

2010

Intelligent Transportation
Society of America
Annual Report



The University of Texas at Austin
Cockrell School of Engineering

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INTELLIGENT TRANSPORTATION SOCIETY OF AMERICA ANNUAL REPORT

The University of Texas at Austin

Organizational Objective

The Intelligent Transportation Society of America, better known as ITS America, is a forum in which industry, government, and academia meet to build consensus on fostering, developing, and deploying Intelligent Vehicle-Highway Systems. The society's mission is to help evolve a significantly safer, cleaner, more productive, and more competitive U.S. transportation system. To this end, the Society promotes public-private-academic partnerships and co-operations in the ITS community.

We are the student chapter of the Intelligent Transportation Society of America at The University of Texas at Austin. The primary goals of our chapter are to 1) Promote and cultivate student awareness, interest and research in intelligent transportation systems at The University of Texas at Austin, 2) Introduce students to the Intelligent Transportation Society of America, 3) Assist students in their ITS and transportation related interests, 4) Create a network between students and the ITS community, 5) Extend the network of supporters of ITS, 6) Provide the means for students interested in ITS and their prospective employers to come together, 7) Provide opportunities for ITS @ UT members to be involved in the local Austin, TX community.

ITS Officers

President	Carey Blackmar
Vice President, Activities	Sunny Jaipuria
Vice President, Administration	John Brady
Secretary	Ti Zhang
Treasurer	Lindsey Carroll
Advisor	Dr. Zhanmin Zhang

Executive Summary

The past year has seen ITS lead and participate in a number of great activities both at the University and in the surrounding community. On campus we have taken part in Explore UT, Introduce a Girl to Engineering Day, and undergraduate recruitment at the Fall Gathering, among other things. Within the civil engineering department we have hosted a series of guest lecturers from both the academic and the professional sides of transportation engineering. Outside of this, our Society has organized intramural sports teams, hosted monthly birthday parties for those within the department, welcomed new graduate students, and organized recruitment for potential graduate students. It gives us great pleasure to share and further explore these activities with you throughout this report!

Professional Activities

One of the pillars of our group is exposure to and interaction with the professional community of transportation engineers. The experience these people possess and the advice they have to offer is truly invaluable to students.

Transportation Research Board Conference

In January, we once again made the annual trek to Washington D.C. to partake in the Transportation Research Board Conference. With a plethora of speakers, posters, vendors, and round table discussions to choose from, everyone was able to keep busy over the course of the conference. Our department was also very proud of the large number of UT faculty and students presenting their work. ITS worked in conjunction with our sister society, ITE, to compile and organize students' resumes onto CDs which were distributed at the conference.

Of course while in Washington we made sure to explore the city as well. Trips were made to the National Zoo and Smithsonian Museums while a Happy Hour was organized to bring together current students and alumni.

Guest Speakers



Michael G. Dreznes assumed his current position of Vice President of Sales and Marketing at Barrier Systems Inc. in March of 2008. Prior to accepting his position at Barrier Systems Inc, Michael was the Deputy Director General of the Washington Program Center of the International Road Federation (IRF). Dreznes has spent the last twenty-three years working to make the roads safer around the world. He is recognized as one of the world's leading experts on roadside safety promoting the concept of "Forgiving Highways."

Michael is the Chairman of the Transportation Research Board (TRB) AFB20 (2) Roadside Safety Sub-Committee on International Research Activities, a member of the TRB AFB20 Committee on Roadside Safety and the President of the IRF Washington Road Safety Working Group. Michael lives in Chicago, Illinois with his wife of thirty-six years, Margaret. They have three grown

and married children, Mike, Laura and Sarah and one grandson, Patrick and one granddaughter, Caitlin.

Carlos Lopez, P.E., serves as district engineer for the Austin District of



TxDOT. He was previously director of the Traffic Operations Division until moving to the Austin District July 1, 2009. A 27-year TxDOT veteran, Carlos served as the Director of the Traffic Operations Division beginning in 1999. He joined the

division in 1988 as a special projects engineer and managed statewide traffic light synchronization programs. In 1993, he became the Traffic Engineering Section manager, where he worked with districts and provided statewide oversight of signing, signal, pavement marking and safety construction issues. He became division deputy director in 1996 and served as interim director prior to being named division director.

