

## Congratulations to our TATE graduates

by Frank Brewer

Through TTAP and the Tennessee Academy for Transportation Engineering (TATE), transportation professionals throughout Tennessee can avail themselves of training programs which provide basic and advanced transportation and traffic engineering principles. We are able to develop training programs, locate subject matter experts, and bring the courses to you throughout the state of Tennessee.

TTAP is pleased to announce the recent completion of the TATE Program by three of our students. They are:

- ▶▶ Melissa Cansler, Assistant City Engineer of Bowling Green
- ▶▶ Eddie Plunkett, Codes Enforcement Officer for Fayetteville
- ▶▶ John Modzelewski, City Engineer, Community Development Department for Germantown.

Their achievement culminates several years dedication to the program and a drive to maintain current in the advancements in the field of transportation. They have completed a curriculum of 144 hours that fulfilled the needs of receiving this certificate.

The TATE classes, which an exam is a mandatory activity, cover many facets of transportation. A sample of the titles include:



**Melissa Cansler, Assistant City Engineer of Bowling Green is being congratulated by Jeff Lashlee, her supervisor.**

Traffic Engineering 1 & 2 (required courses); Roadside Safety Design; Geotechnical Engineering; Surveying; Drainage, and others. All these classes are aimed at providing a broad stroke of continuing education in their chosen field and will provide the participants with knowledge to improve and enhance their job performance. The outcome of this is a safer, better designed, and more efficient roadway.



**Jerry Cook (left), Germantown Community Development Department Director, had the honor of presenting John Modzelewski his certificate.**

John has a special appreciation of this program. John is not native to Germantown. In his former life he was employed in Worcester Massachusetts Public Works Department and he participated in and completed their Road Scholar program. This program is the Massachusetts Local



**Lynn Wampler (left) City Administrator and Mayor John Underwood, Jr. (right) congratulate Eddie Plunkett (center).**

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is a publication of the Tennessee Transportation Assistance Program (TTAP). TTAP is part of a nationwide Local Technical Assistance Program (LTAP) financed jointly by the Federal Highway Administration (FHWA) and Tennessee Department of Transportation (TDOT). Its purpose is to translate into understandable terms the latest state-of-the-art technologies in the areas of roads, bridges, and public transportation to local highway and transportation personnel.

The views, opinions, and recommendations contained within this newsletter are those of the authors and do not necessarily reflect the views of FHWA and TDOT.

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1-800-252-ROAD

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if you need technical  
assistance!

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FREE!

As I'm writing this, I'm looking out at the waves breaking on the South Carolina beach. Not to rub it in, but I'm taking a few eagerly anticipated days off during the July 4<sup>th</sup> week. May and June have been very busy months, and I needed to recharge my batteries. As the birthdays pile up, it gets ever harder to keep up the Energizer bunny routine.

I hope all of you are having a great summer and getting a lot of needed work done. While you're progressing with all those construction and maintenance chores, don't forget to keep safety on your mind at all times. It's all too easy to get distracted thinking about that upcoming fishing trip or golf game while you're working. It only takes a second for an accident to happen.

The point was recently brought home to me by an email from a good friend and former student. He wrote to say that he was recovering from an on the job accident. While working on some heavy equipment, a component suddenly shifted, crushing his foot. With no other co-workers within hearing range, he struggled to free the foot, called 911 on his cell phone, then drove another vehicle down the right-of-way to a location where he could await help. Fortunately, my friend was wearing the required protective footwear. He "only" lost a toe and had several others broken, along with many other bones in his foot. Thankfully, he'll recover and be able to walk just fine.

Safety must be part of the culture of your workplace. Merely having safety rules isn't enough. There are numerous things that contribute to a safety culture. Management must promote safety and ensure that employees receive appropriate training. Safety briefings before the start of any work activity keep employees conscious of safety impacts. Regular inspection of tools and equipment ensures that they are in good working order. Require the use of approved personal protective gear (e.g. hard hats, safety eyewear, safety footwear) and make sure that this equipment is properly worn and maintained. Finally, employees must be empowered to bring safety questions and concerns to management's attention.

Always remember, safety never takes a holiday.

