



August 2026

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).

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<https://www.linkedin.com/company/washington-state-transportation-center/>

Call for Proposals

WSDOT issues call for research problem statements for 2027-2029

WSDOT Research and Library Services (RLS) is now accepting research problem statements for the 2027-2029 State Planning and Research (SPR) program. Approximately \$1.8 million will be available for projects beginning after July 1, 2027 (pending legislative approval). **Problem statements must be submitted by close of business Thursday, September 10, 2026.**

Problem statements and research concepts may be developed collaboratively between WSDOT subject matter experts (SME) and external researchers; however, submissions must be presented and supported by a WSDOT SME and formally endorsed by the relevant division director, regional administrator, or their delegate.

RLS welcomes proposals that support research, development, technology transfer, or studies that advance planning, design, construction, management, operations, and maintenance of transportation systems. Proposals may identify a preferred Principal Investigator and may include leveraged funding. They must align with WSDOT's strategic plan and its new agency values: People First, Safety Always, Service in Motion, and Think Beyond Today.

For more information and to obtain the necessary forms, contact the RLS team at RLSSP&R@wsdot.wa.gov.

Workforce Development

Washington Infrastructure Workforce Internship proves successful for both students and WSDOT

With a shortage of civil engineers looming in Washington state and beyond, the Washington State Department of Transportation (WSDOT) is participating in a solution: providing hands-on experience for tomorrow's engineers.

In late June, WSDOT wrapped up its second successful round of infrastructure-focused internships, welcoming five college sophomores and juniors—four from the University of Washington and one from Tacoma Community College. Funded by the Washington State Legislature and administered by TRAC and the PacTrans [Workforce Development Institute](#), these three-month paid internships gave students hands-on experiences within multiple WSDOT departments.



The students' assignments at WSDOT were varied. They ranged from conducting data entry, to reviewing and analyzing engineering designs, to collecting field data. Beyond technical skills, the students learned about professional teamwork, collaboration, and communication. They appreciated the real-world opportunity to work with professionals from multiple disciplines. One student said that her time as an intern “solidified my desire to pursue a career in civil engineering” and “has inspired me with the ways I can apply my knowledge to both engineering and environmental fields.”

WSDOT mentors were equally appreciative of the interns' contributions and enjoyed the opportunity to introduce a new generation to the breadth of opportunity in infrastructure engineering.

Internships for high school juniors and seniors and college-level freshmen, sophomores, and juniors will be offered again in spring 2027. [Follow PacTrans WDI](#) for updates. [Read more...](#)

Bridges

I-90 Digital Twin Bridge Proof of Technology Evaluation



Research team: [Barton G. Treece III](#) (UW) | [Travis Thonstad](#) (UW) | [Carrie Sturts Dossick](#) (UW) | [Zachary Reid](#) (WSDOT) | [Mustafa Mohamedali](#) (WSDOT)
Sponsors: FHWA State Transportation Innovation Councils | WSDOT | Innovative Bridge Technologies/ Accelerated Bridge Construction University Transportation Center | Challenge Seattle
Partners: Microsoft | WSP USA | T-Mobile | Semtech | Bentley Systems
[Report](#)

Completed: This project developed and implemented a functional digital twin system to demonstrate how IoT sensors, cloud computing platforms, and advanced analytics can improve monitoring of bridge health and operational decision making. A digital twin (DT) is a computation model that allows users to monitor performance, run simulations, and conduct testing and maintenance of a physical object. The project was installed on the I-90 floating bridge in Seattle, which carries both vehicles and light rail. The project successfully demonstrated that transportation agencies can effectively adopt DT technologies to enhance asset management, safety, and operational efficiency. With the system operating stably and data flowing reliably, WSDOT maintenance teams have direct access to the digital twin platform and are using it for enhanced bridge condition insights, such as monitoring the submerged cables that hold the bridge. Demonstrating broader applicability and multi-agency application, the system has also proved useful to Sound Transit for cathodic protection monitoring and analysis of pontoon positioning for the bridge's light rail system. [Read more...](#)

