



PacTrans

PacTrans 2017 Special TRB Meeting Newsletter

University Transportation Center Newsletter

SPECIAL ISSUE FEBRUARY 2017

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2017 Transportation Research Board (TRB) Annual Meeting

The Transportation Research Board (TRB) 96th Annual Meeting was held this past January 8–12, 2017, at the Walter E. Washington Convention Center, in Washington, D.C. The event attracted more than 12,000 transportation professionals from around the world. Those professionals hosted more than 5,000 presentations in nearly 800 sessions and workshops. This year's meeting had a spotlight theme of *Transportation Innovation: Leading the Way in an Era of Rapid Change*, composed of three hot topics: *Transformational Technologies, Resilience, and Transportation & Public Health*.

With policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions in attendance, the TRB annual meeting continues to be an excellent forum for PacTrans to demonstrate our abilities, expertise, innovation, and research, as one of the country's leading regional University Transportation Centers (UTCs).

PacTrans student and faculty researchers were in active attendance from all five of our consortium institutions (Oregon State University, University of Alaska, Fairbanks, University of Idaho, University of Washington, and Washington State University). In total, PacTrans Universities participated in over 90 lectures, poster sessions, workshops, committees, and subcommittees, and submitted over 100 papers to the meeting.

This special edition newsletter will highlight the PacTrans researchers and research that was presented during the five day convention.



CUTC AWARD BANQUET

Each year, on the Saturday before the Transportation Research Board's (TRB) Annual Meeting, the Council of University Transportation Centers (CUTC) hosts an annual awards banquet to honor students and faculty across the transportation field. This year, the 2017 Annual Awards Banquet was held on January 7, at the Marriott Marquis Hotel in Washington, D.C.



Dr. Beverly Scott, CEO of Beverly Scott and Associates and research associate at the Mineta Transportation Institute at San Jose State University, gave the keynote address. Dr. Scott echoed many of the same sentiments that we heard last year from, then U.S. Secretary of Transportation, Anthony Foxx. Namely, people and communities matter. Transportation systems are a means to enriching people and communities, they are not an end, and they should not be a means to division and further disparity.

Former U.S. Secretary of Transportation Norman Mineta was also in attendance as an honored guest. More than 50 awards were presented, including student of the year awards, new faculty awards and lifetime achievement awards. Among those awards two PacTrans students received Outstanding Student of the Year Awards: University of Washington PhD student Eric Howard, and Oregon State University PhD student Jason Anderson.

CUTC, established in 1979, works to advance the state-of-the-art in all modes and disciplines of transportation. Its membership consists of 93 of the nation's leading university-based transportation centers.



From Left to Right: Yin Hai Wang, Denise Dunn, Jason Anderson, Eric Howard, and Cole Kopca.

PACTRANS RECEPTION

2017 Annual Region 10 PacTrans Reception



It is customary during the annual TRB meeting for each University Transportation Centers to host a gathering. Each UTC's gathering looks a little different. For some, the primary function of the gathering is for students, staff, and faculty of the hosting UTC to enjoy an evening of social fraternization amongst themselves. PacTrans takes the opportunity to invite, not only Consortium students, staff, and faculty, but also other researchers and professionals in the industry. It is a wonderful occasion for everyone to celebrate achievements, share ideas, and discuss future partnerships.

This year, on the evening of January the 9th, PacTrans hosted over 200 faculty, staff, students, and professionals from consortium universities and the industry at large. PacTrans presented the Michael Kyte Region 10 Outstanding Student of the Year Award. Professor Ahmed Abdel-Rahim from the University of Idaho, on behalf of the former professor for whom the award was named after, along with Professor David Hurwitz from Oregon State University and Professor Yin Hai Wang from the University of Washington, presented this year's award winner, Masoud Ghodrati Abadi (of Oregon State University), with the award.

This annual festivity is also an excellent opportunity for all PacTrans students, both new and old, to gather in one place and celebrate the excellent impact that they have had on the industry and the impact that PacTrans has had on each of their lives. This year, PacTrans provided financial support to over fifty current students from the Pacific Northwest. PacTrans offers travel support to any student who gets a paper accepted to the conference, as well as any first year PhD students as we feel that this experience is a unique opportunity to expose them to a broad sample of contemporary research.



