



Semi-Annual Progress Report #15

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1. Accomplishments

Major goals of the program

The Pacific Southwest Region UTC (PSR) addresses the transportation issues of Region 9 through an integrated, multidisciplinary program of research, education, and technology transfer aimed at FAST Act research priority area 1: improving the mobility of people and goods throughout the region. The goal of PSR is to improve passenger and freight transportation throughout Region 9.

Our consortium of universities and community colleges, together with partnerships with state Departments of Transportation (DOTs), Metropolitan Planning Organizations (MPOs), and industry leaders, forms a comprehensive, region-wide network. The University of Southern California (USC) leads the consortium. Partners include California State University Long Beach (CSULB); University of California, Davis (UCD); University of California, Irvine (UCI); University of California, Los Angeles (UCLA); University of Hawai'i at Manoa (UH); Northern Arizona University (NAU); and Pima Community College (PCC). USC and CSULB are both partners in the METTRANS Transportation Center, the entity that houses the PSR UTC.

Accomplishments under these goals

Our accomplishments are categorized under research, education, and outreach.

A. Research Accomplishments

The goal of our Center is to address regional issues and provide public policy advisement, technical assistance to state and local agencies, and innovative workforce development strategies. Our multi-modal, multi-disciplinary research program is organized around four themes that are covered in our previous SAPR.

Our research program has three parts: 1) research conducted by PSR faculty; 2) research conducted by researchers inside or outside PSR but within Region 9; and 3) a graduate research fellowship program. We have reserved a small pool fund for a Region 9-wide solicitation with the purpose to promote broader participation across the states and territories.

The total research project and white paper count for PSR is 160. We have funded 6 regional pool fund projects at UC Santa Barbara and 4 at UC Riverside, the remainder of the projects are based at PSR-member institutions. PSR partners have now completed all research projects and white papers.

Table 1: Projects Completed during current reporting period.

Note on Funding Sources: DOT= DOT funded
 CT-PSR= Caltrans funds (for California partners), match funding source
 NSF= National Science Foundation, match funding source

Partner	Project No.	PI	Title	Funding Source
USC	PSR 22-02 TO-057	Cyrus Shahabi	Validation of Freight Volume Modeling on Major Highway Links	CT-PSR
USC	PSR-22-18	Ketan Savla	Dynamic Incentive Design for Transportation Systems with Unknown Value of Time	DOT
USC	PSR-22-01	Detlof Winterfeldt	Reducing Carbon Emissions from Student Commuting	DOT
UCD	PSR-22-47 TO-071	Prashanth Venkataram	Disability, Transportation, Activity Performance, and Neighborhood Features in California: Analyzing Data from a Survey	CT-PSR
USC	MT-19-SP94	Petros Ioannou	Smart Freight Transportation with Behavior Incentives	NSF
NAU	PSR-22-05	Steven Gehrke	Evaluation of Transportation Safety and Security Barriers in Bicyclist Accessibility	DOT

Match funding

PSR has the following match funding priority rankings: new funding, match from other existing research projects, and in-kind match. It is important to note that we have met our match. The University of California partners continue to have access to state funding through SB1, which increased the California fuel tax by 12 cents per gallon. A portion of SB1 funding is allocated to the UC Institute of Transportation Studies (ITS). UCD, UCLA, and UCI are part of ITS and receive SB1 funds. Some of these funds are used for PSR match. ITS is funded in-part by the state of California, as well as by Caltrans research contracts. There are several statewide research collaborations taking place through ITS. The California partners continue to award funding via Caltrans, who has committed to a 50% match for PSR. USC has obtained additional research funding from foundations, local industry, and agencies for specific projects. NAU continues to receive in-kind match funding from the Arizona Board of Regents Research Innovation Fund for research aimed at increasing freight safety and mobility along the I-10 corridor. UH requires each research project to provide its own match; the match is mainly in-kind. [Table 2](#) shows match funding sources and amounts.

Table 2: Match funding sources for PSR (as of September 2023)

Fund source	Amount
USDOT total for PSR	\$15,584,200.00
Caltrans match funding for PSR	\$4,912,339.00
Other match funding for PSR	\$14,370,796.00
Total match funding, all sources for PSR	\$19,283,135.00

Additional accomplishments

The joint **UCD** and **UCLA** project, “The Implications of Freeway Siting in California,” was selected for the 2024 American Planning Association Sacramento Valley Section Award of Excellence in the Academic Award category. Feedback from the Awards Jury was that “*The jury appreciated the effort, methodology, readability and the relevance of the examples, particularly the Sacramento freeway. They felt the study would be extremely useful and offered a valuable historical lens and context. The jury also noted that they would like to see a future study done using income-based metrics, particularly in rural communities that may lack legal recourse.*” The Sacramento Valley Section will be honoring all 2024 award recipients at their awards ceremony in October 2024.

ITS-Davis published three research reports during the reporting period. Additionally, two research briefs were published during the reporting period to summarize the findings from completed research. Refer to Outputs for more information on these publications.

i. Research dissemination

Dissemination of our research results takes place via research reports and research briefs, scholarly publications, popular publications, conference presentations, and media. Numerous PSR researchers present at conferences and seminars throughout the region, nationally, and internationally. Projects that are funded by Caltrans require the PI to present findings to a panel of practitioners, and particularly to Caltrans personnel.

Dissemination highlights

Completed final reports and research briefs are available on the PSR research website at <https://www.metrans.org/metrans-research>.

USC METRANS hosted one PSR funded METRANS Research Seminars during the reporting period. Recordings of the seminars are available via the links below.

- [Fuel Cell Technologies at Toyota: A Conversation with Jackie Birdsall, Senior Engineering Manager, April 3, 2024.](#)

In June of 2024, the METRANS Transportation Consortium was selected to lead a United States Department of Transportation (USDOT) University Partnership Program (UPP). As a member of the UPP, METRANS partners with four Southeast Asian universities to support collaboration among United States and Southeast Asian professionals, researchers, and university students in the context of the US-ASEAN Smart Cities Partnership (USASCP) Transportation Program and the Mekong-U.S Partnership (MUSP) Regional Connectivity Program.

The UPP is led by USC, in collaboration with California State University Long Beach, Chulalongkorn University (Thailand), Institute of Technology of Cambodia, Universitas Indonesia, and Universiti Teknologi Malaysia. The UPP brings a sustained research focus and METRANS’s expertise to the USASCP’s program of knowledge transfer to support smart city innovations in transportation.



