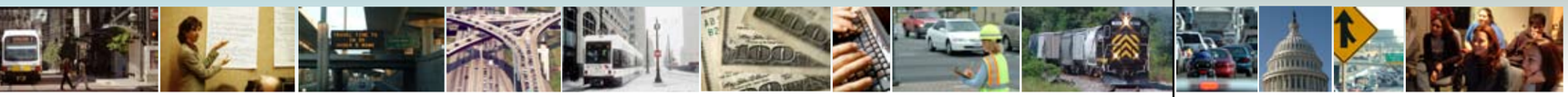
Annual Report FY 09

UTCM

University Transportation Center for Mobility™

Texas Transportation Institute



A report of activities of the

University Transportation Center for Mobility™

Funded by USDOT, Research & Innovative Technology Administration

University Transportation Centers Program

Report Period: September 1, 2008 - August 31, 2009

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Texas Transportation Institute

Table of Contents

ADMIN

EDUCATION

TECH TRANSFER

RESEARCH

PROJECTS

RESEARCH

TECH TRANSFER

PROJECTS

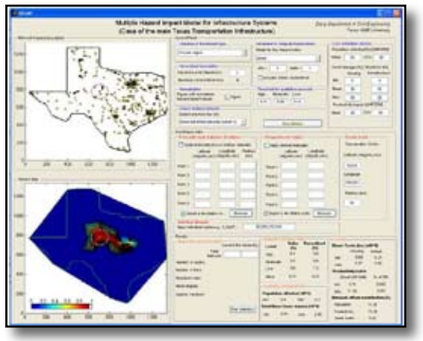
PROJECTS

ADMIN

ADMIN

UTCM THEME

Improving the **QUALITY** of life by enhancing **MOBILITY** through innovations in **RESEARCH**,



EDUCATION, and **TECHNOLOGY TRANSFER**

UTCM FOCUS AREAS

- *Coast-to-coast, border-to-border mobility*
- *Rural public transportation*
- *Congestion management and mitigation*
- *Innovative financing*

DIRECTOR'S MESSAGE

Why isn't the engineering workforce more diverse? We have made great strides in our society to ensure equal opportunities for all, so why don't engineering workforce demographics reflect those of society? While I can't speak from personal experience for all underrepresented groups, as a woman I can certainly share my perspective on gender issues in my profession.

In the past two years, I have become involved for the first time with diversity efforts in my workplace. I had been approached about participation in these sorts of activities by previous employers but had always declined. When I accepted the appointment to Texas Transportation Institute's Diversity Council, it represented a real departure for me. Any discussion of diversity issues had always made me profoundly uncomfortable, perhaps because I was usually the only woman present. Nothing triggers the ol' "fight or flight" reflex like statements that begin with "Hey, *you're* a woman! Why is it that…?" I have rarely had a productive conversation that started this way, and so I've avoided them when possible, along with anything else that ran counter to my desired position as "one of the guys."

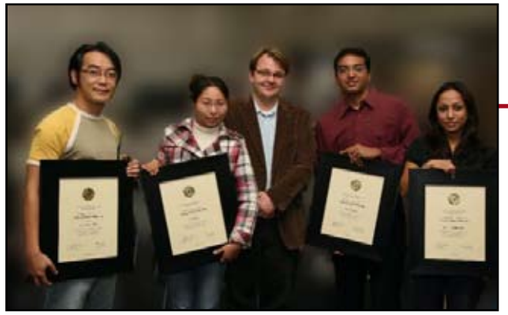
So, why did I finally agree to get involved? First, I have a number of female peers at TTI, a luxury I hadn't enjoyed elsewhere, which affords me the pleasure of being a member of a chorus when discussing gender issues. The other factor was a personal challenge that arose from a conversation I had several years ago with a group of female colleagues from around the country. We were discussing outreach programs -- specifically, how to reach girls before they decide that math and science are not for them -- when one of the women asked me, "So, did you encourage *your* daughter to major in engineering?" I was shaken by my honest response: that I hadn't recommended my line of work to my own daughter. Clearly, some soul searching was in order.

When I was invited to join TTI's Diversity Council, I realized it was time for me to assume my responsibilities toward addressing diversity in the transportation profession. What I have learned through the Council's activities is that the cultural changes that make a workplace better for women also make it better for everyone. When TTI conducted surveys and focus groups this past year to assess our workplace climate, the results indicated that the issues important to women and minorities are important for all, regardless of demographic. I have also learned that diversity is not about numbers and percentages; it is about people, about fairness and opportunity in the workplace for all team members. The most effective programs addressing diversity are those that are incorporated into a larger leadership training program addressing all workplace fairness issues, and the most recent research supports this theory.

Ultimately, through educating myself and getting involved in the activities of the TTI Diversity Council, I can now recommend my chosen profession to anyone, including my daughter. And that is a very nice place to be.

Diversely yours,

Melissa S. Tooley
Director, University Transportation Center for Mobility™



December 2008 Transportation Certificate Graduates (l to r) Hwa Young Kim, Jun Huang, Certificate Administrator and UTCM Advisory Committee member Dr. Eric Dumbaugh, Nitin Warrier and Subrity Rajbhandari (not pictured: Munmun Parmar)

More Is Better for the Graduate Certificate in Transportation Planning

After establishing the Graduate Certificate in Transportation Planning in FY08, the program, which offers specialized transportation training to graduate students, has continued to expand and be enhanced in FY09. And when it comes to the Transportation Certificate program, more is better indeed.

More Graduates, More Courses

In its second year, 10 additional students graduated with a Masters degree in their chosen discipline while earning the Certificate. Each of these students selected one of three transportation-related specialty areas for their certificate program: Multimodal Systems Planning, Transportation and Urban Design, or Transportation Planning and Public Policy. Seven more Master's students and one PhD candidate are currently pursuing the Certificate. Additionally, the two new courses developed in FY08 were assigned permanent course numbers in FY09 and a third course, Transportation and Urban Form, was developed in Spring 09.

New in FY09, 18 students were awarded Transportation Planning Scholarships and two student technician positions were offered to certificate students. "These scholarships and student positions aid in attracting highly qualified students to the Certificate program," noted the program's developer, UTCM Executive Committee Member and Researcher Dr. Forster Ndubisi.

The program is overseen by a Certificate Administrator, Dr. Eric Dumbaugh, UTCM Advisory Committee member and Assistant Professor of Landscape Architecture and Urban Planning. Says Dumbaugh, "As we market this program to more students, we are excited to see the interest building, as well as the high quality of students participating and graduating with the Certificate. It is certain to make them not only more employable, but more successful in solving the complex transportation issues facing planners, policy makers and engineers."

This program involves the collaborative efforts of:

College of Architecture, Texas A&M University

Zachry Department of Civil Engineering | Texas A&M Engineering

The Bush School

Texas Transportation Institute

UTCM University Transportation Center for Mobility, Texas Transportation Institute

More Outreach: Transportation Symposium

The Certificate Program in Transportation Planning hosted its inaugural Transportation Symposium in March, 2009. Dan Burden, President of Walkable Communities, Inc., presented a lecture on the future of transportation. He also conducted a pedestrian audit of the portion of University Drive between Texas A&M University and the Northgate district. Approximately 30 students participated in the audit, along with staff from the City of College Station and the Texas Department of Transportation.

The next stages for the Certificate program are to further develop marketing and recruiting strategies and to develop a similar certificate for professionals.

UTCM Student Activities

UTCM Awards 2008 Outstanding Student of the Year to Ben Sperry

Ben Sperry

PhD Candidate in Civil Engineering and UTCM Outstanding Student of the Year, 2008

In December, the UTCM selected its 2008 Student of the Year (SOY), Mr. Ben Sperry. Ben is a PhD candidate in Civil Engineering who is also pursuing a Graduate Certificate in Transportation Planning developed by the UTCM. Mr. Sperry also holds a UTCM Fellowship and was a SWUTC Undergraduate Transportation Scholar. He has a perfect 4.0 average in his graduate career and brings interdisciplinary insight to both his studies and his research.

As part of his award, Ben attended the TRB Annual Meeting in Washington, DC in January and he tells of his TRB experiences below. Congratulations, Ben!

Mr. Sperry Goes to Washington by Ben Sperry

Like many of my fellow students, I look forward to the TRB Annual Meeting each year. But this year's TRB Meeting was particularly special for me as I was honored to attend as the 2008 UTCM Student of the Year.