PACTRANS RESEARCH AT TRB

Intelligent Transportation Systems (ITS) America Luncheon

This year, while at the TRB annual meeting, Assistant Director, Cole Kopca, attended an ITS America Luncheon to celebrate PacTrans' partnership in the City of Bellevue's Video Analytics Towards Vision Zero project. The City of Bellevue, along with Microsoft, and PacTrans, has been working to build a program that will fundamentally change the way transportation professionals assess intersection safety. Currently, this is done by evaluating crash data.

In 2016, road crashes resulted in 40,000 deaths and 4.6 million injuries in the United States. The FHWA recently reported that more than 50 percent of the combined total of fatal and injury crashes occur at or near intersections. These numbers may sound large, but for any given location, this number is actually quite small. Thus, it takes several years to gather enough crash data to identify a problem area, then several more years to plan, fund, and implement a fix. Meanwhile, exponentially more near-accidents, and small accidents that go unreported, happen every day at those same locations. This program, which utilizes already-in-operation traffic cameras and machine learning, can detect these other events in real time.

The ability to leverage these near accidents, as well as the small accidents that would otherwise go unreported, can provide significantly more information from which to



better inform decision makers on where to invest scarce resources to make the greatest impact to the safety of our transportation networks. Look to see the website for this product going live in the next several months!

Region X Transportation Consortium (RXTC) Breakfast



With the passing last year of Fixing America's Surface Transportation (FAST) Act, new funding for the University Transportation Center (UTC) program was established. In PacTrans' proposal for this new funding, we committed to reestablishing the Region X Transportation Consortium. This consortium brings together the directors of all levels of UTCs that are

currently in operation in Region 10, as well as the research directors from each of the four states' DOTs. During the week of the TRB annual meeting, PacTrans hosted the first of what we hoped to be regular bi-annual meetings.

Members present included PacTrans Director Yin Hai Wang, NITC Director Jennifer Dill, NITC Associate Director Hau Hagedorn, CESTCC Director Jenny Liu, CSET Director Billy Connor, IDOT Research Manager Ned Parrish, and PacTrans Associate Directors Jeff Ban, Ken Casavant, David Hurwitz, Ahmed Abdel-Rahim, and Eric Jessup.

Discussion included membership, annual activities, student awards, and potential partnership on region-wide projects. The next RXTC meeting is currently scheduled for the week of the Region 10 Transportation Conference, currently scheduled for October 2017 on the University of Washington campus.

PACTRANS STUDENT EXPERIENCES AT TRB

Eric Barber

I arrived early Sunday morning at TRB after not getting a whole lot of sleep due to the time change and also traveling. My initial reaction was surprise, because of the magnitude of the conference. The first session I attended was focused on evaluating the potential demand and effects that autonomous vehicles would have on energy and also demand. One topic discussed how equipping low level drive assistance technology on fleet vehicles could provide large returns. The researcher, Corey Harper from Carnegie Mellon, found that by using these technologies, the cost savings from prevented accidents would be around a billions dollars on a low-end estimate, and would be even larger as the reduction rate reached closer to 100%. I found this research pretty interesting because it provides some quantitative evidence that these technologies can save companies money while also protecting their employees. However, I haven't heard of very many companies installing these technologies. Perhaps it will help motivate the retrofitting it suggested.

Once starting to settle into the flow of TRB I began to realize its magnitude. It was very cool to be surrounded by people that have spent years working in the realm of transportation research. On top of this, not only were they from the US but they were from all over the world. One session I attended specifically focused on bike sharing in China. This session was interesting because I was able to look at familiar topics with a whole new set of cultural issues. After exploring for a couple days, I started to experience firsthand the importance of networking within the research world, and how TRB helps to facilitate these connections. At times I felt like

TRB was just an excuse for old friends to get together and enjoy the evening receptions, with a side agenda of sharing their latest research. With this in mind I became excited at the possibility of making connections, and working with people from all over the world. Although I didn't make that many connections at my first TRB, I did make a couple. I hope these connections will give me a strong base network to move forward with, and hopefully branch out from at future TRBs.

While initially, I explored topics I was not very familiar with, because that was what was scheduled, I eventually became much more comfortable with posters and presentation as sessions where tailored more towards my experience. In my final day, I was able to focus entirely on the familiar topics of e-bikes and bikesharing. In total, I was able to leave TRB with some new ideas and knowledge that will help me when doing my own research and also help me when presenting. I think that these presentation skills will be valuable for me moving forward, because I have seen how to successfully present a poster and also how people ask questions during presentations. Finally, I would like to thank PacTrans for the support they have provided me in order to be able to attend my first TRB and I look forward to attending again in the future.