Environment

Right Sizing Low Impact Development (LID) Best Management Practices (BMPs) to Aid in Reducing 6PPD in Stormwater Runoff

Research team: [Brett Mauer](#) (UW) | [Mike Gomez](#) (UW) | [Pedro Arduino](#) (UW) | [Rani Jaafar](#) (WSDOT) | [Mustafa Mohamedali](#) (WSDOT)

Sponsor: WSDOT

Ongoing: Low impact development (LID) best management practices (BMPs) may aim to treat roadway runoff near its source through dispersion and infiltration. These BMPs are crucial for reducing chemicals that have been linked to high mortality rates in coho salmon. However, WSDOT's current method for estimating runoff infiltration rates is believed to be overly conservative. Runoff infiltration rate is the product of saturated hydraulic conductivity and the hydraulic gradient. The goal of this research is to refine the method WSDOT uses to estimate hydraulic gradients, enabling it to produce more accurate estimates of infiltration rates. These refinements should help improve the feasibility, cost-efficiency, and environmental effectiveness of LID BMPs used in WSDOT stormwater designs. This in turn should encourage broader adoption of LID BMPs and help reduce chemical-related environmental impacts, particularly in fish-sensitive areas.



Intelligent Transportation Systems

Fostering Collective Rationality Among Self-Interested Agents to Improve the Design and Efficiency of Mixed Autonomy Networks and Infrastructure Systems



Research team: [Jia Li](#) (WSU) | Michael Zhang (UC Davis)

Sponsor: National Science Foundation

Ongoing: This Early-Concept Grants for Exploratory Research (EAGER) project is investigating the emergence, mechanisms, and applications of collective rationality among self-interested vehicle agents in the design of mixed autonomy transportation networks and infrastructure systems.

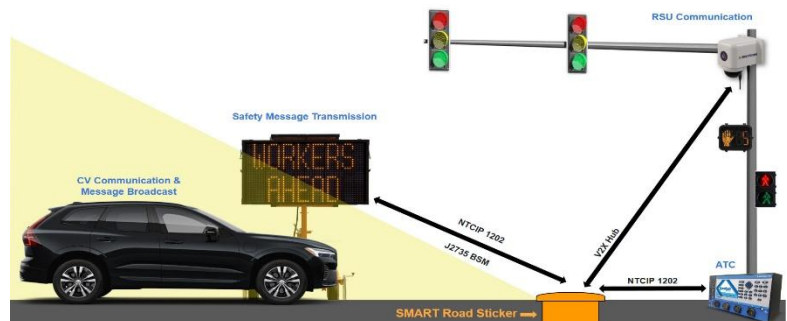
“Collective rationality” refers to the ability of self-interested members of a group to make consistent, logical decisions that maximize overall, shared benefits. This project is exploring and defining the concept of collective rationality in the context of mixed autonomy transportation systems. The core hypothesis is that collective rationality can emerge in broad scenarios even if the involved agents are self-interested. The researchers are leveraging game theory and reinforcement learning to verify this hypothesis. The results may help reduce travel cost, uncertainties, and fuel emissions, as well as enhance equity among all road users.

Smart Road Sticker: Enhancing Emergency Response and Roadway Safety through Intelligent V2X Communication

Research team: [Yinhai Wang](#) (UW) | [Justin Belk](#) (WSDOT) | [Shervin Jahangirnejad](#) (WSDOT)

Sponsors: WSDOT | FHWA State Transportation Innovation Councils

Ongoing: The University of Washington STAR Lab has developed an innovative device called the Smart Road Sticker, which leverages V2X (vehicle-to-everything) technology to communicate in real time with surrounding road infrastructure to gather and deliver roadway hazard information. Based on that information it can provide real-time hazard alerts, thereby improving driver response times and reducing the risk of accidents. This project is finalizing the Road Sticker’s design and development, conducting extensive field testing under various weather and traffic conditions, and integrating mobile and localized control systems for seamless operation. A pilot program will be deployed in high-priority locations, and feedback will be gathered from traffic safety agencies and local governments. This cutting-edge technology should help improve emergency response efficiency on state roadways and reduce accident rates in critical zones.