I was invited to an awards celebration hosted by the Council of University Transportation Centers (CUTC) and held just before TRB. The program included a reception and banquet, a keynote video speech by California Senator Barbara Boxer, and presentation of the SOY awards. At the event, I was able to network with fellow SOYs from UTCs across the country as well as professionals from all areas of the industry and academia. The biggest thrill of the evening for me was shaking the hand of former US Secretary of Transportation Norm Mineta. I was also fortunate to have my parents accompany me to the awards celebration. My mom snapped the photo at right of me with Mr. Mineta.

I spent the next five days immersed in the 88th Annual TRB Meeting. I attended presentations on the topics of land use and greenhouse gas emissions, passenger train performance, paradigm shifts in commuter rail, and intercity bus transportation. In the numerous poster sessions, I networked with the authors and began developing my own ideas for research. A new experience for me this year was attending committee meetings on intercity passenger rail and transportation in national parks; I learned a great deal about their research agendas and also how the TRB committees are structured.

As a graduate student, TRB represents an opportunity to grow my own career and explore the many facets of our great profession. Thank you UTCM for this honor and for this TRB experience!

2008 UTC Program Students of the Year

Former US Secretary of Transportation Norman Mineta congratulates Ben Sperry

UTCM Student Activities

Dr. Raghava Kommalapati, Principal Investigator of the UTCM projects creating the STI Scholars Program, addresses the audience at The STI closing ceremony on July 2, 2009.

STI Scholars Program Continues Its Second Year at Prairie View A&M University

Last year marked the launch of the Summer Transportation Institute (STI) Scholars Program at Prairie View A&M University. Headed by Dr. Raghava Kommalapati, UTCM researcher and Associate Professor in the Civil and Environmental Engineering Department at Prairie View A&M, the program is designed to build on the already successful STI program.

The STI program, sponsored by the Federal Highway Administration and Texas Department of Transportation, has existed at Prairie View A&M since 2000. Participation in the STI program is open to juniors and seniors in high school. Students who participate in the STI program as juniors have the opportunity to apply for the STI Scholars Program before their senior year, which provides them with a second-year experience toward careers in the transportation industry.

This additional year of experience has already been effective at recruiting future transportation professionals, since last year's STI Scholars are now pursuing engineering degrees.

"We are excited that both of the participants in our first STI Scholars program have chosen to study engineering in college," states Dr. Kommalapati. "LaSasha Walker is attending Prairie View A&M and majoring in Civil Engineering and Adam Earls is studying engineering at Texas Tech."

STI Scholars Keiana Bradby, Shamira Eaton and Kevin Valentine, Jr. at the program's graduation with Dr. Judy Perkins, UTCM Advisory Committee member and Head of the Department of Civil and Environmental Engineering at Prairie View A&M University and Dr. Bill Stockton, Executive Associate Director of TTI.

The additional exposure to engineering, transportation and college life offered by the four-week STI Scholars Program is proving to be an invaluable experience for high school seniors.

STI Scholars Activities for FY09

In its second year, the STI Scholars Program increased its enrollment to three students. Keiana Bradby of Spring, Texas, Shamira Eaton and Kevin Valentine, Jr., both of Houston, Texas, were selected as the program's Scholars.

Over the program's four weeks, Scholars are teamed with Prairie View A&M undergraduate mentors, serve as mentors themselves for first-year STI students, and participate in higher-level research and testing. For a hands-on approach, they practiced designing traffic signals, used a computer program to design bridges and designed a sports arena using AutoCAD.

Again this year, the Scholars spent time in College Station at Texas A&M and TTI. For two days the Scholars studied with Dr. Monique Hite Head, assistant professor in the Zachry Department of Civil Engineering. Dr. Hite Head enhanced their understanding and awareness of earthquakes as they learned what is involved with earthquake engineering. The Scholars even had the opportunity to observe a large-scale test in the High-Bay Structural and Materials Testing Laboratory.

STI Scholars observe testing in TTI's High-Bay Structural and Materials Testing Laboratory.

The three enjoyed a lively lunch discussion with UTCM Director Melissa Tooley and TTI's Chief Information Officer & Director of Information Systems Kassandra Agee-Letton. The group explored diversity in the transportation workforce and the exciting opportunities for an underrepresented member of the transportation team.

During their visit to TTI's Riverside Campus the three Scholars toured the Hydraulics, Sedimentation, and Erosion Control Laboratory. The highlight of their visit came when they attended one of TTI's famous crash tests.

"Meeting and working with researchers at Texas A&M University and TTI is one of the highlights of the program for the Scholars," states Dr. Kommalapati. "I am confident that this experience is one our STI Scholars will remember and carry with them going forward."

Dr. Monique Hite Head, Assistant Professor of Civil Engineering at Texas A&M, leads the STI Scholars in constructing models for earthquake engineering.

For more information on the Prairie View A&M STI and STI Scholars Program, please visit www.pvamu.edu/sti.

This program involved the collaborative efforts of:

UTCM Technology Transfer

Vedlitz Participates in National Energy and Climate Policy Conference Formed to Advise President Obama

Arnold Vedlitz, PhD

UTCM Executive Committee Member
Professor, Bob Bullock Chair in
Government and Public Policy, and Director

Institute for Science, Technology & Public Policy
Bush School of Government & Public Service
Texas A&M University

In recent years, many respected organizations have tackled the challenge of formulating a new energy and climate policy for the United States. However, none of their reports have addressed in detail the process of designing, assessing, proposing, enacting, and implementing a national energy security and climate policy. In an effort to address those details and fulfill President Obama's goal of transparency within agencies, a diverse coalition of professionals gathered in Washington, D.C. on June 18-19, 2009 to participate in a conference entitled, "Formulation of Energy and Climate Policy: Toward an Open and Transparent Process."

UTCM Executive Committee Member and Researcher Dr. Arnie Vedlitz, Director of the Institute for Science, Technology, and Public Policy at Texas A&M University's Bush School of Government and Public Service, was invited by the Howard Baker, Jr. Center for Public Policy and the Woodrow Wilson International Center for Scholars to help organize and participate in the groundbreaking conference. Dr. Vedlitz's participation was partially supported by the UTCM project, "Transportation Planning, Policy and Climate Change: Making the Long Term Connection." Dr. Jeryl Mumpower, Director of the Master of Public Service and Administration (MPSA) Program at the Bush School, also attended and participated in this important conference.

Dr. Vedlitz is introduced as chair of a panel entitled "Energy and Climate Policy and Stakeholder Domains: Goals, Perspectives, and Interconnections." Panelists included (l to r) Vedlitz, Bob Simon (Staff Director, U.S. Senate Committee on Energy and Natural Resources), Sharon Burke (Vice President for National Security, Center for a New American Security), Bracken Hendricks (Senior Fellow, Center for American Progress) and Anthony Janetos (Director, Joint Global Change Research Institute).

"The purpose of the workshop was to get everyone focused on looking at the issues of climate policy from a holistic perspective," says Vedlitz. "We talked a lot about interactions of the various elements – the scientific community, economic realities, the public's wishes, what people will actually use, what people are willing to pay for, and what kinds of government responses are going to be necessary in the form of infrastructure or taxation changes."

One of the afternoon sessions focused on low carbon transportation options. This session explored what kinds of scientific and engineering solutions could merge with governmental and economic realities to produce vehicles that save more energy while polluting less. "One of the things discussed in this session was an option that is actively being explored at Texas A&M, and that is the possibility of a plug-in hybrid vehicle, so that was a major source of information," says Vedlitz.

This two day conference is the second event in the "Joint Program on Presidential Policy-Making: Formulating a Bipartisan Energy and Climate Policy for America." The joint program was formed to explore how best to assist policymakers in understanding the implications of various energy and climate policy options.

The next step for the 15 organizers and sponsors of the workshop is to recommend persons for participation in a group of some 500 major stakeholders, scientists, and government officials. The group will meet via real-time conferencing to share ideas and propose solutions. Following this conference, the group will submit a final report to President Obama.

Related information and links, including the conference program and streaming video of all sessions, is available on the UTCM website at http://utcm.tamu.edu/technology_transfer/t2news.stm#080609.

