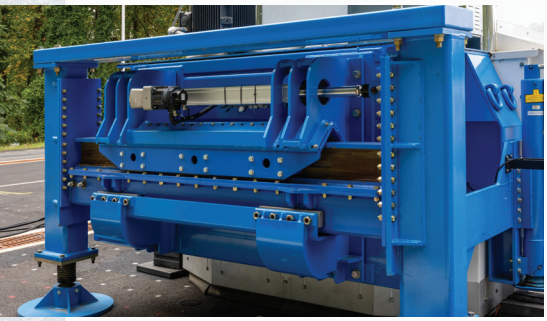
About the Turner-Fairbank Highway Research Center (TFHRC)

November 2024



Source: FHWA.

The Federal Highway Administration's (FHWA) TFHRC is the premiere center for highway safety, operations, and infrastructure research. TFHRC advances innovations beneficial to the traveling public. The 13 teams and 15 state-of-the-art laboratories that comprise TFHRC address some of the Nation's most pressing transportation issues. We provide objective, high-quality technical expertise, research, and leadership to ensure a safe, equitable, and efficient transportation system. Our work enhances the quality of life of all Americans by improving their everyday interactions with the U.S. highway system.

Source: FHWA.

TFHRC TEAMS

Office of Infrastructure Research and Development (R&D)

INFRASTRUCTURE MATERIALS TEAM

The Infrastructure Materials Team primarily conducts original materials research in its five laboratories. This research is focused on investigating new and innovative construction materials to achieve long-lasting, sustainable, and resilient pavements and bridges throughout the U.S. transportation system. The team comprises the Aggregates and Petrography Laboratory, the Asphalt Binder and Mixtures Laboratory, the Chemistry Laboratory, the Concrete Laboratory, and the Pavement Testing Facility.

LONG-TERM INFRASTRUCTURE PERFORMANCE TEAM

The Long-Term Infrastructure Performance (LTIP) Team develops data-driven information and knowledge to enhance understanding of highway infrastructure asset performance, leading to more efficient asset design, construction, maintenance, and management. Data, knowledge, and analytical tools are showcased on the FHWA InfoHighway™ web portal.[1] The LTIP Team consists of the Long-Term Pavement Performance Program, the Long-Term Bridge Performance Program, and the Coatings and Corrosion Laboratory.

INFRASTRUCTURE ANALYSIS AND CONSTRUCTION TEAM

The Infrastructure Analysis and Construction Team's research program, projects, and efforts are focused on improving the performance, safety, cost effectiveness, efficiency, and sustainability of highway infrastructure construction, project delivery, and asset management. The team leads FHWA's digital delivery research program aimed at integrating data throughout a project's lifecycle. The team aims to enhance efficiency while improving the condition and resilience of the Nation's highway infrastructure through developing condition analysis techniques, improved treatment and rehabilitation decisionmaking, and optimized contracting and project delivery processes.

BRIDGE ENGINEERING RESEARCH TEAM

The Bridge Engineering Research Team helps infrastructure owners overcome challenges related to design, construction, and preservation of highway transportation structures. The team also supports forensic investigations for bridge collapses and other transportation infrastructure failures. The team's core applied engineering research is conducted in TFHRC's Geotechnical, Hydraulics, and Structures laboratories.

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REFERENCES

1. FHWA. n.d. "InfoHighway™" (web page). https://infohighway.fhwa.dot.gov/, last accessed October 3, 2024.

2. National Highway Traffic Safety Administration. n.d. "NHTSA Launches Put the Phone Away or Pay Campaign; Releases 2023 Fatality Early Estimates" (web page). https://www.nhtsa.gov/press-releases/2022-traffic-deaths-2023-early-estimates, last accessed September 25, 2024.

3. U.S. Department of Transportation. 2022. "What Is a Safe System Approach?" (web page). https://www.transportation.gov/NRSS/SafeSystem, last accessed October 3, 2024.

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Office of Safety and Operations R&D

ROADWAY TEAM

The National Highway Traffic Safety Administration estimates that 40,990 people were killed in motor vehicle accidents in 2023.[2] The Roadway Team focuses on reducing transportation-related fatalities and serious injuries through innovative intersection designs, roadway infrastructure improvements, and roadside safety barrier research.

SAFETY DATA AND ANALYSIS TEAM

Focusing on emerging data and analytic approaches in highway safety research, the Safety Data and Analysis Team provides high-quality information to transportation practitioners. This work fosters sound and data-driven highway safety decisionmaking throughout the National Highway System.

THE HUMAN FACTORS TEAM

By conducting behavioral research on drivers, pedestrians, bicyclists, and other road users, the Human Factors Team identifies solutions to potential safety concerns in roadway scenarios. The team investigates the intersection of human behavior, vehicles, and transportation infrastructure through research on topics such as driver distraction, vulnerable road user safety, driving automation, and driver understanding of roadway signage.

TRANSPORTATION ENABLING TECHNOLOGIES TEAM

The work of the Transportation Enabling Technologies Team is tied to the U.S. Department of Transportation's Safe System Approach.[3] With its research on cooperative driving automation and other advanced driving systems, the team strives to implement technologies that prevent crashes and minimize harm when crashes occur. This work can make transportation systems safer and more efficient.

TRANSPORTATION OPERATIONS APPLICATIONS TEAM

The Transportation Operations Applications Team improves tools that State and local transportation agencies use to operate and manage traffic on their highways, such as vehicle-to-everything technology and next-generation traffic management systems. These tools make highways safer and more efficient.

Corporate Research Programs

RESEARCH INNOVATION MANAGEMENT TEAM

The Research Innovation Management Team provides leadership for the Exploratory Advanced Research Program, the Small Business Innovation Research Program, and the Research Associateship Program. The Research Innovation Management Team also provides leadership for Technology Transfer and Research and Technology Evaluation.

Office of Research Services

The Office of Research Services consists of three teams that oversee the strategic direction and coordination of the FHWA research agenda and programs; management and operation of TFHRC; and communication about research projects, research results, and technology transfer.