



Volume 30, Number 3

Alabama Transportation Newsletter

August 2012

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**TIME FOR TRANSITION**

Effective September 1, 2012, I will be retiring from Auburn University. And I will be stepping down as Director of the Alabama Technology Transfer Center.

My involvement with the T2 Center began with the very first seminar offered in October 1983. I substituted for seminar instructor Charles Alexander for several offerings of a Risk Management Workshop. The other seminar instructors were John Mason, Dan Turner and Ray Moore. Several years later I became the Technical Coordinator of the T2 Center and served in that capacity until I was made the Director in 1995.

Of course, I was very fortunate to work with and learn under the Master, Fred O'Brien. Fred was very supportive of continuing education and worked closely with Joe Wilkerson and Martin Kelly of FHWA and Tom Espy and Jim Keith of the Alabama DOT in making the Alabama T2 Center one of the initial ten Centers established.

I have enjoyed working in extension these many years. Working with Linda Guin and Clint Andrews of FHWA, Bob Jilla, Jeff Brown and Joe Nix of ALDOT and all of the county, city and traffic engineers in Alabama has been gratifying. I wish to particularly thank our 17-member Steering Committee for providing overall guidance and direction to our Program.

I also recognize the diligent efforts of the past and current Directors of the eight Southeastern Centers. I recall putting together technical sessions for past Southeastern Local Road Conferences and working with Patsy Anderson of Kentucky, Jim Burati of South Carolina, David Clarke of Tennessee, Ben Colucci of Puerto Rico, Janet Degner of Florida, Jim Martin of North Carolina, Rick Smith of Georgia, and Ivory Williams of Mississippi. Amazingly, eleven Southeastern Local Road Conferences have been held.

Larry Sellers and I have worked with T2 for more than 25 years. Larry knows extension. I have thoroughly enjoyed working with him on T2 and Transportation Conference activities. It is good to see Larry become active with LTAP at the national level.

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**Alabama Transportation Newsletter**

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John McCarthy was the Assistant Director of our T2 Center for more than 12 years. I thank John for his technical support over the years, especially for our publications library, video library and the Alabama Transportation Newsletter. John and I have presented quite a number of Work Zone Training courses over the years.

Dr. Rod Turochy, Associate Professor of Civil Engineering, will be the new Director. With an extensive background in transportation, including short course experience, he will be able to provide the leadership for Alabama LTAP in its 29<sup>th</sup> year. Rod will be working with Larry Sellers and Garry Havron in providing future direction to the program.

With the T2 Center able to utilize the resources of both the Civil Engineering Department and Engineering Continuing Education, I look forward to the continued growth of our Center.

*Bob Vecellio*

## Methods of Maintaining Sign Retroreflectivity

A webinar describing several methods of maintaining traffic sign retroreflectivity and the effective dates in the 2009 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) was presented by three FHWA employees on August 8, 2012. A total of 200 sites around the country were allowed to register. The Traffic Engineering Department in the City of Montgomery registered a site and had four persons in attendance. The webinar introduction emphasized that the MUTCD not only applies to streets and highways of all cities, counties and states, it also applies to all roads open to public travel. It also presented several case studies on these methods and addressed questions from the audience.

The webinar covered each of the methods listed in a Guidance paragraph of MUTCD Section 2A.08. These methods include:

1. Visual Nighttime Inspection
2. Measured Sign Retroreflectivity
3. Expected Sign Life
4. Blanket Replacement
5. Control Signs

The webinar reviewed many of the procedures used to achieve these five methods. The MUTCD mentions that "Other methods developed by engineering studies can be used." The webinar presenters asked that if any such methods are developed, that they be documented and sent to the FHWA. This MUTCD section also says that agencies or officials shall use a management method designed to maintain sign retroreflectivity at or above the levels specified in Table 2A-3 of the MUTCD.

The 2009 Edition of the MUTCD had an effective date of January 22, 2012, for all three classifications of traffic signs: regulatory, warning and guide. This date was shown in Table I-2 in the introductory section of the Manual. The effective date was changed to read two years from the effective date of this revision of the MUTCD and the classifications of signs for which retroreflectivity is to be maintained were changed to include only regulatory and warning signs. The replacement of regulatory, warning and post-mounted guide signs was also included in this table, but it has been eliminated. These were no changes to the minimum levels of maintained retroreflectivity as shown in Table 2A-3.

