FHWA R&T NOW

A newsletter about research, development, and technology at the U.S. Department of Transportation's (USDOT) Federal Highway Administration (FHWA).

Federal Lands Highway

Overcoming Obstacles to Replace the Blue Ridge Parkway Bridge Over I–26

By Eastern Federal Lands Highway Division, Office of Federal Lands Highway

The North Carolina Department of Transportation (NCDOT) wanted to alleviate traffic congestion by expanding the number of highway lanes on I–26 from four to eight. However, environmental factors and the physical obstruction of two piers from the Blue Ridge Parkway bridge over I–26 had to be considered. Ultimately, the widening of I–26 required removing and replacing the Blue Ridge Parkway bridge.[1]

Construction commences on the Blue Ridge Parkway bridge over I–26.

FHWA, the National Park Service, and NCDOT collaborated to overcome the challenge posed by the old Blue Ridge Parkway bridge without seriously disturbing the bridge's sensitive environment. The agencies considered seven options before deciding to replace the bridge.

> *"The alternative selected was based on a value analysis that considered the Blue Ridge Parkway's environmental setting along with the structure's design life."*
>
> –FHWA Bridge Engineer Rich Pakhchanian

(Continued on page 3)

Contents

U.S. Department of Transportation
Federal Highway Administration

Long-Term Infrastructure Performance (LTIP)

Student Data Analysis Contest

Do you know any students who love data?

Encourage them to enter this contest that could launch their transportation engineering career.

Individuals and teams are invited to submit a technical paper that addresses critical factors affecting pavement or bridge lifecycles.

Winning papers will be published and shared virtually by FHWA. First-place and second-place lead authors will be recognized in person at the Transportation Research Board Annual Meeting. Award recipients will have their transportation, lodging, and registration covered for the event.

ACCEPTING PAPERS THROUGH AUGUST 1, 2024.

Learn more: https://highways.dot.gov/research/long-term-infrastructure-performance/ltpp/long-term-infrastructure-performance-ltip-student-data-analysis-contest-instructions

U.S. Department of Transportation
Federal Highway Administration

LTPP InfoPave™
https://infopave.fhwa.dot.gov

LTBP InfoBridge
https://infobridge.fhwa.dot.gov

FHWA R&T NOW INTERCHANGES

Connecting Innovations and Solutions

A NEW AUDIOCAST ON TRANSPORTATION INNOVATIONS FROM TURNER-FAIRBANK HIGHWAY RESEARCH CENTER

Each quarter, Craig Thor, Chief Scientist at Turner-Fairbank, will offer an engaging interview with an expert about a program, product, study, or other ~~solution to current transportation research obstacles~~.

The first episode ~~just dropped~~:

Driving Change Together: The Impact of the TPF Program.

LISTEN NOW

~~https://highways.dot.gov/research~~

(Continued from page 1)

Construction is now taking place on the new bridge over I–26.[2]

The FHWA Eastern Federal Lands Highway Division designed a segmental model for the new Blue Ridge Parkway bridge. This design allowed flatbed trucks to move the bridge segments piece by piece from the casting yard in Wilmington, NC, to the bridge site in Asheville, NC. These trucks moved the piers used to support the new bridge down the highway in segments. Each deep segment had to be flipped on its side when delivered due to clearance issues. As a result of this innovative approach, much larger span lengths can now be delivered since the depth of the superstructure can exceed 12 feet in height while transporting each segment on its side.

Larger segment heights also allow for longer spans, which eliminate costly and obstructive piers. The segmental approach to bridge design is significant for bridges located inland where transporting far distances is required. It is another valuable method of accelerated construction for congested areas that minimizes impact on the public.

Minimizing wildlife impact was a critical component of the Blue Ridge Parkway bridge replacement plan. To avoid any potential disruption to endangered bats' maternity colonies, NCDOT did not clear the 4 acres of land needed for building the bridge during the summer months. The project also included a native species reforestation plan to preserve the surrounding oak and hickory forest. Once planted, these native species will help keep out invasive species in the newly cleared land.[2]

The new Blue Ridge Parkway bridge design preserved the aesthetic qualities of the parkway and its infrastructure. The new bridge mimics the historic post-World War II designs of other Blue Ridge Parkway bridges. The low-profile bridge design is also meant to blend in with the surrounding landscape.[2]

Most importantly, the new design expanded the bridge's capacity. The new Blue Ridge Parkway bridge will be able to accommodate up to 10 lanes of traffic, supporting I–26 widening efforts.[2]

For more information about FHWA's role in the I–26 widening project, please reach out to Rich Pakhchanian (hratch.pakhchanian@dot.gov, 571-340-1036).

Source: FHWA.
A sand bed is used to flip a segment that was too tall to be transported upright on I–26.

References

1. NCDOT. n.d. "Project Highlights" (web page). https://www.ncdot.gov/projects/i-26-widening/Pages/project-highlights.aspx, last accessed March 18, 2024.

2. National Park Service. 2019. *Record of Decision Blue Ridge Parkway Bridge Replacement I–26 Widening*. Washington, DC: National Park Service.

Transportation Pooled Fund (TPF) Program

Collaborative Research Improves Pavement Management

By Patricia Sergeson, TPF Program Manager, Office of Research Services

Pavement conditions for U.S. roadways face significant issues. A 2022 report found that 40 percent of major roads are in poor or mediocre condition.[1] As a result, improved pavement management system (PMS) practices and technologies are in demand to help monitor and maintain this crucial infrastructure asset.

Over the past 15 years, several traffic speed deflection devices (TSDDs) have been developed that continuously measure pavement structural conditions while traveling at traffic speed.