UCD researchers presented on their PSR research in two webinars during the reporting period: one organized by the California Department of Transportation on “Implications of Freeway Siting in California - Sacramento Case Study”, and another organized by the Transportation Research Board on “Historically underserved communities in transportation planning”.

Media coverage

Boarnet (**USC**) and his co-PI Seva Rodnyansky were interviewed on the following dates:

1. February 11, 2021 – CalMatters: Survey shows that California’s local governments need help now
2. July 7, 2021 – KPCC: Are People Fleeing Big Cities? The Factors And Implications For SoCal And Beyond Los Angeles Times: Wealth, class and remote work reshape California’s new boomtowns as people flee big cities
3. January 29, 2022 – ABC7: Bay Area’s great migration is creating a ‘Megaregion’ as residents move out, not away
4. July 31, 2023 – SFGate: There’s so much migration from the Bay Area to Sacramento it’s creating a ‘megaregion’
5. July 31, 2023 – CBS News 13: Inbound migration into Sacramento is creating a “megaregion”.

ii. Plans for next reporting period

UCD will submit a final invoice to USC for the remaining expenditures on the grant.

B. Educational Accomplishments

Student Programs

i. Workforce development

In collaboration with the College of Professional and Continuing Education (CPaCE), **CSULB** hosted the 2024 Port of Long Beach Academy Teacher Externship. The objective of the Externship is to provide high school educators with both foundational knowledge as well as knowledge on current trends in logistics that can be applied in the classroom. The team also identified additional resources educators may use in the classroom that reflect their individual needs as a teacher of a specific discipline. The Externship took place over three days: August 20 and 21 and Sep. 18, 2024. This Externship is part of a broader set of support activities that CSULB and the Center for International Trade and Transportation provide the Port of Long Beach and LBUUSD designed to:

- Develop students’ foundational knowledge of logistics and understanding of the value of global trade and transportation in our community
- Prepare students for entry level career opportunities for in-demand, high opportunity career paths in international trade and transportation
- Document students’ knowledge and understanding of industry concepts acquired in this pathway and build on that knowledge each year as they progress towards graduation

- Provide students with information to pursue a wide range of training and higher education opportunities including certificates, certifications, and degrees offered at a community college or four-year university upon graduation from high school
- Engage teachers in activities and with industry partners to develop knowledge needed to create relevant course curriculum that is based on real world content, provides contextualized learning experiences for students, and contributes to the ongoing development of rich and dynamic integrated, grade-level projects for an international trade and logistics career pathway.

ii. Education and Workforce Development goals for next reporting period

Nothing to report.

C. Outreach Accomplishments

PSR conducts many outreach efforts that have been described in past SAPRs. Ongoing outreach activities include: **CSULB CITT Center Updates**, bimonthly e-blasts to industry/academia consisting of brief articles covering relevant Center activities with a focus on the freight sector and workforce development; **Logistics Peer Exchange** (CSULB), a peer exchange on best practices in regional freight planning and coordination; **METRANS on the Move** (USC), this is a weekly e-newsletter written and produced by USC students with staff guidance; **Mobility Matters** (CSULB), a CITT podcast series dedicated to addressing mission-critical issues facing the professionals who design, develop, operate, and maintain mobility systems.

METRANS News: During this past reporting period, USC METRANS and CSULB continued newsletter issues, with newsletters published in June, August and October of 2024. The newsletters summarize a completed research project in lay terms for workforce and professional audiences. The newsletters also cover events and more. METRANS News also summarizes outreach activities and includes coverage of NCST- and PSR-funded projects and activities. It is distributed to 2219 scholars, students, staff at Caltrans, USDOT, UTCs and faculty throughout the U.S., to federal, state, and local public and private agencies, and to industry. The average opening rate was 38.48%, compared to 38.23% during the previous reporting period. This is generally consistent with Constant Contact's overall average of 35%. The range for a good open rate is 15-25%, and the newsletter's open rate slightly exceeds this range. The monthly newsletters are archived [here](#).

The focus of information dissemination for both **METRANS** and **CITT** emphasizes **LinkedIn** over other forms of social media. With the launch of the CA LTAP Center at CITT, efforts took place to launch a LTAP social media presence. CA LTAP has established a regular email newsletter and social media posting schedule and launched a LTAP website in the fall of 2022.

CSULB published seven eblasts thus far during the reporting period. The average open rate was 38.76%. Going forward, CITT will plan to publish one eblast a month with additional eblasts for special events, calls for abstracts, etc.

Mobility Matters is a podcast series dedicated to addressing mission-critical issues facing the professionals who design, develop, operate, and maintain mobility systems. **CSULB** CITT Executive Director Tyler Reeb hosts the series and each episode features insight from trade and transportation experts from various sectors. No episodes were recorded during the reporting period, but CITT is

currently developing a video format for the podcast and episodes will begin early in the next reporting period.

Transfers Magazine:

Transfers Magazine did not publish during this reporting period. The website www.transfersmagazine.org, which also features regularly updated blogs with transportation-related news, research and events, had more than 25,000 page views during this six-month period, which increased from the previous six-month period. Most of our web traffic peaks in the two- to four-week period immediately after publishing an issue. The Transfers team has worked to create a social media content calendar to maintain promotion of the issues throughout the full period between issues, and has developed short videos as another means of expanding the magazine’s audience. The goal of the magazine is to translate the research of faculty, staff, and students at the PSR campuses into highly accessible content for an audience of elected officials, transportation planners, members of the media, and the general public.

i. Outreach plans for the next reporting period

The PSR Advisory Council advises specifically on PSR and met in March 2024 at the PSR Annual Congress, and again in July 2024 to link our stakeholders to research projects selected for funding. Members of the PSR Advisory Council include representatives from state DOTs, MPOs, local governments, tribal organizations, transportation service providers, non-profit organizations, and the goods movement industry. The Advisory Council provides overall policy guidance to the PSR Center and helps to support its fundraising and development efforts. Please click [here](#) for a list of our Advisory Council members. The METTRANS Advisory Board, which advises METTRANS on all its activities extending beyond PSR, will convene next in July also.

2. Participants & Collaborating Organizations

Participants contribute to the work of the PSR through financial or other support, or directly in research, education, or technology transfer. Collaborating organizations participate in Center activities, provide advisement, or support the center.

UCD continued to provide support to the Women’s Transportation Seminar (WTS) UCD Student Chapter.

