

# METRANS NEWS



CALIFORNIA STATE UNIVERSITY  
LONG BEACH

Dedicated to solving metropolitan transportation problems through  
**research, education, and outreach.**

Spring 2018 Volume 17 Issue 1

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Carole Voulgaris



Miles Winston

### METRANS EDUCATION

## Outstanding Student of the Year Awards Presented at TRB 2018

The 2017 Outstanding Student of the Year Award was presented to two METRANS-affiliated students at TRB 2018. Carole Voulgaris, Assistant Professor of Civil & Environmental Engineering, at California Polytechnic University, San Luis Obispo (Cal Poly, SLO), and recent UCLA graduate, was selected as the Pacific Southwest Region University Transportation Center award winner, and Miles Winston, CSULB Master of Science in Supply Chain Management (MSSCM) student was selected as the METRANS Tier 1 University Transportation Center award winner. The award honors outstanding students from University Transportation Centers around the nation who have shown exemplary work at their UTC and in the classroom. The USDOT fully sponsors the student awardees attending the banquet and student attendance at TRB.

"I feel really honored to have been selected for this award, and it's wonderful to have my work recognized in this way. The awards banquet was a highlight of TRB for me," said Voulgaris.

"I am thankful to METRANS leadership for recognizing my achievements and providing the opportunity for me to participate in TRB and hear from such inspiring researchers and innovators. It was an instructive and motivational experience, and I hope that circumstances will allow me to return to TRB in the future," said Winston.

### METRANS OUTREACH

## METRANS Celebrates Twenty Years of Milestones

When the METRANS Transportation Center was founded in 1998, same-day delivery was unheard of and Uber didn't exist. These innovations that have profoundly impacted modern mobility systems have become the norm. The transportation industry has witnessed an unprecedented wave of technological advancement and related socioeconomic transformations over the past twenty years. During this two-decade stretch, METRANS has continued to work with policy-makers, industry stakeholders, and researchers to effectively and positively influence the day-to-day movement of people and goods.

This year marks METRANS' twentieth anniversary, and its mission to solve transportation problems of large metropolitan regions through interdisciplinary research, education, and outreach continues to flourish. The legacy of METRANS is marked by the numerous achievements of people who have dedicated their expertise and work efforts to make a difference in urban transportation. To recognize the many accomplishments of METRANS, our media coverage will spotlight the milestones of METRANS' history. Its successes provide a foundation for what lies ahead. *continued on Page 2*



*METRANS, a partnership of the University of Southern California and California State University, Long Beach, is a US Department of Transportation designated University Transportation Center. Its mission is to solve transportation problems of large metropolitan areas through research, education, and outreach.*

## METRANS OUTREACH

# METRANS Celebrates Twenty Years of Milestones *continued from Page 1*



"The international METRANS community has garnered national and global recognition, and it is evident that METRANS is a prominent presence in the world of transportation research," METRANS Director Genevieve Giuliano said.

"METRANS has become a critical academic resource for the ports of Los Angeles and Long Beach. The center has fulfilled its goals of providing information and support for our local communities, and we are proud of the partnerships that we have established throughout the years," Associate Director of METRANS Thomas O' Brien said.

We look forward to featuring a variety of noteworthy milestones in all the 2018 METRANS News issues, email newsletters, and website to celebrate the past and present work of METRANS. There will be a variety of events throughout the year to recognize the Center and its strong partnerships and innovative research. The signature celebratory event will be the METRANS 20th Anniversary Dinner Celebration on Thursday, October 4, 2018 at USC.

**To read more about METRANS' twenty-year timeline, visit:**  
<http://bit.ly/2kWcidH>

**To read the first milestone article highlighting the work of SWTWC, visit** <http://bit.ly/2IIPMCw>

**To find out more about the Anniversary Dinner Celebration, visit:** <http://bit.ly/2sYMBwT>

## METRANS RESEARCH

### TRB Papers and Presentations

#### **Alison Conway, City College of New York**

Presentation: *Impacts of E-Commerce and On-Demand Economy on Urban Freight*

Workshop: *Making Urban Freight Work: International Innovations and Future Research Needs*

Session: *Advances in Urban Freight Transportation Research and Practices*

Session: *Key Findings from the Workshop on Innovations in Freight data*

Poster: *Parking Conditions for Residential Delivery in New York City: A Case Study Analysis* presented with Pierre Escand and Quanquan Chen.

