



November 2020

## *TRAC e-News: Delivering Research Results!*

The Washington State Transportation Center ([TRAC](#)), conducts transportation research through collaborative partnerships among WSDOT, the University of Washington (UW), and Washington State University (WSU).

### In this issue

- Creating a construction project classification framework
- Expanding a plant identification website for natural resources management and mitigation
- Deploying a Virtual Coordination Center for integrated multimodal corridor management
- Studying a freight and transit (FAT) lane
- Recommending changes to the Public Records Act to support use of electronic data
- Determining ways to motivate people to use shared micro-mobility
- Developing a protocol to characterize the porosity of pervious concrete pavements
- WSDOT Webinar Wednesdays: upcoming and previous webinars

## Construction management

### A construction project classification framework for Pacific Northwest highway project types



Research team: [George Okere](#) (WSU)

Sponsor: PacTrans

[Report](#)

*Completed:* Although construction projects are of different types, sizes, materials, locations, construction methods, and complexity, a proper classification system for project types does not exist. So within state departments of transportation, it is difficult to find consistency in data gathering and reporting, or validity

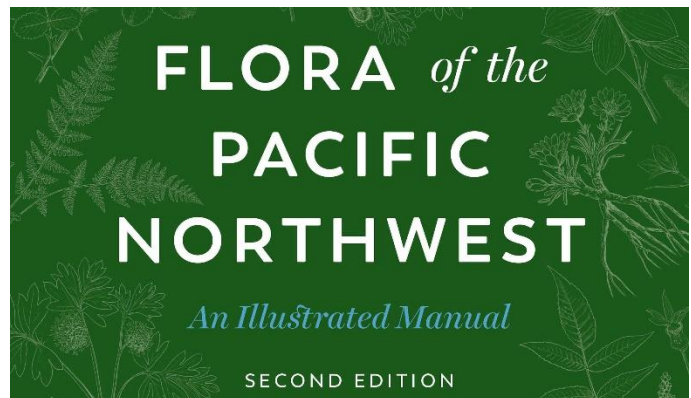
in the analyses of contract performance, when such efforts use inconsistent and ad hoc classification systems. To address this issue, this study developed a new framework for classifying project types. The classification system is based on several parameters and corresponding measures that define highway projects, such as type of construction, geographic location, controlling scope of work, level of complexity, contract value and time, and contractor's experience. [Read more...](#)

## Environment

### Supporting a living *Flora of the Pacific Northwest*, Second Edition

Research team: [David E. Giblin \(UW\)](#) | [Tatiana Dreisbach \(WSDOT\)](#) | [Jon Peterson \(WSDOT\)](#)  
Sponsor: WSDOT

*Ongoing:* *Flora of the Pacific Northwest*, second edition, published by the University of Washington Herbarium, Burke Museum in October 2018, has made the field and lab identification work of Washington state agency botanists significantly more efficient. The ability to confidently identify a rare or invasive species on public lands supports land management goals. The primary objective of this project is to expand the existing [Flora second edition website](#) to include automatically updating distribution maps for all taxa in the book as new data become available. This work will help in maintaining *Flora 2nd edition* as a “living” resource for public land managers and other users, including the public. [Read more...](#)



## Freeway and Arterial Systems

### Deployment of the Washington state virtual environment for multimodal integrated corridor management



Research team: [Mark Haselkorn \(UW\)](#) | [Travis Phelps \(WSDOT\)](#) | [Doug Brodin \(WSDOT\)](#)  
Sponsor: WSDOT

*Ongoing:* In June 2020 the Federal Highway Administration awarded WSDOT an Advanced Transportation and Congestion Management Technologies Deployment grant for over \$3 million in support of the Virtual Coordination Center (VCC). The grant will allow the VCC’s regional partners to focus on deployment of the cloud-based VCC and to develop a virtual collaborative working environment that includes integrated computer-aided dispatch, map-based situation awareness, real-time incident alerting system, and coordinated interagency congestion management and public communication. When deployed, the VCC will dramatically reduce the time and increase the effectiveness of incident operations. It will provide a framework within which regional transportation, transit, and law enforcement agencies will be able to coordinate traffic management strategies using real-time data. [Read more...](#)