A. Financial support

Over the course of the grant, these are among the entities who provided match funding for PSR research projects:

- Bosch LCC
- California Community Foundation
- California Department of Transportation (Caltrans)
- California Strategic Growth Council
- Chan Zuckerberg Initiative
- Los Angeles County Metropolitan Transportation Authority (LA Metro)
- Los Angeles World Airports (LAWA)
- Port of Long Beach (POLB)

- South Coast Air Quality Management District (SCAQMD)
- Southern California Association of Governments (SCAG)
- State of California
- Volvo Research and Education Foundation (VREF)

B. Other support

The following organizations provide indirect or in-kind support to PSR:

- **California:** AECOM (Los Angeles); Alliance for Community Transit; Amtrak Capitol Corridor; California Energy Commission (CEC); California Transit Association; Caltrans Office of Earthquake Engineering, Analysis and Research; City of Anaheim; City of Anaheim; City of Davis; City of Santa Clara; Cool Davis; Council of Supply Chain Management Professionals (CSMCP); Fehr & Peers; Foothill Transit; Gateway City Council of Governments; Governor's Office of Business and Economic Development (GO-Biz); HDR; International Longshoremens and Warehousemen's Union (ILWU) Local 13; Investing in Place (Los Angeles); Kiwi Inc.; Long Beach Transit; Long Beach Unified School District; Los Angeles Department of City Planning; Majestic Realty; MetroLink; Nixon Peabody; Orange County Transportation Authority (OCTA); Port of Los Angeles; San Francisco Metropolitan Transportation Commission; San Francisco Municipal Transportation Agency; Santa Clara County Assessor's Office; Southern California Association of Governments (SCAG); Southern California Edison; Toole Design Group; Tree People/Climate Resolve (Los Angeles); UC Davis Feminist Research Institute; UC Davis Policy Institute for Energy, Environment, and the Economy; UC Davis Road Ecology Center; UC Institute of Transportation Studies (UC-ITS); Watson Land Company; Yusen Terminals LLC
- **Arizona:** Arizona Board of Regents, Chamberlin Group, Pima Association of Governments, Northern Arizona University, Southern Arizona Anti-Trafficking United Response Network (SAATURN)
- **Hawaii:** National Disaster Preparedness Training Center (NDPTC), University of Hawaii
- **Others:** Federal Highway Administration; King County Metro (Seattle, WA); staff from state DOTs in California, Colorado, Maine, Minnesota, Nevada, and Virginia.

Additional Support

PSR has a tremendous network of partners as noted above and in past SAPRs. Additional supporters include: **Council of University Transportation Centers (CUTC)**, Thomas O'Brien (CSULB) completed his tenure as president of CUTC and Genevieve Giuliano (USC) is a past president and past executive committee member, and Susan Handy (UCD) and Marlon Boarnet (USC) are members of the board; **Institute of Transportation Studies (ITS)** (UCD, UCI, UCLA), provides match funding and other resources; **MetroFreight Center of Excellence** (USC, CSULB), METTRANS is the home of the Volvo Research and Education Foundation (VREF) Center of Excellence on urban freight and offers many opportunities for international collaboration and partnerships; **National Center for Sustainable Transportation (NCST UTC)** (UCD, USC), strengthens and expands our work in sustainable freight transport; **Southwest Transportation Workforce Center** (CSULB), provides significant infrastructure and professional capacity in support of workforce development programs for PSR; **The Center for International Trade and Transportation** (CSULB), uses its media and social media channels to announce events and other opportunities to a network of students and industry and government partners; **TuSimple** (PCC), offers program support and priority hiring to graduates; **UCLA Lewis Center for Regional Policy Studies**,

provides workspace and matching funds researchers and staff at UCLA ITS; **Velodyne Lidar** (UCI), provided a donation of two LiDAR units that are supporting current graduate student fellowship and faculty research projects. The following **METRANS Associates** provide additional financial support: LA Metro, Majestic Realty, Port of Long Beach, Western States Petroleum Association, Metrolink, Southern California Association of Governments, WSP USA, Los Angeles World Airports, San Diego Association of Governments.

C. Collaborations

PSR has an extensive network of collaborations with academic, public and private organizations. Many of these have been described in past SAPRs. Ongoing collaborations include: **California Department of Transportation**, an important match funder, **Arizona Technology Park** (PCC), seeks to bring economic developers and academic researchers together to attract autonomous vehicle manufactures to southern Arizona; **Florida Atlantic University** (UH), engages in collaborative research on the use of visualizations to improve the understanding of sea level rise Impacts to transportation in FL and HI; **Maricopa Association of Governments** (NAU), continues to work on pilot evaluation projects with the **University of Arizona**; **Oregon State University** (NAU), partners on two research projects funded by the **Oregon Department of Transportation**; **University of Antwerp** (CSULB), developing an executive workshop that address pharmacological supply chains including the rollout of vaccines in the City of Long Beach.

3. Outputs

PSR outputs include publications, reports, papers, presentations, media, and others. Our target for peer-reviewed publications is 5 per year; our target for presentations is 10. During this reporting period, we have produced **41 peer-reviewed** journal publications and **62 presentations**. For a list of the publications, conference papers, and presentations, see [Appendix A](#). See [Table 1](#) for a list of project final reports that were published during the reporting period. For a full archive of METRANS research projects, which includes those for PSR, click [here](#).

A. Websites

The [PSR website](#) is the central, authoritative source of information regarding our center. Our consortium members also maintain additional sites that contain information relevant to PSR's research and activities. Some of these sites are:

- CITT (CSULB): <https://www.cpie.csulb.edu/center-for-international-trade-and-transportation>
- eScholarship (UCD, UCI, UCLA): <https://escholarship.org/>
- ITS-Davis: <https://its.ucdavis.edu/>
- ITS-Davis eScholarship: <https://escholarship.org/uc/itsdavis>
- METRANS: <https://www.metrans.org/>
- NAU PSR UTC: <https://in.nau.edu/aztrans/psr-region-9/>
- Transfers Magazine (PSR flagship publication): <http://www.transfersmagazine.org/>
- UC Davis Feminist Research Institute: <https://fri.ucdavis.edu/>
- UC Davis Policy Institute for Energy, Environment, and the Economy: <https://policyinstitute.ucdavis.edu/>
- UCI ISERT conference: www.its.uci.edu/isert2020
- UCI seminar series: www.its.uci.edu/seminars

