

The Voice

ACEC

AMERICAN COUNCIL OF ENGINEERING
COMPANIES OF TENNESSEE

THE VOICE OF TENNESSEE'S ENGINEERING COMPANIES

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What's So Smart about TDOT'S SmartWay?

by Don Dahlinger, PE
TDOT ITS Office Design Division

On June 12, 2003, TDOT opened its first Intelligent Transportation System (ITS) SmartWay project in Nashville.

TDOT SmartWay is Tennessee's intelligent transportation system, which uses advanced information technologies to improve the safety and operation of highways and other transportation modes such as public transit.



Don Dahlinger

TDOT SmartWay projects are now operational on the freeways of Nashville, Knoxville and Memphis. Traffic cameras and message boards cover approximately 36 miles in Nashville, 43 miles in Knoxville, and 27 miles in Memphis, a total of 106 miles. Chattanooga will have 64 operational cameras covering 33 miles of downtown freeway in the fall of 2006.

Development of additional TDOT SmartWay projects in these four cities will result in a total of 228 miles of freeway being operational by the year 2009. This is approximately 90% of all freeways in these four urban areas. Similar TDOT SmartWay projects are being developed for rural freeways in Tennessee, to address high incident locations, the first of which is scheduled for operation in east Tennessee in the fall of 2007.

SmartWay Deployment

Tennessee's major urban area traffic congestion has been the target for the initial deployment of these projects. Over half of urban freeway congestion is caused by "non-recurring" congestion, which is congestion unrelated to the typical rush hour "recurring" backups. The sources of this non-recurring congestion include crashes, disabled vehicles, road construction, weather, and special events such as UT or Tennessee Titans football games.

TDOT SmartWay projects include devices that monitor traffic flow such as speed sensors and cameras as well as message boards, which display travel information to the driver. This traffic information is transmitted to a transportation management center (TMC) where operators process this information and initiate dispatching of appropriate emergency response agencies such as fire, police, and/or HELP trucks, TDOT's freeway service patrol. TMC operators also facilitate the transmission of traffic information to the TDOT SmartWay Information System (TSIS) which ultimately is posted on TDOT's website, www.tdot.state.tn.us/tdotsmartway/

HELP-ing Hand

TDOT's HELP Program began in 1999 and provides a major contribution to TDOT SmartWay. These trucks patrol freeways in Nashville, Chattanooga, Knoxville and

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Kids Engineered for Safety

by Bill Johnson, P.E.
President, ACEC of Tennessee

Safety is a vital function of any organization, especially engineering firms. However, our commitment to safety extends far beyond our work on projects. The safety of the children in our communities especially comes to mind with the beginning of another school year.



Bill Johnson

Unfortunately, child safety hazards are everywhere. Obviously, we should all be cautious when driving near school buses and in school zones. However, some safety concerns are less apparent.

According to the Consumer Product Safety Commission (CPSC), drawstrings on children's clothing can be a hidden hazard, leading to deaths and injuries because drawstrings can catch on such items as playground equipment. CPSC recommends the complete removal of hood and neck drawstrings from all children's upper outerwear, including jackets and sweatshirts, size 2T through size 12.

Many children ride bikes, scooters and skateboards to school and while at play. To reduce the risk of serious head injury or

death, children should always wear an appropriate helmet. Wearing a helmet can reduce the risk of a head injury by up to 85 percent. Look for a label inside the bicycle helmet indicating it meets the CPSC standard.

Each year, more than 200,000 children are taken to emergency rooms due to playground-related injuries. Playgrounds should have a layer of safe, shock-absorbing surface material, consisting of wood chips, mulch, sand, pea gravel, or mats made of safety-tested rubber or fiber material around playground equipment. Moveable soccer goals are another danger. Parents should talk to school officials to make sure the school's equipment complies with all federal, state and local standards and requirements.