Pavement

Laser Scanner Data Collection to Refine the Chip Seal Construction Specification



Research team: [Haifang Wen](#) (WSU) | [Riley Bender](#) (WSDOT) | [Shervin Jahangirnejad](#) (WSDOT)
Sponsor: WSDOT

Ongoing: Chip seals can extend the life of asphalt pavements. The chip embedment depth, or the percentage of chips embedded in the asphalt, plays a crucial role in determining the seal's performance. Unfortunately, there have been neither specifications governing the required percentage of embedded chips nor data-driven methods available to measure chip embedment depth during construction. In a previous

project, the researchers demonstrated the successful use of a laser texture scanner to measure chip embedment depth, and they developed a draft specification for it. This project is collecting field performance data for chip seals that were constructed in 2022 and measured as part of that previous study. With those data the researchers will refine the specification and acceptance criteria for chip seals based on percentage of embedment. The resulting specification and measurement method should allow WSDOT to apply chip seals more successfully and cost effectively.

Transportation Planning

The Future of Mobility Data Visualization: Applying Human-Centered Design to Transportation System Health Performance Intelligence

Research team: [Cecelia Aragon](#) (UW) | [Barton G. Treece III](#) (UW) | [Takahide Aso](#) (WSDOT) | [Sreenath Gangula](#) (WSDOT) | [Shervin Jahangirnejad](#) (WSDOT)
Sponsor: WSDOT

Ongoing: To aid WSDOT in modernizing communication and improving customer experience, this project is piloting a research-based, human-centered design (HCD) framework for reporting on the state's transportation system health (TSH). The framework will improve information clarity, accessibility, and decision impact while also preserving analytical rigor. To explore how TSH performance reporting can be communicated more effectively through HCD principles, the researchers will interview end users and collaborate with subject matter experts to understand how different audiences—such as legislators, WSDOT executives, stakeholders, and the public—interpret and use performance information. Based on collected insights, the project will develop and test



visualization and reporting approaches that present TSH information in formats that are more useful for decision-making while also maintaining analytical rigor.

Webinar Wednesdays

WSDOT's [Research & Library Services Office](#) hosts Webinar Wednesdays, its continuing series of one-hour webinars to promote research technology transfer, encourage implementation, and foster innovation. Generally held every other month, the sessions cover a wide range of transportation topics. Each webinar showcases research results or innovative practices presented by researchers and subject matter experts, and each features a Q&A segment for attendees to pose questions.

[Sign up here](#) for webinar announcements and registration information. [Previous webinars are available for access here.](#)

LTPP Forensic Evaluations: We're Still Listening to Our Pavements **August 26, 2026, 10:30 am PDT**

To register (free): <https://register.gotowebinar.com/register/4735853224358215516>



Presenters: Gonzalo Rada, Ph.D., P.E., Vice President, WSP USA | Kevin Senn, P.E., Principal Engineer, NCE | Stephen Valeri, P.E., Senior Pavement Engineer, WSP USA | Nicole Dufalla, P.E., Senior Engineer, NCE | Karen Carlie, P.E., WSDOT State Pavement Design Engineer

Researchers will share information on long-term pavement performance (LTPP) forensic investigations, the focus of two multi-year Transportation Pooled Fund studies under the leadership of WSDOT. The mission of the LTPP program is to provide data needed to understand the how and why of pavement performance. Today,

the program has the world's most comprehensive pavement performance database, to which forensic investigations have contributed invaluable data. This research focused on LTPP test sections going out of service. Pavement performance was analyzed and evaluated through a combination of desktop studies and follow-up field and office investigations. Key findings, conclusions and recommendations will be presented.

Interstate 90 Digital Twin Bridge Proof of Technology Evaluation (September)

September's webinar, planned for Wednesday, September 16th, will be about the Interstate 90 Digital Twin Bridge Proof of Technology Evaluation. This multi-partner project, overseen by the University of Washington's Mobility Innovation Center and WSDOT, centered on the I-90 floating bridge across Lake Washington. Registration announcements will be out soon!

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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