

# INSTITUTE OF TRANSPORTATION ENGINEERS

## Annual Report of Student Chapter Activities

for the period April 1, 2013 to March 31, 2014

for the **Portland State University Student Chapter of ITE**

### Student Chapter Officers

<b>President:</b>	Joel Barnett
<b>Vice President:</b>	Nick Foster
<b>Secretary:</b>	Brenda Martin
<b>Treasurer:</b>	Savannah Erzen
<b>Professional Development:</b>	Pam Johnson
<b>Conference Coordinator:</b>	Bryan Blanc
<b>Event Coordinator:</b>	Sina Vadaei
<b>Doctoral Candidate Liaison:</b>	Tara Goddard
<b>Website/Blog Manager:</b>	Matthew Bergren

### Student Chapter Membership

Number of <b>Student Chapter Members</b> :	36
Number of <b>Student Members of the Institute</b> :	18
Number of <b>Students Eligible</b> to be a Student Member of the Institute :	Not Tracked
Number of <b>Faculty Members</b> who are Current ITE Members :	4

### Information of Transportation Engineering Enrollment

Number of Undergraduate Students :	198*
*Only Juniors and Seniors are admitted to program	
Full-Time :	Not Tracked
Part-Time :	Not Tracked
Undergraduate Transportation Major or Minor? :	No
Graduate Students in Transportation :	50 (FT/PT Not Tracked)

# Portland State University Student Chapter of ITE

Students in Transportation Engineering and Planning (STEP)

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## OVERVIEW

The Portland State University (PSU) Student ITE Chapter, Students in Transportation Engineering and Planning (STEP), strives to engage its members in relevant transportation issues to further their professional and academic development through its yearly activities. The chapter also seeks to facilitate relationships between transportation students from different disciplines, both within PSU and with other universities, with a view toward building a shared understanding that will be helpful to students both in their academic studies and in professional practice. Portland State's STEP Chapter attended several conferences during the past year. Members from STEP attended and presented at the Transportation Research Board Annual Meeting in January of 2014, which was in Washington, DC. Additionally, Portland State STEP students attended and presented at the Region X Student Transportation Conference at University of Washington in October of 2012. This conference is unique because it is organized and run exclusively by students. In June 2014, students will attend the Joint Western/Midwestern ITE District Annual Meeting in Rapid City, South Dakota. Through attendance at these conferences students have been able to share their research while learning about the latest research being done elsewhere, in addition to being great networking opportunities for members of STEP.

The chapter has continued several annual events, including participation in the Oregon ITE Traffic Bowl. This year, the chapter was reigning champion for a second year for the region competition. Our chapter also holds a social hour at the beginning of each term to encourage students to become involved and to hear about upcoming events. Another annual event is the Gingerbread Competition, now in its fourth year. The event was a great success and was a fun way to bring out creativity in engineering design. This event was a wonderful way for

engineering and planning students to work in teams and take a break from studying for finals. The Urban Olympics event is scheduled for April 4th, 2014, which everyone has been eagerly anticipating since last year's event. The events for the competition will change this year, but it will remain a great way for engineers and planners to get to know each other outside of classes. STEP is looking forward to completing the remaining activities scheduled for this academic year, bringing a new team of officers on board for the next school year, and beginning to plan for an exciting new year of activities.



## **SUMMARY OF STUDENT ACTIVITIES**

### **Urban Olympics • April 5, 2013**

Urban Olympics is a joint effort between STEP and Portland State's Planning Club. Students, faculty members, and professionals pair up with a similar status participant and compete in transportation oriented games designed to capture the essence of moving in an urban environment. In accordance with tradition the games opened with a ceremonial slow clap progressing into a vigorous clapping and an opening statement from a faculty member. A scavenger hunt, transit bingo, and team work activities were some of the events this year. After the games concluded the participants and organizers retreated to Colonel Summers Park for some well deserved grilled treats.



### **Spring Social & Transportation Film • April 10, 2013**

Quickly following up Urban Olympics, the spring term social finalized the welcome back to school for the spring. The highlight of this event was a film presentation by Dennis Nyback comprised of 16mm and 35mm transportation related films. Mr. Nyback specializes in VJ-ing by transitioning between transportation short films using music and cartoons. This event was regarded by all attendees as one of the more enjoyable events of the year.