## Freight

### Freight and transit (FAT) lane case study

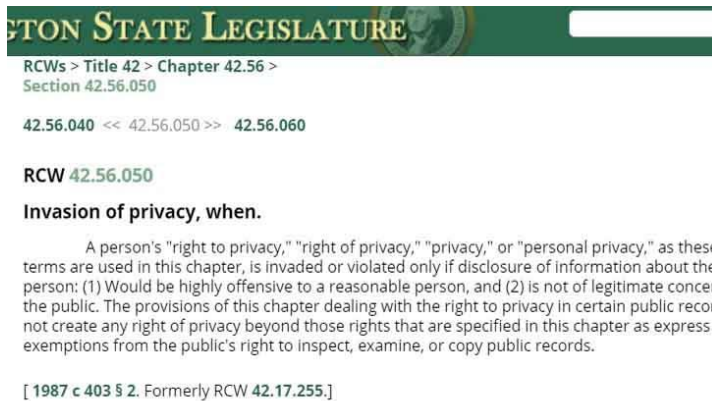
Research team: [Anne V. Goodchild](#) (UW)  
Sponsor: Seattle Department of Transportation  
[Report](#)

*Completed:* In January 2019 the City of Seattle opened a local freight and transit (FAT) lane to explore ways to address the challenges of freight mobility. Researchers at the UW Supply Chain Transportation and Logistics Center evaluated the performance and utilization of the FAT lane. Analysis included the percentages of buses and freight vehicles that chose the FAT lane, violation rates of the FAT lane, and factors that most influenced lane choice. The city will be able to use these findings to guide the development of future FAT lane projects. [Read more...](#)



## Intelligent Transportation Systems

### Adjustments to the Public Records Act to allow for advanced transportation operations and management



WASHINGTON STATE LEGISLATURE

RCWs > Title 42 > Chapter 42.56 >  
Section 42.56.050

42.56.040 << 42.56.050 >> 42.56.060

**RCW 42.56.050**

**Invasion of privacy, when.**

A person's "right to privacy," "right of privacy," "privacy," or "personal privacy," as these terms are used in this chapter, is invaded or violated only if disclosure of information about the person: (1) Would be highly offensive to a reasonable person, and (2) is not of legitimate concern to the public. The provisions of this chapter dealing with the right to privacy in certain public records not create any right of privacy beyond those rights that are specified in this chapter as express exemptions from the public's right to inspect, examine, or copy public records.

[ 1987 c 403 § 2. Formerly RCW 42.17.255.]

Research team: [Mark E. Hallenbeck](#) (UW) | [Hugh Spitzer](#) (UW) | [Ricardo Gotla](#) (WSDOT) | [Jon Peterson](#) (WSDOT)  
Sponsor: WSDOT

*Ongoing:* The State of Washington's Public Records Act (PRA) was designed in 1972 to provide more transparency in the decision-making process at all levels of government and acknowledges that citizens have privacy rights that deserve protections.

Unfortunately, the PRA was not written to account for the ways that modern technology has changed the collection and use of data, nor how those data can be abused. The primary objective of this project is to develop recommended changes to the state's Public Records Act that would enable the state's public agencies to obtain and use a variety of new electronic data, without putting citizens' privacy at risk. The intent is to clarify privacy and trade secret protections of individuals and companies within the law, while maintaining transparency in government decision making and removing barriers to the sharing and use of private sector data, to enable public agencies to more effectively manage the transportation system. [Read more...](#)

## Multimodal Transportation

### Motivators and deterrents to shared micro-mobility

Research team: [Ronald Pimentel](#) (WSU) | Michael Lowry (University of Idaho)

Sponsor: PacTrans

[Report](#)