> ***"This workshop did a great job of bringing together people from engineering, science, public policy, psychology, economics, from government and universities, private companies and think tanks. Everyone put aside political differences to work toward the goal of finding a solution to this complex issue."***
>
> ***Dr. Arnie Vedlitz***
> ***UTCM Executive Committee Member and Researcher***

Conference Organizers:

- Tim Anderson, University of Florida
- Scott Campbell, Baker, Donelson, Bearman, Caldwell & Berkowitz, PC
- Kent Hughes, Woodrow Wilson International Center for Scholars
- Charles Kennel, University of California, San Diego
- Terry Michalske, Sandia National Laboratories
- Michael Natch, Berkeley University
- Doug Rotman, Lawrence Livermore National Laboratory
- Tim Valentine, Howard H. Baker Jr. Center for Public Policy
- Arnie Vedlitz, Texas A&M University
- Erik Webb, Sandia National Laboratories

This technology transfer activity involved the collaborative efforts of:

The Howard H. Baker Jr. Center for Public Policy, The University of Tennessee Knoxville

Woodrow Wilson International Center for Scholars

The Bush School of Government & Public Service, Texas A&M University

Sandia National Laboratories

Lawrence Livermore National Laboratory

UTCM University Transportation Center for Mobility, Texas Transportation Institute

Ginger Goodin, PE

Research Engineer

System Planning, Policy & Environment Research Group
Texas Transportation Institute - Austin

UTCM Plays Central Role in the Debate on Mileage-Based User Fees

As a driver, seeing the bend in the road is one thing; properly navigating it is another. When it comes to navigating the road of transportation financing, TTI's Senior Research Engineer Ginger Goodin and Associate Transportation Researcher Trey Baker are ahead of the curve, directing the traffic.

Our nation's fuel tax has long been a significant part of the funding structure for transportation finance, but as these revenues continue to dwindle due to continuing efforts to reduce fuel consumption, the bend in the road is in sight: alternatives to the fuel tax must be considered. One of the leading fuel tax alternatives being investigated is mileage-based user fees, also known as vehicle-miles traveled (VMT) fees.

> ***"The work we have accomplished with UTCM funding has truly leveraged UTCM, TTI and our research team as the state experts on mileage-based user fees and has provided us national credibility as well."***
>
> ***Ginger Goodin***
> ***UTCM Researcher***

With funding from the UTCM, Goodin and her team, including Baker, began determining the appropriateness of VMT fees as a long-term solution to the fuel tax. The information gathered was used to develop a public involvement framework for evaluating any future mileage-based user fee implementation.

This project led to additional VMT fee research sponsored by UTCM for Goodin's team, including a mileage-based user fee

Declining revenues from the nation's fuel tax is stimulating discussion of alternative means to fund highway projects. One option being explored

symposium that was held in Austin, Texas, in April 2009, and VMT fee-related tools and materials.

"The work we have accomplished with UTCM funding has established UTCM, TTI and our research team as the state experts on VMT fees and has provided us national credibility as well," says Goodin. Indeed, Goodin and her team have been central to discussions among government and industry leaders; for example:

- Goodin and her team are advisors to TxDOT on the topic of VMT fees, and they are developing a primer for TxDOT that can be used as an education piece for legislators. Goodin has worked closely with TxDOT administration and has briefed a number of Texas legislators.
- Baker has used the expertise he gained through the UTCM work to develop a revenue estimation routine that will be incorporated into the Transportation Revenue Estimator and Needs Determination System (TRENDS) for TxDOT.
- Goodin is collaborating with several private sector companies to pursue research on public acceptance and driver behavior changes under a pay-by-the-mile arrangement.

"There are many things to consider when evaluating the feasibility of a new and very different transportation funding and financing system," states Baker. "Many aspects must be carefully analyzed, from public acceptance to technology and security issues to cost and potential system phase-in strategies. This means many different research studies must be planned, monitored, evaluated and then communicated to stakeholders, policy makers and the public."

"It's a big issue," Goodin summarized with simple understatement.

And thanks to Goodin and her team's thorough and timely efforts, UTCM will remain at the head of the curve in the road of transportation finance.

Richard "Trey" Baker

Associate Transportation Researcher

System Planning, Policy & Environment Research Group
Texas Transportation Institute - Austin

Eric Lindquist, PhD

UTCM Advisory Board Member
Associate Research Scientist

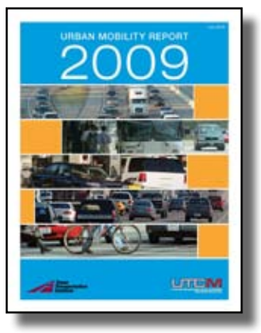
Bush School of Government & Public Service
Texas A&M University

is a mileage-based user fee. This method tallies miles driven by a vehicle using existing GPS technology to receive satellite signals from space.

Rare Decline in Congestion Highlights the 2009 Urban Mobility Report

Timothy J. Lomax, PhD, PE
Research Engineer
Mobility Analysis Program
Texas Transportation Institute

David L. Schrank, PhD
Associate Research Scientist
Mobility Analysis Program
Texas Transportation Institute



http://mobility.tamu.edu

Ironically, the problem of rising fuel prices that began in 2007 helped ease another major headache for the nation's motorists – traffic, according to the latest issue of the *Urban Mobility Report (UMR)*. The 2009 report found that as people paid more, they drove less, cutting time wasted for the average commuter by about an hour. Even so, most rush-hour travelers still spend nearly a full work week stuck in traffic each year.

Researchers Tim Lomax and David Schrank conduct the study, which has been analyzing the nation's congestion since 1982. The Urban Mobility Report, funded in part by the UTCM, determines a comprehensive set of traffic and congestion statistics, including the annual cost of delays per traveler ($760) and fuel that's wasted (2.8 billion gallons).

"Chances are, most commuters didn't notice the slight decrease in congestion from 2006 to 2007," says Schrank. Schrank and Lomax believe that overall congestion in 2008 and 2009 may also show a decline as a result of the economic downturn. However, they warn that any congestion relief as a result of the recession will end as the economy improves. "Historically, when the economy rebounds after a downturn, so does the traffic problem," says Lomax. "But, a lot of it may hinge on the price of gasoline at the time."

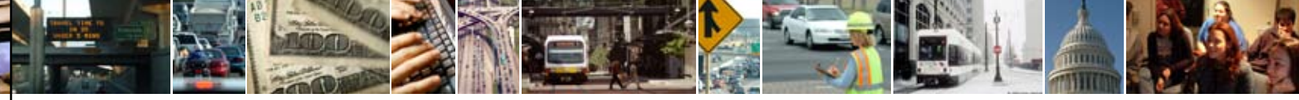
UMR '09 by the Numbers

750 reports in the media
439 urban areas studied
90 areas ranked in order of congestion
#1 Los Angeles/Long Beach/Santa Ana
#90 Wichita, KS

Annual cost of congestion:
2.8 billion gallons of fuel
$87.2 billion
1 work week and $760 per U.S. traveler

The 2009 UMR was front-page news in the nation's papers and was mentioned on television and radio broadcasts across the country. To date, some 750 broadcasts and newspaper articles have been issued on the 2009 report.

"Getting the word out to all the media is a major task," says TTI's Director of Communications Richard Cole. Months before it is released, reporters from across the country inquire about the publication date of the UMR. For months afterward, the report is cited by those reporting on traffic and transportation. Additionally, the report is routinely sourced by stakeholders and policy makers considering traffic solutions.



UTCM TECHNOLOGY TRANSFER

UTCM's Mobility Colloquium Continues Building Bridges

One of UTCM's most visible means of fostering interdisciplinary collaboration and technology transfer is the Mobility Colloquium, launched in the fall of 2007. This casual lunchtime series hosts speakers from a variety of disciplines that interact with transportation, such as architecture, agriculture and even medicine. Students and researchers are encouraged to attend to network with interdisciplinary colleagues. Lively Q&A follows each presentation. In FY09, five colloquia were presented, with an average of 30 attendees, both in person and via videoconferencing units in TTI's remote offices throughout Texas. Colloquia topics were:

09.04.2008

"Secrets to Success: How to Submit a UTCM Proposal"

Melissa S. Tooley, PhD, PE, Director, UTCM

Dr. Tooley introduced the UTCM Request for Preliminary Proposal, offered tips for submitting winning UTCM Preliminary Proposals and fielded questions from the audience. Martha Raney Taylor, UTCM's Business Manager, reviewed the updated UTCM budget form.