Best wishes for the rest of your Summer! Call us if we can help you in any way.

TATE Graduates, continued from page 1

Technical Assistance Programs (LTAP) version of our TATE program. Several LTAP centers across the country have similar programs.

Eddie and John started the program in 1999 and Melissa began in 2001. Due to personal commitments and course scheduling the time taken to complete the course is definitely individually based. As you can see from the photos on page 1, we like to involve the supervisors of the graduates in the program in the presentation of the certificate. It has been an investment of time for themselves and for their agencies. **Congratulations to our latest TATE graduates!**

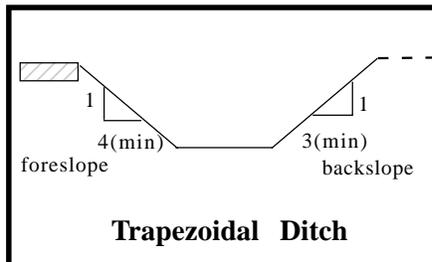
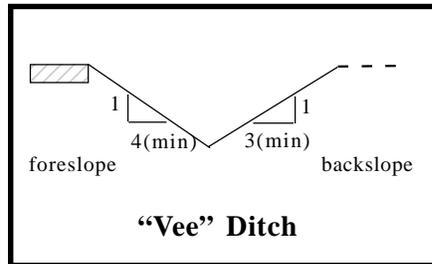
## Maintenance of Drainage Facilities (Part 2)

by Dr. David Clarke, P.E.

In the winter 2005 issue of RoadTalk, I discussed the importance of cross slope for moving water off of the roadway. In this installment, I want to discuss maintenance of those facilities that store or convey stormwater falling on the roadway and its environs. These include ditches, culverts, storm drains, detention basins, grate inlets, and chutes. Each of these components has to be properly maintained for stormwater flows to be handled properly. In this installment, I'll start to cover some of the common maintenance issues related to stormwater systems.

On most rural roads and some urban streets, ditches receive runoff from the road surface and convey it to a discharge point. The key design parameters of a ditch are the shape (cross-section) and lining (slope, another important parameter, is largely set by the road's vertical alignment). A ditch must have the proper cross-section to handle the expected volume of water without overflowing. The lining must withstand the erosive effects of water flow. Determination of the proper cross-section and lining requires engineering analysis. Ditch maintenance consists of restoring the cross-section, cleaning debris and sediment from the ditch, and keeping the lining intact.

Ditches with sloping sidewalls and a flat bottom ("Vee" or trapezoidal shapes) are easy to construct with a dozer or grader and are efficient for moving water. For safety, ditches must have ve-



hicle-friendly wall slopes. A vehicle leaving the roadway will likely encounter a ditch. Ditch walls that are too steep may trap a tire, hindering the vehicle's return to the roadway or causing damage. The vehicle may even overturn. All too commonly, maintenance personnel make ditches like trenches. While this may be the simple approach, especially when rights of way are narrow, the hazard to motorists is increased greatly. To provide for safe traversal by errant vehicles, AASHTO recommends maximum slopes for ditch sidewalls.

Keeping ditches clean is necessary to ensure that the ditch can handle the required water flow. Public works agencies should establish a regular schedule (at least annually) for inspecting and cleaning ditches. As part of this process, the crew should remove sediment, debris, and unwanted vegetation from the ditch.

Changes in land use along the roadway can increase drainage runoff such that ditches are no longer able to handle peak flows. Thus, evidence of overflow should also be part of the routine inspection. If the ditch is no

longer capable of handling design flows, an engineer should be consulted.

As stated previously, a ditch must resist the erosive effects of water flow. The lining selected depends upon the expected speed of the water in the ditch. If the water speed is high, a hard lining such as concrete or asphalt will be needed. For slow water, earth or grass may be adequate. Heavier materials like stone or rip-rap withstand moderate water speeds. Maintaining the lining is critical to keeping the proper ditch cross-section and preventing sediment runoff. Cracks or missing sections in rigid linings must be patched. Bare spots in rip-rapped or vegetation lined ditches need to be covered.

