



University Transportation Center Newsletter

SPECIAL ISSUE FEBRUARY 2019

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The Transportation Research Board (TRB) 98th Annual Meeting was held last January 13-17, 2019, at the Walter E. Washington Convention Center in Washington, D.C. The event attracted more than 13,000 transportation professionals from across the country. Those professionals hosted more than 5,000 presentations in nearly 800 sessions and workshops, addressing topics of interest to policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions. This year's meeting was themed *Transportation for a Smart, Sustainable, and Equitable Future*.

With policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions in attendance, the TRB annual meeting continues to be an amazing platform 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 attendance from all seven of our consortium institutions: Boise State University, Gonzaga University, Oregon State University, University of Alaska, Fairbanks, University of Idaho, University of Washington, and Washington State University. In total, PacTrans universities participated in over 130 lectures, poster sessions, workshops, committees, and subcommittees, and submitted over 100 papers to the meeting.

This special edition newsletter highlights the PacTrans researchers and their research that were presented during the five-day conference.



CUTC AWARD BANQUET

Each year, on the Saturday before the 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 2019 Annual Awards Banquet was held on January 12, 2019 at the Marriott Marquis in Washington, D.C.



A number of awards were handed out, including the CUTC Lifetime Achievement Award for Transportation Professional and Public Service, which was presented to Nuria I. Fernandez, general manager and CEO at Santa Clara Valley Transportation Authority. Two PacTrans students received the Outstanding Student of the Year Award: OSU's Zachary Barlow and UW's Parastoo Jabbari. Additionally, Dr. Lily Elefteriadou was recognized for her outstanding service as president of CUTC.

CUTC, established in 1979, works to advance the state-of-the-art in all modes and disciplines of transportation. Its membership consists of 87 universities from across the nation.

PACTRANS RECEPTION

2019 Annual Region 10 PacTrans Reception



With 13,000 transportation professionals from every corner of the transportation industry converging in Washington D.C. for the TRB Annual Meeting, it is an excellent opportunity for labs, universities, companies, and UTCs to host receptions with their respective communities.

These events serve as a great chance to establish new partnerships, grow existing partnerships, and have frank conversations that often lead to new ideas for research, technology transfer, and collaboration. For UTCs, specifically, we are consortiums of institutions, many times, from all across the country, and have minimal opportunities to get together throughout the year, and these receptions happen to be one of those opportunities. Each reception is slightly different from the other, but the one thing they all have in common is the goal to bring students, staff, faculty, researchers, and professionals in the transportation industry together for a night of networking and socializing. This is an evening dedicated to celebrating achievements, sharing ideas, and discussing future partnerships.

This year, on Tuesday, January 15, 2019, PacTrans organized the Region 10 Reception in partnership with the Center for Safety Equity in Transportation (CSET), University of Washington, Oregon State University, Washington State University, University of Alaska, Fairbanks, Boise State University, and the University of Hawaii. The event had over 200 attendees representing our agency and industry partners, as well as faculty, staff, and student researchers from all of the consortium partners of the two UTCs.

This fun event is an amazing way for students pursuing careers in transportation and civil engineering to get together and celebrate their own achievements in the industry, as well as the role PacTrans has played in their academic lives. This year, PacTrans provided financial

support to over 50 students from our consortium partner institutions to attend the TRB Annual Meeting. PacTrans offers travel support to any student whose work is highlighted at the conference, and to any first year PhD students. We believe that this experience is a great way to expose students to a broad sample of contemporary research.

Each year, the Michael Kyte Student of the Year award is awarded to a student in recognition of his or her outstanding research, academic achievement, and professional leadership in transportation. The recipient of this year's award was Maged Mohamed, a PhD student in transportation engineering at the University of Idaho. Mohamed is the first student from UI to earn this award.

RXTC BREAKFAST

Region X Transportation Consortium (RXTC) Breakfast

In the proposal for FAST Act funding, PacTrans committed to being the focal point of Region 10. One part of this commitment is to coordinate among all of the UTCs that have a consortium partner within the region. In Region 10, this includes: PacTrans (the region 10) UTC, the National Institute for Transportation and Communities (national) UTC, the Teaching Old Models New Tricks (tier 1) UTC, the Freight Mobility Research Institute (tier 1) UTC, the

Accelerated Bridge Construction (tier 1) UTC, the Small Urban Rural and Tribal Center on Mobility (tier 1) UTC, the Connected Cities for Smart Mobility towards Accessible and Resilient Transportation (tier 1) UTC, the Center for Safety Equity in Transportation (tier 1) UTC, and the Center for Advanced Multimodal Mobility Solutions and Education (tier 1) UTC. To accomplish this, each year during the TRB Annual Meeting, PacTrans organizes and

hosts a Region 10 Transportation Consortium breakfast meeting and invites a representative from each of the Region 10 UTCs listed above, as well as the research directors of each of the state DOTs in this region.