09.29.2008

"Transportation and Mobility in Architecture: Research Challenges and Opportunities"

Jorge Vanegas, PhD, UTCM Advisory Board Member
Dean, College of Architecture
Sandy and Bryan Mitchell Master Builder Endowed Chair
Director, Center for Housing and Urban Development (CHUD)
College of Architecture, Texas A&M University

Vanegas said that we are all bound together by—and products of—the "built environment," our man-made surroundings and our activities within those surroundings. "At first glance, the world of architecture is not relevant to the world of transportation, but it is very relevant," Vanegas told the lunchtime gathering. "From urban planning and design through transportation infrastructure to individual facilities, mobility is a common thread." Vanegas urged the researchers and students attending the presentation to realize the numerous research opportunities that are available connecting architecture and transportation. "Challenges create opportunities," Vanegas explained, "and open the door to just about any kind of research you may want to do."

(cont. on p. 14)

UTCM's Mobility Colloquia (cont. from p. 13)

Michael Neuman and Elise Bright

01.26.2009

"The Texas Urban Triangle: Framework for Future Growth"

Michael Neuman, PhD, AICP, Associate Professor, Department of Architecture Elise Bright, PhD, AICP, Professor, Department of Architecture Texas A&M University

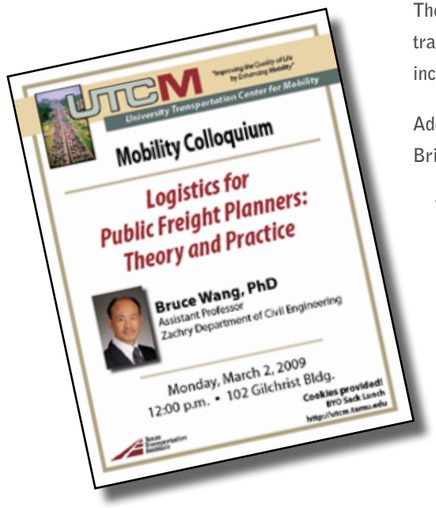
The Texas Urban Triangle, comprised of the metropolises of Dallas-Fort Worth, Houston, San Antonio, and Austin, represents the most rapid growth occurring in the state of Texas. The Triangle is home to over 17 million people, almost 70% of the state's population, and this figure is predicted to expand to over 80% in the next 20 years.

> ***"How we handle this new growth in the Texas Urban Triangle will determine to a large degree whether Texas continues to prosper and enjoy an affordable, high quality of life."***
>
> ***Dr. Michael Neuman, AICP***

The impacts of growth, both positive (new homes, new jobs and businesses, new transportation and infrastructure networks) and negative (less farm and ranch lands, increased pollution) are easy to predict based on past experience.

Addressing four basic research questions in the Texas Urban Triangle, Neuman and Bright are constructing a framework for future growth:

* Where should the growth go in the future?
* What are the impacts of that growth?
* Are those locations vulnerable to hazards both natural and human?
* What scale/type/location of infrastructures are necessary to support growth?



03.02.2009

"Logistics for Public Freight Planners: Theory and Practice"

Bruce Wang, PhD, Assistant Professor, Zachry Dept. of Civil Engineering

Making sure deliveries make it to their destination on time has never been more important to the private sector logistics practitioner. Freight logistics are driven by business strategies, and in turn, logistics drive the flow and ebb of freight traffic on the transportation system. In his Mobility Colloquium presentation, Dr. Bruce Wang demonstrated the big picture of the supply chain, reviewed the rapid progress in theories and practices of logistics and supply chain management, and discussed new technologies that have impact on logistics practices.

"There is a great need for improved public freight planning by better understanding and applying logistics practices," Dr. Wang emphasized to Colloquium attendees. The Zachry Department of Civil Engineering assistant professor based his presentation on a short course he developed along with his colleagues at the University of Wisconsin.

04.06.2009

"A New Vehicle Design for Rural and Urban Patient Transport"

Mark E. Benden, PhD, CPE, Assistant Professor, Department of Environmental and Occupational Health, School of Rural Public Health, Texas A&M Health Science Center

Some 59 million Americans live in rural areas, many of them isolated from health care access. Dr. Mark Benden and his co-inventor, Dr. Eric Wilke, are developing a three-wheeled, long-framed medical transport vehicle that could reach patients in areas where traditional ambulances can't travel. The AmbiCycle™ was the subject of the April 6 Mobility Colloquium.

Mark Benden, PhD, CPE, Assistant Professor, Department of Environmental and Occupational Health, School of Rural Public Health, Texas A&M Health Science Center

"I see this as an option for rural patients who need emergency transportation but can't get it from traditional EMS care," Benden explains. Benden and Wilke envision the AmbiCycle™ being used in a variety of other settings, including congested urban areas (where gridlock stalls traditional large ambulances), military deployments, commercial locations such as refineries, and as a low-cost alternative to traditional ambulance service in underdeveloped nations.

When Benden and Wilke first considered the concept of an ambulance alternative, they knew that if it were to access the areas they envisioned and be affordable to the communities to be serviced, they would be limited to strict design parameters: the vehicle must be less than 36 inches wide, highly stable with a tight turning radius, operated by just one person and priced under $2,000.

Because the patient is transported beneath the seat (see photo), "the AmbiCycle™ allows for constant visual contact between the driver and the patient," Benden says, unlike other types of medical transport vehicles.

The inventors are seeking funding for the manufacture of the AmbiCycle™. They applied for a provisional patent in January 2009.

UTCM Research Highlights

What is The Value of an Uncongested Lane?

Mark Burris, PhD *(standing)*

UTCM Advisory Board Member
Snead I Associate Professor
Zachry Department of Civil Engineering
Texas A&M University

Associate Research Engineer
TransLink® Research Center
Texas Transportation Institute

Sunil Patil *(seated)*

Graduate Assistant Researcher
Zachry Department of Civil Engineering
Texas A&M University

Douglass Shaw, PhD

Professor

Water Resources Policy and Economics
Department of Agricultural Economics
Texas A&M University

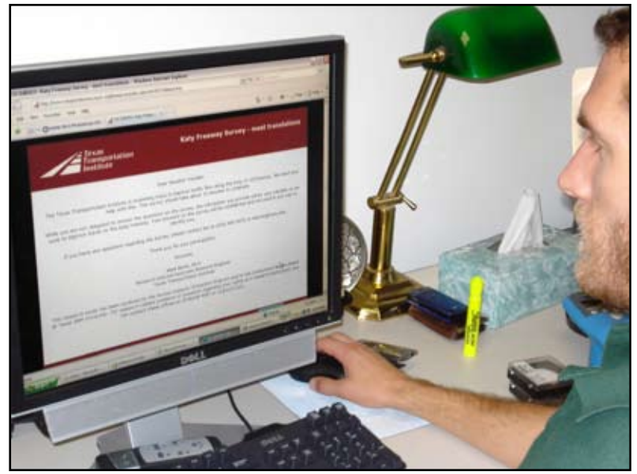
We all have days when we could use a little more time. Maybe it's when you're running late for a cross town meeting, or when the school calls saying your child is sick. To add to the problem, traffic is moving slower than usual. How valuable would it be to have the option of a managed lane (ML) that offered congestion-free travel for those hurried trips?

> ***"With actual data that shows people value their travel time on MLs much more than their typical trips, the value of MLs is much higher than typically assumed. The better we understand this value, the better equipped we are to make funding decisions regarding our transportation infrastructure."***
>
> ***Dr. Mark Burris***
> ***UTCM Advisory Board Member***
> ***and Researcher***

Houston's Katy Freeway travelers were asked this question with regard to their use of a managed lane on time-constrained trips. In the spring of 2009, high-occupancy toll (HOT) lanes opened on the Katy Freeway allowing vehicles with two or more occupants to travel for free during the peak period and single-occupant vehicles to use the lanes for a toll.

Travelers are often faced with spur-of-the-moment decisions about using managed lanes to decrease time in traffic. MLs offer a fast, reliable alternative when it is most valued.

A UTCM research team led by Dr. Mark Burris, associate professor in the Transportation Division of the Zachry Department of Civil Engineering and associate research engineer with TTI, designed and administered stated preference surveys to determine how valuable MLs are to travelers.



Burris and his team developed this stated choice computer survey and received nearly 4,000 completed responses.

To maintain uncongested travel on MLs — and often to help pay for the construction of the lanes — single-occupant vehicle travelers must pay a toll to use the MLs. This toll can vary by time of day or by congestion level, increasing as demand for the lane increases. Ultimately, travelers are faced with a decision, often on the spot, between a tolled, congestion-free trip or an untolled, congested trip.

