

# Seminar and TRB Conference Attendance: Year 8

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<b>16. Abstract</b> Students from the three campuses of the University of Alabama System are engaged in a variety of transportation-related research activities. This project intended to provide a forum for transportation students to present their research results to faculty and students from the University of Alabama System as well as transportation professionals in a professional setting. The students selected to make presentations by faculty representatives from the three campuses were rewarded with travel money to cover the cost of attending the Transportation Research Board Annual Meeting in Washington, DC.			
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## **Executive Summary**

There were two issues examined in this project. First, students from the three University of Alabama campuses need the opportunity to present the results of their research in a professional forum. Second, students need the opportunity to attend international meetings to learn firsthand research being conducted at other universities. This project addressed these issues by identifying deserving students and providing a forum to highlight their research and a means to explore other research being performed nationwide through attendance at the Transportation Research Board Annual Meeting.

## **Section 1**

### **Introduction**

The issues examined in this project were twofold. First, there is a variety of quality transportation research being performed by undergraduate and graduate students from the three universities in the Alabama System. Unfortunately, no mechanism existed for students to present the results of their research to the other faculty members from their home campus or the other campuses. The solution developed in this project was the development of a transportation student seminar hosted by the Institute of Transportation Engineers student chapter at the University of Alabama at Birmingham (UAB). Students from the three campuses were required to submit an original abstract and resume to faculty members from the three schools. The faculty members then formed a review board and selected students to make presentations at the technical session.

The second issue addressed in this proposal was the lack of funding to send some of the best students in Alabama to the Transportation Research Board Annual Meeting in Washington, DC. This meeting is one of the premiere transportation conferences in the world, attracting over 10,000 participants from around the globe. Attendance at this meeting enabled our students to experience firsthand the research questions being studied and the solutions to those questions. Attendance at this meeting represented an incredible opportunity for students from the University of Alabama System to learn about the future of transportation and how their education and research will help realize the future.

This project combined these two issues by awarding travel funds to students to attend the Transportation Research Board Meeting as a reward for being selected to present in the student seminar. This report is divided into five chapters. The introduction presents the basis of the project. Chapter two discusses the selection and review process used to pick the students invited to present. Chapter three provides a review of the student seminar. Chapter four presents the impact from the students attending the TRB Annual Meeting. The final chapter of this report provides an overview of results and expectations for future projects.

## **Section 2**

### **Selection of Students**

The initial task for this project focused on advertising and selecting the students to present at the seminar designed for student research. The advertising was accomplished through an announcement requesting students to submit an abstract of their potential research for consideration. As an example, the announcement for UA is shown in Figure 2-1. Copies of the announcement were distributed to the project's campus representatives; they were responsible for placing these so students would see the announcements and become interested.

Each announcement directed students to submit their abstracts and resumes to the on-campus representative. Then the two representatives from the other campuses reviewed the abstracts and resumes. This process helped remove any bias that might exist from the review process, as faculty who had worked closely with applicants were not allowed to judge those applicants. In addition, the abstracts were made available to external members of the UTCA advisory board for review. The reviews from the faculty representatives were then forwarded to Dr. Anderson, summaries were developed, and letters of acceptance to present a paper or a poster at the conference were sent to the students.

Overall, 14 students from all three campuses—6 from University of Alabama (UA), 3 from University of Alabama at Birmingham (UAB), and 5 from University of Alabama in Huntsville (UAH)—submitted abstracts and resumes for the program. Based on the travel funds and seminar time available, one student from each campus was selected to present a formal paper at the seminar and receive funding to attend the TRB Annual Meeting, and eight students (three each from UA and UAH and two from UAB) were selected to receive funding to attend the TRB Annual Meeting.

### Call for Abstracts

#### University Transportation Center for Alabama Student Research Competition

The University Transportation Center for Alabama (UTCA) is issuing a call for abstracts for its annual student research competition. Winning students will have a chance to present their research at the annual UTCA award luncheon and earn a trip to the 90<sup>th</sup> Transportation Research Board Annual Meeting in Washington, D.C., January 2011.

Interested UA students are encouraged to participate by submitting an abstract of current research and a resume via email to UA faculty representative Dr. Yingyan Lou by **October 29, 2010**. The abstract is **limited to 500 words** and must detail a transportation related project. Abstracts will be screened by UTCA faculty members and students will be notified the results by the end of November. Up to three UA students will be selected to receive a travel grant of up to \$1500 for the Transportation Research Board Annual Meeting. Winning students who travel to Washington D.C. will be required to submit a brief report documenting their experience in the meeting. Any UA student (both undergraduate and graduate) who will be enrolled in a full-time status through Spring 2011 is eligible.

For more information, please contact Dr. Yingyan Lou in the Department of Civil, Construction, and Environmental Engineering at 205-348-5859 or [yLou@eng.ua.edu](mailto:yLou@eng.ua.edu).



**Figure 2-1. Announcement for UA students**



## Section 3 Student Seminar

The second task conducted in this project was to host a student seminar. The student seminar was developed and hosted by UAB's student chapter of the Institute of Transportation Engineers (ITE) and held on November 19, 2010 in the Business and Engineering Complex on the UAB campus, a location easily accessible to students and faculty from the three campuses and to representatives from around the state. The announcement for the student seminar, including presenters and presentation titles, is included in Figure 3-1.