TSDDs can map structural conditions with a geographic information system and transfer those data into a user's asset management system. However, to effectively implement TSDDs and incorporate the collected data in management decisionmaking, transportation agencies need guidance and a framework. To help address this need, partner agencies established a research consortium through the FHWA TPF Program to provide participating agencies with guidelines for using TSDDs.[2] This TPF study, TPF-5(385), has helped agencies to fully leverage this new technology for pavement structural evaluation.

The TPF study provides participating agencies with a mechanism to conduct pilot demonstration testing in their respective networks and share their findings with one another. Currently, 26 States participating in the study have tested TSDDs on their road systems or plan to do so. They share information and experiences through quarterly meetings, webinars, and a yearly technology advisory meeting. Within 5 years of initiating the study, more than half of the States involved have deployed TSDDs for testing.

Throughout the TPF study, the technology and how members analyze data have evolved. The guidelines that study members develop for the use of TSDDs reflect these changes. Study member feedback has enabled technology manufacturers to tailor the product to better meet the needs of end users and upgrade the technologies.

As this TPF study wraps up, many of the same participants will join a new study, Implementation of Structural Data from Traffic Speed Deflection Devices (TPF-5(518)), which focuses on the research to evaluate how TSDDs make better decisions for PMSs.[3] Many of the State agencies that participated in the TPF-5(385) study intend to continue testing TSDDs on more of their roads on a regular basis by coordinating with local districts and opening up new potential funding sources for the use of TSDDs. Study members also aim to further define TSDD metrics that demonstrate value, use TSDDs as a decisionmaking tool, and continue collaborating and learning from one another.

Testing TSDDs through the TPF Program has accelerated the use of the technology, and the results of this study thus far have shaped national and international research on TSDDs. Such a study demonstrates the power of collaborative research through shared resources and expertise to implement cutting-edge technology. Advancements in TSDD technologies can help enhance PMS decisionmaking and improve the conditions of U.S. roadways.

For more information about this TPF study, visit this website.[2]

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1. TRIP. 2022. *Funding America's Transportation System*. Washington, DC: TRIP. https://tripnet.org/wp-content/uploads/2022/03/Funding_Americas_Transportation_System_Report_March_2022.pdf, last accessed April 15, 2024.
2. National Cooperative Highway Research Program. 2023. "Implementation of Structural Data from Traffic Speed Deflection Devices" (web page). https://www.pooledfund.org/Details/Study/750, last accessed April 15, 2024.
3. National Cooperative Highway Research Program. 2023. "Pavement Structural Evaluation with Traffic Speed Deflection Devices (TSDDs)" (web page). https://www.pooledfund.org/Details/Study/637, last accessed April 15, 2024.

Exploratory Advanced Research (EAR) Program

Developing Realistic Artificial Data (RAD) Propels Transportation Research

By Yusuf Mohamedshah, Research Highway Safety Specialist, Office of Safety & Operations R&D

Transportation researchers can use models to simulate the real world; however, models do not necessarily reflect some of the interactions of real-world variables for a specific location or crash because the underlying relationships in the real world are unknown. Motor vehicle crashes can involve complex variables interacting with one another, and often, multiple safety measures are put in place to prevent incidents.

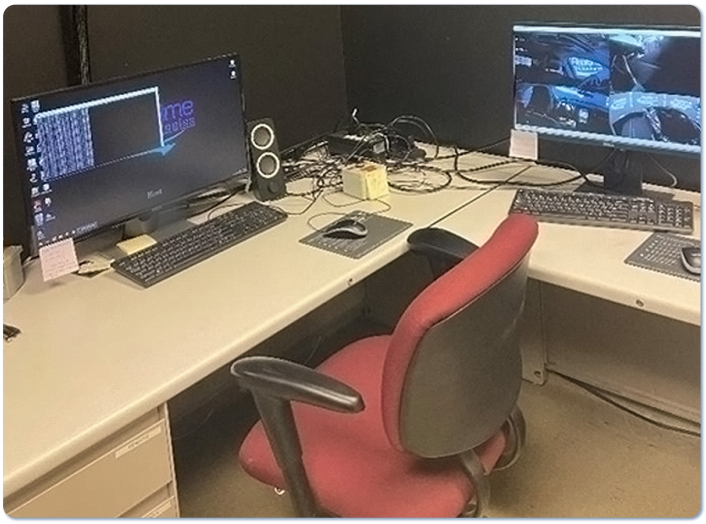
Inaccurate representations of all these variables interacting with each other pose a problem with data-driven safety analysis models that transportation safety experts use to predict the effects of safety measures they propose for mitigating motor vehicle crashes.[1]

FHWA's EAR Program has addressed this complex modeling problem by funding two projects that created realistic artificial datasets that transportation experts can use to test their models for validity.[1]

RAD might sound like an oxymoron, but it is an accurate term for how represented relationships between real-world variables in artificial datasets can mimic the actual relationships between variables found in the real world. Artificial data, also known as synthetic data, is generated and often produced by simulations of reality or other modes of data generation.

In the case of FHWA's new realistic artificial datasets, the real-world relationships between variables were already known. This knowledge allowed one project team from the University of Missouri to conduct the study Multidisciplinary Initiative on Methods to Integrate and Create Realistic Artificial Data.[1,2]

The University of Missouri research team created a Web-based software program for generating RAD for interchange facilities. The Web-based software program also generates RAD datasets that transportation researchers can use to test the validity of their models.[2]



Source: FHWA.[3]
The University of Connecticut driving simulator control center.