Jingxing Wang

As a graduate student major in transportation engineering, I have had a dream to attend the Transportation Record Board Annual Meeting since I was enrolled in the graduate program of University of Washington. Thanks to the financial support from PacTrans, I have earned the precious opportunity to attend 96th TRB Annual Meeting held in DC, Washington in 2017, during which I gained a lot about the academic experiences in my research area and friendship with other researchers in the field of transportation.

I attended a couple of poster and lecture sessions during the meeting, among which the most interesting to me was a lecture titled, "Taxi and TNCs: Competitors or Can They Coexist?" since the topic exactly matches my recent research work. This lecture focused on the relationship between taxicabs and Transportation Network Companies (TNCs), how each of them influences the other, and the current development tendency of taxi and TNCs. A paper in this session proposed a new concept, Taxicab Availability, to describe the taxicabs' spatial, temporal, capacity and information availability as well

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PACTRANS STUDENT EXPERIENCES AT TRB

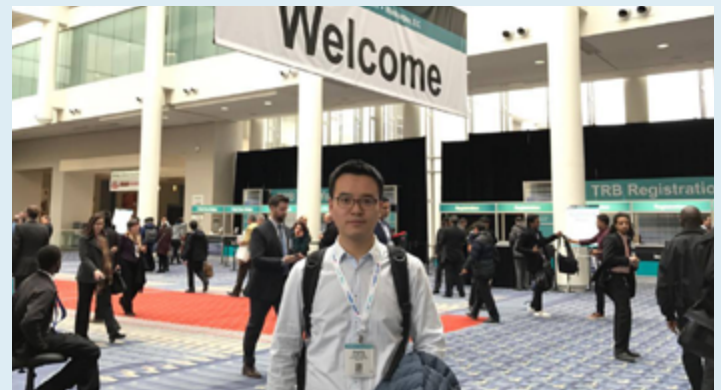
Jingxing Wang continued

as use a framework to statistically explore the patterns behind the loading and availability. Another paper used the taxicab data from New York City to evaluate the policy of spatial regulation of taxicab services. This research focused on the deadhead trips of taxicabs resulting from separate regulating policies from different individual cities and tried to pinpoint this issue by measuring fuel waste of deadhead trips as well as the weakness of licensing restrictions for taxicabs in NYC.

In addition, I attended several official receptions held by some universities from all over the world and university transportation centers of the US, like PacTrans. In the reception, I chatted with the faculty members and students from the universities in the Pacific Northwest and learned much about their papers and posters in this meeting. It was another chance for academic members from this area to gather once again after last PacTrans Regional Transportation Conference in October of 2016. Also, as an alumnus of Tsinghua University, I was invited to the reception of Tsinghua University where I met a number of alumni working in the field of transportation engineering as well as some faculty members and graduate students from Tsinghua. Chatting with those

people with the same academic background. I also discussed my personal research ideas on the traffic network modeling with some famous professors in this reception and got feedback with great significance from those alumni.

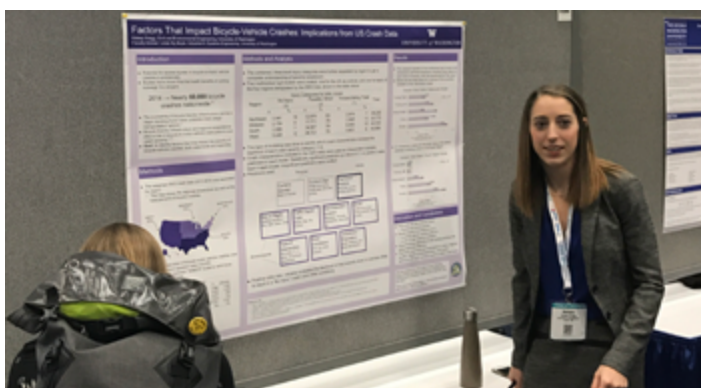
All in all, I always regard this experience of attending TRB Annual Meeting as precious treasure in my graduate academic period, and I hope that all I gained in this meeting would become a powerful source of energy and interest for future research.