**5<sup>th</sup> ANNUAL STUDENT AWARDS LUNCHEON**  
*Celebrating the Achievements of Transportation Students*

**Friday, November 19, 2010**  
**11:30 a.m.-1:00 p.m.**

**The University of Alabama at Birmingham**  
**Business and Engineering Complex (BEC) Room 215**

**AGENDA**

11:30 Buffet Lunch and Networking	
11:45 Welcome	<i>Dr. Virginia P. Sisiopiku, Associate Professor - Alabama at Birmingham</i>
11:50 Student Competition Awards Presentation	<i>Dr. Mike Anderson, Associate Professor - University of Alabama in Huntsville</i>
12:00 Analysis of an Integrated Maximum Covering and Patrol Routing Problem	<i>Ms. Rong (Shirley) Li, University of Alabama</i>
12:20 Incident Management Study in the Birmingham Region	<i>Ms. Ozge Cavusoglu, University of Alabama at Birmingham</i>
12:40 New Factors for Disaggregation of Freight to a Local Level	<i>Ms. Tahmina Khan, University of Alabama in Huntsville</i>
1:00 Closing Remarks	<i>Dr. Virginia Sisiopiku, Associate Professor University of Alabama at Birmingham</i>

Congratulations to all 2010 UTCA Travel Award Recipients:  
*Rong Li (UA), Gaurav Mehta (UA), Zack Ryjals (UA), Brian Wysock (UA), Ozge Cavusoglu (UAB), Bharat Kallem (UAB), Cheng Zhong (UAB), Tahmina Khan (UAH); Mary Catherine Dondjati (UAH), Dong Wang (UAH); Nitin Sharma (UAH).*

*This event is sponsored by the University Transportation Center for Alabama (UTCA) and the UAB ITE Student Chapter*

**Figure 3-1. Program for student seminar**

## **Section 4**

### **TRB Attendance**

The final task conducted in this project was to provide travel money for select students to attend the Transportation Research Board Conference in January 2010. Before attending the TRB Meeting, each student was responsible for preparing an itinerary of sessions or committee meetings she intended to participate in and discuss these with her on-campus representative. Some of the session topics the students identified follow:

- Asset Management
- Pavement Management Systems
- Statewide Transportation Planning
- Transportation Safety
- Traffic Simulation
- Intelligent Transportation Systems
- Pavement Testing
- Aviation

In addition, each student attending the TRB Meeting was required to prepare a written summary of the sessions attended and the relationship between conference sessions and her current research or interest in transportation. Here are excerpts from student summaries:

- “The first few paper sessions were in the data and information technology (DIT) category. One was on using GIS to analyze children’s ability to walk to school in a certain area. The GIS application of this session was very interesting as well as the topic itself. The idea of sustainability analysis through GIS is one I had not considered before and may help me in my thesis work. I also attended a bicycle mode poster session that implemented a lot of GIS analysis. Another extremely interesting and relevant set of sessions I attended was about map-matching to find shortest-path routes. I am currently working on a side project related to data mining with GPS data. Map-matching is the algorithm that chooses on which street in a GIS network a GPS point is placed (much like how the GPS in a car knows the road down which the car is traveling). The paper introduced a different way of looking at map-matching for low-frequency data that may be used in conjunction with ITS. This was probably the most helpful session I view because of its relativity to my current work.”
- “I attended the ‘Intellidrive: Data Management Research Needs and Emerging Solutions’ session. During this session, I was introduced to Intellidrive, which is a concept I had not heard of before. It involves vehicle-to-vehicle as well as vehicle-to-infrastructure communication. Some of the possible uses of this technology presented involved asset management by departments of transportation as well as real-time vehicle probing to determine pavement conditions. The information could also be used as another indicator

of safety. Intellidrive could be used to track ‘near misses’ in addition to crashes at intersections providing enhanced information for intersection design decisions. The ‘State Department of Transportation High-Value Research Projects’ presented a unique opportunity for me. Through a summer internship with Tuscaloosa, Alabama’s City Engineer, I learned of the tribulations involved in the passing of legislation for red-light cameras. At this poster session, the Illinois Department of Transportation was showcasing their study of speed photo enforcement. I was able to discuss with them the inherently slow-moving legislation that allowed them to implement red-light cameras, which then eased the process for the speed photo enforcement. Also, the reduction in speed through work zones with the photo enforcement was staggering. Not only did the drivers reduce their speed near the site of the photo-enforcement vehicle, but also speed reductions were still seen at 1.5 miles downstream of the site. In my opinion, if this were presented to Alabama legislators, safety measures such as this could be implemented in a much timelier manner. Finally, I attended the ‘Freeway and Incident Management’ session. This was also a poster session which in my opinion presented a fantastic way to absorb the research while also allowing everyone to be able to have discussions with the researcher or presenter. I took particular interest in the ‘Novel Freeway Traffic Control with Variable Speed Limit and Coordinated Ramp Metering.’ I believe this could have the most impact on my research. Currently, I am testing the effects of ramp metering in Montgomery, Alabama; however, I could use this as a future research point. This technique of using a variable speed limit reduces the fluctuation of traffic volume near the ramp interchange and allows the ramp meter to flow more ramp traffic, which reduces the pressure on the arterial network and in addition reduces ramp delay.”

Overall, the students took advantage of the opportunity to learn from top researchers and identify how those research ideas can be incorporated into the student’s work.

## **Section 5 Conclusions**

This project worked toward the development of a community of students from the University of Alabama System, highlighting the work the students are performing and providing a means to explore research being performed nationwide.

The relevance of this project was far reaching. The project allowed students from all three campuses to compete against one another and to present their research results in a professional forum attended by transportation professionals from across the state. In addition, this project allowed students to learn firsthand what research questions were being examined internationally through attendance at the TRB Annual Meeting. The student's experiences and education gained through this project is anticipated to become evident in the graduate-level work being performed in the University of Alabama System.