

# SWUTC News

Texas A&M University • University of Texas at Austin • Texas Southern University

## SWUTC Students Honored by CUTC

**Cameron Williams**, recent graduate of Texas A&M University and former SWUTC *Transportation Scholars* student, received two prestigious transportation awards during the annual meeting of the Council of University Transportation Centers (CUTC) held in January in conjunction with the annual Transportation Research Board meeting.

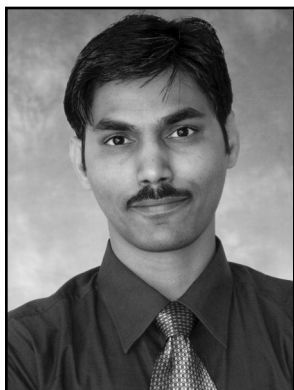
Cameron was the recipient of the *Milton Pikarsky Memorial Award* which is awarded to two students annually for the best master's thesis and the best dissertation. Williams received a monetary award of \$1,500 for his master's thesis, which focused on developing an automated method for identifying no-passing zones on rural highways by using a global positioning system.

Williams was also named the *SWUTC Student of the Year*, representing the SWUTC at the CUTC banquet and awards ceremony held during the TRB annual meeting.

Williams is currently employed in the traffic engineering services at Walter P. Moore and since being employed there has had the unique opportunity to work on a "Safe Routes to School Program" for 48 elementary schools in the City of El Paso, Texas.



Mr. Cameron Williams



Dr. Abdul Pinjari

Also honored at the annual CUTC meeting, **Dr. Abdul Rawoof Pinjari** is a recent graduate from the University of Texas at Austin and former SWUTC student researcher under the guidance of Dr. Chandra Bhat. Pinjari was the 2008 recipient of the *Charley V. Wootan Memorial Award* for the best PhD dissertation in North America in the field of Transportation Policy and Planning. Pinjari received a monetary award of \$2,000 for his dissertation titled "Modeling Residential Self-Selection in Activity-Travel Behavior Models: Integrated Models of Multidimensional Choice Processes."

Dr. Pinjari is currently an Assistant Professor at the University of South Florida in Tampa in the Department of Civil and Environmental Engineering.

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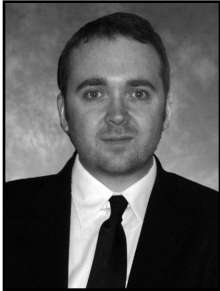
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April 2009

## SWUTC Researcher and Student Win TRB Award

**Dr. Travis Waller** and his former PhD student, **Jennifer Duthie**, both from the University of Texas at Austin, received the *Fred Burggraf Award* for excellence in transportation research at the Transportation Research Board's January 2009 meeting in Washington, D.C. They were recognized for their paper titled "Incorporating Environmental Justice Measures into Equilibrium-Based Network Design" which is a product from their SWUTC research effort by the same title.



Dr. Travis Waller



Dr. Jennifer Duthie

The *Fred Burggraf Award* was established in 1966 to stimulate and encourage young researchers to contribute to the advancement of knowledge in the field of transportation. It provides recognition of excellence in transportation research by researchers 35 years of age or younger whose papers have been published under the sponsorship of any TRB Division A Standing Group.

### *Save the Date*

#### Climate Change and Adaptation: A Regional Perspective Workshop

Where: The Woodlands, Texas

When: June 1, 2009

The workshop will focus on the issues of climate change and regional adaptation to potential threats to transportation and public infrastructure. This workshop will be of interest to researchers, academics, elected and agency officials, business and engineering firms, environmental interest groups and other stakeholders with an interest in climate change and adaptation. A wide list of potential attendees has been invited to the workshop. The workshop will be free of charge.

The workshop is funded in part by the University Transportation Center for Mobility and supported by research initiatives through the Southwest Region University Transportation Center. Panels include:

##### *Panel 1. Climate Change and Adaptation: A General Overview*

This panel will take broad overviews of the current state of climate change affairs, climate change and adaptation in general, and the links between climate change adaptation and transportation and infrastructure policy making.