Kelsey Gragg

This was my first time attending and presenting at TRB, as well as my first time being in Washington DC, and it was awesome! While the amount of activities, sessions, and presentations were slightly overwhelming, it was incredible to see that many people in the transportation field in one place, and to be able to talk to/network with as many of them as possible. I arrived late Sunday night, so I attended presentations and poster sessions starting Monday, as well as attending the PacTrans Reception Monday evening, which was really nice. It was so cool

to see so many of my classmates and professors who were at the conference sharing their work. I presented a poster for the paper that I wrote on the Tuesday morning of the conference, and then attended a few more events that caught my interest. Presenting was a really rewarding experience; I got so much great feedback and I talked to so many people with similar interests who have inspired me to go for some additional steps in my research. I made a few connections that are already showing some promise for collaboration or idea sharing. I left DC Wednesday morning since I had to get back to Baltimore for my return flight to Seattle, so I wasn't able to attend events that day – but I was able to fill the day with 4 different modes of transportation, which was a fun experience for a transportation nerd! Overall, I was incredibly pleased with my experience and I feel that I gained so much knowledge and inspiration, and I'm so thankful and grateful that UW has a resource like PacTrans to help fund students to attend TRB.



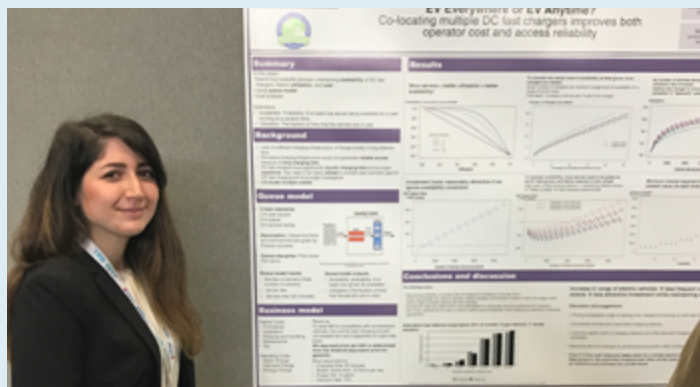
PACTRANS STUDENT EXPERIENCES AT TRB

Parasto Jabbari

I mostly attended the workshops, lectures, and poster sessions related to automated vehicles (AVs), alternative fuels, and data analysis in transportation. I was fascinated with the amount of research has been done and ongoing in these areas.

Topics that were covered in AV related session that I found the most interesting were discussing how automated vehicles would change the components of urban areas, what are the implications of AVs and their externalities from the aspect of regulations, how AVs affect value of time and VMT, and how ride-hailing companies such as Uber and Lyft can play a role in the adoption and acceptance of AVs.

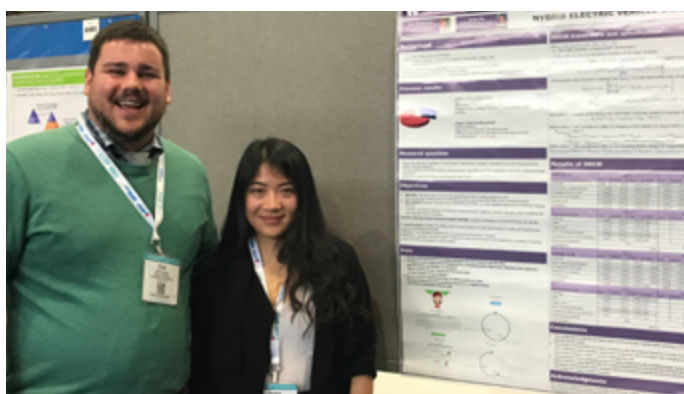
My poster presentation happened on Tuesday morning. I was presenting two posters at the same time. Many people visited my posters, which made it hard for me to cover both of them. However, my advisor, Prof. MacKenzie, helped me by covering one of them. I also had developed an app for one of my posters with the help of undergraduate student. I also encouraged people to use my app in which they could make change to



the assumption of study and see how the result would change. In general, I am happy with how the posters were received by the audience. There were a lot of positive feedback and comments for both of the posters.

I also attend several receptions such as PacTrans, Lyft, Purdue University, and Young Professionals reception that were very helpful for meeting new people who are also working in similar fields.