- UCLA ITS YouTube channel: <https://www.youtube.com/c/UCLAInstituteofTransportationStudies/>
- UCLA ITS: <http://www.its.ucla.edu>
- UCLA Lake Arrowhead Symposium: <http://www.uclaarrowheadsymposium.org>
- Open access to UCLA Institute of Transportation Studies reports, capstone projects, and policy briefs: https://escholarship.org/uc/ucla_its
- UH website (includes posts on PSR research): <https://ndptc.hawaii.edu>
- UH Twitter: <https://twitter.com/uhpurl>
- UH Facebook: <https://www.facebook.com/UH.PURL/>
- NDPTC Twitter: <https://twitter.com/disasterctr>
- NDPTC Facebook: <https://www.facebook.com/disasterctr>
- NDPTC LinkedIn: <https://www.linkedin.com/company/18472899/admin/feed/posts/>
- PURL Twitter: <https://twitter.com/uhpurl>
- PURL Facebook: <https://www.facebook.com/UH.PURL>
- DURP Facebook: <https://www.facebook.com/UH.DURP/>

B. New methodologies, technologies, or techniques

Nothing to report.

C. Other products

Nothing to report.

4. Outcomes

PSR's goal is to effectively and efficiently move research to practice so that new knowledge can be shared, acted upon, and contribute to a more efficient, sustainable, and equitable transportation system. We achieve our goal through technology transfer activities: events, communications, training, and client-based research. We define outcomes as any changes made to the transportation system, or its regulatory, legislative, or policy framework, resulting from research and development outputs.

CSULB held a Metropolitan Planning Organization (MPO) Webinar: Road Maps and Story Maps for Public Outreach in August 2024 through the California Local Technical Assistance Program (LTAP). It hosted 30 public agency employees from agencies across the state in an introductory GIS course focusing on the Esri ArcGIS Pro software. The course built on previous GIS training held by CSULB for similar audiences. A guest speaker from the GIS Department at the County of Los Angeles presented on the breadth of public sector applications for GIS and infused the course with real-world recommendations. The course included a hands-on activity where the students created a web map using statewide vehicle crash data. The webinar recording is available online and publicly accessible for anyone to view and learn about GIS, including those in region of PCC and other PSR partners. [ArcGIS for Local Public Agencies \(youtube.com\)](https://www.youtube.com/watch?v=...).

Findings from project, "Tolling Lessons Learned for Road Usage Charge" (UCD and UCI), has informed policy on what lessons policymakers planning to implement road user charges can learn from the tolling industry. The research also addresses the key factors policymakers may need to account for while

implementing a Road User Charge Program. Predicting where wildlife might be crossing roadways safely using the existing system of culverts and bridges is useful information for Departments of transportation assessing wildlife-vehicle conflicts and planning new wildlife crossings. In the project “Predicting Wildlife Use of Existing Highway Bridges and Culverts,” PSR researchers developed a series of predictive models of species’ tolerances for different structural variables, including structure dimensions, location environment, and climatic variables (for use at different times of year). Compared to general and qualitative guidance for constructing wildlife crossings, or predicting wildlife use based upon structure dimensions, the predictive models developed in this project allow quantitative prediction of wildlife use, and the multiple location and structure variables included in the modeling allow for prediction of wildlife use for any existing or proposed new wildlife crossing, for example through a web-system. Using the predictive models, the researchers are currently developing a web-system where state agency staff can enter structural attributes and locations for existing or planned structures and find out which wildlife would be predicted to use the structures. This will be useful for both assessment of predicted wildlife use and planning new wildlife crossing structures.

Boriboonsomsin’s (**UCR**) project, “Evaluating System-Level Impacts of Innovative Truck Routing Strategies,” has raised awareness about the issue of community exposure to air pollution from truck traffic and potential mitigation measures, especially in Southern California. This is evidenced by the research team being awarded three research projects in this topic from Southern California Association of Government, Riverside County Transportation Commission, and California Attorney General's Office.

Suen’s (**USC**) project, “Using Traffic Data to Inform Transmission Dynamics for COVID19 in Southern California,” published manuscripts serve as evidence that we have developed novel contributions to the state of knowledge/methodology. The accepted paper described above uncovers novel trends between vaccination rates and traffic patterns in LA County. The other three manuscripts describe novel methodology for optimizing facility locations given commuting patterns, optimizing facility locations given queuing and congestion constraints, and understanding origin-destination traffic volume, respectively.

Impacts

PSR defines an impact as that which influences the transportation system, or society in general, such as reduced fatalities, decreased capital or operating costs, community impacts, or environmental benefits. The journey of generating outputs and impacts is uncertain and happens over time. Our contributions are judged by the PSR Advisory Council and measured as significant or not significant. PSR’s research products are made [available to the public](#).

UCD provides support, via PSR, to the WTS UC Davis Student Chapter, the fourteenth WTS student chapter founded nationwide, to help women network and advance their professional careers.

Loukaitou-Sideris’s (**UCLA**) project, “The Implications of Freeway Siting in California: An Equity, Geospatial, and Case Study Approach,” uncovered and documented stories and data on freeway construction, racial biases, and current implications in four California case study areas, with stark findings on racial disparities in freeway route selection decisions. The quantitative methods were novel and used a level of detail in census data analysis and comparisons to unchosen routes new to the literature. The research and analytical methods have been developed and built upon in a University of

California Institute of Transportation Studies report on freeway siting in Stockton, California and a forthcoming report from a funded Caltrans contract on freeway siting and history in Fresno, Colton, and San Diego, California.

Boriboonsomsin's (**UCR**) project, "Evaluating System-Level Impacts of Innovative Truck Routing Strategies," demonstrates a high potential for routing trucks in a way that mitigates their air pollution impacts, especially in disadvantaged communities that are disproportionately affected by truck traffic.

5. Changes/Problems

Changes in approach and reasons for change

Nothing to report.

Problems and delays encountered during the reporting period

Nothing to report.

Change of primary performance site location

Nothing to report.

6. Special Reporting Requirements

Nothing to report.

7. Appendix A

This appendix includes lists (non-exhaustive) of PSR researchers' publications and presentations from the current reporting period.