##### *Panel 2. Current perspectives on Climate Change and Adaptation*

This panel will outline the federal perspective on climate change and adaptation, the state perspective, and the regional perspective. The focus of these presentations will be on each specific level of governance and intergovernmental linkages among them.

##### *Panel 3. Case studies*

Includes 3-4 case studies on the regional approach to climate change and adaptation.

Registration is now open at

<https://survey.gbs.tamu.edu/ISTPP-ClimateChangeRegistration.pdf>

For additional workshop information - please contact:

Eric Lindquist, Ph.D., 979-862-3857, [elindquist@bushschool.tamu.edu](mailto:elindquist@bushschool.tamu.edu)

## Key SWUTC Personnel Recognized with Honors

On April 23rd, **Dr. Eyad Masad**, SWUTC Executive Committee Member and researcher received the *Halliburton Professorship Award* from the Dwight Look College of Engineering at Texas A&M University. This award specifically honors those that excel in both research and teaching.

Dr. Masad, who is a faculty member of Texas A&M University at Qatar, will receive a plaque and a \$2,500 award.

**Dr. Tim Lomax**, SWUTC Associate Director for Research at Texas A&M University has been selected as the 2009 recipient of the *Theodore M. Matson Award*. This Institute of Transportation Engineers (ITE) award honors outstanding contributions in the field of traffic engineering.

Dr. Lomax's work on TTI's *Urban Mobility Report*, and especially the public understanding of congestion as a result, was the key factor in his selection.

The *Matson Award*, which will be presented at ITE's Annual Meeting in San Antonio in August, has been awarded since 1957. Matson contributed greatly to the common welfare through the advancement of the techniques of traffic engineering.

Dr. Lomax was also awarded the *Regents Fellow Service Award* which is presented to those Texas A&M System employees "who have provided exemplary professional service to society that has created large and lasting benefits to Texas and beyond." This award is the Texas A&M University System Board of Regents' highest honor. Lomax was presented this award during ceremonies held December 4th.

**Dr. Rashid Abu Al-Rub**, SWUTC researcher and assistant professor of structural engineering at Texas A&M University, received on March 6th a Texas A&M University System *Student Led Award* for

*Teaching Excellence* (SLATE).

**Dr. Zachary Grasley**, SWUTC researcher and assistant professor of materials engineering in the Zachry Department of Civil Engineering at Texas A&M University, has received the National Science Foundation's (NSF) prestigious *Faculty Early Career Development (CAREER) Award*. Grasley's CAREER-funded project will focus on improving concrete materials, and the five year award period will begin in September.

Grasley joined Texas A&M University in August 2006 after receiving his Ph.D. in Civil Engineering from the University of Illinois at Urbana-Champaign earlier that year. His teaching and research interests cover a broad spectrum of topics related to construction materials and their behavior.

The NSF established the *CAREER* program to support junior faculty within the context of their overall career development, combining in a single program the support of research and education of the highest quality. Through this program, the NSF emphasizes the importance on the early development of academic careers dedicated to stimulating the discovery process in which the excitement of research is enhanced by inspired teaching and enthusiastic learning.

SWUTC Associate Director of the Transportation Scholars Program at Texas A&M University, **Dr. Gene Hawkins**, received national recognition for his work on the Federal Highway Administration's (FHWA's) Retroreflectivity Team. He, along with fellow TTI researcher Dr. Paul Carlson, were the recipients of the *Secretary's Transportation Safety Award* granted by USDOT "in recognition of outstanding dedication and commitment toward improving the safety and visibility of America's highways."