The second project team, a collaborative endeavor between the University of Connecticut and the University of Central Florida, completed a study, Development and Application of a Disaggregate Artificial Realistic Data Generator for Computationally Testing Safety Analysis Methods, to build another framework that creates realistic artificial datasets over multiple years.[1,3]

Altogether, the products of the two research teams allow transportation researchers to test the validity of their data-driven models. Researchers can perform these validity tests by comparing the outputs of their models after inputting the EAR Program-funded realistic artificial datasets.

See the final reports of both teams at *MIMIC—Multidisciplinary Initiative on Methods to Integrate and Create Realistic Artificial Data, DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume I* and *DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume II*.[2,3,4]

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1. FHWA. 2020. *Realistic Artificial Datasets: Objective Evaluation of Data-Driven Safety Analysis Models*. Publication No. FHWA-HRT-20-047. Washington, DC: Federal Highway Administration.
2. Edara, P., C. Sun, H. Brown, P. Savolainen, V. Shankar, B. Balakrishnan, Y. Shang, et al. 2023. *MIMIC—Multidisciplinary Initiative on Methods to Integrate and Create Realistic Artificial Data*. Report No. FHWA-HRT-23-015. Washington, DC: Federal Highway Administration.
3. Ivan, J., S. Zhao, K. Wang, O. Olufowobi, N. Eluru, T. Bhowmik, L. Hoover, et al. 2024. *DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume I*. Report No. FHWA-HRT-23-121. Washington, DC: Federal Highway Administration.
4. Ivan, J., S. Zhao, K. Wang, O. Olufowobi, N. Eluru, T. Bhowmik, L. Hoover, et al. 2024. *DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume II*. Report No. FHWA-HRT-23-122. Washington, DC: Federal Highway Administration.

TPF Program

New Audiocast and Awards Promote Power of Collaborative Research

By Patricia Sergeson, TPF Program Manager, Office of Research Services

The TPF Program Was Featured in the First Episode of *R&T Now* Interchanges Audiocast

FHWA's Office of Research, Development, and Technology is launching its first interview-style audiocast in July 2024. Learn more about how you can advance research and innovation through our first episode "Driving Change Together: The Impact of the TPF Program," which highlights the program's efforts, opportunities, and recent accomplishments.

Learn more ~~[insert link to audiocast]~~

The TPF Excellence Awards Debut

With gratitude to all the award applicants and the judges who gave their time and expertise, the TPF Program is proud to present the inaugural biennial TPF Excellence Awards. The awards, administered by FHWA and the American Association of State Highway and Transportation Officials (AASHTO), recognize TPF studies that demonstrate effective partnerships, add value to the transportation industry, support the U.S. Department of Transportation's strategic goals, and advance research and innovation.

The next round of applications for the 2026 TPF Excellence Awards will be accepted in the fall of 2025.

Visit www.pooledfund.org for more information.

Congratulations to 2024 TPF Excellence Award Winners

Clear Roads Winter Maintenance Research, TPF-5(353)

With 86 research and synthesis projects to date on methods, equipment, materials, training, technology, and safety, this TPF study began almost 20 years ago. It started with a focus on basic winter maintenance before transitioning to developing training and online tools.

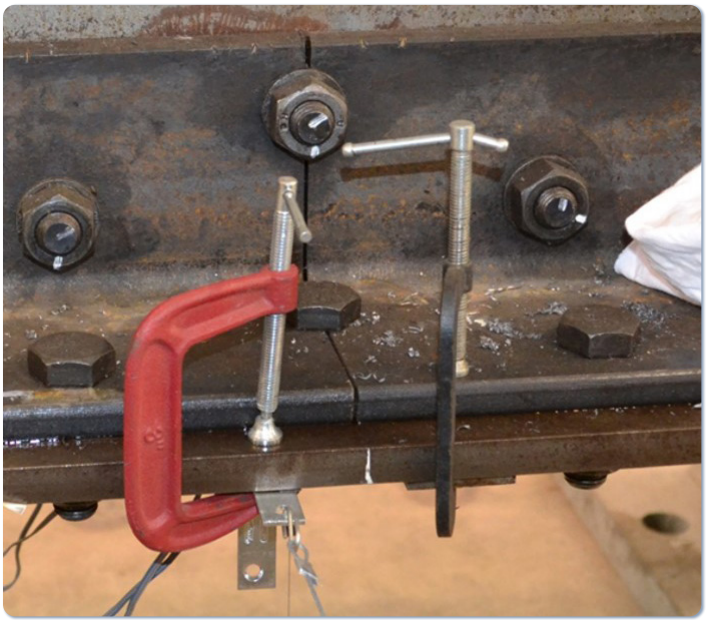
Learn more: https://www.pooledfund.org/Details/Study/604.

© Minnesota DOT.
The Clear Roads study evaluated winter maintenance materials, equipment, and methods.

Member-Level Redundancy in Built-up Steel Members, TPF-5(253)

Through extensive collaboration and research, this study created two new AASHTO guide specifications. Transportation agencies nationwide are already using these guides to evaluate existing steel bridges and inform new designs.

Learn more: https://www.pooledfund.org/Details/Study/482.



© Purdue University.
Full-scale testing of a mechanically fastened built-up steel member.

Global Benchmarking Program

International Research Harnesses the Potential of Unmanned Aircraft Systems (UAS)

By Hana Maier, Program Manager,
Office of International Programs

The United States, along with many other countries, has long suffered from aging infrastructure. In 2021, the American Society of Civil Engineers gave U.S. infrastructure a C− in an infrastructure report card released every 4 years.[1] Expanding the use of UAS, more commonly known as drones, has the potential to help with the inspection and maintenance of aging infrastructure. As a result, FHWA's Global Benchmarking Program conducted a study called Use of Unmanned Aircraft Systems (UAS) to Enhance the Design, Construction, Inspection, and Maintenance of Transportation Infrastructure.[2]

For this study, the research team reviewed UAS transportation operations in Germany and the United Kingdom (UK) through in-person and virtual meetings with subject matter experts in those countries.