Carlos joined TxDOT's Pharr District as a summer employee in the Laredo Area Office while earning his bachelor's degree in civil engineering at the University of Texas at Austin. After earning his degree in 1982, he began full time as a field engineer in the Design Division and also spent a year of training in the Austin District. In 1988, Carlos transferred to the Maintenance and Operations Division's Traffic Engineering Section. He received his license as a professional engineer in 1987. In 1989, he earned his master's degree in civil engineering from the University of Texas at Austin. He and his wife, Zulema, live in Austin and have two daughters and one grandson.



Joseph Cantalupo, AICP, joined the Capital Area Metropolitan Planning organizations as its Executive Director in April of 2008. Prior to joining CAMPO, Joseph served for Parsons Brinckerhoff in Austin where he was a senior planning manager responsible for working with MPOs throughout Texas

and where he served as the planning task manager for a long-range transportation plan for the United States Territory of Guam, and as a technical reviewer for the Illinois Long Range Transportation Plan and the City of Lawrence Long Range Transportation Plan.

Prior to joining PB Joseph was the Deputy Director of Planning for the Delaware Department of Transportation (DelDOT), where he was responsible for statewide and regional planning. In this role, Joe was responsible for administering and managing the technical work of over 30 professional staff engaged in statewide and regional long range transportation planning, regional and local land use and transportation studies, community based bicycle and pedestrian studies, statewide program development and administration, travel demand forecasting, and, air quality analysis, among other things. During his almost 12 years at DelDOT, he managed the development of two long range transportation plans and provided the technical assistance for the related efforts of the metropolitan planning organizations and non-metropolitan county in the state. Joseph's community planning experience includes short and long range transportation plans; bicycle and pedestrian studies; and land use and transportation plans.



HNTB Corporation is an architecture and engineering consulting firm headquartered in Kansas City, Missouri that has designed many bridges, roadways, airports and professional sports stadiums across the United States and around the world. Founded in 1914 as a railroad bridge design firm, HNTB has developed a reputation for excellence and innovation in the infrastructure industry. HNTB Corporation is an employee-owned infrastructure firm serving federal, state, municipal, military and private clients.

Through the decades, HNTB has grown and diversified in both markets and in services provided to their clients. HNTB provides a range of services

beyond civil engineering, architecture, and planning and construction management.



Rob Spillar, P.E., serves as the Transportation Director for the City of Austin. Rob, a former Director of Traffic Management for the City of Seattle, was most recently Vice President of Parsons Brinckerhoff Quade and Douglas Inc. for the Central/South and West Texas operations of PB Americas Inc., one of the world's leading planning, engineering, and construction management organizations. Working with PB, Rob was responsible for developing new markets, new clients, profit and loss, staff management, and sales, including the management oversight of four offices (Austin, San Antonio, TTC 69 Project Office, San Antonio Airport Office). He served as the Project Manager for the Central Austin Rail Alternatives Analysis (construction value: \$230M), deputy project manager for the Houston IH 10 Katy Freeway MIS and IH 45 Gulf Freeway projects (combined construction value \$3B), and senior traffic engineering lead on the Seattle Alaskan Way Viaduct project (construction value \$4B).

He has led several major local projects including Loop 1-U.S. 183 Corridor Improvement alternatives planning; Central Austin transit option analysis; and development of multiple Safe Routes to Schools initiatives for the Austin Independent School District. He is a member of the Austin Chamber of Commerce's "Take on Traffic" Committee.