*This year, the SWUTC selected 45 new research studies to fund. Four of these are highlighted below.*

### Road Pricing

Nationally, road pricing is being increasingly applied as a means of both financing new highway capacity and managing existing capacity. In Texas, where traditional funding lags behind needs to maintain and improve the state's infrastructure, much of the state's new highway capacity is being financed through tolls. With Texas's major cities already among the nation's most congested, considerable growth in both population and freight expected, and opportunities for capacity expansion limited by environmental and land-use concerns, it is likely that applications of road pricing to better manage existing capacity will be necessary in the future. In Houston, limited road pricing has already been applied on some HOV facilities. So far, nationally, priced HOV and express lane projects have been limited to passenger cars only. However, with huge growth in truck freight traffic expected, concepts for priced truck-only facilities that could achieve faster and more reliable routes, potentially improve safety, and allow for operation of larger, higher productivity vehicles are in development.



Dr. Mike Walton

Even on existing facilities, little research has been performed to examine truck response to road pricing. The few studies that have been performed show conflicting results and heavy variability based on location, industry sector, commodity type, and trip distance. These studies have been performed in very unique locations, and their results cannot be generalized. The objective of this research being conducted by **Dr. C. Michael Walton** of the University of Texas at Austin is to identify and quantify the expected response of trucks to traditional and innovative pricing applications, such as variably priced toll roads, mixed-use express lane facilities and truck-only facilities, through a comprehensive survey of carriers.

For more information, visit <http://swutc.tamu.edu/projectdescriptions/476660-00066.htm>

### Smart Growth Development

In recent years, more suburban communities are being designed to incorporate characteristics of smart growth development. One of the principal elements of smart growth is a mix of land uses that enables residents to have at their disposal a variety of needs from essentials, such as groceries, to optional recreational activities. A smart growth community is intended as a legacy community, where children and grandchildren are proud to return. As the idea of smart growth has gained prominence, its beginning in central cities and urban areas has spread to the suburbs. Professionals wonder if smart growth can be successful in suburban environments and whether these communities mirror their urban counterparts when developed far from the central city. This work being conducted by **Dr. Carol Lewis** of Texas Southern University will designate smart growth elements and assess their presence or absence in two Texas suburban communities. The Woodlands, started in 1974, is 30 miles from downtown Houston; Sugar Land Town Square began in 2003 and is approximately 25 miles from downtown Houston. These areas are known to entice large numbers



Dr. Carol Lewis

of individuals and are known for providing a high quality of life. Also, researchers will gauge trip making in the two suburban communities to determine whether changes in travel habits occur for suburban mixed use dwellers.

For more information, visit <http://swuttc.tamu.edu/projectdescriptions/476660-00048.htm>

## *Materials*

Improved safety, economy, and the environment result from the use of permeable friction course (PFC) mixtures. PFC is one of the safest, cleanest, and quietest alternatives currently available for surface paving. However, mix design and construction practices for PFC mixtures can be further improved to better guarantee adequate performance of this type of hot mix asphalt (HMA). This project under the guidance of **Dr. Amy Epps-Martin** of Texas A&M University focuses on improving the mix design of PFC mixtures fabricated using both Asphalt Rubber and Performance Grade asphalts. The project includes the study of the internal structure of compacted mixtures based on the acquisition and subsequent analysis of X-ray Computed Tomography images. The entire evaluation incorporates the following aspects of PFC mixtures: (i) modification in the fabrication of laboratory compacted specimens used for mix design and evaluation; (ii) evaluation of stone on stone contact; and (iii) analytical prediction of permeability. These aspects will be assessed for mixtures compacted in the laboratory and in the field to facilitate making recommendations to improve the current mix design procedure for PFC mixtures.