Art supplies can also be hazardous. Only buy art materials that contain the statement, "CONFORMS TO ASTM D-4236." CPSC urges parents and schools to check for recalled products or report a dangerous product or a product-related injury by calling CPSC's hotline at (800) 638-2772 or visit www.cpsc.gov.

As engineers, we are concerned about safety in our community...from the size of a bridge to the design speed on a road. Let's try to also make this a safe year for the school children of our communities.

TDOT's SmartWay *(continued from page 1)*

Memphis from 5 a.m. to 10 p.m. during the week and 8 a.m. to 8 p.m. on weekends, the same hours of operation as the TMCs. Their services include assisting motorists with flat tires, gas, mechanical repair, as well as assisting fire and police agencies with managing traffic at crash locations. The extent of non-recurring congestion in Tennessee's four major cities is reflected in the number of incidents the HELP trucks have provided assistance - over 545,000 since 1999.

Tennessee 511

Another major element of TDOT SmartWay is 511. Tennessee 511 is a three-digit phone number for highway information that operates like 911 for emergencies or 411 for directory assistance. In August 2006, Tennessee joined 23 other states in launching this new system for motorist information. Motorists can simply call 511 and through voice activation receive information on traffic, weather condi-

tions and incidents on interstates and major highways in Tennessee. Much of the traffic information will originate from the urban freeway TDOT SmartWay projects described above.

TDOT SmartWay Benefits

TDOT SmartWay projects enable TDOT to monitor traffic conditions more efficiently, resulting in a quicker response time by emergency vehicles. This, in turn, enables injured motorists to receive medical treatment sooner. Crash scenes are cleared in less time, restoring traffic flow and reducing the number of "secondary" accidents due to traffic backup.

Better and more up-to-date traffic information is now available where TDOT SmartWay projects are operational, helping travelers safely negotiate around congestion on the roadway. Information about TDOT SmartWay can be found on TDOT's website at www.tdot.state.tn.us/tdotsmartway.

New Water Quality Standards

by Bob Borneman

Chair, ACEC Environmental Committee

The TDEC posted a Public Notice on its website in July requesting public comment on new documents relating to the triennial review of water quality standards. As is common with many TDEC and EPA regulations, the comments submitted thus far range from being too stringent to too lenient, both having potentially negative



Bob Borneman

impacts on the State's public and economy. While it is difficult to foresee the future in a general manner, it is possible to predict that some of our clients will be impacted.

TDEC is definitely taking a closer look at many of the state's smaller streams and apparently adopting a more proactive approach developing higher quality streams. The Total Maximum Load (TML) approach appears to be the most common response to requested increased demand on the assimilative capacities of our state's waters. While not having immediate impacts on the larger streams and receiving waters, the smaller receiving waters will certainly be subject to a ratcheting down of

allowable discharges. In the southeastern portion of the state, a number of streams are already assumed to be off limits to discharges and others having some of the most stringent discharge limits in the southeast. As the allowable numbers of surface water discharges are reduced, the cost to our clients and the need to investigate a broader range of discharge and treatment options will surely need to increase.

Along similar issues, the General Assembly has started implementation for a "Study Group" to develop a review of the extent and definition of "waters of the state." The Study Group, which is yet to be appointed by the Speaker of the House will consist of three members of the Senate and three members of the House, is scheduled to deliver a report to the General Assembly by February 2007. It is the intent of the Environmental Committee to contact the Study Group upon appointment to offer assistance and comment to the extent allowed. As many of us know the designation of state waters often impacts our clients and their projects.

Bob Borneman, PE, is Southeast Water Resources Business Practice Manager with Arcadis in Chattanooga.