This year, twelve people participated in the breakfast. The majority of this year's discussion revolved around opportunities for regional collaboration with regard to student opportunities.



PACTRANS STUDENT EXPERIENCES AT TRB

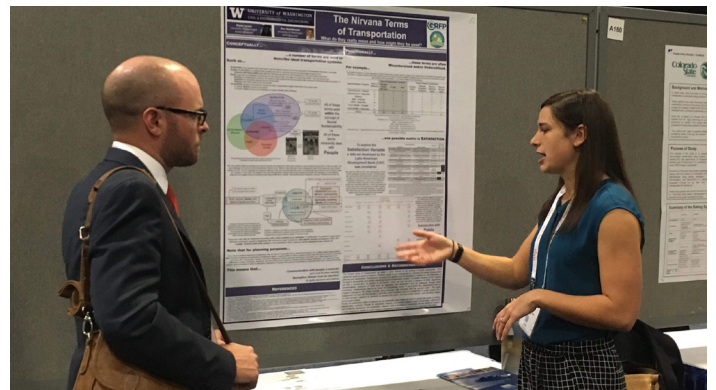
PacTrans considers the public presentation of research projects to be a top priority for our graduate students. The TRB Annual Meeting remains one of the most influential opportunities each year. This year, PacTrans funded about 50 students to travel to Washington D.C. for the meeting and present their works. Below are several examples including photos and student write-ups of their TRB experiences.

Elyse Lewis

With PacTrans' support, I attended my fourth TRB Annual Meeting as a graduate student. To me, TRB provides an unprecedented opportunity to spend time face-to-face with leaders throughout the transportation industry, and this year, I was able to use lessons learned from previous [annual meetings] to maximize that opportunity.

This year, I presented a paper that draws on the accumulated knowledge in the social sciences to explore why the transportation field must rely on these adjacent fields of expertise to meet sustainability goals. As a poster presenter, I met a number of individuals who shared my interest in human factors and social sustainability. This gave me an opportunity to both share my findings, as well as to learn from the expertise of others.

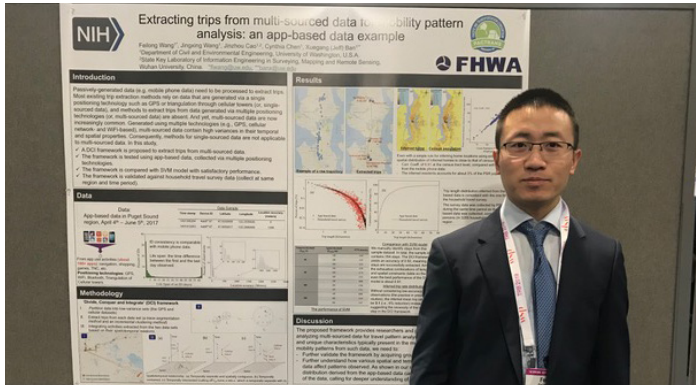
Beyond my presentation, I attended a number of lectern sessions, committee meetings, and networking receptions. In the lectern sessions, I had the opportunity to hear from and speak with presenters regarding the revealed impacts of [Transportation Network Companies], anticipated impacts of [Automated Vehicles], and how transportation agencies might plan for and (ideally) manage all of these emerging systems. In committee meetings, I learned more about how TRB is



managed and research initiatives are set while making contacts so that I can increase my support for these committees in the future.

Finally, the evening receptions offered unique opportunities to converse at length with a wide range of transportation professionals from academia, government, and consulting practices. Ultimately, my time at TRB this year allowed me not only to present my research on an international stage, but to continue to build relationships with peers and mentors throughout the transportation industry.