Dr. Amy Epps-Martin

For more information, visit <http://swuttc.tamu.edu/projectdescriptions/476660-00013.htm>

## *Vehicle Ownership/Behavioral Changes*

Policymakers, travel demand modelers, and city planners are all wondering what the long-term outlook is for gas prices – along with travelers' responses to these. Recent political instability pushed the price of a barrel of oil up to the \$130 dollar mark, from \$20 a barrel in 2002. Diesel costs for freight transport also have increased: from \$1.75 per gallon in 2004, to \$2.75 a gallon in August 2006 – reaching a \$3.25 in August 2005 (after Hurricane Katrina hit the Gulf Coast) and climbing past \$4. As mining of fossil fuels peaks, rising demand exceeds new sources of petroleum, and supply disruptions continue, prices may well hit \$6 or more per gallon. International concern over climate change and the need to rein in greenhouse gas emissions also portends higher prices. How quickly can we expect American households to react to higher prices, as well as new vehicle designs, and how will less efficient vehicles move through the U.S. fleet?



Dr. Kara Kockelman

This research being conducted by **Dr. Kara Kockelman** of the University of Texas at Austin will anticipate the near- and long-term behavioral changes of travelers and vehicle owners to a variety of gasoline price assumptions, describing the spectrum of vehicle fleet and travel futures that the nation may encounter. There are two components to this work: The first can be fairly described as the demand elasticity of gasoline-based transport, or the degree to which price changes affect consumer demand. The second is the menu of likely alternatives and the potential magnitude of the shift into each at different price points.

For more information, visit <http://swuttc.tamu.edu/projectdescriptions/169202.htm>

## Education Highlights

### Student Kudos

**Ian Hlavacek**, recent graduate from the University of Texas Department of Civil, Architectural, and Environmental Engineering and former SWUTC Advanced Institute member, received the *2009 Young Member of the Year* from the Houston area section of the Texas District of the Institute of Transportation Engineers (TexITE). This award is presented annually and recognizes an individual member of the Houston Area Section for leadership, commitment to excellence and activism within TexITE and other organizations.

Mr. Hlavacek currently works as a Senior Associate Engineer for Traffic Engineers Inc. in Houston, Texas.



Ian Hlavacek



Tara Ramani, Dr. Luca Quadrifoglio and Xiugang Li

**Xiugang Li**, Ph.D. student in the Zachry Department of Civil Engineering at Texas A&M University and fellow in the SWUTC Transportation Scholars Program, received the Association of Former Students and Office of Graduate Studies *2008-2009 Excellence in Doctoral Research Award* on March 25th. This annual award recognizes graduate students for distinguished research or teaching.

**Tara Ramani**, masters student in the Zachry Department of Civil Engineering at Texas A&M University and SWUTC researcher under the guidance of Dr. Joe Zietsman, received the Association of Former Students and Office of Graduate Studies *2008-2009 Excellence in Master's Research Award* on March 25th.

PhD student, **Naveen Eluru** from the University of Texas, supervised by Dr. Chandra Bhat, was chosen to participate in the 2009 International Road Federation Executive Leadership program, held in Washington DC during January 7-17, 2009. This annual event brings the current class of Fellows together to spend ten days: (i) learning about the IRF, (ii) being introduced to IRF members who can help to shape their careers, gain exposure to many of the public and private organizations that are active in the road industry, and (iii) hearing first hand from top-level executives what it takes to become leaders who will make a difference in the road industry.



Naveen Eluru

### Where Are They Now?

Congratulations to the recent graduates of the SWUTC Education Program who have joined the transportation workforce.

