



Quarterly



New University Transportation Center (UTC) Funded at South Carolina State University

by Clarence Hill, UTC Director and Veretta Sabb, UTC Associate Director

History

The University Transportation Centers Program (UTCP) was initiated in 1987 under the Surface Transportation and Uniform Relocation Assistance Act. This program authorized the establishment and operation of transportation centers in each of the 10 standard federal regions. The Intermodal Surface Transportation Act of 1991 (ISTEA) re-authorized the UTCP for an additional six years and added four national centers and six University Research Institutes.

The Transportation Equity Act for the 21st Century (TEA-21), enacted on June 9, 1998, authorized grants to establish and operate University Transportation Centers (UTCs) throughout the U.S. Ten centers are designated as Regional Centers and 23 UTCs are located at universities named in TEA-21. South Carolina State University in Orangeburg, SC is one of the 23 UTCs established under TEA-21 and is the only UTC in SC. In addition, TEA-21 established education as one of the primary objectives of a UTC, institutionalized the use of strategic planning in university grant management, and reinforced the

program's focus on multi-modal transportation.

Mission

The mission of UTCs is to advance U.S. technology and expertise in the many disciplines comprising transportation through the mechanisms of education, research, and technology transfer. In fulfilling this mission, the South Carolina State University, University Transportation Center (SCSU/UTC) seeks to complement existing transportation technology transfer activities in SC. As a long-time partner with the South Carolina Transportation Technology Transfer Service (T³S) at Clemson University, SCSU views the technology transfer component of the UTCP as a way to help expand the existing successful technology transfer efforts in SC.

Benefits

The vision of the UTCP is to have "internationally recognized centers of excellence, fully integrated within institutions of higher learning, that serve as a vital source of leaders who are prepared to meet the nation's need for safe, efficient

and environmentally sound movement of people and goods." The SCSU/UTC will help to realize this vision in South Carolina.

Technology Transfer is only one of six components of the SCSU/UTC. The goal associated with this component is to make research results

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available to potential users in a form that can be directly implemented, utilized, or otherwise applied. This means that the UTC will support the development and implementation of advanced transportation systems by working with T³S and other agencies to facilitate exchanges of information between researchers and practitioners by providing professional training, conferences, workshops, and technical assistance. The UTC will be an addi-

taken to support and encourage applications of new concepts and technologies in transportation. As a public service institution, the SCSU/UTC will focus on the second interpretation of Technology Transfer. The SCSU/UTC considers “technology transfer” a cooperative partnership between the higher education community and practicing transportation professionals in both the private and public sectors. From this view, “technology transfer” is a managed change process. As such, concepts, methods, skills, or equipment developed in the research lab, or at demonstration sites, will be applied by those who plan, design, construct, manage, operate, and maintain transportation systems.

Program activities will support and facilitate the interactive process of matching a practical problem with available technologies (and vice versa) as well as organized training, technical assessment, and information dissemination. Deployment of new technologies and research outputs will also be supported.

Drinking and Driving



Although alcohol-related traffic fatalities have steadily declined over the last 18 years, there are still a significant number each year—particularly among 21–40 year old males.

Percent of Fatally Injured Passenger Vehicle Drivers with BACs 0.10%, 1998

Age	Male	Female
16–20	26	12
21–30	50	25
31–40	48	30
41–50	40	20
51–60	28	9
>60	10	3
All	34	16

Source: Insurance Institute for Highway Safety

Congratulations!

The SC T³S congratulates South Carolina State University for receiving funding for its University Transportation Center.

We look forward to working with the UTC to help enhance and expand the existing successful transportation technology transfer programs in SC.

tional source of professional training and technical assistance for SC’s transportation community. Particular emphasis will be placed on transferring UTC research outputs from projects sponsored by the UTC. Coinciding with this emphasis, the UTC will strive to meet the needs of transportation professionals as an additional up-to-date training resource in SC.

“Transportation Technology Transfer” has two different, but related, interpretations. The phrase refers to 1) the commercialization of transportation research results, and 2) a variety of activities from training to information dissemination under-

SE Local Roads Conference May 15-17, 2000 in Point Clear, Alabama

The Southeast Local Roads Conference will be held May 15-17, 2000 in Point Clear, AL, which is located on the eastern shore of Mobile Bay. The conference will be held at the Grand Marriott Resort and Golf Club. The conference is hosted by the Alabama LTAP center and is a collaboration of the FHWA and the LTAP Region IV states that include KY, TN, NC, SC, GA, AL, MS, and FL. City and County personnel, local elected officials, and private sector corporations are invited to attend.

This year there is no overall theme for the conference, but sessions will cover a wide range of topics of interest at the local roads level. The registration fee for the conference is \$110. Additional information and registration materials will be mailed at a later date.

