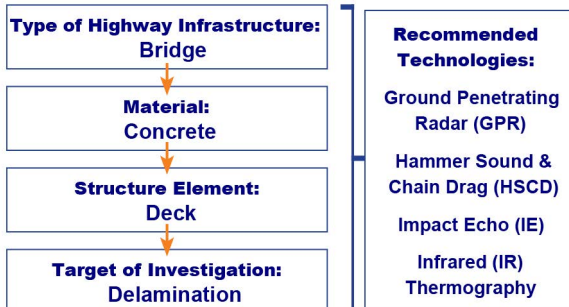


## NDE Web Manual

The Federal Highway Administration's (FHWA) NDE Laboratory has developed an NDE Web Manual, a web tool for assisting bridge practitioners with the selection of NDE technologies for the condition assessment of bridge decks and superstructures. This manual presents a comprehensive selection on and descriptions of NDE technologies to fill a gap between the practitioners dealing with bridge performance challenges on a day-to-day basis and the researchers developing and refining NDE technologies. This version of the NDE Web Manual presents current, unbiased, and reliable information about NDE technologies for concrete and steel bridge members, including the application, description, physical principle, data acquisition, data processing, data interpretation, advantages, and limitations of each NDE technology. **To access to the NDE Web Manual, visit <https://bit.ly/3dYgy5X>**



## NDE Virtual Lab

The NDE Web Manual includes an interactive environment that allows users with different backgrounds to explore NDE and Structural Health Monitoring (SHM) technologies. These real case studies expose users to scenarios requiring the selection and deployment of various NDE and SHM applications.

## Our Mission

At the FHWA Turner-Fairbank Highway Research Center's NDE Laboratory, our mission is *to conduct state-of-the-art research, development, and implementation of nondestructive testing systems and technologies to improve the Nation's highway infrastructure assets*. Since its establishment in 1998, the NDE Laboratory has been used as a resource for the FHWA, State Departments of Transportation (DOTs), industry, and academia.

## Contact Us

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FHWA Advanced Sensing Technology  
Nondestructive Evaluation Laboratory

\*Source: FHWA (all images)

FHWA-HRT-20-054  
HRDI-20/06-20(200)E

## FAST NDE Laboratory

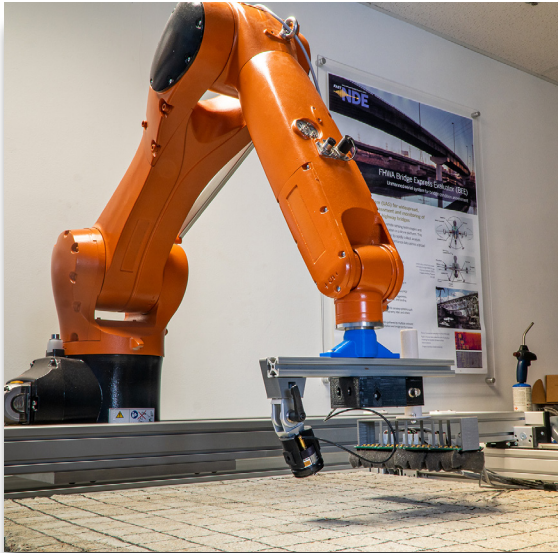
### FHWA Advanced Sensing Technology Nondestructive Evaluation



U.S. Department of Transportation  
Federal Highway Administration

## What is NDE?

NDE is a means of analyzing and assessing the condition of various structural components of highway infrastructure assets—pavement, bridges, and tunnels—without impairing their future usefulness.

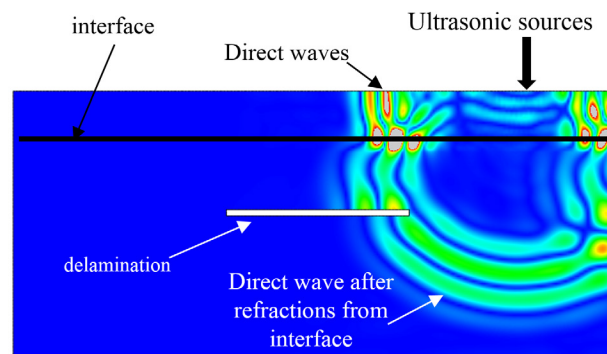
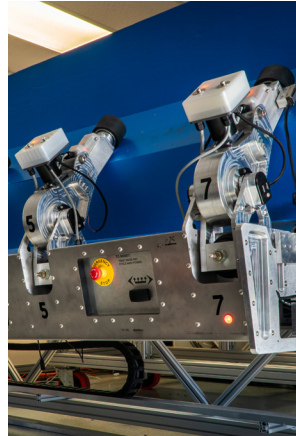


## Laboratory Activities

The NDE Laboratory performs research, development, improvement, and implementation of NDE systems and technologies to assist infrastructure owners with condition assessment of their assets. This work includes condition assessment of in-service tunnels, pavements, and bridges, as well as providing technical assistance and forensic investigations in examining the nature and causes of anomalies or failures of highway infrastructure assets.

## About the FAST NDE Lab

The FAST Lab is a world-class NDE Laboratory for the development and testing of NDE technologies. The NDE Laboratory is well supplied with state-of-the-art NDE equipment to address the growing needs of FHWA and other stakeholders. The facility includes new NDE equipment for both concrete and steel, robotic platforms for data acquisition, and advanced off the shelf equipment. The Laboratory also has several custom built prototype advanced NDE systems.



## Laboratory Capabilities

- Ground Penetrating Radar (GPR) Testing
- Infrared Thermography Testing
- Impact Echo Testing
- Surface Wave Testing
- Structural Health Monitoring (SHM) Systems
- Numerical Simulation
- Automated Data Collection, Analysis, Interpretation, Visualization, and Fusion
- Conventional/Phased Array/Full Matrix Captures Ultrasonic Testing
- Conventional/Advanced Eddy Current Testing
- Acoustic Emission
- Noncontact and Remote Sensing

## Laboratory Specimens

An extensive collection of concrete/steel specimens from decommissioned bridges and commercial test equipment can be seen at the NDE Laboratory.