PACTRANS STUDENT EXPERIENCES AT TRB

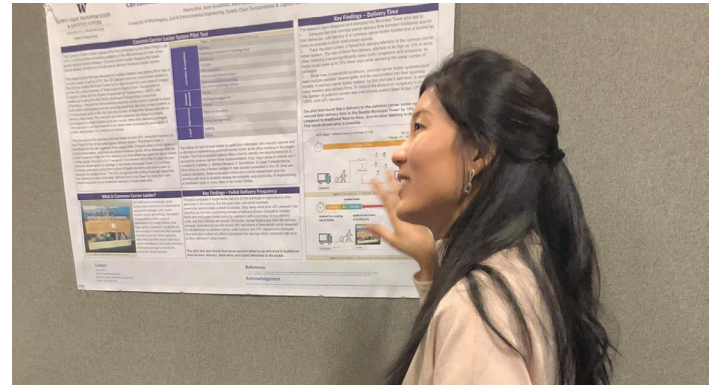


Feilong Wang

I really appreciate the support from PacTrans, which offered me a valuable chance to attend TRB 2019. I learned a lot from this conference.

I had the chance to see the vast picture of the transportation field. By attending the conference, the picture in front of me becomes clearer. I learned that transportation is a vast field that involves numerous people from both world-wide academic institutes and industrials. I saw people all over the world are working together to make the transportation system greater.

Meanwhile, the experience of making friends who have similar academic pursuits during TRB is definitely exciting. I also met lots of great professors there and it was interesting to exchange ideas. These ideas benefit me in terms of selecting research topics and picking up specific questions to answer. I do believe there's a chance to cooperate with them.



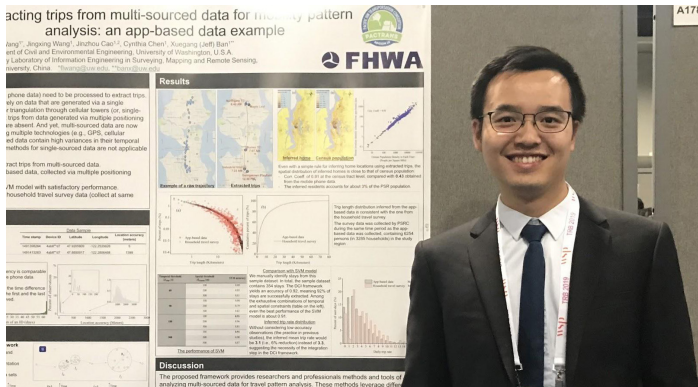
Haena Kim

Going to the TRB conference in Washington D.C. has become the biggest event of each year. This was the second time I attended the conference as a UW PhD student. The 98th TRB Annual Meeting was held on January 13–17, 2019, at the Walter E. Washington Convention Center. This year, I was able to look back and reflect on the progress that I made on my research projects, comparing my experience from the last year. I recognized familiar faces in the workshops and seminars, and interacted with exceptional researchers around the globe. It was quite fulfilling when others also recognized my work and remembered my name from the last year.

I was thrilled to present my poster and learn about others' research work during the poster sessions. I especially enjoyed interacting in a one-on-one setting. My poster focused on providing evaluation criteria for choosing a location that will mostly support a successful implementation for a common carrier locker system that acts as a mini distribution node. This evaluation tool can contribute to improving the urban transport system by 1) identifying success factors and barriers of common carrier locker systems, 2) evaluating these factors and impacts of the system, and 3) understanding how to increase transferability of common carrier locker implementation to other urban cities.

I also attended many presentation sessions where I could learn about the most recent research projects and be inspired. This year, there were sessions including riding connected autonomous vehicles and taking professional photos.

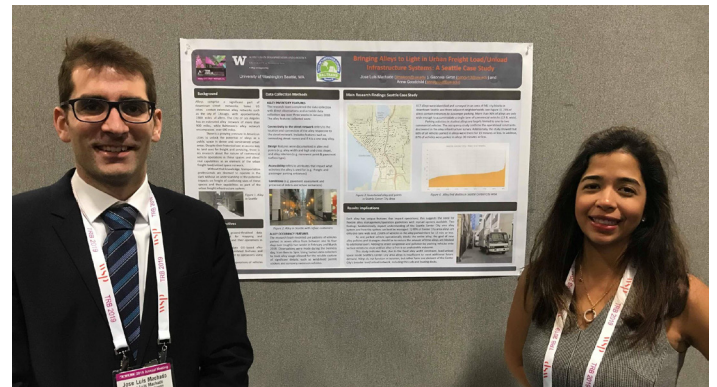
PACTRANS STUDENT EXPERIENCES AT TRB



Jingxing Wang

It is my great honor to attend the 2019 TRB Annual Meeting this year in Washington D.C. under the sponsorship of PacTrans. During this meeting, I presented two research papers: 1) Extracting trips from multi-sourced data for mobility pattern analysis: an app-based data example, and 2) Comparative analysis of big data and small (survey) data for deriving human mobility patterns.