Curbs and gutters, typically found along urban streets, serve the same function for drainage as ditches. Debris should be kept out of the gutter, lest water build up into the roadway. Encourage homeowners to place trash, lawn clippings, leaves, and other debris behind the curb. Keep the curb intact so that water flows properly down the gutter and to a catch basin. Basin inlets need to be kept clean so that water drains properly.

While ditches allow water to flow along a road, culverts provide a way for water to flow from one side of the road to the other. Be on the lookout for the next RoadTalk when we talk more about culverts!

# Hiking the Cumberland Trail

By Gary Fottrell, PE (FHWA TN)

With the primary focus of today's transportation engineers on ways to move people more efficiently in a variety of vehicle types, whether in automobiles on our vast system of roadways, or by other means in our increasingly developed mass transit systems, we sometimes forget one of our other basic modes of transportation – foot travel. An escape from our daily hectic pace by spending some quality time traveling among the forests and hills of Tennessee may be just what we need to regain our focus and energy.

Consider the Cumberland Trail State Scenic Trail – a proposed 304-mile conservation and recreation area and Tennessee's 53<sup>rd</sup> State Park. Hikers and backpackers will eventually utilize this linear park, which winds through 11 Tennessee counties, as a western alternative to the Appalachian Trail. The trail utilizes the eastern escarpment of the Cumberland Plateau to take hikers past beautiful and numerous vistas, cascading streams, towering bluffs, hardwood forests, and incredible gorges. Beginning in Prentice Cooper Wildlife Management Area near Chattanooga and continuing northeast past Crossville and Wartburg, the trail in Tennessee will end in Cumberland Gap National Park. When the multi-state trail network is complete, the trail will begin in Florida and will connect to the Appalachian Trail in Virginia. Putting together a project such as this, which is being developed with both private and public funds and includes the acquisition of private land for over

77% of its length, has been a monumental task for the Cumberland Trail Conference, the organization that was established to bring the project to fruition.

**Groups needed for  
Adopt-a-Trail Program  
[www.cumberlandtrail.org](http://www.cumberlandtrail.org)**

Property that is acquired for the Cumberland Trail will serve a variety of purposes. Recreational opportunities, in addition to hiking and backpacking, include kayaking on mountain streams, camping, climbing, and day use activities. Several major watersheds and creek systems will be preserved, as well as over 5,000 acres of habitat for the Federally endangered large-flowered skullcap (*Scutellaria montana*).

To construct a project of this magnitude, many volunteers are needed. Several programs have been developed to organize volunteers, including the Big Dig, a six-

week program where staff and other volunteers construct portions of the trail, and BreakAway, which offers students an opportunity to work on the trail during their spring breaks. Construction efforts in 2005 will concentrate on completing the trail in the Rock, Possum, and Soddy Creek gorges of northern Hamilton County. Several Boy Scout troops have completed bridge construction projects as well as participated in trail building. Groups are also needed to perform voluntary trail maintenance activities with the Adopt-a-Trail program.

There are currently 147 miles of trail open, with the entire trail projected to be completed in 2008. To find out more about the Cumberland Trail, including the segments that are currently open, maps, and the various ways that you can help, visit the Cumberland Trail Conference web site at [www.cumberlandtrail.org](http://www.cumberlandtrail.org).



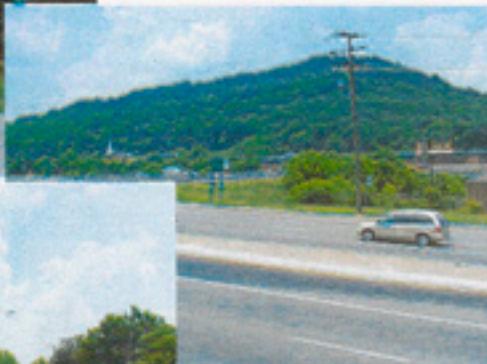
View from Black Mountain, located just southeast of Crossville

# Uniform Relocation Assistance and Real Property Acquisition Act (Uniform Act)

by Robins Broils-Cox, Realty Specialist (FHWA TN)