The research team reviewed UAS best practices in a variety of use cases, including the following:

- Infrastructure inspection and confined space inspection.
- Pavement preservation.
- Port operations management.
- Highway operations and congestion management.

The researchers also examined UAS digital models and data management, including asset lifecycle management. A highlight from the use cases included the Port of Hamburg in Germany reporting 60-percent cost savings and 70-percent time savings using UAS to inspect port infrastructure, gantry cranes, and shipping containers.[2] Another highlight included the UK's National Highways (NH) platform called the Digital Product Catalogue (DPC), which facilitates modular design, standardizes data sharing, and increases data transparency in the supply chain. NH used UAS to map all 120 miles of the M25 roadway, roadway profile, and construction products along the road and stored the data in DPC.[2]

This study resulted in a number of findings:

- Countries share similar challenges in the design, construction, inspection, and maintenance of transportation infrastructure. Common ground for transportation infrastructure provides a space for international collaboration around UAS use.
- Countries aim to improve legacy processes in the highway transportation and digital construction sector. UAS can be more effective for data management and help modernize legacy infrastructure management, construction, and design processes using outdated or traditional methods, systems, or procedures.
- UAS can increase consistency and repeatability to produce standardized data and enhance digital construction.
- UAS-collected data can be standardized for various digital construction uses.
- UAS provide measurable benefits via a range of mature applications.
- Minimum requirements are needed for maintenance, repair, and overhaul practices associated with UAS.
- Countries aim to maintain economic growth and retain a talented workforce in the fields of transportation management, construction, and design.

The study has deepened understanding of best practices for UAS and UAS-collected data management that could be applied in the United States. Such understanding can pave the way for the increasing use of this technology to support the management, construction, and design of transportation infrastructure.

For more information, see the study's final report.[2]

References

1. American Society of Civil Engineers. 2024. "2021 Report Card for America's Infrastructure" (web page). https://infrastructurereportcard.org/, last accessed April 5, 2024.

2. Gray, J., A. Chamberlin, J. Lu, Z. Rios, and T. Walls. 2023. *Use of Unmanned Aircraft Systems (UAS) to Enhance the Design, Construction, Inspection, and Maintenance of Transportation Infrastructure*. Report No. FHWA-PL-23-007. Washington, DC: Federal Highway Administration. https://international.fhwa.dot.gov/pubs/pl23007.pdf, last accessed April 5, 2024.

Safety and Operations
Emerging Technologies Transform Intersection Safety

By Jesse Eisert, Research Psychologist, Human Factors Team

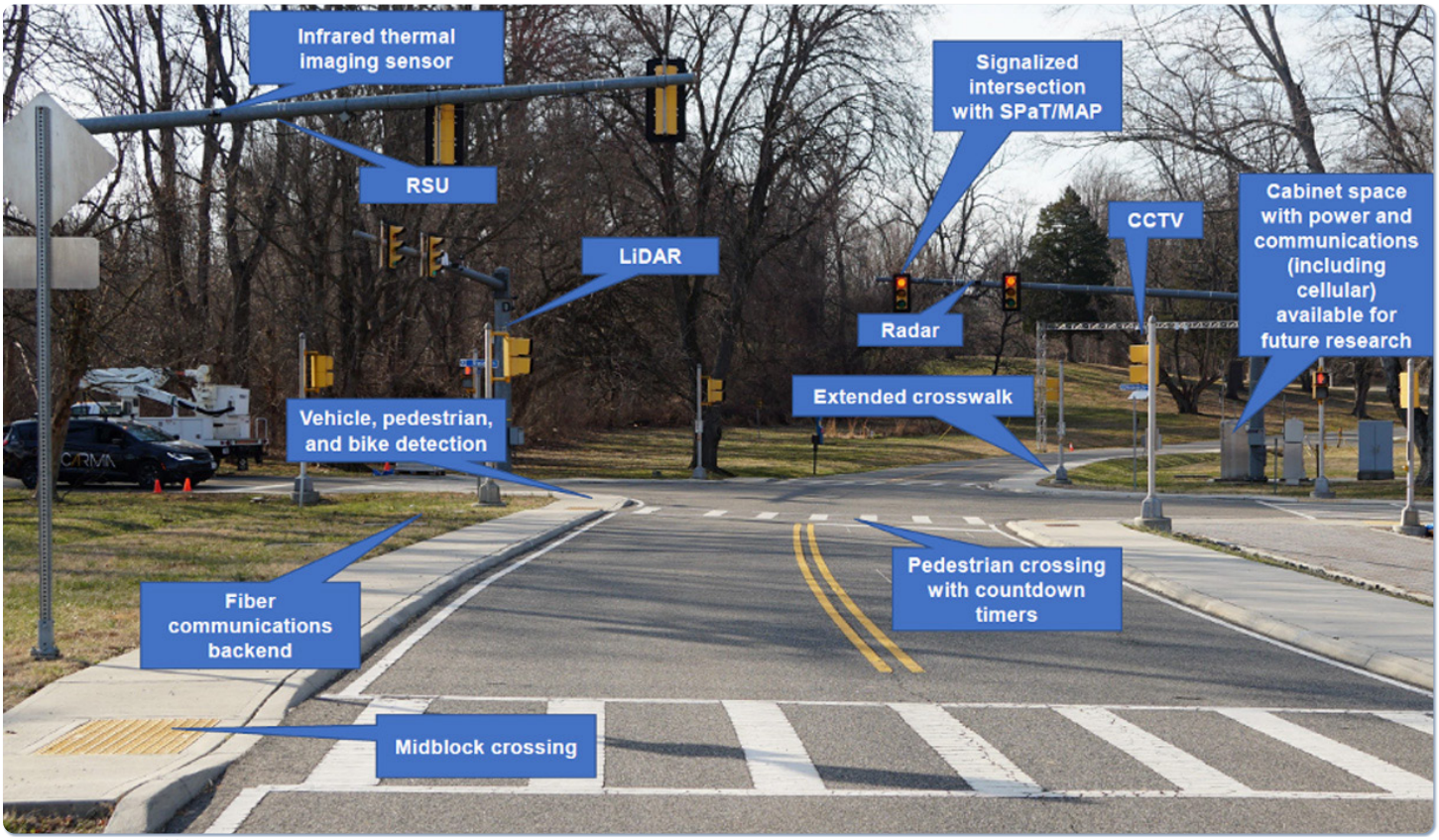
Every year, roughly 25 percent of traffic fatalities happen at the Nation's intersections. Nearly 50 percent of traffic injuries happen at intersections as well. Unsafe intersection conditions can be prevented. USDOT has launched the Intersection Safety Challenge (the Challenge) to get innovative teams of people who develop intersection safety systems to compete in finding safety solutions for the Nation's intersections.[1,2]