These are some of the changes that have been made to this Table as per the Federal Register of May 14, 2012. This Final Rule had an effective date for these revisions of June 13, 2012. A notice of these proposed amendments to the MUTCD was published on August 31, 2011 and was responded to by 158 letters that contained 240 comments. The 2009 Edition of the MUTCD and its two revisions are available at the website: [mutcd.fhwa.dot.gov](http://mutcd.fhwa.dot.gov)

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Case studies for using many of these methods of measuring sign retroreflectivity were described in NCHRP Synthesis Report 431. This 2012 report was prepared by Jonathan M. Re and Paul J. Carlson of the Texas Transportation Institute for the Transportation Research Board. The report was made available to all webinar participants as a pdf file. The report summarized the findings of a survey responded to by 24 local agencies, 16 state DOTs and 8 other sources. The primary method used by the state and local agencies included 13 using nighttime inspection, two using measured retroreflectivity, 15 using expected sign life, eight using blanket replacement and two using control signs. The aging of the sign is recognized in the report as being a factor of several items, including the type of sign sheeting, the sign color, the sign face orientation, the ultraviolet light level or solar radiation for that location, and the weather conditions for the area.

The Traffic Engineering Department in the City of Montgomery has been using the inventory method since January 2011. For each month a spreadsheet has been developed that shows the date, the number of signs installed, the sign types, and their locations. A replacement date will be established for each of these signs when a set of aging data is developed for each type of sign in a southeastern state or city with an environment similar to that of Montgomery.

Street name signs have also been included in this list, as the City has decided to bring them into MUTCD compliance by using upper and lower case lettering as they are replaced. This format has been recently required by the MUTCD in order to provide better visibility of the signs to help elderly drivers and drivers with limited visibility.

(Prepared by John R McCarthy, PE, Traffic Engineer III, City of Montgomery, AL)

## **Safety in the Workplace: *Active Shooter on the Premises***

Recent current events have involved active shooters at a college dorm, a movie theatre, a shopping center, and a county courthouse. These events have generated an employee response procedure that needs to be followed in transportation and public works agencies. Police Departments, Emergency Management Agencies, and Risk Management Departments around the country have been providing guidelines to government agencies, as employees need to know the responses available when an active shooter is present in their workplaces.

The recommended employee action starts with deciding which of three responses to take. Based on their individual location and the circumstances, the employees are advised to run, to hide or to fight.

If the opportunity presents itself and there is an escape path, the employee is recommended to evacuate the premises. This RUN response should be done whether other employees agree to evacuate or not and has four recommendations that go along with it. Employees are reminded to leave any belongings behind since retrieving them may hamper their evacuation. Helping others to escape is recommended if possible. Preventing others from entering the affected area is also recommended. Calling 911 is recommended to be done when the evacuating employee has reached a safe place.

If an evacuation does not appear feasible, the employees are recommended to remove themselves from danger. This HIDE response requires four conditions. Locking or blockading a door is the first recommendation. Silencing a cell phone is the next recommendation. Hiding behind a large object is an essential part of this recommendation. Remaining very quiet completes this response.

Only if the individual's life is in danger, will a confrontation become the last resort. This FIGHT response includes four pieces of advice. The first is to attempt to incapacitate the shooter. The second is to act with physical aggression. The third is to improvise a weapon based on available resources. The last is to commit to the chosen action so as to be successful.

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An instructional video demonstrating each of these three responses was prepared by the Mayor's Office of Public Safety and Homeland Security in the City of Houston, TX. The six-minute video was funded by the Department of Homeland Security. It can be viewed at:

<http://www.youtube.com/watch?v=5VcSwejU2D0>

These guidelines have been approved by the Active Shooter instructors in the Police Department in the City of Montgomery, AL, and were distributed by the Emergency Management and Risk Management Departments to all Department heads.

(Prepared by John R McCarthy, PE, Traffic Engineer III, City of Montgomery, AL)

## Amtrak in Alabama

The Federal Railroad Administration announced on August 16, 2012, it has obligated \$100,000 in response to an application from the Alabama Department of Economic and Community Affairs to study the restoration of Amtrak passenger rail service between Birmingham, Montgomery and Mobile.