Engineers Meeting in Memphis

John G. Perry, PE, president of the Memphis Chapter of ACEC of Tennessee (left), welcomed special guest speaker Benny Lendermon, president of the Riverfront Development Corporation, to the Chapter's annual membership dinner in July. Thirty-three ACEC of Tennessee members and guests attended the event to hear Lendermon provide an update on the current and planned projects along the mighty Mississippi in Memphis, including the revitalization of Mud Island and the new Beale Street Landing project, now in design. During the dinner, ACEC of Tennessee's president Bill Johnson, PE, also presented 2006 - 2007 plans and priorities for the association. Special thanks to Tim Verner and Mary Geoghagen, Fisher & Arnold, Inc., for coordination of the event.



CALENDAR

**SEPTEMBER
18 - 21**

ACEC Fall Conference
Charleston, SC

**OCTOBER
27**

ACEC of Tennessee
Board Meeting
9:00 a.m., Tennessee
Engineering Center
Nashville

**OCTOBER
31**

Deadline to submit
Scholarship
Applications

**NOVEMBER
3**

Deadline for entries in
Engineering Excellence
Awards competition

**NOVEMBER
7**

Election Day

**NOVEMBER
14**

1:30 p.m.,
Environment
Committee Meeting
Nashville

MEMBER NEWS

Rosemary D. Carswell has joined Barge Waggoner Sumner & Cannon as water resources project manager for the firm's Chattanooga office. She was previously watershed project manager for the city of Atlanta's construction management department. Michael Carter has been promoted to manager of the electrical engineering department in the firm's Knoxville office.

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of Tennessee

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Scholarship Program Application Deadline is October 31

During the past four years, ACEC of Tennessee has awarded \$4,000 in scholarships to Tennessee residents studying engineering at a state ABET engineering school.

Past winners were students at Tennessee Tech, Vanderbilt and UT-Knoxville. Last year's winner was runner-up in the national ACEC competition and received an additional \$3,000 scholarship. The scholarship program is another example of ACEC of Tennessee's commitment to education and the future of the engineering profession.

In January 2007, ACEC of Tennessee will award another \$1,000 scholarship to a Tennessean pursuing a Bachelor's degree in engineering. Students must be entering their junior, senior or fifth year in the fall of 2007. October 31 is the deadline to apply for the scholarship. Interested students should contact ctoler@t nec.org for an application.

FROM THE EXECUTIVE DIRECTOR

Lots of Opportunities: EEA, Committees & Scholarships

by *Candy Toler*
Executive Director, ACEC of Tennessee

What do an historic theatre, East Tennessee caves, and an Air Force base in North Dakota have in common? They were the locations of three engineering projects that won awards in the 2006 *Engineering Excellence*



Candy Toler

Awards (EEA) competition. Now it is time to be thinking about which engineering project your firm will submit for the 2007 competition. Entry forms will be mailed to ACEC of Tennessee members this month and will be available on ACEC of Tennessee's website (www.acectn.org).

Entry forms are due in the ACEC of Tennessee office by November 3, 2006.

The seven entry categories are: 1) building/technology systems engineering; 2) environmental engineering; 3) structural systems engineering; 4) studies, research and consulting engineering services; 5) survey and mapping technology; 6) transportation engineering; and 7) water and wastewater/water resources engineer-

ing. Projects must have been substantially completed between January 1, 2005 and December 31, 2006. The winners will be announced on March 6, 2007, during a banquet at the Hilton Nashville Downtown. If you need additional information, please contact me (615-242-2486 or ctoler@t nec.org).

It's not too late to sign up for an ACEC of Tennessee committee. Bill Johnson, who will appoint the committees soon, encourages you to get involved with ACEC and participate on a committee. You may download the list of committees from our web site (<http://www.acectn.org>) under Committees.

One of ACEC of Tennessee's goals is to encourage more students to go into engineering and each year we offer a scholarship to a junior, senior, or 5th year college student at an ABET engineering school. If you know someone who might qualify, please ask him or her to contact me for an application.

So I hope I leave you with thoughts about getting involved with ACEC this year, by entering a project in the EEA competition, working on a committee, or just sharing information about ACEC's scholarship. As a well-known shoe company says, "Just do it!"