Publications

Peer-reviewed journal publications

1. Boarnet, M. G., Shao, Q., & Pilgram, C. A. (2024). Monetary cost, time cost, and mode choice: Transit and ridehailing in California. *Transportation Research Part D: Transport and Environment*, 130, 104149.
2. Boeing, G., Lu, Y., & Pilgram, C. (2023). Local inequities in the relative production of and exposure to vehicular air pollution in Los Angeles. *Urban Studies*, 60 (12), 2351–2368. doi:10.1177/00420980221145403
3. Boeing, G., Y. Lu, C. Pilgram, and P. Mannino. "Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles."
4. Boeing, G., Y. Lu, C. Pilgram, and P. Mannino. (2023). "Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles." *Transportation Research Board Annual Meeting*. Washington, DC. Jan 9–13. 2021.
5. Boeing, G., Y. Lu, C. Pilgram, and P. Mannino. (2023). "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." *Association for Public Policy Analysis & Management Fall Conference*. Austin, Texas. Mar 27–29. 2022.
6. Boeing, G., Y. Lu, C. Pilgram, and P. Mannino. (2023). "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." *Association of Collegiate Schools of Planning Annual Conference*. Miami, Florida. Oct 21–23.
7. Boeing, G., Y. Lu, C. Pilgram, and P. Mannino. (2023). "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." *US Department of Transportation, Pacific Southwest Region UTC. Technical report*. <https://rosap.ntl.bts.gov/view/dot/67432>.
8. Borello Vargas, J., Spencer, B., and Jones, T. (2024, January 2). Understanding Accessibility as Lived Experience: The Case of Walking and Cycling in Porto Alegre, Brazil. *Area Development and Policy*. <https://doi.org/10.1080/23792949.2023.2290155>.
9. Broader, J. (2024). Tapping In: Leveraging Open-Loop Fare Payments to Increase Financial Inclusion (UCB-ITS-PSR-2024-07). <https://escholarship.org/uc/item/88v9c0wm>
10. Chen, A. (2024). A Safe System Approach to Pedestrian High Injury Network Development in Oakland, California (UCB-ITS-PSR-2024-02). <https://escholarship.org/uc/item/2pn189p3>
11. Chu, L., Alghafis, A., & Molisch, A. F. (2023, October 11). Exploiting semantic localization in highly dynamic wireless networks using deep homoscedastic domain adaptation. *IEEE Trans.*
12. Chu, L., Burghal, D., Neuman, M., & F. Molisch, A. (2024, September 16). Context-Conditioned Spatio-Temporal Predictive Learning for Reliable V2V Channel Prediction Part of this work was supported by the California Transportation Department and by the National Science Foundation. *IEEE ICC Workshop – APATN*.
13. Cingolani, A. (2024, May). Laws In Tension: Affirmatively Furthering Fair Housing and Transit Access for Low-income Households (MUP planning report). San José State University, San José, CA. https://www.sjsu.edu/urbanplanning/docs/honors-reports/2023_2024%20Cingolani.pdf.
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17. Flynn, Justin A., Venkataram, Prashanth S., and Circella, Giovanni. (2023). Exclusion from Activities and Transportation Modes by Disability and Income: Results from a Survey in California. In Transportation Resources Board.
18. Gupta, M. (2024). Power To Pedal: A Gendered Analysis of the Barriers and Joys of Cycling in Oakland (UCB-ITS-PSR-2024-06). <https://escholarship.org/uc/item/0jw0n66r>
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24. Li, W., Zhong, H., & Boarnet, M. G. (2024). Effects of new transit lines on commuting: Evidence from restricted-use Census Bureau microdata. *Applied Geography*, 164.
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29. Raha, F., Eschen, A., Gehrke, SR., Smaglik, E., and Russo, BJ. "Analysis of Factors Associated with the Frequency and Severity of Turning Vehicle-Bicycle Crashes at Signalized Intersections." Accepted for presentation at the 2024 International Road Safety and Simulation Conference, 2024.
30. Reeb, T., Chris Swarat, and Barbara Taylor, "Talent Pipelines for the Fourth Industrial Revolution: How California PaCE Units Can Bridge Critical KSA Gaps," UC Berkeley: Center for Studies in Higher Education, Research and Occasional Papers Series, no. Special Issue: Opportunities and

- Challenges for California Higher Education (June 7, 2024), <https://escholarship.org/uc/item/5hh3904k.R>
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 34. Tom O'Brien, Ben Olson, and Devin Martinez Flores, "Addressing Transportation Construction Workforce Needs Through Innovative Policies and Practices" (San José State University: Mineta Transportation Institute, September 2024), <https://transweb.sjsu.edu/sites/default/files/2332-0%E2%80%99Brien-Employee-Compensation-Highway-Transportation.pdf>.
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Other publications

Conference papers

42. Boakye, Kwaku and Shashi Nambisan. (2023, January). The Risk of Seatbelt Non-use among Unlicensed and Licensed Drivers. (TRBAM- 23-02087), 102nd Annual Meeting, Transportation Research Board of the National Academies, Washington, D.C.
43. Boakye, Kwaku and Shashi Nambisan. The Risk of Seatbelt Non-use among Unlicensed and Licensed Drivers. (TRBAM- 23-02087), 102nd Annual Meeting, Transportation Research Board of the National Academies, Washington, D.C., January 2023.