This is an excellent opportunity for South Carolina municipal and county roads personnel to obtain up to date information on a number of important topics relating to local roads. Please put these dates on your calendars and plan to attend this important conference..

Are Your Work Zones Safe?

by: Larry Wright, Arizona LTAP Center

Editor's Note: The following article is reprinted from the Arizona Milepost, Fall, 1999

I have been on the road conducting Work Zone Safety classes. It has been gratifying to see the overwhelming response to the classes and the enthusiasm I encounter about learning.

The feedback I am getting from participants reinforces my beliefs that these classes are needed. For example, people who have to set up traffic control zones and flag are not aware of the Manual for Uniform Traffic Control Devices (MUTCD).

Some of the things participants are telling me make me shudder, and will make a lawyer smile. The following are comments I have heard during the last six months. It is very disturbing to me to know that there are people working on work zones without the proper training and equipment.

"My supervisor sent us to the class to learn traffic control. However, we do not have any of the signs and materials the MUTCD requires."

"Our signs and traffic control devices are so worn out you cannot even read them."

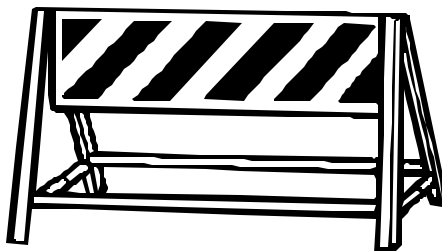
"I was told to flag traffic without placing an 'Advanced Flagger Ahead' sign because we did not have one. I almost was struck by a vehicle."

"My supervisor does not listen to us about traffic control and will not attend a class like this."

During one of my recent classes a question was brought up by one of the students. "Should flaggers be

trained and certified before being allowed to flag and control traffic?"

Some DOTs require that flaggers be trained and certified and carry a certification card at all times. Some DOTs require their own people to be certified but do not require certification from the contractor doing work for the state.



Some cities and counties require that anyone flagging or controlling traffic on a city or county road must be trained and certified and carry a certification card.

The Federal Highway Administration, OSHA, and the American Traffic Safety Services Association suggest that anyone flagging should have some type of training.

My opinion is that all states, counties and cities should require training and certification. Maybe then work zone deaths and injuries would be reduced.

Each year hundreds of workers are killed or injured in work zone-related accidents. Millions of dollars are paid in lawsuits and claims. Most of these accidents could have been prevented if workers had the proper training and tools.

You need to ask yourself these simple questions:

- ◆ Do we have a copy of the MUTCD?
- ◆ Are we following MUTCD guidelines?
- ◆ Are we making sure that people are trained in the proper procedures of work zone traffic control and flagging operations?
- ◆ Do we have enough cones and signs to properly set up a work zone?
- ◆ Are our traffic control devices legible and clean?
- ◆ Do the flaggers have the proper flagging tools and attire?

If you cannot answer yes to all of these questions, you have an accident and lawsuit waiting to happen.

I suggest you take time to check out your work zones, attend a work zone class, get your people trained, and make sure you have the materials to properly set up a work zone. Remember, your job is to make roads and streets safe for the driving public while protecting your fellow workers.

Editor's Note: T³S will be conducting Work Zone Safety workshops in 2000. See the article on page 5 for more information.

South Carolina Vegetation Management Association

by James Aitken

In recent years, an increased interest in improving the management techniques along rights-of-way has occurred. Rights-of-way include not only roadsides and utility lines but also parks and other green areas. These areas are found in both the public and private sector.

In 1998, a group of concerned individuals involved in various aspects of vegetation management formed the South Carolina Vegetation Management Association (SCVMA).

SCVMA's mission is to further the knowledge of individuals who have expressed interest and have experience in vegetation management. SCVMA subscribes to the core belief that each vegetation manager is also an environmental caretaker and will take all valid environmental concerns into consideration when making vegetation management decisions.

The intent of this fellowship of professional vegetation managers is to collect, discuss, and disseminate accurate and state-of-the-art information regarding vegetation management practices. The objective is to provide these professionals the tools necessary to make educated and environmentally-sound decisions. This professional organization will also serve as a source of information for public education.

SCVMA will be a strong advocate of integrated vegetation manage-

ment practices. Many of the pleasures and benefits that our society enjoys require that certain degrees of vegetation management be met. SCVMA will foster mutual understanding and respect among those interested and engaged in vegetation management in South Carolina.