### **Moody Cycle Track Tour • April 18, 2013**

DKS Associates led a tour of the Moody Cycle Track near the lower end of the relatively new tram system that connects the southern Portland waterfront with the Oregon Health and Science University. The tour involved the Gibbs Street Pedestrian Bridge that provides pedestrian access to the street car and tram by bridging Interstate 5 to the southwest neighborhoods.



### **United Streetcar & Oregon Iron Works Tour • May 15, 2013**

A group of students toured the United Streetcar and Oregon Iron Works facilities that are tasked with building the train sets for the Portland Streetcar rail system as well as fulfilling other street car orders from across the country. The tour leaders lead the students in a creative tour walking everyone through the production of a streetcar in the reverse order of actual production. The tour was regarded as providing a penetrating glance into the complexity of the streetcar.



### **Bicycle Urbanism Symposium • June 19-22, 2013**

The Bicycle Urbanism Symposium was held on the campus of University of Washington in Seattle.

A group of seven PSU students attended the conference that attracted a wide variety of attendees.

This variety of people created a wonderful networking opportunity for students, and allowed the chance for them to learn about new ideas related to making biking appeal to many more people. Of course, learning from others isn't the only thing that occurred, as many of the PSU students also presented their research in front of others during the breakout sessions or during the poster session.

*Portland State University Presentation at the Bicycle Urbanism Symposium:*

**Chris Muhs-** *“Understanding Travel Modes to Non-work Destinations: Analysis of an Establishment Survey in Portland, Oregon*

**Patrick Singleton-** *“Exploring Synergy in Bicycle and Transit Use”*

**Kristi Currans-** *“Consumer Behavior and Travel Choices”*

**Alex Bigazzi-** *“What We Know About Urban Bicyclists’ Intake of Traffic-Generated Pollution”*

**Sam Thompson-** *“Bicycle-Specific Traffic Signals: Results from a State-of-the-Practice Review”*

**Nick Foster-** *“Lessons from the Green Lanes: Evaluating Protected Cycling Facilities in the US”*

**Kirk Paulsen-** *“A Comparison of Bicyclists’ Performance Characteristics at Urban, Suburban and Dedicated Path Intersections in Oregon”*



## **ITE Western District Annual Meeting • August 6, 2013**

A Group of eight PSU students traveled to Phoenix, AZ to present their latest research to the attendees of the 2013 ITE Western District Annual Meeting. Three PSU students, Alex Bigazzi, Sam Thompson, and Sirisha Kothuri along with Patrick Marnell from OSU entered the Professional Traffic Bowl winning the first round and finishing second overall.



*Portland State University Presentations at the ITE Western District Conference 2013:*

**Alex Bigazzi-** *“The Portland ACE- A Portable, Low-cost, and Networked Device for Assessing Cyclists’ Exposure*

**Wei Feng-** *“Empirical evaluation of Transit Signal Priority Effectiveness and Efficiency”*

**Adam Moore-** *“Impacts of Traffic Levels on Mid-Block Air Quality, Progress Report”*

**Pamela Johnson-** *“What to Consider when Developing a Statewide Bicycle Traffic Monitoring System”*

**Katherine Bell-** *“A New Methodology to Utilize Smart Phone Weight-Mile Truck Data to Estimate Emissions”*

**Sirisha Kothuri-** *“Development of Pedestrian Responsive Signal Timing Strategies: Results from a Pilot Study in Portland, OR”*

**Kirk Paulsen-** *“A Comparison of Bicyclists’ Performance Characteristics at Urban, Suburban and Dedicated Path Intersections in Oregon”*

**Sam Thompson-** *“A Study of Bicycle Signal Compliance Employing Video Footage”*

## **Oregon Transportation Summit • September 2013**

Several students participated in this conference hosted by the Oregon Transportation Research and Education Consortium (OTREC) in partnership with several other transportation organizations. This event included a plenary session, poster sessions, workshops and a luncheon. The summit was held on campus at Portland State University. The Oregon Transportation Summit brings together Oregon’s academic and practicing transportation professionals to



advance the state of the art by accelerating new research into practice and shaping the agenda for future research.

### **Fall Social • October 3, 2013**

STEP hosted a social hour for current and prospective transportation students as well as faculty to kick off the new academic year. About 30 students and faculty attendees enjoyed this gathering in the ITS lab in Portland State's Engineering Building. The STEP President, Joel Barnett, introduced the new officers, informed the attendees about STEP, and promoted upcoming events. Officers from Urban Planning Club also attended, and talked about their upcoming events as well.