44. Boeing, G., Ha, J. (2023, October 19-21). "Simulating Street Network Resilience and Robustness around the World." Association of Collegiate Schools of Planning Annual Conference. Chicago, Illinois. Oct 19–21, 2023.
45. Boriboonsomsin, K. and Hao, P. (2021). Evaluating System-Level Impacts of Innovative Truck Routing Strategies. Pacific Southwest Region UTC Research Brief, 2 pp.
46. Boriboonsomsin, K., Hao, P., Liao, Y., and Luo, J. (2021). Evaluating System-Level Impacts of Innovative Truck Routing Strategies. Report No. PSR-20-20, Pacific Southwest Region University Transportation Center, August, 39 pp.
47. Boriboonsomsin, K., Liao, K., Wu, G., Zhao, X.,. (2022). Connectivity-Based Cooperative Ramp Merging in Multimodal and Mixed Traffic Environment. PS Region, MT Center METRANS Transportation Center (Calif.).
48. Goulias, K. G., & Shi, H. (2023). Commercial Fleet Vehicle Additions and Replacements and the Potential Market Penetration for Electric Vehicles. *Transportation Research Procedia*, 70, 69-76.
49. Liao, Y., Luo, J., Hao, P., Barth, M., and Boriboonsomsin, K. (2022). "Evaluating transportation system-level impacts of innovative truck routing strategy for mitigating the impacts of truck emissions on communities." Proceedings of the 101st Annual Meeting of the Transportation Research Board.
50. Loukaitou-Sideris, A. (2023, June 21). Exposing Freeway Inequalities: The Case of Pasadena. Presented at the UCLA Institute of Transportation Studies Advisory Board meeting.
51. Loukaitou-Sideris, A., Handy, S., Ong, P., Barajas, J., Wasserman, J., Pech, C., Garcia Sanchez, J., Ramirez, A., Jain, A., Proussaloglou, E., Nguyen, A., Turner, K., Fitzgibbon, A., Kaepelin, F., Ramirez, F., and Arenas, M. (2023, March 3). The Implications of Freeway Siting in California: Four Case Studies on the Effects of Freeways on Neighborhoods of Color (PSR-20-40; J. Wasserman, Ed.). Pacific Southwest Region University Transportation Center. <https://escholarship.org/uc/item/7mj2b24q>.
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53. Loukaitou-Sideris, A., Wasserman, J., Ding, H., and Nelischer, C. (2023, January 31). Homelessness in State Transportation Environments. UCLA Institute of Transportation Studies. <https://doi.org/10.17610/T6J603>.
54. Loukaitou-Sideris, A., Wasserman, J., Ding, H., and Nelischer, C. (2023, January 31). Homelessness on the Road: Reviewing Challenges of and Responses to Homelessness in State Transportation Environments (UC-ITS-2022-17; PSR-21-52). UCLA Institute of Transportation Studies. <https://doi.org/10.17610/T6DC77>.
55. Penmetsa, Praveena, Sakina Dhondia; Stephen Poptic, Matthew Hudnall, Allen Parrish, and Shashi Nambisan. (2023). Impacts on Traffic Citations by Advanced Driver Assistance Systems, Proceedings of the American Society of Civil Engineers, International Conference on Transportation and Development 2023: Transportation Safety and Emerging Technologies. (pp 328-339).
56. Penmetsa, Praveena, Sakina Dhondia; Stephen Poptic, Matthew Hudnall, Allen Parrish, and Shashi Nambisan. (2023). mpacts on Traffic Citations by Advanced Driver Assistance Systems, Proceedings of the American Society of Civil Engineers, International Conference on Transportation and Development 2023: Transportation Safety and Emerging Technologies. 2023. (pp 328-339).

57. Ramirez, A., Proussaloglou, E., Loukaitou-Sideris, A., and Wasserman, J. (2024, August 16). Exposing Freeway Inequalities in the Suburbs: The Cases of Pasadena and Pacoima. *Journal of Planning History*. <https://doi.org/10.1177/15385132241265974>.
58. Reeb, T. (2024, August 29) Presentation of California Tribal Transportation Issues, "2024 National Transportation in Indian Country Conference". Durante, Oklahoma.
59. S. Nambisan, J. Byzyka, K. A. Islam and S. Chindepalli, "A Study of Electric Vehicles Ecosystem in Nevada," 2024 Forum for Innovative Sustainable Transportation Systems (FISTS), Riverside, CA, USA, 2024, pp. 1-6, doi:10.1109/FISTS60717.2024.10485587.
60. S. Nambisan, J. Byzyka, K. A. Islam and S. Chindepalli. (2024). "A Study of Electric Vehicles Ecosystem in Nevada," 2024 Forum for Innovative Sustainable Transportation Systems (FISTS), Riverside, CA, USA, 2024, pp. 1-6, doi:10.1109/FISTS60717.2024.10485587.
61. Su, R., & Goulias, K. (2023). Untangling the relationships among residential environment, destination choice, and daily walk accessibility. *Journal of Transport Geography*, 109, 103595.
62. Wasserman, J., Loukaitou-Sideris, A., Ding, H., and Nelischer, C. (2023, September 1). The Road, Home: Challenges of and Responses to Homelessness in State Transportation Environments. *Transportation Research Interdisciplinary Perspectives*, 21C. <https://doi.org/10.1016/j.trip.2023.100890>.
63. Zhao, X., Liao, X., Boriboonsomsin, K., & Barth, M. (2023, September 24). Improving truck merging at ramps in a mixed traffic environment: a multi-human-in-the-loop (MHUIL) approach. *IEEE Conference Publication | IEEE Xplore*. <https://ieeexplore.ieee.org/document/10422261>.

Presentations

64. Brown, A. (2024, April 19). "Planning for Equitable Micromobility."
65. Byzyka, J., Gunindi, Z., Nambisan, S. (2024, March 11-12) . A Study of Electric Vehicles Ecosystem and Energy Demand Forecasts in Nevada. Pacific Southwest Region University Transportation Center 2024 Congress, Las Vegas, NV.
66. Byzyka, J., Gunindi, Z., Nambisan, S. (2024, March 14-15). A Preliminary Analysis of the Electric Vehicles Charging Infrastructure and Future Energy Demand in Nevada. The 1st Colorado River Basin Symposium on Sustainable Energy, Environment, and Urban Development (CRB-SEED), Las Vegas, NV.
67. Dymond, B.Z., Kandgule, V. (2024). "Characterizing Bridge and Culvert Deterioration in Arizona Using National Bridge Inventory Data." Bridge Engineering Institute (BEI), Jul. 22-25, Las Vegas, NV.
68. Gupta, M. (2024) "Power to Pedal: A Study of Women's Barriers to Cycling in Oakland" presented at TRB's 7th International Conference on Women and Gender in Transportation, September 9, 2024.
69. Hyland, M., Yang, D. (2024, August 7). Presentation at Bridging Transportation Researchers., titled: Electric Vehicles in Urban Delivery Fleets: How far can they go? Virtual Conference <https://bridgingtransport.org/conference-program-2024>.
70. Islam, K., Nambisan, S. (2023, November 1-2). A Comparative Evaluation of Urban and Rural Road Safety in Nevada. 32nd Annual Nevada Fall Transportation Conference 2023. Organized by the Nevada Chapters / Sections of ASCE, ITE, and ITS America. Tuscany Hotel and Casino, Las Vegas, NV.
71. Islam, K., Nambisan, S. (2024, April 7-9). A Comparative Evaluation of Urban and Rural Road Safety in Nevada, 2024 Lifesaver Conference on Roadway Safety, Denver, CO.