The Challenge aligns with the National Roadway Safety Strategy's long-term goal of zero traffic fatalities on the Nation's roads and other USDOT efforts. The Challenge's goal is to find emerging technologies for improving intersection safety. USDOT also incentivized the competing teams with monetary prizes.[1]

The Challenge encourages these teams to produce artificial intelligence-based intersection safety technologies that fuse multisource data to prevent collisions. Existing technologies, such as light detection and ranging (LiDAR) or infrared thermal sensors, have limited deployment at intersections but offer potentially low-cost and scalable safety solutions.[1]

USDOT received 120 papers for stage 1A, the concept assessment portion of the challenge. Fifteen research teams from across the Nation were each awarded a $100,000 prize in stage 1A. The 15 teams were invited to compete in stage 1B, system assessment and virtual testing. The Turner-Fairbank Highway Research Center (TFHRC) spearheaded stage 1B with its Pedestrian Technology Test Bed, supplying participating teams with its sensor data. Such data will be used in the training and development of each team's algorithms, which detect, track, and predict vulnerable road users and vehicle behaviors.[3,4]

The Pedestrian Technology Test Bed offers a real-world environment with actual roads, a midblock crossing, traffic lights, and two intersections. A range of sensor instruments capture information that the 15 teams can use while participating in stage 1B.[3]



Source: FHWA.[3]
RSU = roadside unit; CCTV = closed-circuit television; SPaT = signal phase and timing.
The Pedestrian Technology Test Bed offers a real-world environment with actual roads, a midblock crossing, traffic lights, and two intersections. A range of sensor instruments capture information that the 15 teams can use while participating in stage 1B.[3]

The following table lists the competing teams and their submission titles.

Submission Title[4]	Lead Entity
Comprehensive and Cooperative Intersection Safety Systems	University of Washington
Driving Behavior Integrated Intersection Safety System for Vulnerable Road Users	DENSO International America
Safe Warnings for Intersections Forecasting Tool (SWIFT)	CNA
SAFETI: Safety Actions for Everyone at Traffic Intersections	University of Michigan
InfraShield: Pioneering Safe Intersections for All Road Users through AI-Powered Infrastructure Solutions	University of California, Los Angeles
Toward Vision Zero: Sensing, Predicting, and Preventing Intersection Collisions	University of Hawaii
Intersection Safety System: Foundation for Smart and Connected Intersection	Deloitte Consulting
Derq's Intersection Safety System	Derq USA
Improving Intersection Safety with Light Detection and Ranging (LiDAR)	Utah Department of Transportation
Predictive Intersection Safety System (PREDISS)	~~Florida A&M University~~ and Florida State University
White Alert: A Digital Multi-Channel Vision for Scalable Intersection Safety	Global Traffic Technologies/ Miovision USA
Applying LiDAR-based Multimodal Tracking to Improve Vulnerable Road User Safety at Signalized Intersections	Texas Department of Transportation
Safety Assurance System for Vulnerable Road Users at Signalized Intersections (SAINT)	University of California, Riverside
Orion Labs Saiph Intersection Safety System	Orion Robotics Labs
Transforming Intersection Safety Through Emerging Technologies for All Road Users	Ohio State University

For additional information about the Challenge, please visit the official web page, Intersection Safety Challenge.[1]

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1. USDOT. n.d. "Intersection Safety Challenge" (web page). https://its.dot.gov/isc/, last accessed March 19, 2024.
2. FHWA. 2024. "About Intersection Safety" (web page). https://highways.dot.gov/safety/intersection-safety/about, last accessed March 19, 2024.
3. Eisert, J. 2024. "Getting to Know the USDOT Smart Intersection" Presented at the *ITS America Conference and Expo*. Phoenix, AZ: ITS America.
4. USDOT. n.d. "U.S. DOT Announces Winners of the Intersection Safety Challenge" (web page). https://www.transportation.gov/briefing-room/us-dot-announces-winners-intersection-safety-challenge, last accessed March 20, 2024.

FHWA Trivia

Who is the only First Lady to be featured on the cover of *Public Roads* magazine?

Lady Bird Johnson appeared on the cover of the March/April 2008 issue of *Public Roads*. She is the only First Lady to ever appear on a *Public Roads* cover. The wife of President Lyndon Baines Johnson, Lady Bird Johnson was instrumental in spearheading the effort to beautify the Nation's highways and other conservation efforts in the 1960s.