*Completed:* Bike share, e-bike share, and e-scooter systems (collectively known as shared micro-mobility) are gaining popularity throughout the United States and internationally, but no one has yet determined the optimal system design. This study investigated motivators for and deterrents to the use



of micro-mobility systems in the Pacific Northwest to help public jurisdictions determine how best to encourage their use. Survey respondents reported that convenience and social good were major motivators, but the strongest reported motivators were exercise and enjoyment. The strongest deterrents were found to be weather, danger from automobile traffic, and insufficient bike lanes and paths. [Read more...](#)

## Pavement

### Development of a protocol to maintain the winter mobility of different classes of pervious concrete pavement



Research team: [Somayeh Nassiri](#) (WSU)

Sponsor: PacTrans

[Report](#)

*Completed:* Pervious concrete pavements (PCP) act like in-situ stormwater drainage systems. To assist transportation departments in ensuring that the pavements are safe in adverse winter conditions and in implementing more effective winter operations, this study developed a simple, image-based method to characterize the porosity of PCP. Measurements of porosity with the image-based method correlated strongly with porosity results obtained from submersion testing; however, they consistently over-estimated porosity. This imaging method could eventually be used to quantify clogging and to help maintenance departments determine when to apply vacuum-sweeping to restore permeability. [Read more...](#)

## Webinar Wednesdays

WSDOT's [Research & Library Services Office](#) hosts *Webinar Wednesdays*, a series of bimonthly, one-hour webinars. Each webinar showcases a research project whose results could eventually be implemented statewide. [Previous webinars are available for access here.](#)

Below is information about upcoming and recent webinars:

### **ChargEval: A tool for evaluating electrical vehicle charging along Washington highway corridors – November 18, 2020 (10:30-11:30 PST)**

**To register (free):**

<https://register.gotowebinar.com/register/5903317922130683404>

Presenters: [Tonia Buell](#), WSDOT Project Development Manager, Innovative Partnerships | [Don MacKenzie](#), UW Associate Professor of Civil and Environmental Engineering

ChargEval is an on-line tool that simulates the effects of potential additions to the state's DC fast-charging network on electric vehicle (EV) usage and demand for charging stations. ChargEval provides a web interface through which users can specify the location, capacity, and pricing for a set of new charging stations. The tool conducts an agent-based simulation of long-distance EV travel demand, integrating empirical models of vehicle choice and charging behavior, and presents results through a web-based viewer. Learn about WSDOT's needs and goals for a decision support tool for EV infrastructure planning and see a live demonstration of ChargEval.



### **Recent innovations in WSDOT concrete bridge decks and overlays (October)**

[Access the recording](#)



Presenters: [Bijan Khaleghi](#), WSDOT State Bridge Engineer | [Anthony Mizumori](#), WSDOT Bridge Engineer and Concrete Structure Design Specialist

Preserving and improving the service life of bridge decks remains critical in times of budget constraints and extreme weather conditions. In this presentation, WSDOT bridge specialists discussed innovative approaches to concrete bridge deck design and

construction practices related to concrete materials and mixtures, fiber-reinforced concrete mixes, corrosion resistant reinforcement, and other means to improve the longevity of bridge decks. They covered WSDOT's performance objectives for protecting the deck concrete and reinforcement from contaminants, providing additional strength and stiffness to the deck system, and extending the service life of the deck and overall structure.

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TRAC e-News will be delivered about three times a year. For more information about TRAC and the ground-breaking work we are doing, please visit our [Current Projects](#) and [Research News](#) pages. A downloadable, pdf version of [this newsletter](#) is also available.

For contact information, follow these links:

- [WSDOT Contacts](#)
- [UW Contacts](#)
- [WSU Contacts](#)

The Washington State Transportation Center (TRAC) is a cooperative, interdisciplinary transportation research agency. Its members, the Washington State Department of Transportation (WSDOT), Washington State University (WSU), and the University of Washington (UW), formed TRAC in 1983 to coordinate transportation research efforts—both state and commercial, public and private—and to develop research opportunities both nationally and locally. TRAC acts as a link among government agencies, university researchers, and the private sector.

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