The First Annual SCVMA Conference was held January, 13-14, 1999, with a group of outstanding speakers and an enthusiastic crowd of more than 100 attendees. Seventeen vendors participated in the conference trade show. The Second Annual SCVMA Conference is January, 12-13, 2000 at the Ramada Plaza Hotel in Columbia, SC. The program consists of speakers from across the Southeast with the following topics: wetland issues, what are adjuvants?, equipment for roadside management, exotic aquatic vegetation, public perception, and NRVMA update.

Individuals interested in obtaining more information regarding the South Carolina Vegetation Management Association should contact Dr. James Aitken, 108 Camlin Ct., Columbia, SC 29229; phone 803-419-3710, or e-mail at JAITKEN@CLEMSON.EDU.

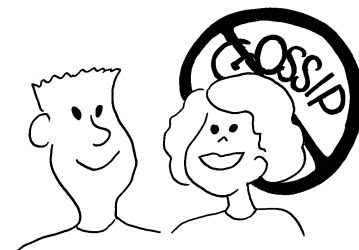
Join a group of enthusiastic vegetation managers in promoting environmental stewardship of our resources in South Carolina. This group is the South Carolina Vegetation Management Association.

Avoid Gossip!

Office gossip may seem harmless and perhaps even fun, but it can harm reputations and careers, including your own. Before repeating a story or rumor, ask yourself these three questions suggested by the human resources department of United Technologies Corp. of Hartford, Conn.:

- ◆ Is it true?
- ◆ Is it fair?
- ◆ Is it necessary?

If the answer to any one of these is no, don't pass the story along.



Quick Takes

Outside of a dog, a book is probably man's best friend, and inside of a dog, it's too dark to read. —Groucho Marx

Happiness is nothing more than good health and a bad memory. —Albert Schweitzer

People see the world not as it is, but as they are. —Al Lee

Man's mind stretched to a new idea, never goes back to its original dimensions. —Oliver Wendell Holmes

It is not because things are difficult that we do not dare; it is because we do not dare that they are difficult. —Seneca

2000 T³S Workshop Schedule

The tentative schedule of T³S workshops that will be offered in 2000 has been established.

Fred Waller will offer *Asphalt Pavement Construction and Inspection*. Fred has offered this very popular course for us in the past, and it was well-received for its practical knowledge. This will be an excellent opportunity to benefit from Fred's wealth of experience.

Fred will also be offering a new workshop on Asphalt Chip Seals and Surface Treatments. This topic has generated a great deal of interest and discussion at previous asphalt workshops, so we will be offering this new workshop on this important subject.

Fred Steele will again present one of his very popular, "best-selling" management workshops on *Leadership Skills for Supervisors*. As is the case with all of Fred's workshops, this workshop has received excellent reviews in past offerings. Unfortunately for all of us, Fred has retired and is no longer offering workshops. We were able to talk him out of retirement for this one last workshop, so plan to take advantage of this last opportunity to learn from one of our all-time most popular presenters.

Tim Bauchman, who has for years offered this same training for the SCDOT, will present a workshop on *Work Zone Traffic Control*. This is an extremely important safety topic (see article on page 3), and we hope for a good turn out of county, municipal, and private sector personnel.

John Hopkins will again teach his very popular workshop on Unpaved Road Maintenance. John has offered this workshop several times in the past, and it has always been well attended and well received.

Nadim Aziz will offer a new workshop on *Stormwater and Culvert Design*. Nadim offered drainage workshops the last two years. This new workshop is being offered in response to requests for a simplified "how-to" and "hands-on" introduction to stormwater design methods.

The American Concrete Pavement Association will provide a speaker

to talk on *New Applications of Concrete for Local Governments*. "Whitetopping" (see article on page 6) will be presented among others topics.

Finally, David Clarke will offer a new workshop on *Geographic Information Systems (GIS) for Local Government*. David has offered similar workshops that have been well received by local governments in Tennessee. GIS applications for local governments are nearly unlimited, and David will explain some of the advantages and potential pitfalls associated with GIS implementation.

Topic	Speaker	Date	Location
Asphalt Pavement Construction & Inspection	Fred Waller	Jan 26 Jan 27	Charleston Columbia
Leadership Skills for Supervisors	Fred Steele	Feb 22 Feb 23	Charleston Columbia
Work Zone Traffic Control	Tim Bauchman	Mar 7 Mar 8	Charleston Columbia
Unpaved Road Maintenance	John Hopkins	Apr 25 Apr 26	Charleston Columbia
GIS for Local Governments	David Clarke	May 24	Columbia
Stormwater and Culvert Design	Nadim Aziz	Sep 12 Sep 19	Columbia Charleston
New Applications of Concrete for Local Agencies	ACPA Speaker	Oct Oct	Charleston Columbia
Asphalt Chip Seals and Surface Treatments	Fred Waller	Oct 31 Nov 1	Charleston Columbia

Ultra-Thin Whitetopping

Article supplied by FHWA & the LTAP Clearinghouse

Got ruts in your city's intersections or washboarding in your county's roads? If so, Ultra-Thin Whitetopping (UTW) can be a candidate for resurfacing deteriorating asphalt pavements.