"Rail has the potential to ease congestion, spur economic growth and create jobs" said U.S. Transportation Secretary Ray LaHood. "President Obama's support for an America built to last is putting people back to work across the country building railroads, roads, bridges and other projects that will mean better, safer transportation and a strong economic foundation for years to come."

The study will include a cost and ridership analysis, stakeholder outreach and planning to assess the feasibility of service between Birmingham and Montgomery. Birmingham and Montgomery local governments will contribute an additional \$100,000 total for the study. The results of the analyses will determine whether it is feasible to also extend the study to Mobile and proceed with the preparation of a Service Development Plan, environmental review and preliminary design.

The anticipated passenger rail service would connect to the existing Alabama portion of the Amtrak Crescent Route at Birmingham and possibly to a future route between Mobile and Florida, now under discussion among Amtrak and several Gulf Coast mayors. That service, previously known as the Amtrak Sunset Limited, was discontinued in 2005 following Hurricane Katrina.

"Solid planning and thorough analysis is the foundation for successful rail projects," said Deputy Federal Railroad Administrator Karen Hedlund in a speech to the Gulf Coast Mayors Summit. "Rail corridors rarely stop at state lines, and it takes a team effort of governors, mayors, legislators, advocacy groups and policy makers coming together to establish a clear vision."

(From Federal Railroad Administration Press Release FRA 23-12, August 16, 2012)

## Wildlife vs. Cars

The porcupine lay on its back, its limbs askew and its bloody rib cage split open, on River Road near Edgecomb, Maine. It had been dead for less than three hours, estimated Connie Libby after careful study. As one of 350 volunteers for the Maine Audubon Wildlife Road Watch, Libby records in an online database the creatures she sees along the road—alive or dead. The group, along with its partner project in California, aims to identify potential hot spots and help prevent collisions between wildlife and cars. For many species, from armadillos to endangered Florida panthers, the crashes are among the top causes of mortality. In fact, they may be the largest source of human-caused wildlife death, the Humane Society reports.

Wildlife bridges and underpasses, along with fences, can help, as they do in Canada's Banff National Park, where scientists have seen ungulate fatalities from collisions drop by 80 percent. Earlier this year, along a 1.3-mile stretch of Route 41 in Florida that's proven to be particularly deadly for Florida panthers, transportation workers installed a \$450,000 system of motion-activated sensors linked to flashing bright LED lights on six warning signs that alert motorists to the presence of a large animal. Although dedicated critter crossings and high-tech solutions can be prohibitively expensive, there are smaller, more affordable steps that officials can take to reduce the carnage, like putting up signs that warn drivers they're heading into an active wildlife area. The first step, though, is identifying collision sites.

That's where extra eyes on the road come in handy. In the two years since the California and Maine observation systems launched, more than 1,000 citizen scientists have reported seeing more than 20,000 bodies. The websites, designed by biologist Fraser Shilling, co-director of the Road Ecology Center at the University of California-Davis, and colleagues, allow volunteers to upload and retrieve data, like exact sighting locations, descriptions of wildlife, and photos.

"It's structured so that we can look at change over time, look at what's causing roadkill, and get a better idea of what our impacts are to nature," says Shilling. "Our system is the largest wildlife observation system in the state." As more data pour in, each program will work with highway officials and public works departments to protect species—especially those that are endangered.

"It's amazing how many people this strikes a chord with," says Barbara Charry, a wildlife biologist for Maine Audubon who launched the state's program. She notes that highway carnage can inspire protection. "This has given them something positive to do with something so negative."

(Prepared by Susan Cosier for [Audubon](#), July-August 2012)

## Excavation Hazards

The U.S. Department of Labor's Occupational Safety and Health Administration cited S.J. Louis Construction of Texas Ltd. with one serious and one repeat safety violation for exposing workers to trenching and excavation hazards at a job site in Hurst where workers were replacing a water line pipe. Proposed penalties total \$45,500.

After an OSHA official observed employees working in a trench along the Highway 183 service road without a required shoring system to prevent cave-ins, OSHA's Fort Worth Area Office opened an inspection under the agency's National Emphasis Program on Trenching and Excavation. OSHA standards require trenches or excavations 5 feet or deeper to be protected against collapse through shoring, sloping of the soil or the use of a protective trench box.