Poster: *Food Deliveries to Residential Buildings in New York City: An Assessment of Delivery Characteristics* presented with Jose Salas and Quanquan Chen.

#### **Laetitia Dablanc, University Paris East**

Paper: *Testing the 'Freight Landscape' Concept for Paris* co-authored with Takanori Sakai

Workshop: *Research Success: How to Create a Freight Research Community that Learns from Failure*

#### **Penny Eickemeyer, City University of New York**

Session: *Benefits of High Speed Rail*

#### **Genevieve Giuliano, University of Southern California**

Workshop: *Research Success: How to Create a Freight Research Community That Learns from Failure*

#### **Nate Hutson, University of Southern California**

Presentation: *Intermodal Freight Transport Committee*

#### **Camille Kamga, City College of New York**

Paper: *Bicyclist-involved Crashes on Roadway Segments in New York City: A Spatial Analysis of Injury Severity*

Paper: *Predicting Short-term Demand of Uber Using Spatio-Temporal Modeling, Case Study: New York City*

Paper: *Calibrating Safety Performance Functions for Four-leg Signalized Intersections in New York City: Application of Geographically Weighted Regression*

Paper: *Advanced analysis to Improve Nonmotorized Transportation Safety*

#### **Thomas O'Brien and Tyler Reeb, Long Beach State University**

Workshop: *National Transportation Career Pathways Initiative Stakeholder Engagement: Scoping Transformative Technologies*

## METRANS OUTREACH

# METRANS Alumni Dinner During TRB

Faculty and researchers from all of METRANS' family of centers, including MetroFreight, National Center for Sustainable Transportation (NCST), Pacific Southwest Region University Transportation Center (PSR UTC), Southwest Transportation Workforce Center (SWTWC), and the Center for International Trade and Transportation (CITT), gathered at Lincoln Restaurant in Washington, D.C. to celebrate the METRANS alumni dinner. The TRB annual meeting is an invaluable opportunity for METRANS members to engage with fellow industry researchers, policy-makers, and stakeholders.



METRANS Alumni and friends



## METROFREIGHT UPDATE

# MetroFreight Team Leader Reports on Urban Freight Policy Trends in Paris

Dr. Laetitia Dablanc, Director of Research at IFSTTAR and leader of the MetroFreight team in Paris, received the Best Paper in Urban Freight award from the Urban Freight Committee for her research paper titled, "Testing the 'Freight Landscape' Concept for Paris" at TRB 2018. Co-authors Takanori Sakai, Research Associate, Singapore-MIT Alliance for Research and Technology; Adrien Beziat, ENTPE/LAET; and Adeline Heitz, Lab Urba, were also recognized.

Inspired by and based on USC Professor Genevieve Giuliano's freight landscape methodology, the paper hypothesizes that urban freight patterns can be predicted from simple indicators of population, employment, and the accessibility to transportation infrastructure. The team used data from the Paris urban freight survey and other MetroFreight collected data to support their research. Dr. Dablanc described the paper as a "very collective paper and very MetroFreight in nature."

MetroFreight is a center of excellence funded by the Volvo Research and Educational Foundations (VREF) and a member of the METRANS family of center.

To read more about the Best Paper Award, visit: <http://bit.ly/2LyMsrn>

To learn more about MetroFreight, visit: <https://www.metrans.org/metrofreight>



Takanori Sakai and Laetitia Dablanc

## METROFREIGHT UPDATE

# VREF Educational Exchange Visit: Gagandeep Singh from the University of Toronto Presents at USC

Gagandeep Singh, Master of Applied Science (MAsc) Graduate from the University of Toronto, visited USC from February 5-16, 2018 as a VREF visiting scholar. His work focuses on analyzing the spatial patterns and characteristics of new warehousing establishments in the Greater Toronto and Hamilton Area. During his visit, Singh worked closely with MetroFreight researcher Sanggyun Kang to use a similar methodology for gathering data on the decentralization trends of warehouses and distribution centers in Los Angeles. Singh was then able to conduct a comparative analysis between two major Canadian and US metropolitan areas. Singh also presented his research at USC as a part of the PSR Spring Research Seminar Series.



Gagandeep Singh

## METROFREIGHT UPDATE

# Alison Conway Responds to New NYC Congestion Plan

Late last year, New York City Mayor Bill de Blasio announced a pilot plan that will implement initiatives to alleviate congestion in the second most congested city in the world. Taking effect later this year, the initiatives are directed at clearing major intersections, curbs, lanes, and highways, including testing continuous moving lanes in Midtown, increasing law enforcement to prevent blockage at 30 intersections in Manhattan, and banning deliveries from peak traffic hours in busy areas.