#### University of Texas at Austin Graduates

**Steven Marfitano** - Assistant Professor for the University of Wyoming

**Jennifer Duthie** - Specialist for the University of Texas at Austin Division of Statistics

**Elizabeth Porterfield** - Associate for Walter P. Moore and Associates

**Michael Vitek** - Traffic Engineer for Parsons Transportation Group Inc.

#### Texas Southern University Graduates

**Armin Kheirmand** - Planner for the City of Houston Planning Department

**Thabo (David) Moeng** - Planner for the City of Virginia Planning Department

**Marcus Salem** - Pilot for Continental Express

**Yasmina Soria** - Planner for MARTA Atlanta Transit

## Finding Common Ground: Region 6 UTCs Meeting Held

The first annual meeting of the UTCs operating in Region 6 took place March 28th on the campus of the University of New Orleans. The Gulf Coast Research Center for Evacuation and Transportation Resiliency was established with funding from SAFETEA-LU and has working elements at both LSU in Baton Rouge and at UNO. Dr. John Renne (UNO) and Dr. Brian Wohlson (LSU-Baton Rouge) hosted the gathering designed to update participants on the recent and near-term activities underway at each of the Region 6 UTCs. Dr. Herbert Richardson, chairman of the Executive Committee of the Southwest Region University Transportation Center, welcomed individuals from five separate UTCs in the region and USDOT representatives from the Washington office of RITA's UTC program grant administrators Ms. Amy Stearns and Ms. Robin Kline.

Dr. Wohlson and Dr. Renne were joined by several Louisiana colleagues to describe the inaugural year of the newest UTC in the region. Focused upon emergency evacuation transportation and planning, the UTC's faculty members present at the meeting from UNO Dr. Hiroyuki Iseki, Dr. James Amdal, Dr. Billy Fields, Mr. Stan Swigart, and from LSU, Dr. Vinayak Dixit.



Region 6 UTC Personnel Gather to Discuss Collaborative Opportunities

Dr. Melissa Tooley presented highlights of the FTA-funded University Transportation Center for Mobility, which was assigned to the Texas Transportation Institute by provisions in SAFETEA-LU. Foremost among the current results of the UTCMs program is its sponsorship of the industry leading annual publication from TTI entitled the Urban Mobility Report.

Dr. Tooley also presented a briefing of the programs at the Mack-Blackwell Rural Transportation Center located at the University of Arkansas in Fayetteville.

From the Oklahoma Transportation Center, Dr. Musharraf Zaman described the research, education, and technology transfer activities underway at the OTC consortium. Its faculty and staff are comprised of individuals from three of the state's leading universities: Oklahoma State University, University of Oklahoma, and Langston State University.

Representatives from the regional UTC for Region 6, the Southwest Region University Transportation Center headquartered in Texas A&M System's TTI, presented program highlights from each of the consortium member institutions. Mr. Rob Harrison described some of the specifics of the research facilities and program contents of activities underway at the University of Texas at Austin and its Center for Transportation Research. Dr. Carol Lewis described some recent developments at Texas Southern University, which is SWUTC's member university in Houston. TSU has recently secured a new research center for transportation security being sponsored by the US Department of Homeland Security. Mr. Dock Burke, Director of SWUTC, closed out the discussion with some overview comments on the research, educational, and tech transfer programs underway in the SWUTC.

A free-ranging discussion of future opportunities for collaborating on educational and/or research initiatives generated several possibilities for student-based seminars and jointly-sponsored research projects. Attendees agreed to pursue some ideas for developing a research paper competition for the students at the UTC universities in Region 6 and to conduct periodic meetings and share ideas regarding feasible collaborations in the future.

Following this meeting, Dr. Carol Lewis from the SWUTC was appointed to serve on the planning committee for an upcoming LSU/UNO conference titled *National Conference on Evacuation and Resiliency*. The conference will have two tracks: regional planning, transit and accommodating specific needs, and evacuation modeling. The conference goal is to bring personnel in the fields of transportation and emergency management together to discuss evacuation planning and creating resilient systems to accommodate the needs of all people before, during and after a major disaster.

### SWUTC Conducts Bio-Fuels for Texas Forum

SWUTC Principal Investigator Sharon Boxill from Texas Southern University facilitated the *Bio-Fuels for Texas Forum* held April 3rd on the TSU campus. The objective of this forum was to discuss the facts concerning the use of biofuels in Texas transportation and state the case for biofuels objectively.

Panelists for the forum were Dick Auld from Texas Tech University who spoke on the genetic manipulation of crops needed for production of biofuels; Elena Craft, Environmental Defense Fund Air Quality Specialist who focused on the health effects associated with diesel pollution; Robert Harris from the Houston Advanced Research Center who discussed issues concerning biofuels, food security and climate and William Swann of the Electric Car Club of Houston who discussed electricity as a fuel alternative.



