

University Transportation Current Activities

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University Transportation Center for
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UTCA Beginnings.....

The University Transportation Center for Alabama (UTCA) was created by a resolution of the Board of Trustees of The University of Alabama System. The driving force behind the creation was the Transportation Equity Act for the 21st Century (TEA21). TEA21 provided the bulk of the initial funding for UTCA as supplemented by funding from the three campuses and external research sponsors. However, the TEA21 funding is conditional and competitive. After four years of operation, twenty university transportation centers, including UTCA, will be evaluated. Federal funding will be eliminated for ten of them and increased for the remainder.

The Center conducts transportation education, research, and technology transfer activities, using faculty members and students from all three schools in the System: the University of Alabama (UA) in Tuscaloosa, the University of Alabama in Birmingham (UAB) and the University of Alabama in Huntsville (UAH).

In anticipation of TEA 21 funding, faculty members from the UA, UAB, and UAH departments of civil & environmental engineering worked for more than a year designing the administrative framework for UTCA. The Director is located at the UTCA headquarters at UA, and each campus has a branch office operating under the supervision of an Associate Director. The Director and Associate Directors form the Executive Committee, which provides oversight and supervision. Faculty members performing projects

work in their own offices on their own campuses.

Mission, Goals, and Objectives

The mission of UTCA is the same as that of the US Department of Transportation office of University transportation centers - to advance technology and expertise in the multiple disciplines that comprise transportation through the mechanisms of education, research, and technology transfer while serving as a university-based center of excellence.

The theme for the UTCA is

"MANAGEMENT AND SAFETY OF TRANSPORTATION SYSTEMS"

It was selected to capitalize on existing strengths, and to meet the major needs of the Alabama transportation users. It is anticipated that current faculty members will develop projects within the theme, and that future faculty will be hired to develop strong expertise in the theme topics.

The U.S. Department of Transportation places great importance on the theme and strategic plan of university transportation centers. For example, the theme must be concise and must convey the primary nature of the activities conducted by the Center. at least half of the federal funds expended by UTCA in any year must directly support the theme.

A strategic plan has been prepared to guide the development of the organization. It contains six goals that support the theme and mission, along with objectives and mileposts that can be measured to ensure that UTCA is developing in the right direction at the right speed. These goals correspond

directly to the USDOT national goals for university transportation centers:

- (a) **Education** - conduct a multidisciplinary program of coursework and experiential learning that reinforces the theme of transportation;
- (b) **Human Resources** - increase the number of students, faculty and staff who are attracted to and substantively involved in the undergraduate, graduate and professional programs of UTCA;
- (c) **Diversity** - develop students, faculty and staff who reflect the growing diversity of the US workforce and are substantively involved in the undergraduate, graduate, and professional programs of UTCA;
- (d) **Research Selection** - utilize an

objective process for selecting and reviewing research that balances the multiple objectives of the program;

- (e) **Research Performance** - conduct an ongoing program of basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation; and
- (f) **Technology Transfer** - ensure the availability of research results to potential users in a form that can be directly implemented, utilized or otherwise applied.

The UTCA strategic plan expands the six goals into objectives for the fifth year of operation (which corresponds to the mature version of UTCA). In addition, first year objectives have guided the initial activities of the Center.

USDOT has approved this plan, and must approve an annual update each year prior to the release of federal funds for UTCA's operation. The Advisory Board participates in the plan update process.

Advisory Board

An Advisory Board has been created to help move UTCA toward its goals and to help concentrate upon transportation research and technology transfer topics of high importance to the State of Alabama. The Board represents a cross section of transportation interests within the State. The primary duty of the Board is to work with the Executive Committee to identify the important transportation issues for the future of Alabama and the region. These may be broad topic areas or specific projects. They are melded into an "Annual Research Program" from which faculty members on the three UA System campuses select topics for research. As UTCA receives these proposals, Board members participate in the review process to help establish priorities. Other duties of the Board include identifying transportation stakeholders, and performing an annual assessment of the accomplishments of UTCA relative to the strategic plan.

Executive Committee

Director

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Advisory Board

State Transportation Representative

Donald Vaughn, Chair
 Assistant Chief Engineer for Administration and Planning
 Alabama Department of Transportation

Transit Representative

Tommy Brown, General Manager, Huntsville Transit

Association of County Engineers of Alabama Representative

Randy Cole, County Engineer, Shelby County

Highway Representative

Larry Lockett, Materials & Tests Engineer, Alabama Department of Transportation

Construction Representative

Billy Norrell, Executive Director, Alabama Road Builders Association

MPO Representative

David Norris, Senior Transportation Planner, West Alabama Planning and Development Council

Alabama Trucking Association Representative

James Suttles, Suttles Trucking, Alabama Trucking Association

Federal Representative

Joe D. Wilkerson, Division Administrator, Federal Highway Administration

Academic Representatives

Three deans (one from each UA System campus) sit on the Advisory Board as ex-officio members.

UAB Associate Director

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Chair and Professor
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Projects

Round One and Two of Projects The official start date of UTCA business occurred when the US Department of Transportation approved the Strategic Plan on March 9, 1999. At that time the first year's federal funding was released, and UTCA awarded the first round of faculty projects shortly thereafter, for research that began on or after August 15. In the fall of 1999, the second round was awarded for projects to begin January 1, 2000.