72. Islam, K., Nambisan, S. (2024, August 10-13) Beyond Numbers: Navigating Road Safety Analyses with Integrated Datasets, 2024 Traffic Records Forum, ATSIP, San Diego, CA.
73. Islam, K., Nambisan, S. (2024, July 16-17) Nevada's Road Safety: Comparing Urban and Rural Areas, Nevada Rural Road Safety Summit, Organized by the Nevada Department of Transportation, Elko, NV.
74. Islam, K., Nambisan, S. (2024, March 11-12). Driving Forward: Data-based Strategies for Better Road Safety Equity. Pacific Southwest Region University Transportation Center 2024 Congress, Las Vegas, NV. March 11-12, 2024.
75. Islam, K., Nambisan, S. (2024, October 28-31). Analyzing Rural-Urban Road Safety in Nevada for Informed Strategic Planning, 2024 Road Safety and Simulation International Conference, Lexington, KY.
76. Jain, A., J. C. Garcia Sanchez, S. Handy, and J. Barajas. "Implications of Freeway Siting in California - Sacramento Case Study." Presentation to the California Department of Transportation, online. 3 June 2024.
77. Jaller, M., & A. Pahwa. (2024). Sketch Planning Tool for Sustainable and Resilient Urban Goods Distribution: User Manual. Pacific Southwest Region University Transportation Center, Research Report. <https://doi.org/10.25554/eqpc-5569>
78. Jaller, M., & A. Pahwa. (2024). Sketch Planning Tool for Sustainable and Resilient Urban Goods Distribution. Pacific Southwest Region University Transportation Center, Research Brief. <https://metrans.org/assets/research/psr-22-48%20jaller%20brief.pdf>
79. Kim, K. (2024, July 14 – 17). Leave No One Behind: Using Disaster Lessons for More Inclusive Response. Natural Hazard Workshop 2024, July 14 – 17, 2024, Broomfield, CO.
80. Kim, K. (2024, June 3). Changing of Local Landscapes: Long-term Recovery from Natural Disasters. National Academies of Sciences. Washington DC.
81. Kim, K. (2024, May 14-16). Venice, Hawai'i, Samoa, and Azores: Climate, Islands, and Adaptation. National Adaptation Forum. Minneapolis, MN.
82. Kim, K. (2024, September 18-20). Lessons from the Maui Fire Disaster for Transportation Resilience. European Transport Conference 2024. Antwerp, Belgium.
83. Kim, K. Social Ecological Consequences of Future Wildfire in the West. National Academies of Sciences, June 13, 2024, Irvine, CA
84. Kim, K., Cooper, J., Tran, C., Liu, D., Yamashita, E. Planning for Resilience Hubs: Learning from the 2023 Lahaina Fire Disaster (Accepted for Presentation)
85. Kim, K., Kitchener, A., Kaviari, F., Tran, C., Marasco, D., (2024, April 20). Geography, Vulnerability, Crises, and Adaptation in Hawai'i. Association of American Geographers Meeting. Honolulu, HI.
86. Kim, K., Sakamoto, D. (2024, June 8). Lahaina Wildfire Lessons: What Planners & Architects Need to Know. AIA25. Washington DC.
87. Kim, K., Song, J., Yoon, D.K. The Development and Progress of Hydrogen Transport in Korea
88. Kim, K., Spirandelli, D., Rother, D., Yamashita, E., Toner, M. Tracking Wildfire Risk to California Railroads: Integrating Environmental Data and Railway Operations (Accepted for Presentation)
89. Kim, K., Yamashita, E., Hamaguchi, M. Leave No One Behind: Lessons from the Lahaina Fire Disaster
90. Malikopoulos, A. (2024, May 3). "Separation of Learning and Control in Emerging Mobility Systems,".
91. Marasco, D., Kim, K., Yamashita, E. Investigating Social Vulnerabilities and Non-Use of Seat Belts in Hawai'i

92. McCullough, S. (2024, May 1). "Historically underserved communities in transportation planning." TRB Webinar: Power of Partnerships to Improve Transportation Decision-Making, online. https://www.nationalacademies.org/event/876_05-2024_trb-webinar-power-of-partnerships-to-improve-transportation-decision-making.
93. Nambisan, S. (2023, December 17-20). Road Safety Goals: Directions to a Destination? 7th Conference of the Transportation Research Group of India (CTRG-2023), Surat, Gujarat, India. Invited Keynote Speaker.
94. Nambisan, S. (2024, April 7-9). The Role of Policy and Enforcement in Traffic Safety Outcomes, 2024 Lifesaver Conference on Roadway Safety, Denver, CO. (Session Moderator Invited).
95. Nambisan, S. (2024, August 10-13). Session on "Safety Effects and Characteristics of Vehicles & Comparability of Automated Vehicle Crash Databases," 2024 Traffic Records Forum, ATSIIP, San Diego, CA. (Session Moderator Invited).
96. Nambisan, S. (2024, December 18-20). Leveraging Legacy and Emerging Data Sources to Enhance Road User Safety, 15th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), India. Invited Keynote Speaker.
97. Nambisan, S. (2024, January) Advanced Vehicle Technologies and Occupant Protection, Panel Discussion. Session 2125, 103rd Annual Meeting, Transportation Research Board of the National Academies, Washington, D.C. (Session Moderator Invited).
98. Nambisan, S. (2024, June 16-19). The Challenge of Workforce Development, International Conference on Transportation and Development, American Society of Civil Engineers, Atlanta, GA. (Session Moderator Invited).
99. Nambisan, S. (2024, March 27). An Overview of Accessibility and Mobility Impacts of The Vegas Loop, 3rd Metropolitan Transport Policy International Online Seminar, Seoul, Korea. March 27, 2024. Invited Keynote Speaker.
100. Nambisan, S. (2024, May 13). Vegas Loop: Implications for Mobility in Las Vegas, Kyonggi University, Suwon, Korea.
101. Nambisan, S. (2024, May 14). A Methodology to Assess Infrastructure Availability and Needs for Electric Vehicles, Korea Transport Institute, Sejong City, Korea. (Invited Presentation).
102. Nambisan, S. (2024, May 16). Emerging Urban Mobility Strategies: Examples from Las Vegas, Nevada, USA, Seoul Institute, Seoul, Korea. (Invited Presentation).
103. Nambisan, S. (2024, May 16). Urban Mobility Challenges and Solutions, University of Seoul, Seoul, Korea.
104. Nambisan, S. (2024, October 17-18). Data and Emerging Technology Considerations to Enhance Road User Safety, International Passive Safety Seminar (IPASS -2024), International Centre for Automotive Technology, Manesar, New Delhi, India. Invited Keynote Speaker.
105. Nambisan, S. (2024, September 26). The Future of Transportation. Panel Member, Convene NV 2024: Our Sustainable Future Forum, Organized by ImpactNV, Horseshoe Las Vegas Hotel & Casino, Las Vegas, NV. (Invited Panelist)
106. Nambisan, S., Boakye, K. (2024, January 5). An Analysis of Seat Belt Laws, Seat Belt Use Rates, and Crash Outcomes Across the US. Discussions Advancing Research in Transportation Safety (DARTS) 2024 Meeting, National Highway Traffic Safety Administration, Washington, DC. Invited Keynote Speaker.
107. Nambisan, S., Byzyka, J., Islam, K., Chindepalli, S. (2024, February 26-28). A Study of Electric Vehicles Ecosystem in Nevada. 2024 IEEE Forum on Integrated and Sustainable Transportation Systems, Riverside, CA.

