the age of 65. Older drivers tend to experience fewer motor vehicle crashes than other age groups, but their crashes tend to result in a greater fatality rate. Drivers over age 80 experience a fatality rate of almost 8 per 100 million vehicle-miles traveled (VMT). The only age group with a comparable rate is 16 year-old drivers, who experience a fatality rate of almost 7 per 100 million VMT.

Gene and Keith then focused on what we, as engineers, can do given that our older population has increased significantly and fatalities and injuries for older drivers and

pedestrians are over representative when compared with other age groups. Their response was that engineers need to design for the least capable group of highway users. The best way to do this was by developing supplemental design guidelines, most notably, "Highway Design Handbook For Older Drivers and Pedestrians," and "Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians." Both guidebooks are published by the FHWA and copies were presented to each attendee.

These design manuals are intended to supplement existing standards ("Green Book," MUTCD, Traffic Engineering Handbook, etc.) and guidelines, and are intended to provide guidance to enhance the safety and ease of use of the highway system for older drivers and pedestrians in particular, and the highway user population as a whole.

Several design applications were discussed and included the following: bigger and brighter traffic signs, brighter pavement markings and delineation of curbs and medians, overhead placement of signs and signals, positive offset left-turn lanes at intersections, advanced warnings of sight-restricted locations, increased use of highway lighting, redundant signing, use of an increased perception/reaction time in intersection sight distance calculations, elimination of skewed intersections and junctions, maintain 12-foot (minimum) lane widths, enlarged curb radii at intersections, parallel entrance ramp geometry, lengthen acceleration/deceleration lanes and merging/weaving areas, and the use of slower walking speeds for pedestrian control.

The course concluded with a design example that was worked out by the seminar attendees, through the use of the

supplemental FHWA standards previously discussed. With their parting words, Gene and Keith quoted Dr. Bernard Isaacs, a renowned geriatric physician and author, who said, "If you design for the old, you include the young. If you design for the young, you exclude the old."

To show and gratitude, NHITE Secretary/Treasurer, Louise Casseres, presented Gene and Keith with complimentary "Granite Chips" at the conclusion of their presentation. For more information on this topic please visit www.fhwa.dot.gov.

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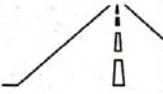
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SUMMER EVENING SESSION

June 22, 2004

Portsmouth, New Hampshire

Following dinner, Kevin Hooper, President of the New England Section, introduced the speakers for the evening presentation. Dale Spaulding of the Louis Berger Group, Parker Hadlock of Cianbro Corporation, and Shawn Smith of the Maine Department of Transportation (MDOT) presented a summary of the I-295 / Commercial Street Connector Design-Build Project to 52 attendees. Cianbro and Louis Berger are joined by Shaw's Brothers Construction and S.W. Cole as the major engineering and

construction firms associated with the project.

The presentation highlighted some of the challenges and successes of the process since this was the first design-build initiative for the State of Maine. They indicated that the most important element of the project was communication and relationship-building.

Mr. Spaulding described the public process for reviewing the proposed alignments for each section of the project and the intense planning effort related to phased construction and its related traffic control.

Mr. Hadlock described some of the difficult soil conditions and the cost-effectiveness of evaluating alternative designs throughout the design-build process. As the owner of the project, Cianbro Corporation was overseeing the design process for the Louis Berger Group and other sub-consultants in order to maintain schedule for completion of the ultimate construction.

Mr. Smith expressed that he was very pleased with the communication of the project team throughout the initial stages of the project. The State of Maine is monitoring this project closely in order to assess other potential opportunities for design-build ventures. The project has its own website to describe the history of the project and update them on any changes in traffic control or other impacts. You can view the website at:

www.portlandconnector.com.

This project appears to be ahead of schedule based on a recent visit to the website. We wish them success in completing the project on schedule and continuing their good example for project management within our industry.

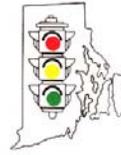
FALL TECHNICAL SESSION

September 14, 2004
NHDOT, Concord, NH
(by Kevin R. Dandrade, P.E., P.T.O.E.)

The Chapter held its fall meeting at the New Hampshire Department of Transportation (NHDOT) to participate in a live webinar (web-based seminar) entitled, "Alternative Treatments for At-grade Pedestrian Crossings." This webinar was sponsored by ASCE. This meeting was arranged at lunchtime to spur additional interest from municipal and state agency representatives. This is the first time in a long while that a quarterly meeting was held at lunchtime.

The instructor, Nazir Lalani, presented several innovative techniques for controlling pedestrian crossing, considering the alignment of crosswalks, surface treatment type, and signal control. For those that attended, it sounded like the industry has gone to the birds. Several of the crossing types were named after a type of bird (e.g. hawk, pelican). One of the more interesting and common-sensible techniques for improving the pedestrian view of on-coming traffic involved a median divided arterial. Once a pedestrian crosses one side of the arterial to the median they are required to walk along the median for 15-20 feet and then cross the other direction of traffic. A series of ornamental fences requires the pedestrian to walk facing traffic for a brief period to view oncoming vehicle conflicts. This measure has been helpful in reducing the number of pedestrian accidents in some urban communities.

This hour-long webinar included questions that were posted in real time for Mr. Lalani to answer. This event drew a crowd of over 30 member and non-members. We will be looking to have similar lunchtime events in the future.



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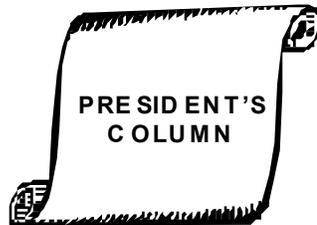
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(by Kevin R. Dandrade, P.E., P.T.O.E.)

Well, it's that time of year again...the leaves have been raked, the driveway plow stakes are in place, and I'm ready for another New England winter. Within NHITE, we are wrapping up a year that included a number of successful meetings and technical sessions. Our last meeting for the year will take place on December 14, 2004 at the Common Man Restaurant in Concord, NH. Ken Petraglia (NHITE Vice-President) will be presenting the results of a study about the effects of countdown pedestrian signals. This study was recently conducted by the New England Section Technical Committee in order to evaluate the operating characteristics of this new signal technology and its potential impact on the pedestrian population. This will be a close tie to the

Fall lunch meeting that also was focused on pedestrian crossings. I hope you can attend.

The NH Chapter officers will be holding a planning session for the 2005 events sometime in January. It looks like we will have a few vacancies to fill and we would appreciate additional support. If you would like to get involved in NHITE, please do not hesitate to contact one of us. We are especially interested in a newsletter editor to fill the current vacancy. I am excited to be nominated for the position of NH Chapter President again for 2005 and welcome your input.

I recently had the opportunity to meet with leaders of other NH professional organizations to discuss meeting agendas, membership characteristics, and opportunities to assist one another. The following individuals were in attendance to represent their organization:

Joe Ducharme, Jr., PE	NHSPE
Paul D. Schmidt, PE	NHSPE
Roch Larochelle, PE	NHSPE
Anthony Puntin, PE	ASCE
James Karmozyn, PE	SENH
Kevin Dandrade, PE	ITE

We will be meeting in the future to discuss other common issues such as monitoring unlicensed engineering practice and potential shared secretarial assistance. I was impressed with the foresight and planning expressed by the group.

As always, I would like to encourage our existing members to reach out to other engineers, planners, or policy makers to expand our membership. I hope you all have a peaceful and happy holiday season.

Cheerfully Submitted,
Kevin

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Louise L. Casseres, P.E.