The serious violation is failing to protect workers in the trench from being struck by materials located within 2 feet of the excavation's edge that could fall into the trench. A serious violation occurs when there is substantial probability that death or serious physical harm could result from a hazard about which the employer knew or should have known.

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The repeat violation is failing to provide a required shoring system to prevent a cave-in. A repeat violation exists when an employer previously has been cited for the same or a similar violation of a standard, regulation, rule or order at any other facility in federal enforcement states within the last five years. A similar violation was cited at a Carrollton site in 2008.

"This employer did not ensure that workers were protected from a possible cave-in," said Jack Rector, OSHA's area director in Fort Worth. "Excavation and trenching are among the most hazardous operations in construction, and it is very fortunate that no one was hurt."

(From "For Construction Pros", Cygnus Business Media, 8/14/12)

## More Excavation Hazards

The Occupational Safety and Health Administration (OSHA) cited DKS Structural Services Inc., doing business as Don Kennedy and Sons House Moving Co., for four trenching violations and proposed penalties totaling \$122,400. OSHA opened an investigation after receiving a complaint from a whistleblower who alleged he was terminated for refusing to enter an unprotected trench. At the time of the incident, workers were repairing a foundation at 1200 Shadow Ridge Drive in Huntsville, Alabama.

Two willful violations involve failing to provide a safe means of entrance and exit from an excavation and not providing cave-in protection for employees working in a trench that was 15 feet deep. A willful violation is one committed with intentional knowing or voluntary disregard for the law's requirements, or with plain indifference to worker safety and health. The citations carry \$112,000 in penalties.

Two serious violations involve exposing employees to fall and crushing hazards by allowing them to stand in a backhoe bucket as a means to lower and raise them in the excavation, as well as exposing workers to "struck-by" hazards from loose soil, rocks and equipment by not having them wear head protection. A serious violation occurs when there is substantial probability that death or serious physical harm could result from a hazard about which the employer knew or should have known. The citations carry \$10,400 in proposed penalties.

"This employer knowingly put workers at risk of serious injury or death by ordering them back to work in an unprotected trench after experiencing a cave-in," said Lisa Strunk, OSHA's acting area director in Birmingham. "Risking the safety of workers is not an acceptable business decision." OSHA standards mandate that all excavations five feet or deeper be protected against collapse.

DKS Structural Services Inc. is based in Huntsville and specializes in structural relocation, foundation repair and leveling. The company has 15 business days from receipt of the citations to comply, request an informal conference with OSHA's area director in Birmingham or contest the citations and penalties before the independent Occupational Safety and Health Review Commission.

(From "For Construction Pros," Cygnus Business Media, 7/16/12)

## Video Library

A complete listing of the videos in our library is now available. More than 350 video and DVDs with capsule descriptions are described. New additions are presented herein.

Videos are available from the Alabama Technology Transfer Center on a loan basis. The loan period is seven days. To request a video or catalog, call Alice Fraasa in the AU Civil Engineering Department at (334) 844-4320 or email her at [fraasak@auburn.edu](mailto:fraasak@auburn.edu)

### DVD-29 Why We Drive the Way We Do (11 minutes)

This Wumbus Corporation video identifies risks that drivers take for questionable rewards. Topics covered include plan ahead, anticipate, avoid complacency and safety training. (Only one copy of this copyrighted video is available, therefore a waiting list will be prepared.)

### DVD-30 Pre-Trip Inspection: A Circle of Safety (12 minutes)

This Wumbus Corporation video covers the key elements of a pre-trip vehicle inspection for a professional truck driver. More than 20 items to be inspected are mentioned. (Only one copy of this copyrighted video is available, therefore a waiting list will be prepared.)

### DVD-31 Heat Stress for Public Employees: Seeing Red(14 minutes)

This Coastal Training Technologies Corporation video defines heat stress and describes the symptoms of heat rash, fatigue, collapse, cramps, exhaustion, and strokes. Preventive measures are covered. This video is presented in English, Spanish and Portugese. (Only one copy of this copyrighted video is available, therefore a waiting list will be prepared.)