This decision varies by traveler and depends upon various factors, including the urgency of a single trip.

"Since the ability to predict and value these infrequent uses did not exist, the true value and benefits of MLs were unknown," explains Dr. Burris. "This research is unique because we have been able to survey a set of travelers who use MLs, and that has enabled us to begin understanding their value and benefits. We also used different survey techniques to determine how best to solicit the value of these infrequent trips."

The survey results revealed that time-constrained travel was valued up to six times more than regular travel. Knowing how much more travelers value their time on these hurried trips is just the beginning, though.

"With actual data that shows people value their travel time on MLs much more than their typical trips, the value of MLs is much higher than typically assumed," states Burris. "The better we understand this value, the better equipped we are to make funding decisions regarding our transportation infrastructure."

These decisions are critical since the Federal Highway Administration is encouraging broader implementation of HOT facilities nationwide (currently there are nine operational facilities).

In early 2009, this HOV lane on the Katy Freeway in Houston was converted to an HOT lane, offering single occupancy vehicles the option to use this lane for a toll to avoid congested traditional lanes. Accurate measures of the value of these managed lanes offers decision makers insight for future transportation improvements.

UTCM New Research Projects

Timothy J. Lomax, PhD, PE

Research Engineer

Mobility Analysis Program
Texas Transportation Institute

UTCM Project #09-17-09 • RiP.trb.org Database #20591

Improving Mobility Information with Better Data and Estimation Procedures

Project dates: January 1, 2009 - November 30, 2009
Award: $150,000

The Urban Mobility Report is the leading resource for all levels of government in the U.S. and for both industry and non-industry professionals discussing mobility topics. This project incorporates speed data from new technologies into the Urban Mobility Report (UMR) to ensure that the report remains the preeminent source on the subject. With fuel price increases in recent years, an updated analysis of the effects of fuel price fluctuations on travel demand and congestion are being included in the UMR. TTI has developed a methodology for estimating the commodities that are flowing in trucks and the associated traffic delay throughout our nation's cities. However, at this time, it is unclear how this information can be utilized in decision-making. Some analysis is being performed to determine how to utilize this truck commodity flow information.

See related article, p. 12

RESEARCH

Teresa Qu

Assistant Research Engineer

Mobility Analysis Program
Texas Transportation Institute

UTCM Project #09-12-11 • RiP.trb.org Database #20593

Investigating the Effect of Freeway Congestion Thresholds on Decision-Making Inputs

Project dates: January 1, 2009 - December 31, 2009
Award: $40,000

Although the congestion problem has been studied for several decades in the U.S., there been no consensus on when congestion technically begins. Policy discussions about the size of the congestion problem and the need for solutions are often side-tracked by this issue. The proposed research investigates the differences inherent in the threshold choices. Specifically, congestion measure values are being examined for different congestion thresholds under a variety of real-world travel time distributions. Freeway segments from different metropolitan areas are being selected to represent the variety of traffic and land use patterns. Travel time distribution patterns for freeway corridors are being analyzed and factors that may affect the travel time distribution are being identified. This research will help to answer questions such as, "Do all congestion measures increase or decline in approximately the same ratio?" and, "Are there situations in which one threshold definition would alter investment decisions?"

UTCM Project #09-30-10 • RiP.trb.org Database #20592

Texas Urban Triangle: Creating a Spatial Decision Support System for Mobility Policy and Investments that Shape the Sustainable Growth of Texas

Project dates: February 1, 2009 - May 31, 2010
Award: $100,000

This project develops a GIS-based Spatial Decision Support System (SDSS) to help local, metropolitan, and state jurisdictions and authorities in Texas understand the implications of transportation planning and investment decisions, and plan appropriately for the future. It will provide an easily accessible, graphically represented, interactive database on infrastructural, demographic, environmental, agricultural, economic, hazard, and land use factors that affect transportation corridor location decisions. Specifically, the project team is creating an Internet-based spatial decision support system that will allow users to identify and visualize geographically those critical issues related to locating single mode or multi-modal surface transportation corridors for freight and passengers. Decision makers will be able to test multiple attributes in the decision making model to compare multiple transportation corridor scenarios for optimal mobility based on the decision parameters developed in the model. Jurisdictions and transportation authorities will be able to use this tool to guide future decisions on transportation and its impacts on urban growth in a sustainable manner so that the need for economic development is balanced with environmental protection and human health, safety, and welfare. The SDSS system will also help address important research questions regarding future growth in the Texas Urban Triangle: where growth will occur, at what scale and densities, and for what purposes. Finally, the SDSS can demonstrate the usefulness of WebGIS in facilitating sustainable transportation planning, policy making and investment decisions.

Michael Neuman, PhD, AICP

Associate Professor

Department of Landscape Architecture and Urban Planning
Texas A&M University

Elise Bright, PhD , AICP

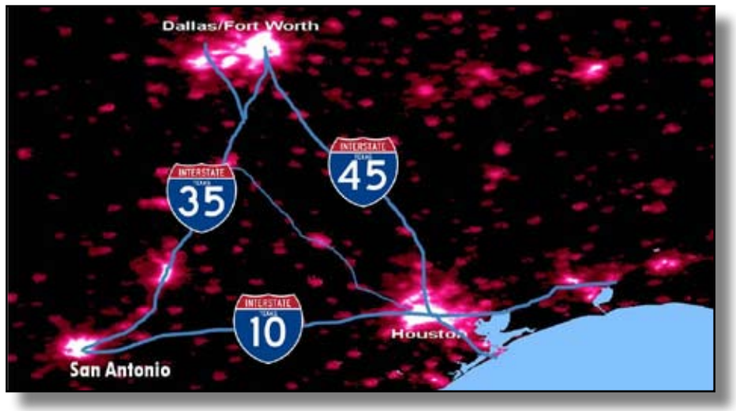
Professor

Department of Landscape Architecture and Urban Planning
Texas A&M University

Curtis Morgan

Assistant Research Scientist and Program Manager

Multimodal Freight Transportation Program
Texas Transportation Institute



The Texas Urban Triangle at night.

See related article, p. 14

RESEARCH

UTCM Project #09-16-14 • RiP.trb.org Database #20595

Statistical Analysis of Waterway Network Congestion: Causes and Costs

Ximing Wu, PhD

Assistant Professor

Department of Agricultural Economics
Texas A&M University

Stephen Fuller, PhD

UTCM Advisory Board Member
Professor

Department of Agricultural Economics
Texas A&M University

Project dates: March 1, 2009 - August 31, 2010
Award: $79,656

This project uses statistical methods to analyze traffic congestion of the upper Mississippi and the Illinois River, in particular, locks 18, 20, 21, 22, 24 and 25 on the upper Mississippi and the Lagrange and Peoria locks on the Illinois River. Researchers are identifying and evaluating non-structural alternatives (those not requiring construction, but rather procedural or policy changes, such as congestion fees, excess lockage time charges, helper boats, switch boats, deck winches and moorings) that might be employed to offer nearby congestion relief. Researchers are conducting statistical analysis on locking activity at each lock site for each locked vessel to understand forces that affect congestion and to examine the possibilities for congestion mitigation through non-structural alternatives. The team is also measuring the effect of inland waterway congestion on barge transportation rates as well as other costs associated with the predetermined lock chokepoints. From this research, the team is developing methodology increasingly appropriate for such measures.

UTCM Project #09-00-17 • RiP.trb.org Database #22780

Bluetooth-Based Travel Time/Speed Measuring Systems Development

Darryl Puckett

Research Scientist

Research and Implementation
Texas Transportation Institute - Houston

Project dates: June 1, 2009 - May 31, 2010
Award: $58,500

Currently, agencies in the Houston region use toll tags to provide travel times on freeways and HOV lanes, but these systems require large amounts of costly and physically invasive infrastructure. Bluetooth is a widely used, small-scale technology embedded in cellular telephones and in-vehicle applications. Costs for Bluetooth travel time measurement systems are one-half to one-third the cost of traditional toll tag reader equipment, depending on the application. This cost advantage could significantly lower the threshold for hundreds of agencies and private entities to enter the travel time measurement market, but there is little guidance on the application. This project is further developing and testing the existing prototype software and hardware platforms that have been developed to use anonymous media access controller (MAC) address transmissions to measure and report real-time traffic conditions. Researchers are examining several issues identified by TTI when working with the initial prototype deployments. Resolving these issues is an important step in developing a true first generation product.