UTW is a relatively new technique that involves placing a thin (50 to 100 millimeters) concrete overlay to restore asphalt concrete pavements which have cracked and/or rutted. UTW is one of the candidates for rehabilitation of any area where rutting, washboarding and shoving of asphalt is a problem.

The technique was developed specifically for low-volume roads, parking areas and light duty airports. In UTW the concrete overlay is thinner than conventional whitetopping and forms a bond with the underlying asphalt, which creates a composite action. Short joint spacing significantly improves the overlay's performance.

The first experimental application of UTW was constructed on an access road in Louisville, Kentucky in 1991. Since then over 170 UTW projects have been constructed across the United States.

Advantages of UTW

- ◆ UTW requires less time to construct and repairs last much longer.
- ◆ UTW provides a durable, wearing surface.
- ◆ UTW is cost competitive.
- ◆ UTW surfaces reflect light; thus street lighting can be reduced.

- ◆ UTW provides a cooler surface with environmental benefits.

UTW Construction

The four steps to constructing UTW include:

- ◆ Prepare the surface so that it will bond the two layers. This is most often done by milling and cleaning or blasting it with water or abrasive material.
- ◆ Place, finish and cure concrete overlay using conventional techniques. The concrete mix is matched to the project's traffic conditions and requirements for opening the road to traffic. Many projects include synthetic fibers used to increase post-crack integrity of the panels. Proper curing is critical. Because the overlay is thin, it can lose water rapidly due to evaporation. Curing compound is applied at twice the normal rate.
- ◆ Cut saw joints as early as possible to control cracking.
- ◆ Open to traffic.

What's New in UTW?

To help state and local highway agencies make decisions about using UTW, the Federal Highway Administration (FHWA) and the American Concrete Pavement Association (ACPA) launched a joint research effort to evaluate critical design factors affecting the performance of UTW.

ACPA, in cooperation with the Virginia Ready Mix Concrete Advisory Council and ACPA's Northeast

Chapter, will arrange for the design of the concrete mixes and for the construction of the UTW pavement sections. FHWA will test the material properties for all pavement layers, test the pavements with Turner Fairbank Highway Research Centers (TFHRC) Accelerated Loading Facility (ALF), and provide the data for a cooperative evaluation of the design method by ACPA and FHWA. For more information on the UTW project go to the TFHRC Web site at <http://www.tfhrc.gov>.

Additional Resources

Additional information on UTW can found at the following Web sites:

ACPA: www.pavement.com.

Indiana Ready Mixed Concrete Association: www.irmca.com/utw/index.html.

PA Concrete Promotion Council: www.paconcrete.com/ultrathin.html.

UTW project in Traverse City, MI: www.irmca.com/utw/pavement.htm.

MinnDOT: mnroad.dot.state.mn.us/newsletters/gauge151.html.

TN Ready-Mixed Concrete Association: www.trmca.org/index.htm.

PennDOT and FHWA: restructure.fhwa.dot.gov/ptp/Whitetop/whitetop.htm.

Public Roads article: www.tfhrc.gov/pavement/utweb/article.htm.

Editor's Note: T³S will be conducting workshops in 2000 that will include coverage of "whitetopping." See the article on page 5 for more information.

Information Request and Address Change Form

To order any of the publications, videos, or other materials listed in any issue of *T³S Quarterly*, complete this form and mail it or fax it to **Sandra Priddy** at the address or phone number shown below.

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Civil Engineering Department
Clemson University, Box 340911
Clemson, SC 29634-0911

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864.656.1456
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Publication or Video

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Suggestions for Possible Future Workshop Topics

To better serve our customers, and to assist in workshop registrations and in requests for publications and videos, T³S has implemented a new toll-free “888” telephone number. This number works from throughout the United States: The new phone number is **888-414-3069**

You can also still reach us at our regular number of 864-656-1456, as well.

T³S Gets New Toll-Free Phone Number!



Predictions Anyone?

Every turn of the century has been marked with predictions. Here are some negative forecasts widely believed in the past that didn't quite come to pass:

"The telephone has too many shortcomings to be seriously considered as a means of communication."

Western Union memo, 1876

"Everything that can be invented has been invented."

Charles H. Duell, Director of the U.S. Patent Office, 1899

"Radio has no future. Heavier-than-air flying machines are impossible. X-rays will prove to be a hoax."

William Thomson, Lord Kelvin, English scientist, 1899



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