During and after those two presentations, I discussed with peer graduate students and professors on related topics, and gained a lot about their research interests and methods. This meeting not only aids me a lot, particularly in my presentation skills and ability to do research, but also provide me with a networking platform to make more friends in this area. Overall I would like to thank PacTrans a lot for its sponsorship.



Jose Luis Machado Leon

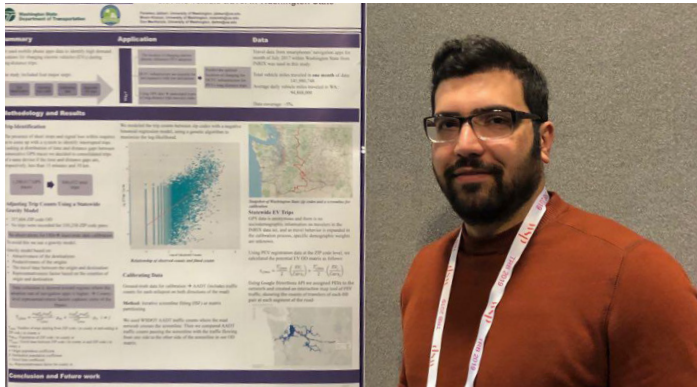
I am the recipient of the 2019 TRB PacTrans travel support and greatly appreciate the financial assistance. I participated at the TRB 2019 Annual Meeting in several ways. I presented my research on the Final 50 project, attended various poster and lectern sessions, participated in committee meetings, and networked with other researchers and industry members.

I defended at a poster session the research my team and I have developed at the Supply Chain Transportation and Logistics Center. The reference to the publication I presented is number 19-02658R1, "Bringing alleys to light in urban freight load/unload infrastructure systems: a Seattle case study". This publication was reviewed by TRB's Standing Committee on Urban Freight Transportation (AT025).

Moreover, I participated in various freight-related committee meetings, poster, and lectern sessions where I networked and learned about other researchers' work. I particularly focused on research into evaluation of alternative delivery modes such as electric cargo cycles, which connects to a research project that I am currently involved in.

Overall it was a great TRB conference and helped me keep developing as a researcher. Thank you very much again for making it possible!

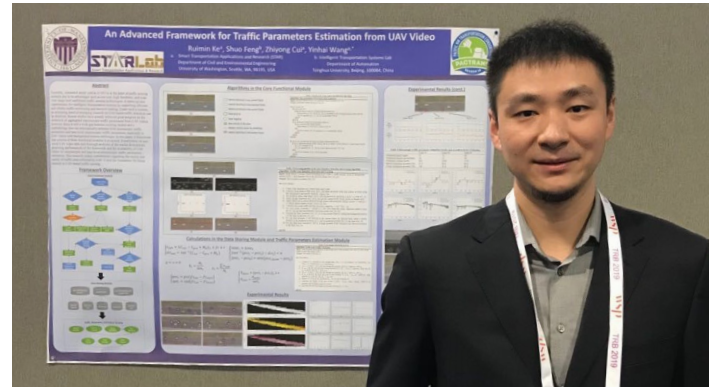
PACTRANS STUDENT EXPERIENCES AT TRB



Moein Khaloee

It was the second year I attended the TRB conference, and it was a really good experience. I think this year, I knew what I was looking for and I was not as confused as last year's conference.

I had a poster presentation which was a great experience. I talked to many people asking questions, mostly for a brief explanation of the whole work. It was really interesting that I could talk to some faculty members from different universities who I had never seen in person before. When we spoke several of them showed interest to work with us on similar areas.