UTCM Project #09-13-12 • RiP.trb.org Database #20594

Leveraging Land Development Returns to Finance Transportation Infrastructure Improvements

Jesse Saginor, PhD, ASLA

Assistant Professor

Department of Landscape Architecture and Urban Planning
Texas A&M University

Eric Dumbaugh, PhD

UTCM Advisory Board Member
Assistant Professor

Department of Landscape Architecture and Urban Planning
Texas A&M University

David Ellis, PhD

Research Scientist

Mobility Analysis Program
Texas Transportation Institute

Project dates: June 1, 2009 - January 31, 2011
Award: $100,000

The United States faces a crisis in transportation finance with a majority of state and federal investment in transportation infrastructure financed via the gas tax. Declining fuel tax revenues coupled with higher construction costs lead to financing shortfalls for new transportation infrastructure and the maintenance of existing infrastructure. Texas House Bill 3588 authorizes the creation of Regional Mobility Authorities (RMAs), which have the ability to apply tax increment finance to capture returns associated with land development improvements. This research is working to identify the magnitude of property value increases associated with transportation infrastructure improvements, the assessment levels and investment horizon needed to recapture the costs of transportation infrastructure improvements, and how these revenue streams may be further leveraged to support local and regional investments in transportation infrastructure. Using a quasi-experimental design, property values in areas that recently underwent significant transportation infrastructure improvements are being compared against nearby control groups. The relative property value increases will determine the relative margin of benefit against which TIF revenues may be drawn against the transportation infrastructure capital costs. The outcomes of this study will be used to enhance ongoing efforts at the state level, including a forthcoming professional training course as well as an academic course on public-private partnerships and funding. The course will be offered within Texas A&M University's Master of Science in Land Development Program and will be offered as a course in Texas A&M's interdisciplinary Graduate Certificate in Transportation Planning, developed with UTCM funding (see http://archone.tamu.edu/laup/Programs/Certificates.html).

UTCM Project #09-15-13 • RiP.trb.org Database #20584

Multiple Depot Vehicle Routing with Applications to Paratransit and Rural Transportation

Swaroop Darbha, PhD

Associate Professor

Department of Mechanical Engineering
Texas A&M University

Project dates: September 1, 2009 - August 31, 2010
Award: $80,000

This project considers a basic problem in transportation: given a set of vehicles, possibly starting from different depots, and a set of locations where passengers need to be picked up, find a route for each vehicle so that every location is served by some vehicle and the total cost of serving the location is a minimum among all possible allocations and sequencing of locations to the vehicles. It is required that the vehicles return to the depots after servicing the locations and the total cost includes the cost of vehicles returning to their respective depots. In this project, we are developing algorithms for finding a feasible solution for this problem in real-time along with limits on how far the found solution is from the optimal solution. An understanding of and solution to this problem will form the basis for tackling more complicated problems, such as demand responsive routing of vehicles with pick up and drop off demand requests, common in paratransit and rural transportation applications.

UTCM Project #09-01-03 • RiP.trb.org Database #20581

The Impact of Gas Prices on Toll Road Use

Mark Burris, PhD

UTCM Advisory Board Member
Snead I Associate Professor

Zachry Department of Civil Engineering
Texas A&M University

Associate Research Engineer

TransLink® Research Center
Texas Transportation Institute

Project dates: September 1, 2009 - December 31, 2010
Award: $58,158

One of the primary functions of transportation planning is to predict future travel behavior. Using estimated travel patterns, planners can then help decision makers select the array of projects that will best suit the needs of their community. Travel behavior is a function of many variables, with cost being among the most important. This project studies the elasticity of travel with respect to gas prices in a specific application: toll roads. Using data from around the U.S., the project team is examining how traffic levels on toll roads have been affected by fluctuations in gas prices over the last several years. Researchers are developing models that account for the many other exogenous factors influencing toll road use (such as local economy, population, registered vehicles, fuel efficiency of vehicle fleet, etc.) and provide an elasticity of toll road demand with respect to gas price independent of those other factors. This study will provide planners and toll road authorities with valuable information on how travelers react to increasing cost of travel when already selecting a mode with an added cost (the toll).

UTCM Project #09-00-45 • RiP.trb.org Database #23692

Estimating the Value of Freight Delays in the Freight System

Bruce Wang, PhD

Assistant Professor

Zachry Department of Civil Engineering
Texas A&M University

Project dates: September 1, 2009 - January 31, 2011
Award: $3,856*

** This project receives additional funding through a UTCM Fellowship in the amount of $43,577.*

This project is developing models to derive the value of delay for freight movements. Researchers are then applying this estimated value of delay to evaluate congestion, rank order bottlenecks and assess improvement opportunities for congestion areas. Stated preference surveys are being designed and administered to truckers, carriers and shippers. Interviews, case studies and simulations are being conducted to corroborate the findings from the stated preference survey. The objective is to provide a reliable value of delay to freight movement for practice and research.

UTCM Project #09-37-15 • RiP.trb.org Database #20596

Developing Performance Measures for Sustainable Freight Movement

Joe Zietsman, PhD, PE

Center Director and
Associate Research Engineer

Air Quality Studies Program
Texas Transportation Institute

Mohamadreza Farzaneh

Assistant Research Scientist

Air Quality Studies Program
Texas Transportation Institute

Project dates: September 1, 2009 - February 28, 2011
Award: $80,000

Freight movement by road and rail, a cornerstone of the U.S. economy, is increasingly impacted by congestion, overburdened infrastructure and economic issues. Freight movement in turn impacts transportation safety, environmental concerns, and the economy. Thus, there is a need to improve sustainability of the freight system by enhancing the benefits of a robust freight system while minimizing the negative impact of freight movement on transportation corridors. This project develops a framework and methodology to address the issues of freight sustainability at the transportation corridor level for highways and rail facilities. Steps include defining the goals and objectives of sustainability in freight movement, and developing appropriate performance measures that reflect progress toward these goals. Different sets of performance measures are being developed to accommodate the specific needs of both urban and rural corridors. This research is also developing a methodology for evaluating the individual performance measures for a specific transportation corridor, combining them into an aggregate sustainability indicator. Using this process, the relative sustainability of freight movement can be compared for different corridors, or for alternate development scenarios for a specific corridor. This project includes a case study performed for a major freight corridor in Texas.

UTCM New Technology Transfer Projects

UTCM Project #09-07-01 • RiP.trb.org Database #20456

Facilitating Creation of Rural Transit System Technology User Groups

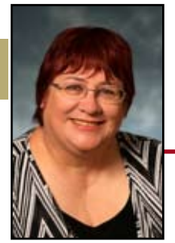
Jeffrey Arndt

Research Scientist

Transit Mobility Program
Texas Transportation Institute - Houston

Project dates: January 1, 2009 - August 31, 2010
Award: $36,000

In conducting work on a related project regarding best practices in dispatching demand response services, researchers discovered that a significant segment of rural transit providers own software to support trip scheduling and dispatching. However, many of these agencies are using the software primarily as a record-keeping system, not as a management tool. Rural providers have shared concerns that their staff is not sufficiently familiar with the software's capabilities and therefore the agency is not receiving a good return on their technology investment. This project creates user groups for rural providers utilizing scheduling and operations support technologies. The user groups enable operators to share and gain from their mutual experiences and to leverage their mutual concerns and interests with the software vendors. Small urban providers are also being incorporated into user groups and may serve as mentors to rural providers as appropriate. These user groups will provide rural agencies with an important additional tool for improving the efficiency of their services.



UTCM Project #09-10-08 • RiP.trb.org Database #20589

Facilitating Outreach Programs for Minority Students in Rural South Texas

Debbie Jasek

Associate Research Scientist

Transportation Operations Group
Center for Professional Development
Texas Transportation Institute

Project dates: January 1, 2009 - December 31, 2010
Award: $29,000

Since 1998, TTI has expanded its efforts to build dynamic partnerships among the business, industry and education sectors. Previous funding from the Southwest Region University Transportation Center (SWUTC) piloted programs targeting minority populations in southern and coastal Texas. This project builds on these previous efforts to create long-term outreach programs to students in rural Texas. A number of the piloted programs are evolving into active programs funded by other public and private monies. In order for these programs to be successful, TTI is remaining an active program partner. This project allows TTI team members to act as facilitators for two years to ensure program success.