Forum panelists discuss issues surrounding the use of biofuels in Texas transportation.



### SWUTC Researchers Hit the Road

The following is a listing of SWUTC staff who presented study findings based on their SWUTC research.

**Dr. Randy Machemehl** from the University of Texas at Austin presented *Operational Cost Efficiency of Bus Versus Heavy Rail: A Temporal and Regional Analysis* at the 50th Annual Transportation Research Forum, Portland, OR, March 2009.

**Ms. Alison Conway** from the University of Texas at Austin presented *Truck User Charging: Policy Options and Rate Variables* to the TexITE Semi-Annual Meeting, Lubbock, TX, February 7, 2009.

**Dr. Amy Epps-Martin** and **Mr. Alex Alvarez** from Texas A&M University presented *Permeable Friction Course Mixtures are Different* at the 36th Rocky Mountain Asphalt Conference and Equipment Show, 1st Annual Flexible Pavement Research Symposium. Denver, CO, February 2009.

**Ms. Alison J. Conway** and **Dr. C. Michael Walton** from the University of Texas at Austin presented *Policy Options for Truck User Charging* at the Freight Subcommittee Meeting, Metropolitan Washington Council of Governments, Washington, D.C., January 14, 2009.

### 88th Annual TRB Meeting Presentations

**Mr. Avinash Voruganti**, **Mr. Stephen Boyles** and **Dr. Travis Waller** from the University of Texas at Austin presented *The Impact of Roadway Capacity and Travel Demand Variation on Freeway Travel Speed Distributions*.

**Dr. Fengxiang Qiao**, **Ms. Ruixin Ge** and **Dr. Lei Yu** from Texas Southern University presented *Evacuation Modeling in Small and Dense Areas*.

*Continued on page 9*

**Ms. Alison J. Conway** and **Dr. C. Michael Walton** from the University of Texas at Austin presented *Policy Options for Truck User Charging*

**Dr. George Qiao, Mr. R. Zhang, Mr. Z. Chen, Mr. R. Fatolahzadeh, Dr. Lei Yu** and **Mr. X. Yuan** from Texas Southern University presented *Review of Radio Frequency Identification Applications in Transportation*.

**Ms. Suma Tirumalachetty, Dr. Kara Kockelman** and **Mr. Saurabh Kumar** from the University of Texas at Austin presented *Microsimulation Models of Urban Regions: Anticipating Carbon Emissions from Transport and Housing in Austin, Texas*.

**Ms. Aristeidis Pantelias** and **Dr. Zhanmin Zhang** from the University of Texas at Austin presented *A Quadratic Linear Control Approach to Managing Network-level Performance Goals of Pavement Infrastructure Systems*.

**Mr. Lu Gao** and **Dr. Zhanmin Zhang** from the University of Texas at Austin presented *An Approximate Dynamic Programming Approach to Network-Level Budget Planning and Allocation for Pavement Infrastructure*.

**Dr. Yi Qi, Mr. L. Yang** and **Dr. Lei Yu** from Texas Southern University presented *Evaluation of VII Technology Based Highway Curve Warning System for Run-Off-Road Collision Prevention*.

**Dr. Yi Qi, Mr. B. Wang** and **Dr. Lei Yu** from Texas Southern University presented *Vehicle Infrastructure Integration (VII) Based Highway Lane Change Warning System for Collision Prevention*.

**Ms. Rachel Copperman** and **Dr. Chandra Bhat** from the University of Texas at Austin presented *An Empirical Analysis of Children's After School Out-of-Home Activity-Location Engagement Patterns and Time Allocation*.

**Ms. Rachel Copperman** and **Dr. Chandra Bhat** from the University of Texas at Austin presented *An Assessment of the State-of-the-Research of Children's Activity-Travel Patterns and Implications for Activity-Based Travel Demand Modeling*.