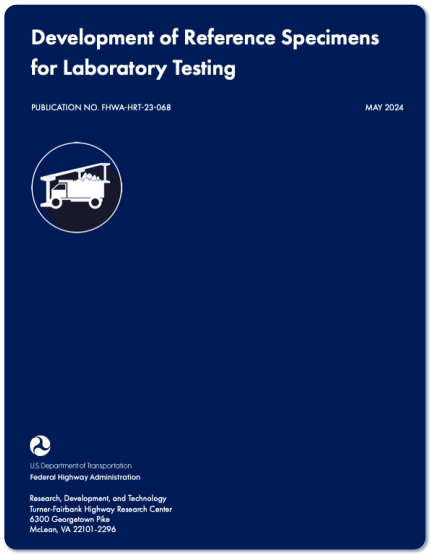
Lady Bird is credited with helping to pass more than 300 environmental laws during the Johnson administration.

Source: FHWA.[1]

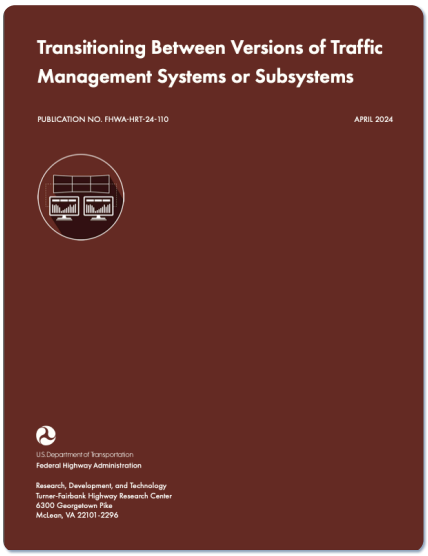
The many wildflowers planted along our highways are just one testament to her legacy. Lady Bird's activism also set a new standard for future First Ladies. The *Public Roads* March/April 2008 issue contained a commemorative article about Lady Bird's "conservation" work, a word she preferred to "beautification."[2]

1. FHWA. 2008. *Public Roads.* FHWA-HRT-08-003. Washington, DC: Federal Highway Administration.
2. Bergeron, K. 2008. "The Environmental First Lady." *Public Roads* 71, no 5. https://highways.dot.gov/public-roads/marapr-2008/environmental-first-lady, last accessed April 26, 2024.

Recent Publications



Source: FHWA.



Source: FHWA.

[Innovative Methods to Detect and Measure Flooded Roadways]

Date: July 8, 2024
Publication No.: FHWA-HRT-24-006

[Development of Speed Crash Modification Factors (CMFs) Using SHRP2 Roadway Information Database (RID), Volume I: Final Report]

Date: July 1, 2024
Publication No.: FHWA-HRT-24-129

[Development of Speed Crash Modification Factors (CMFs) Using SHRP2 Roadway Information Database (RID), Volume II: Appendices]

Date: July 1, 2024
Publication No.: FHWA-HRT-24-130

[TPF-5(231) Evaluating New Technologies for Roads Program Initiatives in Safety and Efficiency (ENTERPRISE)]

Date: June 24, 2024
Publication No.: FHWA-HRT-24-060

[Enhancing Vulnerable Road User Detection and Volume Data Through The Use of Infrared Thermal Imaging Sensors]

Date: June 13, 2024
Publication No.: FHWA-HRT-24-135

[Sprayable UHPC for Repair and Preservation]

Date: June 7, 2024
Publication No.: FHWA-HRT-24-118

[Developing and Using a Concept of Operations for Traffic Management Systems—Current Practices]

Date: June 6, 2024
Publication No.: FHWA-HRT-24-116

[Field Evaluation of At-Grade Alternative Intersection Designs, Volume I—Operations Report]

Date: June 6, 2024
Publication No.: FHWA-HRT-24-125

[An Open-Source Tool to Enable Interoperable Connectivity]

Date: June 6, 2024
Publication No.: FHWA-HRT-24-121

[Synthesis of Alternative Intersection Forms]

Date: June 4, 2024
Publication No.: FHWA-HRT-24-090

[Evaluating and Implementing CC-I-L Cement for the Next Generation of Concrete Bridge Construction]

Date: May 30, 2024
Publication No.: FHWA-HRT-24-057

[TPF Success Story - TPF-5(370) Fostering Innovation In Pedestrian and Bicycle Transportation Pooled Fund (TPF) Study]

Date: May 30, 2024
Publication No.: FHWA-HRT-24-098

[Using Text Messaging to Locate and Verify Incidents Outside of Traffic Management System Coverage Areas]

Date: May 29, 2024
Publication No.: FHWA-HRT-24-082

[Digital Twin-Enabled Extended Active Safety Analysis for Mixed Traffic]

Date: May 28, 2024
Publication No.: FHWA-HRT-24-054

[Effects of Work Zone Infrastructure on Transitioning From Automated to Manual Driving for Work Zones With Lane Reductions]

Date: May 20, 2024
Publication No.: FHWA-HRT-24-117

[Notice of Funding Opportunity 693JJ323NF00008 May 8, 2024, Webinar Question and Answers]

Date: May 20, 2024
Publication No.: N/A

[Development of Reference Specimens for Laboratory Testing]

Date: May 14, 2024
Publication No.: FHWA-HRT-23-068

In-Situ Scour Testing Device (ISTD), State Demonstrations of Field Soil Tests, Butte City, CA

Date: May 14, 2024
Publication No.: FHWA-HRT-24-105

Transportation Management Center (TMC) Pooled-Fund Study - Using Geofencing to Actively Monitor, Collect, and Share Information

