



METRANS on the Move: our weekly newsletter by students

Happy Wednesday, Reader!
Be sure to check out the new issue of Transfers Magazine [here!](#)



In the News

The articles in this newsletter are prepared or accomplished by others in their personal capacity. The opinions expressed are the author's own and do not necessarily reflect the views of METRANS or its partners.



Spotlight on USC Doctoral Candidate Yougeng Lu

"I have been interested in transportation from a very young age, so it is perhaps not surprising that I am now a Ph.D. candidate in urban planning at USC, focusing my studies and research firmly in the field of transportation planning, investigating and developing knowledge in both the technical-physical and socio-economic complexities of the field."

Read more [here](#).



Price progressive degree graduate amplifies undergrads' voices

"I am confident in my lived experience as a student, and I feel like just that in itself gives me a lot of insight to offer to underclassmen who maybe aren't sure about what classes to take or where to get involved."

Read the USC Price feature [here](#).



'Greenway Stimulus' Could Bring Boom in Bike and Walking Trails

Active-transportation advocates are campaigning for \$10 billion in infrastructure funding to connect cities with paths and create an interstate system for cyclists and walkers.

Read the Bloomberg feature [here](#).

Webinars & Online Events

UC ITS Webinar: Partnering with Historically Underserved Communities in Transportation Planning

Thursday, June 10th at 10:00 am PDT

This webinar will provide transportation professionals with recommendations and best practices in . . .

[More Info](#)

Pritzker Forum on Global Cities: The Post-COVID City**Thursday, June 10th at 2:00 pm PDT**

This webinar will provide transportation professionals with recommendations and best practices in . . .

[More Info](#)

The 12th Annual Mineta National Transportation Finance Summit Presents: Electrifying the Transportation Future**Friday, June 11th at 10:00 am PDT**

Transportation policymakers face two overlapping, once-in-a-generation opportunities: electrifying the nation's vehicle fleet and re-establishing a stable source of federal and state revenue for transportation.

[More Info](#)

The National Academies of Sciences, Engineering, and Medicine Presents: How We Move Matters: Exploring the Connections between New Transportation and Mobility Options and Environmental Health--A Workshop**Sunday, June 13th at 8:30 am PDT**

This workshop will bring together experts in transportation, consumer behavior, and environmental health to share perspectives on the environmental health impact of evolving mobility options.

[More Info](#)

NCST Webinar: Monetary and Non-Monetary Factors Influencing Travel Choices in an Automated, Shared, and Electric Vehicle Future**Tuesday, June 15th at 10:00 am PDT**

The transportation system is undergoing three revolutions: vehicle automation, electrification, and . . .

[More Info](#)

INSPIRE University Transportation Center Webinar: Fiber Optic Sensor Based Corrosion Assessment in Reinforced Concrete Bridge Elements and Metal Pipelines**Wednesday, June 16th at 8:00 am PDT**

In this 50-minute lecture, the fundamental concepts of fiber optic sensors for both distributed and . . .

[More Info](#)

STRIDE Webinar: Transportation to Health Care and COVID-19**Wednesday, June 16th at 9:00 am PDT**

Exploring Pandemic-Era Travel Trends and Post-Pandemic Challenges and Opportunities

[More Info](#)

SCAG Traffic Safety Peer Exchange Series: Making Traffic Safety a Reality: Funding Strategies**Wednesday, June 16th at 1:00 pm PDT**

Connect, learn from, and engage with traffic safety professionals across the SCAG region this summer!

[More Info](#)

RFF-Urban Institute Series on Environmental Justice: Climate Impacts, Adaptation, and Resilience**Thursday, June 17th at 8:00 am PDT**

Who stands to win—or lose—as a result of climate change? The impacts of temperature increases . . .

[More Info](#)

C2M2 CPS Frontiers Presents: Assessing Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity and Public Health Outcomes in South Carolina**Friday, June 18th at 11:00 am PDT**

C2M2 invites you to join us in welcoming Dr. Kweku Brown, The Citadel.

[More Info](#)

Fast Facts

Created for Students, by Students



Fast Facts

Cutting edge transportation research summaries
Created for students, by students

Connected Autonomous Vehicles: Safety During Merging and Lane Change and Impact on Traffic Flow

Authors: Petros Ioannou, Fernando V. Monteiro

Year: 2020

Keywords: [Connected and autonomous systems, safety and security](#)

What's going on?

In their current form, automated vehicles behave as independent robots relying solely on their on-board sensors to operate in highly uncertain environments — but how can these vehicles force or persuade other vehicles in a dense traffic situation to create space in the destination lane for safe merging? In this report, researchers investigated how lane changes and merging can be negotiated in a connected environment to improve safety and minimize the impact on traffic flow. To do this, researchers developed a safety spacing algorithm, which uses the vehicle characteristics, speed, and location to determine the amount of space needed to perform a safe lane change. Furthermore, they propose a method that allows vehicles to cooperate to generate the necessary safe gaps and to complete the lane change maneuver. The researchers also expanded their study to platoons of vehicles, developing a communication protocol to avoid conflicts, and proposing a methodology to identify sensor or communication failures.



What were the findings?

The researchers found that autonomous vehicles can safely maneuver lane changes if all vehicles are connected. In a mixed traffic environment, with some connected vehicles and some human-controlled vehicles, safety and traffic flow efficiency are compromised. Additionally, fully connected environments would prevent bottlenecks, as automated vehicles would have advanced notice of upcoming congestion and could perform lane changes to maintain efficient traffic flow.

What's next?

While still far from reality, implementing a fully connected autonomous vehicle environment would allow for more efficient lane changes, which would reduce traffic congestion, improve mobility and safety, and reduce fuel consumption and emissions.

Read the full report on our website:

<https://www.metrans.org/research/connected-autonomous-vehicles-safety-during-merging-and-lane-change-and-impact-on-traffic-flow>

The Pacific Southwest Region UTC conducts an integrated, multidisciplinary program of research, education and technology transfer aimed at improving the mobility of people and goods throughout the region.

Check this week's featured Fast Facts [here](#).

Looking for more Fast Facts? Check out the [Fast Facts Page on Metrans.org!](#)

[Take me to Fast Facts](#)

Pathways to Opportunity

APTF 2021 Scholarship Program

APTF

Apply by 06/14/2021

[See more info](#)

NEMESIS Student Research Competition

Aviana Global Technologies

Channel Application closes 06/30/21

[See more info](#)

[More Internships and Scholarships Here](#)

Management Analyst
SGVCOG

Alhambra, CA

Civil Engineer (Highway Design)
USDOT

Ashburn, VA

Apply by 06/11/21
[See more info](#)

Apply by 06/30/21
[See more info](#)

[More Job Opportunities Here](#)

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