On January 4, 2005, the final rule revising The Uniform Relocation Assistance and Real Property Acquisition Act (Uniform Act) was implemented with the effective date of February 3, 2005. The Uniform Act as it is often referred to in its abbreviated version was enacted as public law 91-646 and brought a minimum "standard" of performance to all persons displaced due to federal or federally assisted projects insofar as federal funds being used in any/all phases of the project. Further, even though local funds may have

transportation needs should become familiar with the Uniform Act and seek training prior to any acquisition or possible condemnations actions. The law governing the Uniform Act was codified in 42 U.S.C. The rules governing the law are found in 49 Code of Federal Regulations (CFR), Part 24. Most states will also have a Right-of-Way Manual that elabo-



been used in the acquisition phase, if federal funds are being used in the construction phase, the acquisition phase is still subject to the Uniform Act provisions. If projects are not in compliance with The Uniform Act, federal funding could be withdrawn. The Uniform Act provides guidance governing the uniform and equitable treatment of persons displaced from their homes, businesses, or farms. Local governments, Engineers and Consulting Firms in the business of acquiring property due to local

rates or expands upon these minimum standards.

These recent changes to The Uniform Act are a result of a three-year collaboration with 17 Federal Agencies affected by the Uniform Act. The Federal Highway Administration (FHWA) held several public listening sessions in order to identify and determine needed changes for the Uniform Act. Some of the areas affected by the change to the

Uniform Act are Acquisition, Relocation, Moving and Related Expenses, Replacement Housing and Mobile Homes. Links to locate the basic law and the Department of Transportation rules can be found at [www.fhwa.dot.gov/hep/legreg/htm](http://www.fhwa.dot.gov/hep/legreg/htm). The revised new rule to the Uniform Act can currently be accessed from The Federal Highway Administrations website: [www.fhwa.dot.gov/realestate](http://www.fhwa.dot.gov/realestate)

Your local contacts for questions concerning the Uniform Act and the Acquisition/

Relocation process are:

- ☎ Mike Clinard, Director of Right of Way, TDOT  
Tel: (615) 741-3196.
- ☎ Jeff Hoge, Asst. Director of Right of Way, TDOT  
Tel: (615) 741-6802
- ☎ Robin Broils-Cox, Realty Specialist, FHWA  
Tel: (615) 781-5761



**Education and training opportunities** are available through the University of Tennessee Center for Transportation Research (CTR), Southeast Transportation Center (STC), and Tennessee Transportation Assistance Program (TTAP). This listing of courses currently available includes both TTAP and TATE courses that are offered in conjunction with the University of Tennessee Department of Civil and Environmental Engineering and the Tennessee Section of the Institute of Transportation Engineers. Local roadway departments can benefit from all of the workshops. Because of this, we ask that you please share this listing with others who might be interested in our workshops. The Center for Transportation Research is always eager to meet your research and training needs. If you have a special course in mind or would like a course held on site especially for your employees, please contact Annette Jones at 1-800-252-ROAD.

**\*CEU and PDH credit hours available.**

<b>Title</b>	<b>Date</b>	<b>Location</b>	<b>Instructor/s</b>
Portland Cement Mix Design for Small Projects	September 13	Jackson	Huang
Work Zone/Flagging	September 22	Nashville	Brewer
Erosion Control	September 27	Knoxville	Buchanan
*Geotech Design/Earthwork; What Makes a Good Sub-grade and How to Improve it	October 13-14	Nashville	Drumm
Work Zone/Flagging	October 25	Nashville	Brewer
Work Zone/Flagging	October 26	Jackson	Brewer
TDEC/NPDES Issues	November 8	Chattanooga	Chlarson
TDEC/NPDES Issues	November 15	Nashville	Chlarson
TDEC/NPDES Issues	November 16	Jackson	Chlarson
Traffic Engineering 1	December 5-7	Nashville	Wegmann/ Chatterjee/Han
Work Zone/Flagging	December 9	Johnson City	Brewer
TDOT Funding for Cities & Counties	December 13	Nashville	Hayzlett
TDOT Funding for Cities & Counties	December 15	Jackson	Hayzlett

**We are making plans for workshops in 2006! If you have any suggestions or have a particular interest in adding a new workshop topic, contact Frank Brewer. (His email is [fbrewer1@utk.edu](mailto:fbrewer1@utk.edu) or call him at 1-800-252-ROAD.)**



## Save these dates - May 21-23, 2006!

Save these dates – May 21-23, 2006! The 10<sup>th</sup> Southeast Local Roads Conference is coming to Chattanooga, Tennessee. The Tennessee Transportation Assistance Program (TTAP) will be hosting the conference in collaboration with the Federal Highway Administration (FHWA) and the southeastern LTAP Centers, which include Alabama, Florida, Georgia, Kentucky, Mississippi,

North Carolina, Puerto Rico and South Carolina.