Alison Conway

The delivery ban will be enforced from 7-10 AM and 4-7 PM in an area of Midtown close to Times Square, as well as in two other areas of the city. Conway's team will be analyzing the before and after effects of the initiative in these areas, looking at how the ban impacts deliveries, not just congestion. Her team has already

begun collecting baseline data to later compare with the results of the initiative's effects. "The team is trying to understand the types of deliveries to businesses and residents that are taking place in the targeted areas, what current truck parking behavior looks like, and what challenges might arise when the ban is put in place," Conway said.

Conway's previous research from 2014 also addressed how growing non-motorized infrastructure affects goods movement. Conway's team specifically analyzed the relationship between commercial vehicles and the increase of bike lanes and bike movement to highlight freight challenges that have resulted.

Alison Conway is an Associate Professor of Civil Engineering at the City College of New York and the Associate Director for Education at the Region 2 University Transportation Research Center.

**To read more about the NYC initiatives, visit: <https://on.nyc.gov/2xWLGmK>**

## METRANS EDUCATION

# SWTWC Partners with LATTTC to Offer GIS Pilot Course



The Southwest Transportation Workforce Center (SWTWC) teamed up with Los Angeles Trade Technical College

(LATTTC) to create and offer a pilot transportation planning curriculum to demonstrate how students can use Geographic Information Systems (GIS) as an entry to transportation planning career pathways where none formally existed. This pilot was funded through a grant to the SWTWC-led National Network for the Transportation Workforce (NNTW) in partnership with LATTTC's Transportation Workforce Institute (TWI). The program, called ARC 341: GIS Metropolitan Access Planning Systems, was offered as part of a for-credit LATTTC course.

"This course was designed to empower underrepresented and disadvantaged populations by demonstrating the viability of career pathways between two and four-year institutions in the area of transportation planning," said SWTWC Director Thomas O'Brien. "While most 4-year planning programs teach GIS to transportation students, we want to teach transportation to GIS students as a way to raise awareness of GIS application and its relevance in transportation related careers."

The LATTTC pilot course also extended opportunities to K-12 students through the college's dual enrollment program. "By linking this course to both K-12 and college students, we are able to create a complete career pathway for students across the academic continuum," O'Brien added. "Students interested in learning about GIS can gain a valuable skillset from this course and apply it to their future career, whether it be in urban planning, transportation planning, or any other related field," said TWI Director Jess Guerra.

Geographic Information Systems manage and analyze spatial data and are valuable tools in addressing various real-world problems that have a spatial component. This course introduced students to fundamental principles and concepts that reinforce the practice of geographic analysis with GIS, including: computer representation of geographic data, vector and raster data models, map projections, coordinate systems, spatial analysis, and map design. The course prepared students to apply their knowledge and skills to perform real-world tasks and solve problems. The spring 2018 course started on February 24, 2018 and ended on May 26, 2018. Students who completed the course will earn transferable credits to UC and CSU schools.

LATTTC's mission is developing local employment opportunities for diverse and underrepresented Los Angeles populations and advancing communities through academic, career, and transfer pathway successes. LATTTC achieves this mission through its career-technical and professional education programs.

NNTW comprises five regional transportation workforce centers funded by the Federal Highway Administration. Each of the five centers is dedicated to the development of the transportation workforce as well as certain disciplines unique to each center.

**To read more about LATTTC, visit: <http://college.latttc.edu/>**

**To read more about SWTWC, visit: <https://www.swtwc.org/>**

**To read more about NNTW, visit: <https://www.nntw.org/>**

## PSR UPDATE

# First Annual PSR Congress Meeting Garners Wide Participation and Productive Discussion



Representatives from all the Pacific Southwest Region (PSR) 9 UTC partners were present at the first annual PSR Congress meeting held at Long Beach State

University. The purpose of the PSR Congress is to bring industry and public agency representatives together with PSR students and faculty to discuss the region's needs and how PSR can address them. Region 9 includes California, Arizona, Nevada, Hawaii, and the Pacific Islands. PSR is an eight member consortium led by USC. Other partners are: Long Beach State University, University of California Davis, University of California Irvine, University of California Los Angeles, University of Hawaii, and Pima Community College. The PSR center is funded by the Department of Transportation (DOT) at approximately \$2.75 million per year, for five years. Matching funds are provided by Caltrans, other state DOTs, local agencies, and private industry.