**Mr. Chung-Wei Shen, Mr. Shailesh Chandra,** and **Dr. Luca Quadrifoglio** from Texas A&M University presented *Travel Demand Patterns in the Colonia of El Cenizo, Texas*.

**Mr. Stephen Boyles, Dr. Kara Kockelman** and **Dr. Travis Waller** from the University of Texas at Austin presented *Congestion Pricing Under Operational Supply-side Uncertainty* at the 88th Annual Meeting of the TRB, Washington, D.C., January 2009.

## Recently Published Reports

Each of the following publications are available in PDF format at  
<http://swutc.tamu.edu/publications.htm>

Analysis of Texas Biofuel Supply Chains Originating in the United States and Brazil, Leigh B. Boske and James T. Woodward, University of Texas at Austin, May 2009, 94 pp. (169201-1)

Private Sector's Role in Public School Facility Planning, Jennifer Bennett and Tracy McMillan, University of Texas at Austin, April 2009, 85 pp. (167263-1)

Design-Build Agreements: A Case Study Review of the Included Handover Requirements, Jolanda Prozzi, Alejandro Perez-Ordóñez, and Jorge A. Prozzi, University of Texas at Austin, April 2009, 66 pp. (167866-1)

*Continued on page 10*

Toward a Green Campus: A Transportation Strategy for Texas A&M University, Mohamadreza Farzaneh, Jae Su Lee, Tara Ramani, Laura Higgins, and Josias Zietsman, Texas A&M University, March 2009, 133 pp. (167174-1)

The U.S.-Brazil-China Trade and Transportation Triangle: Implications for the Southwest Region, Leigh B. Boske and John C. Cuttino, University of Texas at Austin, March 2009, 130 pp. (167861-1)

Future Travel Demand and Its Implications for Transportation Infrastructure Investments in the Texas Triangle, Ming Zhang and Binbin Chen, University of Texas at Austin, March 2009, 50 pp. (167276-1)

Transit Services for Sprawling Areas with Relatively Low Demand Density: A Pilot Study in the Texas Border's Colonias, Luca Quadrifoglio, Shailesh Chandra and Chung-Wei Shen, Texas A&M University, February 2009, 86 pp. (167177-1)

Computer Simulation-Based Framework for Transportation Evacuation, Fengxiang Qiao, Ruixin Ge and Lei Yu, Texas Southern University, January 2009, 117 pp. (473700-00057-1)

Protecting and Preserving Rail Corridors Against Encroachment of Incompatible Uses, Lisa Loftus-Otway, C. Michael Walton, Lynn Blais and Nathan Hutson, University of Texas at Austin, January 2009, 194 pp. (0-5546-1)

Who Uses Toll Roads? An Analysis of Central Texas Turnpike Users, Chris Robertson, Jolanda Prozzi and C. Michael Walton, University of Texas at Austin, December 2008, 136 pp. (476660-00065-1)

Addressing Cargo Security with Strategies Involving Private Sector, Jason R. West, C. Michael Walton and Alison J. Conway, University of Texas at Austin, December 2008, 38 pp. (473700-00095-1)

A Review of Warm Mix Asphalt, Arif Chowdhury and Joe W. Button, Texas A&M University, December 2008, 75 pp. (473700-00080-1)

Compendium of Student Papers: 2008 Undergraduate Transportation Engineering Fellows Program, H. Gene Hawkins, editor, Texas A&M University, August 2008, 193 pp. (476660-00003-1)

- \* *Selecting Warning Signs Using Decision Theory and Systems Engineering Concepts*, Rolando A. Ayala, II
- \* *Estimating Corridor Travel Time from Arterial Traffic Volume*, Taileah J. Hunter
- \* *Evaluating the Effectiveness of Life Cycle Variables in Travel Demand Modeling*, Lisa K. Larsen
- \* *Examining Cross Median Crashes on Horizontal Curves*, Matthew P. Mulkern
- \* *Driver Workload and Visual Studies*, James A. Robertson

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