Yanbo Ge



As the world's biggest academic communication platform in transportation area, this year the TRB Annual Meeting again presented the most "on-trend" topics. There are definitely more conversations going

on about autonomous vehicles and share services such as resourcing (Uber, Lyft etc.) and car sharing, which presages the possible shift of modern transportation system in the nearest future. I attended several lecture sessions on shared economy and electric vehicle charging behavior. I gained some knowledge about the current state of art in these areas and also had some interesting discussions with the presenters. The poster sessions are very exciting and full of energy as always. I attended a few sessions on bike sharing, electric vehicle charging, and non-motorized mode safety. The receptions hosted by the universities and industry provided great opportunities for networking and interesting communications. Many thanks to PacTrans for this great experience.

PACTRANS STUDENT EXPERIENCES AT TRB

Choudhury Siddique

TRB annual meeting in Washington DC is always a special occasion. It not only provides us the opportunity to know about current research on different specific fields in Transportation, but also to meet other fellow



researchers, and ex-colleagues. This year was extra special for me, as I presented a poster highlighting my research updates, which was co-authored by Prof. Jeff Ban. The poster session was excellent; we got some valuable comments from the audience. Apart from presenting, I attended several sessions on my research interest. There were some really good presentations, which gave me new ideas about my work.

Other rewards of TRB is meeting old friends and colleagues. I was able to meet many of my undergrad classmates who are now studying/working in different parts of US. The PacTrans reception was also a pleasant experience.

Rong Fan

I am a first year PhD student. It is the first time that I attended the TRB conference. It was really a great experience. Transportation engineers and researchers from all over the world attend the conference, who bring the most up-to-date research in the field. I feel very grateful to have the chance to know what is new and what is the hot topic in the transportation field and meet with many professors and graduate students from different universities.

For the past few months, I have read some papers about ridesharing and network modeling, so I went to some presentations related to this topic to get some new knowledge. Compared with network modeling for single mode (for example, taxi), creating a model for ridesharing is more difficult because there are different classes of customer and different mode choices. However, ridesharing is a hot topic and researchers are trying to work out a new model suitable for multiple

mode choices. The lectern session 854 also provide some precious insight into the competition and coexistence of taxi and TNCs, during which researchers provide some data analysis results for cities such as New York. In the poster area, I talked with some graduate students about their research programs.

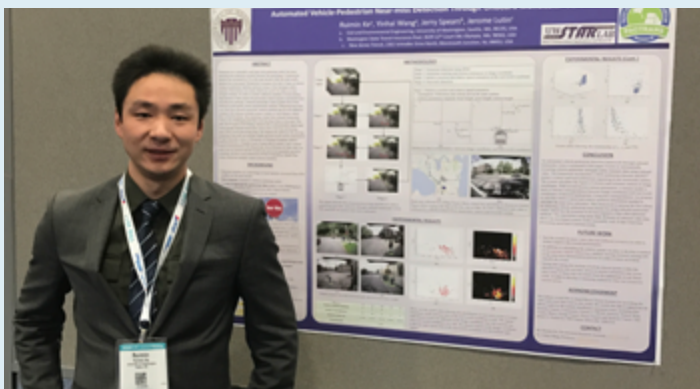
All in all, TRB is a great conference for us to know more specialists in different research topics and get information about the most updated research trends. As a first year PhD student, there are still lots of things to do before I can get into a research program and finally get my own paper published. The presentation in TRB are well prepared, and I am sure that behind every poster and lecture there must be years of diligent work. I will try my best and add more passion to the research work. Hope one day I can share my own research results in TRB conference confidently.

PACTRANS STUDENT EXPERIENCES AT TRB

Ruimin Ke

This is the third year I traveled to TRB meeting under PacTrans support. I really appreciate the funding and other supports from PacTrans and thanks very much to the help I received from Dr. Yin Hai Wang, Mr. Cole Kopca, and Ms. Melanie Paredes.

This year I presented a paper titled “Automated vehicle-pedestrian near-miss detection through onboard monocular vision” in a poster session on Monday morning. It was very early actually, starting at 8 am. One of the project PI Mr. Jerry Spears was there and we did a good job in terms of attracting people to our poster and explaining to them what we had done. We did attract a lot of people there during the 105-minutes presentation. There were people with very different backgrounds who were interested in our poster. Some of them were interested in the modeling part, some were interested in some specific details or how the system performed.



There was one person who left a great impression on me. He was a bus operator before and now he is doing some management work. As you can perceive, he does not believe in automation-related technologies on buses. He gave some very different opinions and they did open up my eyes.