Dave Tuttle

Dave Tuttle is a Graduate Research Assistant and PhD student in renewable energy systems and sustainable mobility in the Electrical and Computer Engineering department at the UT-Austin. His interests and expertise are in the areas of renewable energy, sustainable mobility, and technology. His interests in transportation related technologies started as a teenager through racing motorcycles, autocross, and

automobile restorations. Even today, he enjoys a wide variety of automotive related activities. Dave was the team leader of the University of Texas Computer Sciences-Austin Robot Technology DARPA Urban Challenge team. Out of the original 89 entrants, the team finished 21st in the November 2007 DARPA Urban Challenge competition in Victorville, CA. He was the technical paper author, event chairman, and adviser to the University of Texas at Austin Clean Energy Incubator for the CleanTX Forum on "The Grid Connected Vehicle", an advisor to the UT Mechanical Engineering ChallengeX Hybrid vehicle team, and creator of the Digital Horsepower Automotive Initiative with the Austin Chamber of Commerce.

Dave joined IBM R&D in 1982 with BS and Master of Engineering degrees in Electrical Engineering with Highest Honors from the University of Louisville. He was one of the original designers and technical team leaders on the POWER1 microprocessor which launched IBM's multibillion dollar UNIX/RISC business. After POWER1 was finished, he attended UT-Austin full time to complete his MBA with the Dean's Award and a Sord Scholarship for academic excellence. Returning to IBM, he then led the joint IBM/Apple/Motorola team which designed the first PowerPC microprocessor which launched the first Apple PowerMac and IBM PowerPC SMP server and later led a variety of technical teams as an IBM Director. He went on to lead R&D teams which designed ¼ Gigabit FibreChannel adapters & switches, the POWER2-SC microprocessor (used in the 1997 IBM Deep Blue chess playing Supercomputer which beat Garry Kasparov), the POWER3 family of microprocessors, and large scale IBM Power-architecture SMP systems.

Before returning again to graduate school, Dave was a Senior Director at Sun Microsystems recruited to build an Austin CPU design center from scratch and helped steer Sun's processor roadmap to develop more energy efficient

Chip Multithreaded architectures. His team designed portions of the 32-thread Niagara1 design and later designed the entire 64-thread CPU core on the Niagara2 microprocessor.

Sharon Barta

Sharon Barta came to speak to students about “Career Paths and Pitfalls,” which was especially relevant in the economic climate of today. She began her career with the Texas Department of Transportation and worked for TxDOT for 20 years. She has also worked for the City of Austin, and while finishing her graduate degree she worked for the Center for Transportation Research. She is also a licensed Professional Engineer in Texas, so her presentation about how to get a job you love was especially well-received as she is so educated and experienced. We were grateful that she took the time out of her day to come share her thoughts with us on how we should best go about the job search.



Shelley Row

Shelley Row is the Director of the United States Department of Transportation’s Intelligent Transportation Systems Joint Programs Office. It was truly a pleasure to have someone with Ms. Row’s long and distinguished career come and speak with the students. Her talk centered on the deployment of ITS technology to help mitigate traffic and improve safety on the nation’s roads.

Student Conference in Winedale, TX

On Friday, March 5, 2010 the Southwest Region University Transportation Center hosted the first annual conference on “Preparing to Meet the Future” in Winedale, TX. Students and faculty from Texas A&M, the University of Texas, and Texas Southern University were invited to participate in the day-long conference. Transportation and lunch were

provided for the nearly 20 students from the University of Texas who participated. The students were split into teams to identify the state-of-the-art of transportation related topics for the year 2030 and developed plans of action for how the industry should prepare for the future. The conference hoped to encourage students from different schools and backgrounds to work together towards a common goal, and is expected to be hosted by the University of Texas next March.

Service Activities

Throughout our group's history, one constant has been service to both The University of Texas and the city of Austin. Whether on campus recruiting new members or in the community, members of ITS America have always been more than willing to volunteer their time for others.



Introduce a Girl to Engineering Day

February 20, 2010 was Introduce a Girl to Engineering Day at UT. Hundreds of girls from central Texas attended to find out what exactly an engineer does. Demonstrations and activities were set up across campus by all engineering disciplines as the girls checked out what was most interesting

to them. For this event, members of our group aided participants in a computer program road test that was both fun and educational. The program demonstrates real-life driving situations and obstacles and then asks the user to choose what to do in each scenario. Everyone was a winner and received a candy prize.