### **Region X Student Conference • October 19, 2013**

The 2013 Region X Conference took place at the University of Washington in Seattle. The student conference is held once a year to have academics and professionals share new developments and issues in transportation. About 20 students from throughout the Pacific Northwest attended, giving interesting presentations on topics such as single loop detection, driver behavior, and trends poised to affect travel behavior. Patrick Singleton presented his

research, “Safety and Security in Discretionary Travel Decision-Making: A focus on active travel mode and destination choice.”

### **Kittelson & Associates Presentation and Interview • November 12, 2013**

STEP hosted a brown bag discussion with representatives from local consulting firm Kittelson & Associates entitled “*Professional Career Opportunities in Transportation in the public, private, and academic sector*”. The event was attended by nine students whom were invited to informational interviews with the presenters for the students to inquire about careers at Kittelson & Associates.

### **Traffic Bowl Trivia Night Tryouts • November 12, 2013**

After a victorious win at last year’s Traffic Bowl, STEP decided to give all members the opportunity to try out for the team. Twelve STEP members participated in a chapter Traffic Bowl. The four students with the highest scores went on to make the team for the official Oregon ITE traffic Bowl in Troutdale, OR on November 21st. The PSU team was made up of two engineer and two planning students. Matt Downey, Bryan Blanc, Chase Ballew, and Mike Sellinger all competed at the Traffic Bowl later that month.

### **ITE Traffic Bowl Trivia Night • November 21, 2013**

For the second year in a row, STEP has won the Oregon ITE Traffic Bowl, besting out the University of Oregon, Oregon State University, the University of Portland, Oregon Tech, and the University of Washington. Mike Sellinger, Chase Ballew, Bryan Blanc, and Matthew Downey had a thrilling come from behind in the first round. In the second and final round, the STEP team correctly answered almost ten questions in a row and maintained a sound lead for the rest of the round. GO PSU!



### **Gingerbread Competition • December 5, 2013**

STEP held the fourth annual gingerbread transit theme competition at the end of fall term. Four teams of students worked to build Portlandia themed transportation systems made out of gingerbread and candy. The competition was a challenge in both creativity and design. Several judges helped select the one that they felt met the criteria, crowning one and only one team as the winner. Teams were judged on aesthetics, creativity, structural integrity, and presentation.



### **Winter Social • January 9, 2014**

STEP hosted a social hour for transportation students and faculty at the beginning of the new winter term. 22 students and faculty attendees from the Engineering and Urban Planning departments attended this social event and enjoyed conversing with each other while learning about

upcoming activities. The meeting focused mainly on plans for the upcoming Transportation Research Board Meeting, including business cards and pre and post-TRB events. STEP Officers also previewed several upcoming events and ideas, and gauged the level of interest in these events through sign-up sheets.

### **93rd Transportation Research Board Annual Meeting • January 12-15, 2014**

The Transportation Research Board Meeting took place in Washington DC. Portland State University was well represented in poster sessions, workshops and presentations. Dozens of students attended the conference. For many students, this was their first time attending TRB. This proved to be a huge opportunity for STEP members to share their research, learn about other research being done all over the world, and network with transportation students and professionals.

*Portland State University Member Presentations at 93<sup>rd</sup> TRB Annual Meeting (non-exhaustive):*

**Patrick Singleton-** *“Representing Walking Activity in Trip-Based Travel Demand Forecasting Models: A Proposed Framework”, “The Pedestrian Index of the Environment (PIE): Representing the Walking Environment in Planning Applications”, “Exploring Synergy in Bicycle and Transit Use: Empirical Evidence at Two Scales”, “Safety and Security in Discretionary Travel Decision-Making: A Focus on Active Travel Mode and Destination Choice”*

**Steve Gehrke-** *“Operationalizing Land Use Diversity at Varying Geographic Scales and Its Connection to Mode Choice: Evidence from Portland, Oregon”, “The Impact of Residential Location Decisions on Miles Traveled, Trip Frequency, and Automobile Ownership for Households in the Portland Metropolitan Region”*

**Kristina Currans-** *“Improving Vehicle Trip Generation Estimations for Urban Contexts: A Method Using Household Travel Surveys to Adjust ITE Trip Generation Rates”*

**Alex Bigazzi-** *“Measuring Urban Bicyclists’ Uptake of Traffic-Related Volatile Organic Compounds Using Ambient and Breath Concentrations”*

**Sirisha Kothuri-** *“Insights into Pedestrian Attitudes and Perceptions of Delay, Safety, and Crossing Decisions at Signalized Intersections”*