Interdisciplinary and Inter-campus Cooperation The initial results were very encouraging. A total of 89 faculty members from 35 academic departments submitted 101 proposals. Fifteen of these proposals included multi-campus teams of interdisciplinary faculty members. In other words, the goal of encouraging widespread participation to build a network of transportation expertise was exceeded. The following list indicates round one projects already underway and round two projects selected for funding. An asterisk designates the round two projects.

Projects Involving Safety

A Crash Reduction Strategy: Training Transportation Safety Professionals in Dealing with Drivers with Diminished Capabilities, *Dr. Cynthia Owsley*, UAB
Improving Crash Location, Display and Analysis by Combining CARE and GPS Technologies, *Dr. Andrew Graettinger*, UA

Predictions of Car Accidents in Minorities and High Risk Groups, *Dr. Teresa Wynn*, UAB

*Development of a Short Course for Enhancements to the Safety of Work Zones, *Dr. Jay Lindly*, UA

Benefits of Interaction Between UTCA and Other Safety Focused Centers and Organizations, *Dr. James Davidson*, UAB

*Environmental Health, Public Safety, and Social Impacts Associated with Transportation Accidents Involving Hazardous Substances, *Dr. Steven M. Becker*, UAB

Data Mining and Visualization of the Alabama Accident Database, *Dr. Michael Conerly*, UA

An Evaluation of the Safety, Utility, and Reliability of Three-Dimensional Alarm Systems for Automotive Use, *Dr. James Bliss*, UAH

Projects Involving Transportation Management

Analysis and Recommendations for Rural Public Transportation Systems in Alabama, *Dr. Jay Lindly*, UA

Development of a GIS-Based Hazardous Materials Transportation Management System, *Dr. Michael Vermace*, UAB

*Providing Technical and Management Expert Support Services in Intelligent Transportation Systems for Alabama, *Dr. John McFadden*, UA

*Feasibility of an Integrated Traffic Management and Emergency

Communication System, *Dr. Michele D. Bunn*, UA

Managing the Construction Bidding Process: A Move to Simpler Construction Plan Sets, *Dr. Daniel S. Turner*, UA

*Air Quality Aspects of Traffic Management, *Dr. Derek Williamson*, UA

Projects Involving Transportation Education

Development of an Exhibit at McWane Center to Serve as a Pilot UTCA Outreach Program for K-12 Schoolchildren, *Dr. Melinda Lalor*, UAB

*Program for Encouraging Diversity in Transportation-Related Educational Programs in Alabama: "Gearing Up for Transportation Engineering Summer Institute", *Dr. Kathleen Leonard*, UAH

Delivery of Transportation Related Programs Through Interactive Telecommunications, *Dr. Melinda Lalor*, UAB

Development of a Multidisciplinary Transportation and Logistics Education Program, *Dr. Jay Sterling*, UA

Projects Involving Bridges/Structures

Development of a Bridge Replacement Guide for County Engineers, *Dr. Michael Triche*, UA

*Local Roads Bridge Replacement Prioritization Database, *Dr. James Davidson*, UAB

*Evaluating the Design Safety of Highway Structural Supports, *Dr. Fouad H. Fouad*, UAB

*Supplementary Cementitious Materials to Enhance Bridge Deck Durability, *Dr. Houssam Toutanji*, UAH

Projects Involving Technology Transfer

*Transfer of Transportation Management and Safety Technology, *Dr. Norbert Delatte*, UAB

Transfer of Transportation Materials Technologies for Concrete Pavements, Dr. Norbert Delatte, UAB

Upcoming Events for 2000

The *University Transportation Center for Alabama*, along with ALDOT and Children's Hospital in Birmingham will begin a car safety seat clinic campaign in early 2000. Training for the clinic will begin in January 2000 for the eventual demonstrations at ALDOT Rest Areas during a designated weekend. Those dates have not been officially identified but are expected to begin in the 1st quarter of 2000.

McDonald's has agreed to host car safety seat demonstrations, as well, in a statewide campaign to commence in the 1st quarter of 2000. McDonald's has also agreed to participate in a "Buckle Up Everybody" campaign, statewide, beginning in December, 1999. The franchise is supporting a new poster campaign to be distributed in stores throughout Alabama in time for the December 10th enforcement of Alabama's new primary seat belt law. The poster campaign is expected to feature a diversity of citizens from

seniors to newborns, to African American, Asians, Law Enforcement officers to white Americans and babies. The goal is to show EVERYBODY buckles up in Alabama!

The new theme for the statewide safety campaign is: Every Time. Every Trip. Every Day. Every Body. Buckle Up. It's the law in Alabama. That theme will also be a part of a new bumper sticker campaign for law enforcement agencies, corporations, including Alabama Power Company, that have significant vehicle fleets. Alabama Power Company has agreed to be a major supporter of the new safety campaign and will include new safety messages in it's monthly bill mail-out beginning in the 1st quarter, 2000.

The Talladega race weekend last October featured ALDOT's flashing roadway signs that included a series of safety messages. Buckle Up, Don't Drink and Drive, and State Troopers Ahead. The flashing signs were distributed along the heavily traveled interstates and secondary roads leading to the busy Talladega exits. That flashing signs campaign will be continued during the May race in 2000. As part of the race weekend, seat belt

and DUI radio messages heard on the local radio station that broadcast the races. Those same messages were a part of the initial Summer Watch campaign from May through September that featured these messages and carried on the Auburn/Alabama football networks during Saturday games. More than 500,000 listeners heard the spots throughout the football season. State Troopers are expected to be included on morning television talk shows to discuss the primary safety belt law and safe holiday travel.



**Every Time.
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Every Day.
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Buckle Up!
It's the law in
Alabama!**

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