UTCM Project #09-27-05 • RiP.trb.org Database #20583

The Transportation Economy: Past & Future

Richard Cole

Director of Communications

TTI Communications
Texas Transportation Institute

Project dates: January 1, 2009 - April 30, 2010
Award: $50,000

This project documents the role transportation has played in the nation's economic prosperity and the importance to the United States of reinvesting in our transportation infrastructure. The video being produced uses both historic footage and new interviews with approximately six recognized government and industry leaders to highlight the importance of transportation and the economic threat posed by a failure to maintain this infrastructure. The completed video will be made available to all Texas Educational Service Centers (ESCs) for use as supplemental material for high school economics and civics classes, and it will be available from a dedicated website in both streaming and downloadable formats. Deliverables include the 8- to 12-minute video, a PowerPoint® presentation incorporating the video, and a supporting website.

David Dennis

Coordinator of Electronic Media

TTI Communications
Texas Transportation Institute

UTCM Project #09-22-02 • RiP.trb.org Database #20579

Development of an Enhanced Toll Project Screening Model

Curtis Beaty

Associate Research Engineer

Research and Implementation
Texas Transportation Institute - Dallas

Project dates: January1, 2009 - September 30, 2009
Award: $65,000

With agencies and states increasingly considering tolls as a means to finance transportation infrastructure, there is an increasing need to quickly assess the feasibility of potential tolling projects. Both as an early screening tool and as a continuing reasonableness test, an enhanced toll project viability model will allow a user to simultaneously examine the interaction of multiple tolling variables and traffic scenarios so that agencies can make more informed decisions. In addition, the enhanced screening tool will analyze the confidence of the resulting revenue estimates and the sensitivity of the model's results to the input variables. This project builds on the "Toll Viability Screening Tool (TVST)" developed by Texas Transportation Institute in conjunction with the Texas Department of Transportation (TxDOT) in a research project completed in 2004.

UTCM Ongoing Projects

Research

Transportation Planning, Policy & Climate Change: Making the Long Term Connection

Researcher: Eric Lindquist, PhD, Bush School of Government & Public Service, Texas A&M University

Project dates: September 1, 2007 - January 31, 2010 • **Award:** $50,000

UTCM Project #07-03 • RiP.trb.org Database #14396

See related article, p. 8

Improving Intermodal Connectivity in Rural Areas to Enhance Transportation Efficiency and Reduce Metro/Port/Border Congestion: A Case Study

Research Team: Stephen Fuller, PhD, John Robinson, PhD and John Park, PhD, Department of Agricultural Economics, Texas A&M University

Project dates: September 1, 2007 - April 30, 2010 • **Award:** $60,000

UTCM Project #07-07 • RiP.trb.org Database #14288

Estimating the Benefits of Managed Lanes

Research Team: Mark Burris, PhD, Zachry Department of Civil Engineering, Texas A&M University
Douglass Shaw, PhD, Department of Agricultural Economics, Texas A&M University

Project dates: January 1, 2008 - January 31, 2010 • **Award:** $80,000

UTCM Project #08-05-04 • RiP.trb.org Database #15490

See related article, p. 16

Methodology and Guidelines for Regulating Traffic Flows Under Air Quality Constraints in Metropolitan Areas

Research Team: Yunlong Zhang, PhD and Qi Ying, PhD, Zachry Department of Civil Engineering, Texas A&M University

Project dates: January 1, 2008 - December 31, 2009 • **Award:** $80,000

UTCM Project #08-34-17 • RiP.trb.org Database #15489

Bio-Fuels Energy Policy and Grain Transportation Flows: Implications for Inland Waterways and Short Sea Shipping

Research Team: Dmitry Vedenov, PhD, Department of Agricultural Economics, Texas A&M University
Sharada Vadali, PhD, Economics, Trade and Logistics Program, Texas Transportation Institute
Gabriel Power, PhD and Stephen Fuller, PhD, Department of Agricultural Economics, Texas A&M University
Mark Burris, PhD, Zachry Department of Civil Engineering, Texas A&M University

Project dates: April 1, 2008 - January 31, 2010 • **Award:** $70,773

UTCM Project #08-15-14 • RiP.trb.org Database #17079

Examining Challenges, Opportunities and Best Practices for Addressing Rural Mobility and Economic Development under SAFETEA-LU's Coordinated Planning and Human Services Framework

Research Team: June Martin, Cecelia Giusti, PhD and Eric Dumbaugh, PhD, Department of Landscape Architecture and Urban Planning, Texas A&M University
Linda Cherrington, System Planning, Policy and Environment Research Group, TTI - Houston

Project dates: May 1, 2008 - February 28, 2010 • **Award:** $100,000

UTCM Project #08-17-09 • RiP.trb.org Database #15600

Valuation of Buyout Options in Comprehensive Development Agreements

Research Team: Gabriel Power, PhD, Department of Agricultural Economics, Texas A&M University
Mark Burris, PhD, Zachry Department of Civil Engineering, Texas A&M University
Sharada Vadali, PhD, Economics, Trade and Logistics Program, Texas Transportation Institute
Dmitry Vedenov, PhD, Department of Agricultural Economics, Texas A&M University

Project dates: September 1, 2008 - October 31, 2009 • **Award:** $85,272

UTCM Project #08-04-12 • RiP.trb.org Database #15599

Education

Developing an Interdisciplinary Certificate Program in Transportation Planning

Research Team: Forster Ndubisi, PhD, ASLA and Eric Dumbaugh, PhD, Department of Landscape Architecture and Urban Planning, Texas A&M University

Project dates: January 1, 2008 - January 31, 2010 • **Award:** $101,852

UTCM Project #08-21-10 • RiP.trb.org Database #15568

See related article, p. 4

Making Mobility Improvements a Community Asset

Research Team: Brian Bochner, PE and Beverly Storey, System Planning, Policy and Environment Research Group, Texas Transportation Institute
Dominique Lord PhD, PE, Zachry Department of Civil Engineering, Texas A&M University
Eric Dumbaugh, PhD, Department of Landscape Architecture and Urban Planning, Texas A&M University

Project dates: January 1, 2008 - November 30, 2009 • **Award:** $154,629

UTCM Project #08-14-03 • RiP.trb.org Database #15569

Technology Transfer

Freeway Bottleneck Removals: Workshop Enhancement and Technology Transfer

Research Team: Carol Walters, PE, Poonam Wiles and Scott Cooner, System Planning, Policy and Environment Research Group, Texas Transportation Institute - Arlington

Project dates: September 1, 2008 - October 31, 2009 • **Award:** $78,000

UTCM Project #08-37-16 • RiP.trb.org Database #15571

UTCM Ongoing Projects (cont. from p. 27)

Technology Transfer (cont.)

Promoting Workforce Development for the Transportation Profession Through a Multi-University/Agency Partnership

Research Team: **Raghava Kommalapati, PhD, PE and Judy Perkins, PhD**, Department of Civil and Environmental Engineering, Prairie View A&M University
Debbie Jasek, Center for Professional Development, Texas Transportation Institute
Bill Stockton, PhD, PE, Executive Associate Agency Director, Texas Transportation Institute
Robert Benz, Research and Implementation, Texas Transportation Institute - Dallas

See related article, p. 6

Project dates: May 1, 2008 - September 30, 2010 • **Award:** $118,029
UTCM Project #08-45-07 • RiP.trb.org Database #15602

Developing a Methodological Framework to Value Public Sector Risk Exposure in PPP Agreements

Research Team: **Rafael Aldrete-Sanchez, PhD, PE**, Research/Implementation, Texas Transportation Institute - El Paso
Ivan Damnjanovic, PhD, Zachry Department of Civil Engineering, Texas A&M University

Project dates: *September 1, 2008 - August 31, 2010* • **Award:** *$99,979*
UTCM Project #08-41-01 • RiP.trb.org Database #15603

PROJECTS

UTCM Projects Completed in FY09

Research

Impact of Reconstruction Strategies on System Performance Measures: Maximizing Safety and Mobility While Minimizing Life-Cycle Costs

Research Team: **Ivan Damnjanovic, PhD,** Zachry Department of Civil Engineering, Texas A&M University,
Andrew J. Wimsatt, PhD, PE, Materials and Pavements Division, Texas Transportation Institute,
Sergiy I. Butenko PhD and Reza Seyedshohadaie, Industrial and Systems Engineering, Texas A&M University

Project dates: September 1, 2007 - October 31, 2008 • **Award:** $60,000
UTCM Project #07-04 • TRIS Online #01124563