**Katherine Bell-** *“Identification and Characterization of PM<sub>2.5</sub> and VOC Hot Spots on Arterial Corridors by Integrating Probe Vehicle, Traffic, and Land Use Data”*

**Adam Moore-** *“Modeling the Impact of Traffic Conditions on the Variability of Mid-block Roadside Fine Particulate Matter Concentrations on an Urban Arterial”*

**Nick Foster-** *“Evaluating Driver and Pedestrian Behaviors at Enhanced Multi-Lane Midblock Pedestrian Crossings: A Case Study in Portland, OR”*



### **Special Transportation Seminar – Dr. Rahal Nair • January 23, 2014**

Students, faculty, and area professionals welcomed Dr. Rahal Nair from IBM Research for a special seminar. Dr. Nair discussed the ongoing transportation research at the Smarter Cities Technology Centre in Dublin, Ireland addressing the center's focus on advancing technology regarding transportation systems in urban environments.

### **TRB Aftershock • February 11, 2014**

Students and area professionals met at Rock Bottom Brewery in SW Portland to discuss and share stories about TRB's annual meeting. Students had the opportunity to showcase the research presented at TRB to local professionals who were unable to attend the conference. Everyone seemed very interested in what other students learned at the conference and a lot of great socializing and networking occurred at the event. All in all, over 25 students and professionals showed up to swap stories, network, and participate in discussions about current transportation issues.



### **Special Transportation Seminar - Thomas Bauer • February 27, 2014**

Thomas Bauer, a co-founder of PTV America, met with nine students discussing his recent upstart of Traffic Technology Solutions, LLC., a company that develops intelligent transportation system solutions. Mr. Bauer discussed Personal Signal Assistant, an award winning application that communicates the appropriate speed to the driver for progression through coordinated signals, as well as applications of Active Traffic Management (ATM).

## **ACKNOWLEDGEMENTS**

The Portland State University ITE Chapter, STEP, would particularly like to acknowledge ITE for its support of students. Furthermore, STEP would like to thank the following organizations and individuals for their enthusiasm, advice, and financial support:

**Dr. Miguel Figliozzi (ITE Chapter Advisor)**

**ITE Western District and Oregon ITE**

**OTREC (Oregon Transportation Research & Education Consortium)**

**Dr. Jennifer Dill**

**Dr. Robert Bertini**

**Dr. Chris Monsere**

**Dr. Kelly Clifton**

**Casey Payseno (Portland State University Student Group Advisor)**

**DKS Associates**

**Lancaster Engineering**

**Kittleson & Associates**

**Oregon Department of Transportation**

**Portland Bureau of Transportation**

## ROSTER OF STUDENT CHAPTER MEMBERS

The following chart shows the breakdown of STEP members who participated in at least one event in the 2013-2014 academic calendar year as of March 31, 2014.

CEE: Civil and Environmental Engineering

USP: Urban Studies and Planning

Student Name	Department	Program
Wei Feng	CEE	PhD
Yunemi Jang	CEE	PhD
Sravya Gariadanne	USP	Masters
Mathangi Murthy	USP	Masters
Adam Moore	CEE	PhD
Alex Bigazzi	CEE	PhD
Brenda Martin	USP	Masters
Darwin Moosavi	USP	Masters
Kristina Currans	CEE	PhD
Sam Thompson	CEE	Masters
Jake Warr	USP	Masters
Jenny Koch	USP	Masters
Katherine Bell	CEE	PhD
Brian Davis	CEE	Masters
Kate Drennan	USP	Masters
Aaron Lande	USP	Masters
Ryan Farncomb	USP	Masters
Ian Matthews	USP	Masters
Steven Gehrke	CEE	PhD
Patrick Singleton	CEE	PhD
Ricardo Banuelos	USP	Masters
Rebecca Hamilton	USP	Masters
Joel Barnett	CEE	Masters
Nick Foster	CEE	Masters
Kirk Paulsen	CEE	Masters
Sina Vadaei	CEE	Masters
Savannah Ernzen	USP	Masters
Mattew Bergren	USP	Masters
Pam Johnson	CEE	Masters
Chao Tipagornwong	CEE	PhD
Ali Razmpa	CEE	Masters
Matt Downey	CEE	Masters
Bryan Blanc	CEE	Masters
Chris Muhs	CEE	Masters
Nick Stoll	USP	Masters
Nick Kobel	USP	Masters