I also attended many other activities in TRB. I really like the exhibitions on Monday and Tuesday, most of which were real products of some companies or national research centers. I am a fan of video analysis, and I did find a variety of advanced video detection tools. The fanciest one I found was a system with three cameras to detect what exact spot the driver is looking at. It is a real-time system which is very accurate and robust. I also found some unmanned aerial vehicle (UAV) applications and products, which I am really into. People there at the exhibition were very nice and patient. I learned a lot from the communication with them.

I attended several committee meetings and receptions. I signed up for several data and information technology related committees and talked to some of their chairs. There were some interesting presentations at the committee meetings and they also talked about their plans for the coming year. I met many old friend at PacTrans reception and other receptions. I enjoyed the time talking with both old and new friends. Really appreciate the efforts made by all the organizers. In summary, this time my trip to TRB was excellent and I have gained a lot from this valuable experience

Wan Li

From Jan 8 to Jan 11, 2017, I have attended The Transportation Research Board (TRB) 96th Annual Meeting in Washington DC. TRB is a global meeting conference with more than 5,000 presentations in over 800 sessions and workshops covering a wide range of topics.

This year, I have the honor to present a paper developed by Dr. Xuegang (Jeff) Ban and me, named “Big Data Analysis Based Decision Making Tool for Applying Adaptive Traffic Control Systems” in the session of “Innovative Big Data Solutions for Transportation Challenges”. It gave the opportunity to meet experts and researchers face to face. They provided a great number of valuable comments to my research, from the

criteria of data collection to methodology. Moreover, I have audited many presentations, such as the lecture session of “Application of Connected/Automated Vehicle (CAV) in Traffic Signal Systems”, which closely related to my dissertation topic. They presented their up-to-date research progress with a great deal of details and explanations. Another interesting thing of the conference is that I met many people who have written papers I have read. It is effective by telling people what I have doing to find out what they are doing.

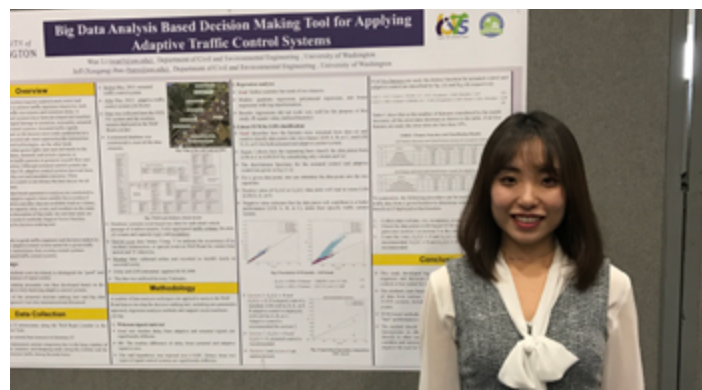
In addition, TRB provide a great opportunity to network. Often people from other institutions, DOT or industries can become valuable resources. People can also help each other uncover ideas and spark inspiration when

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PACTRANS STUDENT EXPERIENCES AT TRB

Wan Li continued

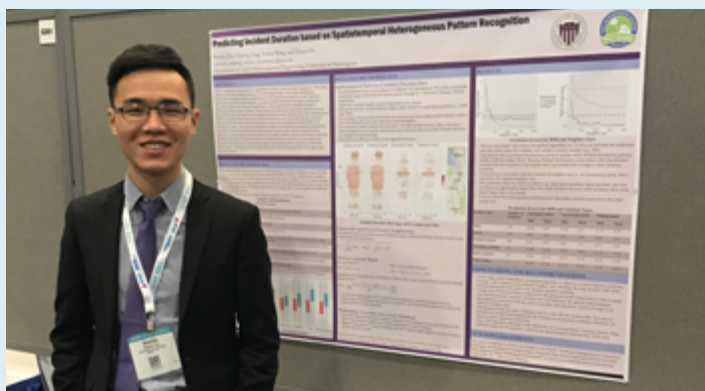
they get to know each other on a personal level. In TRB, there are many presentations, committee meetings, and receptions providing the platform for people to network with peers. I found it very enjoyable and professionally satisfying.