Date: May 14, 2024
Publication No.: FHWA-HRT-24-094

Opportunities for Traffic Management Systems to Share Information on Incidents

Date: May 14, 2024
Publication No.: FHWA-HRT-24-100

In-Situ Scour Testing Device (ISTD), State Demonstrations of Field Soil Tests, Scarborough, ME

Date: May 14, 2024
Publication No.: FHWA-HRT-24-106

Correlation of Bridge Deck Deterioration With Truckload Spectra Based on NBI Condition Rating and Weigh-In-Motion Data

Date: May 14, 2024
Publication No.: FHWA-HRT-24-032

Industry-Recognized Corrosion Prevention Worker Certifications Effectiveness Evaluation

Date: May 14, 2024
Publication No.: FHWA-HRT-24-128

Best Practices for Corrosion Control and Mitigation

Date: May 14, 2024
Publication No.: FHWA-HRT-24-127

Horizontal Curve Safety Performance Evaluation Based on the Naturalistic Driving Study Lane Position Data

Date: May 7, 2024
Publication No.: FHWA-HRT-24-093

Aligning Traffic Management Center Staffing Capabilities for the Future of Systems Operations

Date: April 29, 2024
Publication No.: FHWA-HRT-24-079

Sharing and Using Connected Device Data to Improve Traveler Safety and Traffic Management—Review of Current Practice

Date: April 18, 2024
Publication No.: FHWA-HRT-24-086

Predictive Analytics for Traffic Management Systems

Date: April 18, 2024
Publication No.: FHWA-HRT-24-091

VOICES Cooperative Driving Automation Proof-of-Concept Systems Integration Test 1

Date: April 18, 2024
Publication No.: FHWA-HRT-24-072

Assessing and Reporting on Traffic Management System (TMS) Capabilities and Performance—Current Practices

Date: April 18, 2024
Publication No.: FHWA-HRT-24-099

Transitioning Between Versions of Traffic Management Systems or Subsystems

Date: April 18, 2024
Publication No.: FHWA-HRT-24-110

Verification and Calibration of Microscopic Traffic Simulation Using Driver Behavior and Car-Following Metrics for Freeway Segments

Date: April 16, 2024
Publication No.: FHWA-HRT-24-103

Advanced Driver Assistance System-Equipped Vehicle Datasets Collected in Central Ohio: Final Report

Date: April 15, 2024
Publication No.: FHWA-HRT-24-084

Predictive Real-Time Traffic Management in Large-Scale Networks Using Model-Based Artificial Intelligence

Date: April 8, 2024
Publication No.: FHWA-HRT-23-107

Complete Streets - Safety Analysis

Date: April 4, 2024
Publication No.: FHWA-HRT-24-041

TPF Quarterly Update - March 2024

Date: March 25, 2024
Publication No.: FHWA-HRT-24-087

Development of a Cable Robot and Measurement of Stay Cable Roundness

Date: March 20, 2024
Publication No.: FHWA-HRT-24-043

Effects of Signing and Configuration of Partially Automated Truck Platooning On Light-Vehicle Driver Behavior

Date: March 20, 2024
Publication No.: FHWA-HRT-24-071

Weathering Steel Performance Data Collection

Date: March 20, 2024
Publication No.: FHWA-HRT-23-116

Human Factors Issues Related to Truck Platooning Operations

Date: March 20, 2024
Publication No.: FHWA-HRT-24-065

Considerations for Scalability of Alkali Concentrated Conditioning Solution

Date: March 20, 2024
Publication No.: FHWA-HRT-24-083

Next Generation of Traffic Management Systems and Centers: A Primer

Date: March 20, 2024
Publication No.: FHWA-HRT-24-081

Managing Traffic Management Systems Assets

Date: March 20, 2024
Publication No.: FHWA-HRT-24-088

Complete Streets—Safety Analysis

Date: March 15, 2024
Publication No.: FHWA-HRT-24-074

Turner-Fairbank Highway Research Center - TFHRC Laboratories

Date: March 13, 2024
Publication No.: FHWA-HRT-24-073

DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume II

Date: March 7, 2024
Publication No.: FHWA-HRT-23-122

Estimating Design Lane Truck Volumes From HPMS Traffic Data for Long-Term Pavement Performance Analyses

Date: March 7, 2024
Publication No.: FHWA-HRT-23-103

TMC Pooled-Fund Study

Date: March 7, 2024
Publication No.: FHWA-HRT-24-005

LTPP Newsletter - February 2024 Winter Issue

Date: March 1, 2024
Publication No.: FHWA-HRT-24-049

Public Roads Student Writing Competition Application - 2024

Date: March 1, 2024
Publication No.: FHWA-HRT-24-067

Public Roads Student Writing Competition Editorial Guidelines - 2024

Date: March 1, 2024
Publication No.: FHWA-HRT-24-068

Nondestructive Evaluation of T1 Steel in the Sherman Minton Bridge

Date: February 29, 2024
Publication No.: FHWA-HRT-23-045

Response to Emergency Vehicles When Driving in a Mixed Vehicle Fleet

Date: February 29, 2024
Publication No.: FHWA-HRT-24-063

DREDGE (Disaggregate Realistic Artificial Data Generator)—Design, Development, and Application for Crash Safety Analysis, Volume I

Date: February 22, 2024
Publication No.: FHWA-HRT-23-121

NextScour Case Study: The I–6064/I–95 Bridge Replacements Over the Lumber River in Lumberton, NC