Explore UT

On March 6, 2010 the University of Texas held its annual open house. It was open to families and groups who wanted to visit the campus, learn about what goes on here, and have an overall fun time. While this was not about just engineering, it was an opportunity for us to demonstrate to people what we do and answer questions about transportation engineering and college in general. It was neat to see the groups of boy scouts, middle school clubs, and families who were so excited to be learning and experiencing the University of Texas. The driver simulation program was not working that day, so a website was used which encouraged the users to try different traffic light timings in order to move the most vehicles through the intersections without causing accidents or backing up the traffic too much. It was a favorite for both the children and the parents!

Social Activities

Being a college student takes a lot of hard work and dedication, with long hours in the labs and in front of computer screens. The monotonous rotation of tests, homework, and projects can wear down one's spirit as the semester goes on. So what better way to overcome this than by getting together with friends and enjoying what Austin has to offer?

Birthday Parties, Happy Hours, and Barbecues

One of the staples of our social events is monthly birthday parties. Towards the end of each month, we all gather to enjoy a birthday cake or some cookies in honor of students whose birthday was in that month.

Previous administrations have had some excellent home-made dessert recipes, but this administration is baking-challenged, so we have tended to stick to the trusty store-bought cakes and cookies. Either way, the parties are always a hit!

Another common event is the monthly happy hour. We all get together at a local restaurant one evening to enjoy dinner as a group. It's a good time to leave behind the stresses and worries of school work and talk to friends about anything but classes!



Generally, barbecues are reserved for more unique occasions such as when prospective graduate students visit in the spring or the arrival of new students in the fall. It's typical for this to be a potluck event so it's really great for everyone to share their favorite food. These barbecues serve as the perfect setting for getting to know the new people in the department.

Intramural Sports

Being engineers, we spend a lot of time sitting. Sitting in class, sitting at our desk, and sitting in front of a computer are just a few ways we like to sit. That is why it is imperative that we get out and do some physical activity. Luckily at such a large university there is an excellent and extensive intramural sports program. Some sports in which we have had teams include soccer, volleyball, softball, and flag football. While we are not always the best team on the field/court, everyone participates and has a great time!



Special Events

There are also plenty of non-regular activities that we like to take part in together. When the summer interns are in town, we organize activities for them to get to see Austin and it's a great opportunity for current members to meet

future UT students while having a good time. Trips have been organized to go watch the local Triple A baseball team, the Round Rock Express, play on several occasions. Groups of students also attend the Austin City Limits music festival each fall. Other activities have included an afternoon of disc golf, racquetball tournaments, kayaking, and supporting the Longhorns at football games and tailgates!

The ITS Website

An important responsibility of ITS is making sure that each of the members feel connected with the organization and with each other. By keeping the website up to date with student membership information, officer contact information, speaker luncheons, and schedules for volunteering or social activities, the group can keep in better contact and be more informed. The website is useful for incoming students to learn about what the club does, as well as prospective students who want to get a feel for how the current students interact. The goal of the website is to provide students or any other interested party with information on what the club is doing and how to participate.

Concluding Remarks

As has been shown in this annual report, ITS America at The University of Texas at Austin has been operating as a very healthy organization. We have shown our commitment to professional development, loyalty to the school, and the ability to organize and carry out fun social activities. Our club finances have been in perfect order, with contributions both from ITS of Texas and departmental donations from the Cockrell School of Engineering. As a group we will continue to participate in the aforementioned activities and look for new ways to make the most of our time here while pursuing our organizational goals.

Current Student Members

First Name	Last Name
Jose	Aguiar-Moya
Lily	Aung
Bridget	Bienkowski
Carey	Blackmar
Lindsey	Carroll
Todd	Carroll
Marisol	Castro
Claudia	Centurion
Donna	Chen
Daniel	Evans
Dan	Fagnant
Mason	Gemar
Brian	Goldberg
Epi	Gonzalez
Analissa	Icaza
Katherine	Kortum
Jeff	Loskorn
Taylor	Mansfield
Jonathan	Markt
Mark	McCollum
Alison	Mills
N	Nezamuddin
Sundeeep	Palvadi
Tarun	Rambha