This local roads conference is targeted for county, city, and public works personnel, contractors, vendors, consultants and all those whose work impacts the movement of persons and goods on local roads. It provides the opportunity to share success stories and innovative advances in transportation planning, traffic safety operations, roadway design, maintenance and construction. The conference combines technical presentations with highway products exhibits to provide a forum for exchange of ideas within the local roads community.

We have reserved the Chattanooga Marriott at the Convention

Center as the conference hotel and sleeping rooms are available at a special conference rate of \$79++ (code: utkutkk (single room) and utkutkd (double room)). The conference will be at the Chattanooga Convention Center, which is adjoined to the hotel. More information on the conference will be coming soon.

Mark those dates off on your calendar! We will be sending out early registration forms and a preliminary agenda soon. Exhibitor space will be allotted on a first come, first served basis. Vendors who are interested in participating in this conference can contact Jenny Jones at [gohjones@utk.edu](mailto:gohjones@utk.edu) for more information.

## TALK TO TTAP

**W**e are always looking for your comments, ideas and suggestions to help make the TTAP program more useful to you.

1. Please send me more information on the following articles mentioned in this newsletter.

\_\_\_\_\_

\_\_\_\_\_

2. Please list any additional training workshops you would be interested in attending.

\_\_\_\_\_

\_\_\_\_\_

3. Please list topics for videos you would like TTAP to obtain.

\_\_\_\_\_

\_\_\_\_\_

4. Please list any other ideas or suggestions on how TTAP could assist you.

\_\_\_\_\_

\_\_\_\_\_

5. Please list your name and organization to verify for TTAP's mailing list.

Name \_\_\_\_\_

Address \_\_\_\_\_

Title \_\_\_\_\_

Organization \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

Are you currently on TTAP's mailing list? \_\_\_\_ yes \_\_\_\_ no

Do you wish to be on the mailing list? \_\_\_\_ yes \_\_\_\_ no

Please fax your form to TTAP at (865) 974-3889 or mail to TTAP; Suite 309 Conference Center Building; Knoxville, TN 37996-4133.

FROM: \_\_\_\_\_

Tennessee Transportation Assistance Program  
 Center for Transportation Research  
 The University of Tennessee  
 Suite 309 Conference Center Building  
 Knoxville, TN 37996-4133  
 Tel: 865-974-5255/1-800-252-ROAD  
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## Materials Available



TTAP has received CDs and publications from a variety of sources. As part of TTAP's mission to provide information on the latest materials and techniques being used in the transportation field, we make these materials available to you, the city and county transportation officials of Tennessee. We have multiple copies of some materials, while others can only be loaned for short-term use. A complete listing can be found on our website [ctr.utk.edu/ttap/](http://ctr.utk.edu/ttap/). If you have an interest in any of the materials listed below, please call 1-800-252-ROAD or (865) 974-5255.

Publication	Source	Year
Signalized Intersection: Informational Guide	FHWA	2005
Field Observations and Evaluations of Streambed Scour at Bridges	FHWA	2005
TRR #1891: Bituminous Paving Mixtures	TRB	2004
TRR #1900: Construction	TRB	2004
TRR #1893: Concrete	TRB	2004
TRR #1848: Transportation Management and Public Policy	TRB	2003
TRR #1889: Pavement Management, Monitoring, Evaluation, and Data Storage	TRB	2004
NCHRP Synthesis 344: Winter Highway Operations	TRB	2005
Covered Bridge Manual	FHWA	2005
<b>CD</b>		
Flexibility in Highway Design	FHWA	2005
Best Practices for Road Weather Management	USDOT	2003
Common Sense Solutions to Intersection Safety Problems: LTAP Training Program	FHWA	2005

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