# INTELLIGENT TRANSPORTATION SYSTEMS (ITS) RESEARCH DATA

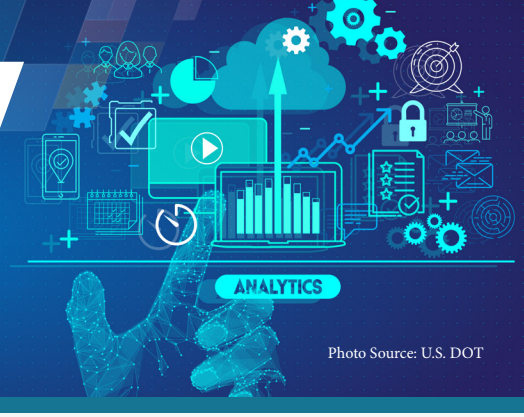

Photo Source: U.S. DOT

ITS DataHub (available at www.its.dot.gov/data) provides a single point of entry to discover available U.S. Department of Transportation (U.S. DOT) ITS research data. By providing access to these data, the U.S. DOT aims to enable third-party research to support emerging ITS technologies, preliminary development of third-party applications, and harmonization of data across similar collections.

## Purpose of ITS DataHub

The ITS Joint Program Office (ITS JPO) and its multimodal partners are dedicated to providing open access to publicly funded research data. In 2018, ITS DataHub became the U.S. DOT's primary storage and access system for its research data. The system uses shared services such as the National Transportation Library (NTL) and data.transportation.gov (DTG) to provide timely access to discoverable, well-documented ITS research data for public access. This data helps advance the ITS JPO's multimodal mission by:

- Facilitating early user input into U.S. DOT research efforts, informing multi-phased research projects in real time to improve future deliverables and research goals
- Enabling third-party research into the effectiveness of these emerging ITS technologies, secondary analysis on primary ITS data collection, and harmonization of data across similar collections
- Enabling preliminary development of third-party applications using the data generated by ITS JPO projects.

ITS DataHub enables a streamlined, consistent, replicable process for ITS JPO data providers to contribute system data. Learn more at: https://www.its.dot.gov/data/index.htm .

## Available Datasets

- New York City Connected Vehicle Pilot
- Tampa Connected Vehicle Pilot
- Wyoming Connected Vehicle Pilot (Preliminary Field Testing)
- Test Data of POC Vehicle Platooning Based on CACC
- Advanced Messaging Concept Development
- Over 100 additional datasets available for free, public access

## Data May Be of Interest to:

- ITS Project Managers
- Application Developers
- Transportation Researchers

For more information about this initiative, please contact:

Mike Pina, Communications Program Manager, ITS Joint Program Office
(202) 366-3700 | mike.pina@dot.gov

# ITS RESEARCH DATA

## Data Access Features

### Timely access to data from ongoing ITS projects

To facilitate early user input into U.S. DOT research efforts, the ITS JPO has worked with data providers to make data available during the demonstration phase through the ITS Sandbox. This expedited access to data will promote faster adoption of the new data types and research.

### Ability to create visualizations and conduct analysis online

ITS DataHub allows users to create basic visualizations of data sets online including maps, charts, and graphs without downloading the data. Visualizations can be performed with any combination of columns and rows in the dataset.

### Enhanced user interface for viewing, filtering, and downloading ITS data

The system allows users to filter the dataset by adding filter conditions. Filter conditions can be executed for all columns in the dataset and a user can add as many filter conditions as desired. The system also allows users to download the data in a variety of formats including CSV, JSON, or XML. Users can also programmatically download data using the API provided for each dataset stored on data.transportation.gov.

### Shared analysis of ITS data

Users can also save filtered datasets, visualizations, and graphs as a public "view," which other users can then access. This will promote collaborative learning as the community grows around new data. The data is available for free public use under Creative Commons licenses (CC BY-SA 4.0 and CC0 1.0).

## Example Datasets

The following are examples of discoverable datasets on ITS DataHub.

**Wyoming Connected Vehicle Pilot:** Preliminary field test data from the Wyoming pilot site is now streaming to the public. This dataset includes Basic Safety Messages (BSMs) and Traveler Information Messages (TIMs) from several test vehicles and roadside equipment. Users can access the full dataset through a standard application programming interface (API) or work with a sample of the data through an interactive interface online.

**Test Data of Proof-of-Concept (POC) Vehicle Platooning Based on Cooperative Adaptive Cruise Control (CACC):** The data represent the testing of a POC vehicle platooning framework based on the CACC connected vehicle application. The data characterize the state-of-the-art capability of the CACC application based on engineering tests that were performed on closed tracks by professional drivers and using prescribed test procedures.

**Multi-Modal Intelligent Transportation Signal Systems (MMITSS):** MMITSS is a next-generation traffic signal system that seeks to provide a comprehensive traffic information framework to service all modes of transportation. Datasets generated during the MMITSS field test study include BSMs, vehicle trajectories, signal timing plans, and GPS data for field test vehicles.