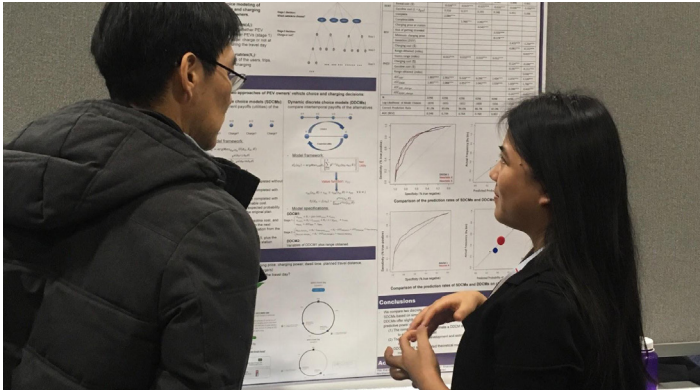
Ruimin Ke

First of all, I would like to thank PacTrans for supporting my trip to TRB 2019. It was an amazing trip. I had a great experience in Washington D.C. This year, I had four papers accepted by TRB for presentation. I was the first author of the paper, "An advanced framework for traffic parameters estimation from UAV video," and I gave a poster presentation on Jan 14th, 2019 at the convention center.

This paper attracts a lot of interest given the novelty of this work and the emerging trend of using UAV for sensing purposes. I also attended multiple, very interesting sessions related to traffic safety, machine learning in transportation, and connected and automated vehicles, in which I communicated with and learned a lot from researchers and professionals from all over the world.

In addition, I was elected to be a young member of the ASCE T&DI Infrastructure Systems Committee in October 2018. In TRB 2019, I attended its committee meeting for the first time and met a group of talented people. I also attended the committee meeting of ABJ20, TRB's standing committee on statewide data and information systems, where I have been a member since 2017.

PACTRANS STUDENT EXPERIENCES AT TRB



Yanbo Ge

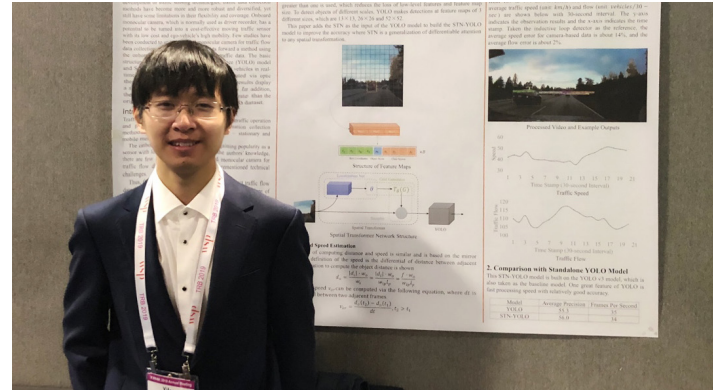
This year I was funded by PacTrans to attend the 98th TRB Annual Meeting in Washington D.C. I presented two papers, attended six lectern sessions and three poster sessions, joined three receptions, and reunited with many, many old friends in the same field from all over the world.

It was hectic, as usual, but even more rewarding than the past years. I think this year's conference featured more discussions on the impact of recent technical development of transportation systems. I attended several lecture sessions on the impact of new mobility modes on traffic congestion, mode share, vehicle ownership, and VMT. These discussions are of great importance for the understanding of the evolvement of urban transportation systems as we face the rapid changes.

Compared to the lectures on similar topics from last year's meeting, the analyses were more comprehensive and innovative as the participants included people with different perspectives: researchers, government officials, and service providers. I especially appreciated one lecture session on transit's pushback on the technology hype of autonomous vehicles. When the global media suggests autonomous vehicles are solutions to the congestion, economic, and environmental problems of growing cities, as a researcher, we should also see the immaturity of the technical development, the difficulty of the transition period, and most importantly, we should think more about whether it really solves the problems that we currently have if it comes true one day.

To simply put it, even if it is autonomous, a single occupancy autonomous vehicle is still a single occupancy vehicle. I will side with the presenters and advocate that transit remains the core of solutions for congested cities.

Thanks to TRB meetings for offering new perspectives and thanks to PacTrans for giving me this opportunity to attend the conference.