The Congress also served as PSR's first Advisory Council meeting. Given the geographic expanse of Region 9, the annual Congress serves as the only time the Advisory Council will meet in person.

The Congress provided a venue for students and faculty to share ideas and expectations for the center. Each university shared their current progress, recent hosted events, and transportation-focused degree and certification programs to foster a better center-wide understanding of the region's current state of transportation education and research. "It is important for all of us to convene in order to address concerns and discuss our shared goals," METRANS Executive Director Genevieve Giuliano said. "The annual Congress will provide an opportunity to listen to students' concerns and to collaborate with other university partners."

Graduate and undergraduate students brought research posters to share their university's ongoing projects. Themes from the posters included freight transportation applications of geographic information systems (GIS), assessment of warehouse decentralization, and vehicle-wildlife collision analysis.

"I thought it was very useful to understand the diversity of the research on transportation related topics that is being undertaken by the PSR, both between and within disciplines," PhD Candidate in Urban Planning (USC) Nathan Hutson said. "It was also good to have community college representation with respect to the community connections and implementation considerations of transportation research."

In the latter part of the day-long meeting, students broke out into a separate session to brainstorm about their specific needs and what the PSR UTC can offer. Faculty and Advisory Council members engaged in a discussion of how PSR could best address the research, education, and technology transfer needs of the region. A wide ranging discussion revealed that the research themes of PSR were inclusive of the main transportation challenges in the region—resiliency, automated vehicles, alternative fuels and power resources, and goods movement. Council

members were equally concerned with education and workforce development, noting the need for retraining the existing workforce, as well as developing a pipeline for the many types of jobs anticipated.

Meanwhile the student session revealed interest in frequent research updates and communication between universities, a focus on developing K-12 curriculum geared toward transportation careers, transportation workforce development, and networking events for PSR members. The students strongly agreed that the UTC partnership should leverage the educational, training, and career opportunities of a large network for current and prospective students.



*Student participants at PSR Congress meeting*



*Introduction to PSR by Genevieve Giuliano*

"Faculty and students of the PSR UTC showed great interest in staying connected with and informed about other university partners. The desire for future collaborative research projects, and other professional opportunities, was apparent. To propel PSR forward, the UTC will consider how to best leverage the ideas and connections that developed through this initial meeting," Master of Science in Supply Chain Management Student (Long Beach State) Miles Winston said.

**To read more about PSR, go to:**  
<https://www.mettrans.org/psr-utc>

**METRANS RESEARCH****PSR Spring Research Seminar Series**

PSR seminars are held at USC, Long Beach State University, UC Davis, UCLA, and UC Irvine. The following seminars were held during the Spring 2018 semester.

<b>Date</b>	<b>Institution</b>	<b>Presenter</b>	<b>Topic</b>
January 19, 2018	UC Davis	Sebastian Astroza, Ph. D. Candidate in Civil Engineering, University of Texas at Austin	Transportation Planning to Accommodate Needs of Wind Energy Projects
January 26, 2018	UC Davis	Reka Akhavian, Assistant Professor Construction Management at the School of Engineering, California State University East Bay	Data-Informed Decision Making in Construction Management and Transportation Engineering
January 31, 2018	USC	John Cho and Peter Gordon of the Southern California Association of Governments (SCAG)	Agglomeration in Southern California
February 9, 2018	UC Davis	Hemant Bhargava, Professor, Jerome and Elsie Suran Chair in Technology in Technology Management, Graduate School of Management, UC Davis	A Conversation about Platforms
February 2, 2018	UC Davis	Alejandro Henao, Postdoctoral Researcher Transportation Systems Group National Renewable Energy Laboratory (NREL)	Assessing Impacts of Transportation Innovations – Electrification Automation, and Sharing – Through Ride-Hailing Research
February 21, 2018 and May 7, 2018	USC/Long Beach State University	Timothy VanderBeek, Hardware Team Manager and Deputy Chief for the Electrostatically Supported Gyro Navigator Replacement (ESGN-R), Boeing	Centralized Processing of Chassis: Modeling, Analysis and Optimization
April 5, 2018	USC	Mia Lehrer, Fellow of the American Society of Landscape Architects (FASLA)	Recalibrating the City: Advocacy by Design
April 11, 2018	USC	Brian Taylor, Professor of Urban Planning, Director of the Institute of Transportation Studies, Director of the Lewis Center for Regional Policy Studies, UCLA Luskin School of Public Affairs	Why is Transit Ridership Falling?
April 20, 2018	UC Davis	Susan Shaheen, Adjunct Professor, Civil and Environmental Engineering Director, Innovative Mobility Research Co-Director, Transportation Sustainability Research Center, University of California, Berkeley	Innovation and Disruption in Urban Mobility: Do We Need to Rethink Everything?