Date: February 15, 2024
Publication No.: FHWA-HRT-24-038

Your Role as a Partner Agency

Date: February 15, 2024
Publication No.: FHWA-HRT-24-047

Implementation of Phased Array Ultrasonic Testing (PAUT) For Bridge Welds

Date: February 8, 2024
Publication No.: FHWA-HRT-24-010

FHWA Bridge Preservation Research Roadmap

Date: February 8, 2024
Publication No.: FHWA-HRT-24-011

Take the Virtual Tour of the Turner-Fairbank Highway Research Center

Date: February 8, 2024
Publication No.: FHWA-HRT-24-076

Guide to Select Long-Term Pavement Performance Traffic Data for Multiple Uses

Date: February 8, 2024
Publication No.: FHWA-HRT-24-062

Your Role as the Lead Agency—State Department of Transportation (DOT)

Date: February 6, 2024
Publication No.: FHWA-HRT-24-046

2024 Excellence in Highway Safety Data

Date: February 6, 2024
Publication No.: FHWA-HRT-24-075

Your Role as a Technical Advisory Committee (TAC) Member

Date: February 5, 2024
Publication No.: FHWA-HRT-24-044

Source: FHWA.

Source: FHWA.

Events

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View from the Top
July 21, 2024
AASHTO Research Advisory Committee Annual Meeting, Columbus, OH

Kelly Regal, kelly.regal@dot.gov

Automating the Future: Cooperative Driving Automation Implementation Plan for Safer, Smarter Mobility!
July 31, 2024 10:30 a.m.
Transportation Research Board (TRB) Automated Road Transportation Symposium (ARTS), San Diego, CA

Sudhakar Nallamothu, s.nallamothu@dot.gov

Guess What? Using Digital Infrastructure to Advance Safety and Mobility!
July 31, 2024 10:30 a.m.
TRB ARTS, San Diego, CA

Danielle Chou, danielle.chou@dot.gov

Energy and Demand of Connected and Automated Mobility Systems: A Problem Solving Caucus
July 31, 2024 10:30 a.m.
TRB ARTS, San Diego, CA

Danielle Chou, danielle.chou@dot.gov

The energy and demand breakout session is returning to ARTS after a brief hiatus. Previously, the energy and demand breakout looked at connected and automated vehicles (CAVs) and mobility services as separate, but higher level CAVs can be both simultaneously. Level 4–5 CAVs, in fact, will always be able to act as a mobility service. For ARTS 2024, participants will focus on mobility system CAV operational environments, characteristics, and information required to optimize CAVs at the system level. To understand CAV mobility, mixed traffic, land-use, and advanced technologies need to be considered. This session will have two components: a panel discussion to identify issues and a breakout caucus where groups will write a proposal to solve one of these issues. These proposals could be proposed research projects, standards, testing procedures, etc.

Chairing Meeting
August 12, 2024
TRB Intelligent Transportation System (ITS) Committee Mid-Year Meeting, Irvine, CA

Jon Obenberger, jon.obenberger@dot.gov

Title TBD
August 12, 2024
Joint Meeting of TRB Technical Committees – Bus Transit Systems, ITS, Managed Lanes, Freeway Operations, and Regional Transportation Systems Management and Operations, Irvine, CA

Jon Obenberger, jon.obenberger@dot.gov

Traffic Management Systems Role With Actively Managing and Operating Part-Time Shoulder Use
August 12, 2024
Webinar

Jon Obenberger, jon.obenberger@dot.gov

August 25, 2024

13th International Conference on Concrete Pavements, Minneapolis MN

Michelle A. Cooper, michelle.cooper@dot.gov

A TFHRC expert will be giving multiple presentations on research findings from FHWA's TFHRC Concrete Materials Laboratory. These presentations will include:

- Resistivity's Sensitivity to Concrete Mixture Design Parameters.
- Improving Resistance to Damage from Freeze-Thaw of High-Early-Strength Concrete Mixtures through the Application of AASHTO R 101 Concepts.

Traffic Management Center Pooled Fund Study Quarterly Meeting

September 4, 2024

Traffic Management Center Pooled Fund Study Quarterly Meeting, Virtual

Jon Obenberger, jon.obenberger@dot.gov

August 9, 2024

TRB International Conference on Women and Gender in Transportation, Irvine, CA

Kelly Regal, kelly.regal@dot.gov

Integrated Vehicle Ecosystem for Transportation Decarbonization

September 10 , 2024

COMVEC™ SAE International, Schaumburg, IL

Danielle Chou, danielle.chou@dot.gov

The evolution of future commercial vehicle systems and decarbonization technologies will progress with a growing reliance on profound integration with various elements, including energy supply systems, interactions with other vehicles on the road, off-board intelligence comprising sensors and communication technologies, advanced network logistics, and safety systems. Over time, these independent solutions are anticipated to evolve into standardized practices. The objective of this panel is to delve into the initial phases of this transformative journey, engaging with key stakeholders in the emerging interconnected ecosystem. The discussion will revolve around understanding and navigating the complexities of integrating these diverse components, laying the groundwork for the development and adoption of standardized practices in the evolving landscape of commercial vehicle technologies.

Traffic Management Center Roles With Actively Managing and Operating Part-Time Shoulder Use

October 16, 2024

Webinar

Jon Obenberger, jon.obenberger@dot.gov

October 23, 2024

AASHTO Research and Innovation Fall Meeting

Office of Research, Development, and Technology Associate Administrator

Highway Safety Information System (HSIS) Annual Liaison Meeting

October 30, 2024

2024 Annual HSIS Liaison Meeting

Ana Maria Eigen, ana.eigen@dot.gov

This event is an annual liaison business meeting for the HSIS member agencies (California, Illinois, Maine, Michigan, North Carolina, Ohio, Washington, and Charlotte, NC).

TBD = to be determined.

FHWA R&T NOW

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LINKS

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FHWA Resource Center: https://www.fhwa.dot.gov/resourcecenter

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