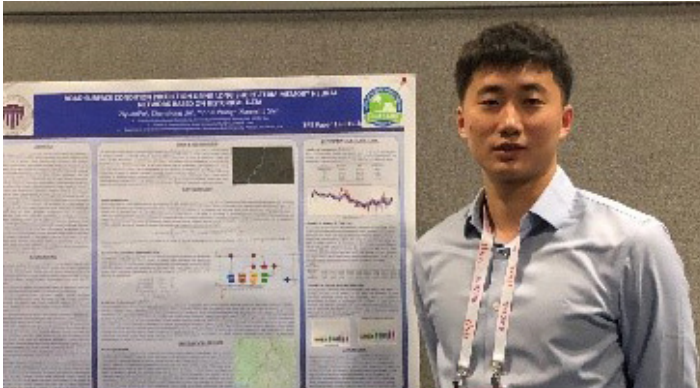
Yifan Zhuang

The 2019 TRB conference was an impressive trip to present my research work and to learn from other researchers as well. My research work was applying the on-vehicle front camera to collect traffic information such as flow speed and density. The discussion focused on how to estimate the traffic flow parameters from optical parameters and the pixel length of the vehicle. I also learned a lot from their questions and suggestions which were really helpful to my next-step work in the traffic flow information collection based on video sensor.

There were a lot of innovative things in the TRB exhibition. The most interesting thing was the autonomous vehicle test ride. It was my first time to try the autonomous vehicle. It was amazing, like a fiction movie. Many research results from previous academic papers became real. Based on my previous experience, there would be a dramatic amount of work to transfer from academic ideas to real products. The autonomous vehicle is trending and I hope to make my own contributions to this field.

Beside the exhibition, I enriched myself by attending different seminars. Artificial Intelligence (AI) application in transportation was one of the most popular topics. When compared with traditional methods, it provided an end-to-end method without learning the intermediate process clearly. The AI method was powerful in solving some complex problems such as recognition and imputation. However, the AI was not everything and couldn't be used just anywhere. If the prediction accuracy rate reached 99%, it did not make much sense to increase it to 99.9% with the AI method because the AI method would also consume a lot of computation resources. The end-to-end process also brought some uncertainties.

PACTRANS STUDENT EXPERIENCES AT TRB



Ziyuan Pu

During 2019 TRB, I presented two posters in the sessions, “Gaining Insight into Highway Safety and Risk through Improved Methods and Models,” and “Artificial Intelligence and Machine Learning Methods for Transportation Applications.” I got lots of valuable suggestions for improvement and came up with several new research ideas by discussing with visitors.

In addition, I tried to communicate with several standing committee chairs about gaining membership into their committees. Finally, I was nominated for by the members of two standing committees, the Standing Committee on Visualization in Transportation (ABJ95) and the Standing Committee on Transit Capacity and Quality of Service (AP015). In the future, I will actively participate in the committee business, and contribute to the development of PacTrans.

PACTRANS | CSET REGIONAL TRANSPORTATION CONFERENCE

OCTOBER 11, 2019
INTELLECTUAL HOUSE
UNIVERSITY OF WASHINGTON

Bridging Innovations and Practice for Enhanced Mobility and Safety

The 2019 PacTrans | CSET Regional Transportation Conference will bring together transportation researchers, practitioners, and public officials from throughout the Pacific Northwest to build relationships and share fresh ideas. PacTrans focuses on data-driven solutions to the diverse mobility challenges of the Pacific Northwest. Meanwhile, the Center for Safety Equity in Transportation endeavors to provide everyone with fair and equitable access to a safe transportation system, particularly those living in rural, isolated, tribal and indigenous communities. This PacTrans/CSET conference will cover topics on mobility and safety.



Get there. Safely.



<https://pactransconference.com/>

About Pacific NW Transportation Consortium

The Pacific Northwest Transportation Consortium (PacTrans) is the University Transportation Center (UTC) in Federal Region 10 for the US Department of Transportation (USDOT). Established in 2012 with funding from the Safe Accountable Flexible Efficient Transportation Equity Act (SAFETEA-LU), PacTrans has been reselected to continue representing Region 10 twice since, with funding from Moving Ahead for Progress in the 21st Century (MAP-21) and Fixing America's Surface Transportation Act (FAST Act).

PacTrans is a coalition of transportation professionals and educators from the University of Washington (UW), Oregon State University (OSU), the University of Alaska Fairbanks (UAF), the University of Idaho (UI), Washington State University (WSU), Boise State University (BSU), and Gonzaga University (GU). Our mission is to provide data-driven solutions for the diverse mobility

challenges of people and goods in the Pacific Northwest. PacTrans serves as the region 10 research engine, technology transfer showcase, education leader, and the workforce development base in the Pacific Northwest. The goal of PacTrans is to create an environment where consortium universities, transportation agencies, and private industry within Region 10 work together synergistically.

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, bicyclists, and new mobility options. This diversity makes the Pacific Northwest a natural laboratory in which to investigate transportation solutions that are applicable both locally and nationally.