## METRANS OUTREACH

# 2018 CITT Town Hall Meeting Explores Clean Air Action Plan 3.0

This year's State of the Trade and Transportation Town Hall Meeting convened a wide range of professionals from industry, government, and academia to discuss the third iteration of the Clean Air Action Plan. The evening began with a welcome address from the Center for International Trade and Transportation (CITT) Executive Director Thomas O'Brien and the Dean of College and Continuing and Professional Education (CCPE) and Associate Vice President for International Education Jeet Joshee.

The March 29, 2018 evening program began with a welcome address. "The objectives of the Clean Air Action Plan (CAAP) are clear: the Los Angeles and Long Beach port complex produces pollution that is hazardous for both the environment and public health, thus a zero-emission port complex will rectify the issue," O'Brien said. "But reaching this goal is a more complicated process."

"The goal of this Town Hall was to open up the discussion about CAAP 3.0: the pressure of the deadline, the progress of technology, the costs of going zero-emission, economic impact, and ultimately, whether the costs and benefits will balance out," METRANS Director Genevieve Giuliano summarized.

With the help of Long Beach State's Advanced Media Productions, CITT presented a video that encapsulates the complex and varied perspectives surrounding the latest version of the CAAP. The video framed the panel discussion and provided an overview for the audience.

Town Hall Moderator Jolene Hayes, Senior Associate of Fehr & Peers, asked questions about the more pressing issues that have come out of the latest version of the plan. The panelists spoke about the costs, benefits, and other impacts from their various backgrounds. To kick off the discussion with a question about the technological progress, Hayes asked, "How do we get there?"

"Innovation is coming. It's for the betterment of what we do," said Aravind Kailas of the Volvo Group. "Everybody still works in silos. What we want to do is to develop the technology with the customers, the supply chain, and other players and components in mind."

Don Paul, Executive Director of the Energy Institute at USC, addressed the issue of the necessary energy infrastructure improvements that would be needed for these technological advancements, particularly electricity usage. "The power grid in Southern California is already stressed. For energy infrastructures, ten years is not enough time. It's not likely a major power plant will be built in the middle of Long Beach."

Judy Mitchell, South Coast Air Quality Management District representative and California Air Resources Board member, addressed the role of regulators to move the plan along in the most productive way.

"The regulation tends to be technology forcing. But regulators look at the goals and the timeline and they make adjustments. We are also required to look at the economy and not injure it. So we are constantly doing this balancing act between economy and environmental goals." Mitchell also noted that collaborative efforts between larger fleet owners and incentive programming could help reach the estimated \$7-14 billion dollar costs.

"There are obviously tactical issues about the viability of these technologies. But there are also social issues," said Philip Davies of Davies Transportation Consulting. Davies raised the issue of truck owners whose trucks will become obsolete in the next two or three years and how leadership needs to address the implications of these potential losses.

The panelists also discussed the potential repercussions of losing discretionary cargo to other ports and the viability of maintaining business at the Los Angeles and Long Beach ports. The panel concluded



From left to right: Tom O'Brien, Norbert Ore, Judith Mitchell, Phil Davies, Gen Giuliano, Don Paul, Aravind Kailas, and Jolene Hayes.

that California's leadership in moving towards a zero-emission port complex will make way for other ports to follow suit.

Norbert Ore of Strategas Security noted that East Coast ports will gradually keep up if and when more efficient technologies are available. "When I think about ports here, those ports in the east coast don't even begin to rival what comes through here," Ore said, emphasizing the capacity of the Long Beach and Los Angeles ports.

**To read the full article, go to: <http://bit.ly/2x15Yjh>**

**Visit the CITT website: <http://bit.ly/2r1xEcj>**

**Watch the full recording of the 2018 Town Hall: <http://bit.ly/2HOVhzi>**

**To watch the introductory video about CAAP 3.0, go to: <http://bit.ly/2I3rFkr>**

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To learn more about MAP and its benefits, see [www.metrans.org/metrans-associates-program](http://www.metrans.org/metrans-associates-program)



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