Improving Mobility Data and Benefit Estimation Procedures

Research Team: **Timothy Lomax, PhD, PE, Shawn Turner, PE, David Schrank, PhD, Bill Eisele, PhD, PE and David Ellis, PhD,** Mobility Analysis Program, Texas Transportation Institute

Project dates: January 1, 2008 - November 30, 2008 • **Award:** $150,000
UTCM Project #08-16-08 • RiP.trb.org Database #15491

Feasibility of Mileage-Based User Fees: Application in Rural/Small Urban Areas of Northeast Texas

Researcher: **Ginger Goodin, PE,** System Planning, Policy and Environment Research Group, Texas Transportation Institute - Austin

Project dates: February 1, 2008 - November 30, 2008 • **Award:** $80,000
UTCM Project #08-11-06 • TRIS Online #01121765

A Systems Approach to Risk Reduction of Transportation Infrastructure Networks Subject to Multiple Hazards

Research Team: **Mauricio Sanchez-Silva PhD and David Rosowsky**, Zachry Department of Civil Engineering, Texas A&M University

Project dates: January 1, 2008 - December 31, 2008 • **Award:** $95,888
UTCM Project #08-01-13 • RiP.trb.org Database #15492

Transit Services for Sprawling Areas with Relatively Low Demand Density: A Pilot Study in the Texas Border's Colonias

Researcher: **Luca Quadrifoglio, PhD,** Zachry Department of Civil Engineering, Texas A&M University

Project dates: September 1, 2007 - January 15, 2009 • **Award:** $75,000
UTCM Project #07-02 • RiP.trb.org Database #14221

Expansion of the Border Crossing Information System

Research Team: **Juan Villa,** System Planning, Policy and Environment Research Group, Texas Transportation Institute
Rafael Aldrete, PhD, PE, Research and Implementation, Texas Transportation Institute - El Paso

Project dates: February 1, 2008 - January 31, 2009 • **Award:** $60,854
UTCM Project #08-30-15 • RiP.trb.org Database #15487

PROJECTS

Mileage-Based User Fees: Defining a Path toward Implementation, Phase 1

Researcher: **Ginger Goodin, PE,** System Planning, Policy and Environment Research Group, Texas Transportation Institute - Austin

Project dates: October 1, 2008 - February 28, 2009 • **Award:** $60,000
UTCM Project #09-00-16 • RiP.trb.org Database #20566

See related article, p. 10

Mileage-Based User Fees: Defining a Path toward Implementation, Phase 2

Researcher: **Ginger Goodin, PE,** System Planning, Policy and Environment Research Group, TTI - Austin

Project dates: March 1, 2009 - July 31, 2009 • **Award:** $40,000
UTCM Project #09-39-07 • RiP.trb.org Database #20588

See related article, p. 10

UTCM Projects Completed in FY09

(cont. from p. 29)

Research (cont.)

Improved Demand-Response Productivity and Service Quality Through Dispatch Strategies

Research Team: **Suzie Edrington,** System Planning, Policy and Environment Research Group, Texas Transportation Institute - Austin
Jeffrey Arndt, Transit Mobility Program, Texas Transportation Institute - Houston
Project dates: June 1, 2008 - January 31, 2009 • **Award:** $45,000
UTCM Project #08-24-05 • RiP.trb.org Database #15601

Transit Leadership Initiative

Researcher: **Linda Cherrington,** Transit Mobility Program, Texas Transportation Institute - Houston
Project dates: January 1, 2009 - August 31, 2009 • **Award:** $50,000
UTCM Project #09-38-04 • RiP.trb.org Database #20582

Education

Graduate Certificate in Transportation Planning

Researcher: **Forster Ndubisi, PhD, ASLA,** Department of Landscape Architecture and Urban Planning, Texas A&M University
Project dates: September 1, 2007 - September 15, 2008 • **Award:** $60,000
UTCM Project #07-06 • TRIS Online #01124562

See related article, p. 4

A Special Topics Course on Intelligent Transportation Systems for the Zachry Department of Civil Engineering of Texas A&M University

Research Team: **Kevin Balke, PhD, PE and Robert Brydia,** TransLink® Research Center, Texas Transportation Institute
Project dates: January 1, 2008 - June 30, 2009 • **Award:** $47,421
UTCM Project #08-27-02 • RiP.trb.org Database #15572

Technology Transfer

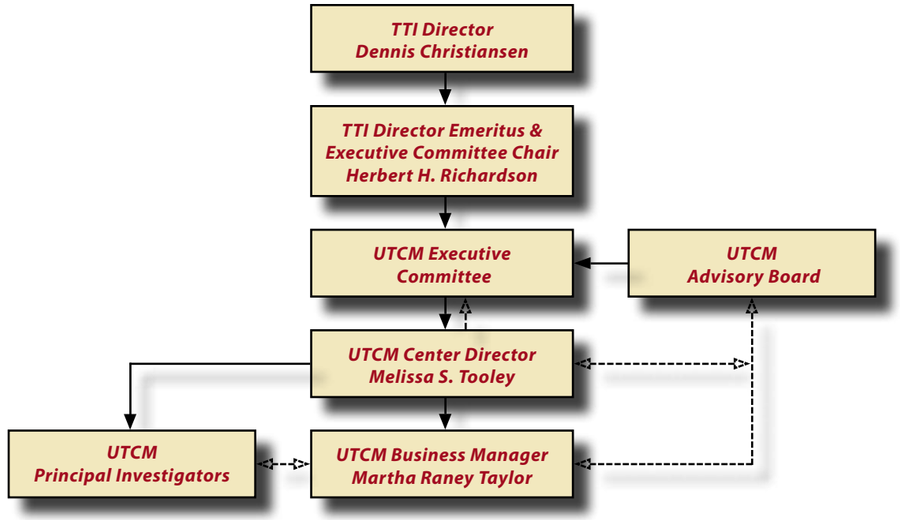
Nationwide Examples of State and Local Funds for Mass Transit

Researcher: **Linda Cherrington,** Transit Mobility Program, Texas Transportation Institute - Houston
Project dates: March 1, 2008 - August 31, 2008 • **Award:** $50,000
UTCM Project #08-00-19 •TRIS Online #01124568

A Guide to Transportation Funding Options: Phase 2

Researcher: **Tina Geiselbrecht,** System Planning, Policy and Environment Research Group, Texas Transportation Institute - Austin
Project dates: January 1, 2009 - August 31, 2009 • **Award:** $32,300
UTCM Project #09-38-04 • RiP.trb.org Database #20585

UTCM Organizational Chart



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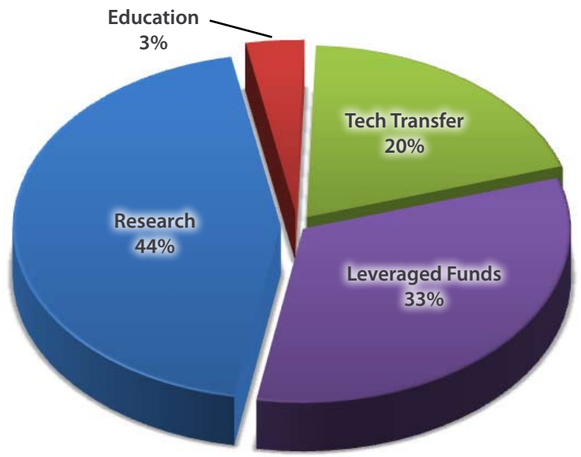
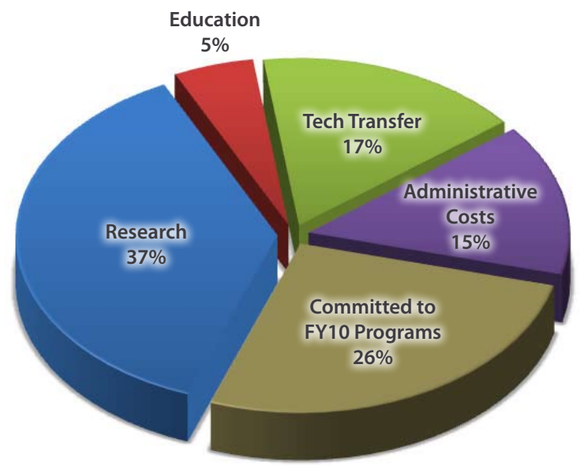
UTCM Financial Report

FY09 Project Funds



FY09 Federal Funds



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