108. Nambisan, S., Byzyka, J., Islam, K., Chindepalli, S., Cranmer, B. (2023, November 1-2). A Preliminary Analysis of the Electric Vehicles Charging Infrastructure in Nevada. 32nd Annual Nevada Fall Transportation Conference 2023. Organized by the Nevada Chapters / Sections of ASCE, ITE, and ITS America. Tuscany Hotel and Casino, Las Vegas, NV.
109. Nambisan, S., Byzyka, J., Chindepalli, S., Islam, K. (2024, June 16-19). Examining Implications of Technological Advancements on Road Safety and Operations International Conference on Transportation and Development, American Society of Civil Engineers, Atlanta, GA.
110. Nambisan, S., Byzyka, J., Erdem, M., Bai, B., Koneti, S. (2024, March 11-12). Transportation Needs and Economic Opportunities of Socio-economically Disadvantaged Populations in Las Vegas Hospitality and Tourism Industry. Pacific Southwest Region University Transportation Center 2024 Congress, Las Vegas, NV.
111. Nambisan, S., Byzyka, J., Islam, K., Chindepalli, S. (2023, November 14-17). An Overview of the Electric Vehicles Charging Ecosystem in Nevada. Global R2T Conference, International Road Federation, Phoenix / Tempe, AZ. Invited Presentation.
112. Nambisan, S., Stream, C., Cunningham, R. (2024, August 10-13). Traffic Citations and Adjudication Data Linkages and Gaps: An Update, 2024 Traffic Records Forum, ATSIP, San Diego, CA.
113. Pan, A., Meiqing L., Fangyu W. (2024, April 26). "Graduating Doctoral Students -Thesis Research Presentations,".
114. Raha, F. (2024, May). "Where to Implement Leading Pedestrian Intervals (LPIs): An Examination of Turning Vehicle-Pedestrian Crashes at Signalized Intersections." Presented at the ITE/IMSAs Annual Meeting in Phoenix, AZ.
115. Reeb, T. (2024 August 29). Presentation of California Tribal Transportation Issues, "2024 National Transportation in Indian Country Conference". Durante, Oklahoma.
116. Roundtable Discussion: From there to here: 50 years of BART and UC Berkeley | Institute of Transportation Studies. (2024, April 12).
117. Shilling, F. (2023, June 5-8). "Spatially Explicit Decision Support to Resolve Wildlife-Vehicle Conflict," and
118. Shilling, F. (2023). Economic Decision Support for Wildlife-Vehicle Conflict Reduction". Final Research Report and Brief for PSR. Presentation at the 2023 International Conference on Ecology and Transportation, Burlington, VT."
119. Shilling, F. (2024). Research Brief: Predicting Wildlife Use of Existing Highway Bridges and Culverts. Pacific Southwest Region University Transportation Center, Research Brief. <https://rosap.nrl.bts.gov/view/dot/75306>
120. Shilling, F., N. Thoron, & D. Waetjen. (2024). Predicting Wildlife Use of Existing Highway Bridges and Culverts. Pacific Southwest Region University Transportation Center, Research Report. <https://doi.org/10.25554/33br-q089>
121. Smaglik, E. (2024, July). "LPI Implementation Guidelines in Phoenix, Arizona: A Data Driven Approach. Presented at the ITE International Meeting in Philadelphia, PA.
122. Smaglik, Ed. (2023). A General Equilibrium Model for Transportation Systems with Ride-hailing Services and Customer Waiting,". National Meeting of INFORMS, Phoenix, AZ.
123. Smith, T., C. Herda, M. Hsu, C. Fletcher, R. Gadnis, M. B. Sanchez, & S. R. McCullough. (2024). Mobility Justice: A New Framework. Pacific Southwest Region University Transportation Center, Research Report. <https://doi.org/10.25554/skx3-9v41>

124. Tran, C., Santiago, E.D., Yamashita, E., Kim, K. Greenways for Disaster Recovery and Resilience (Accepted for Presentation)
125. Weinberg, C., Kim, K., Tran, C., Yamashita, E. Traffic Calming and Building Back Better After the Lahaina Fire Disaster

Research Reports

126. Carlsson, J. (2024). Continuous Approximation Models with Temporal Constraints and Objectives. Pacific Southwest Region University Transportation Center. <https://doi.org/10.25554/QYYS-ZA80>
127. Chen, Q. (2024). Rapid and Accurate Assessment of Road Damage by Integrating Data from Mobile Camera Systems (MCS) and Mobile LiDAR Systems (MLS). Pacific Southwest Region University Transportation Center. <https://doi.org/10.25554/9HXW-3Y87>
128. Giuliano, G., & Wei, D. (2024). Implementation of Action 6 of CSFAP Phase 4 Tracking Economic Competitiveness. Pacific Southwest Region University Transportation Center. <https://doi.org/10.25554/GPWH-6P48>
129. Ioannou, P., & Waqas, M. (2023). Systematic and Provably Safe Design Methodology for Connected and Automated Vehicles. Pacific Southwest Region University Transportation Center. <https://doi.org/10.25554/4n72-ze78>
130. Jaller, M., & Pahwa, A. (2024). Sketch Planning Tool for Sustainable and Resilient Urban Goods Distribution: User Manual. Pacific Southwest Region University Transportation Center. <https://doi.org/10.25554/EQPC-5569>