Wenbo Zhu

Attending the 2017 TRB Annual Meeting was a great experience for me. In this year's meeting, I presented a poster summarizing my research work related to the PacTrans safety project I have been working on. A lot of audience showed interests in my poster and gave me valuable suggestions and comments. I also went to a number of lecture sessions as well as exhibits. I am particularly interested in transportation big data modeling techniques and applications and luckily enough, I found a lot of interested research within that

topic which give be a better idea about the state of art in this field. Moreover, this year's PacTrans reception was a great success. I talked to many old friends who graduated from UW, and saw many new faces as well. We spent a wonderful time with great food and drinks provided. Many thanks to PacTrans for funding my TRB travel, as well as for preparation of such a great reception!

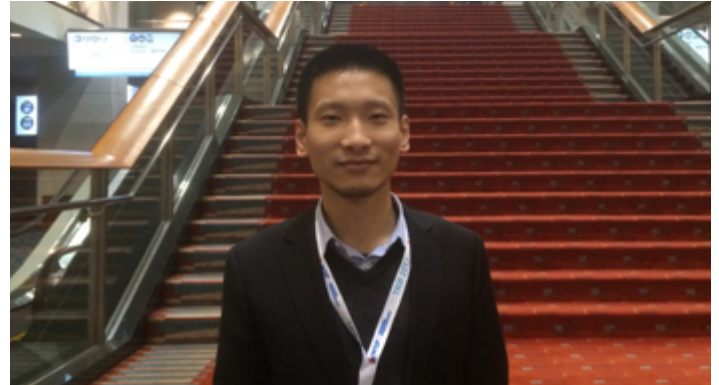


PACTRANS STUDENT EXPERIENCES AT TRB

Xiangyang Guan

My TRB trip was from January 8 to January 12 in 2017. It is a fruitful trip, with major achievement listed below:

- I presented my work “From Warnings to Awareness and Actions: Insights from Hurricane Sandy”. It attracted the attention of a number of researchers from New York University, Purdue University, University of North Carolina and Imperial College London. We talked about our current research projects and future research opportunities, and exchanged business cards.
- I went to the several committee meetings, and formally joined the subcommittee of Network Models in Practice (ADB30(4)). I was offered the opportunity of participating in the subcommittee activities, and will work with Prof. Jennifer Duthie (the subcommittee chair) to write research news letter for this subcommittee.
- I tried to socialize with great scholars in my research domain and it was successful. I got a chance to talk to Prof. Elise Miller-Hooks, and we pleasantly discussed the current state and trends in resilience studies. I also tried to reach Prof. Satish Ukkusuri, and ended up meeting two of his Ph.D. students. We shared our research interests and discussed future opportunities of collaboration.
- I went to about ten technical sessions. I was informed of the current state of research in social media applications in transportation, human motilities, network modeling and resilience. Some of the sessions were very illuminating and gave me many research ideas.



SAVE THE DATE: UPCOMING PACTRANS EVENTS

PacTrans Regional Transportation Conference

Friday, October 6, 2017

Location: University of Washington campus

Region X Student Conference

Saturday, October 7, 2017

Location: University of Washington campus

About Pacific NW Transportation Consortium

The Pacific Northwest Transportation Consortium (PacTrans) is the Region 10 University Transportation Center (UTC) established in January 2012 with a \$6.89 million grant from the US Department of Transportation (USDOT).

PacTrans is a coalition of transportation professionals and educators from Oregon State University (OSU), the University of Alaska Fairbanks (UAF), University of Idaho (UI), University of Washington (UW), Washington State University (WSU), Boise State University (BSU), and Gonzaga University (GU). With a new focus on mobility, PacTrans serves as an engine and showcase for research, education, and workforce development in the Pacific Northwest.

The goal of PacTrans is to create an environment where consortium universities and transportation agencies within Region 10 work together synergistically. The solutions that we develop will meet the needs of the region and provide direction for the five strategic goals of the U.S. Department of Transportation.

- Improving mobility of people and goods
- Reducing congestion
- Promoting safety
- Improving the durability and extending the life of transportation infrastructure
- Preserving the existing transportation system.

The Pacific Northwest offers a unique blend of opportunities to examine a variety of transportation issues, including those related to urban centers, rural communities, diverse geographic features (e.g., coastal plains, mountain ranges), and a growing population of pedestrians and bicyclists. This diversity makes the Pacific Northwest a natural laboratory in which to investigate transportation solutions that are applicable both locally and nationally.

PacTrans is dedicated to collaborating with transportation agencies, companies, and research institutions to jointly develop safe and sustain-able solutions for the diverse transportation needs of the Pacific Northwest.