

Gateway to Bridge Performance Data and Information



The Federal Highway Administration (FHWA) Long-Term Bridge Performance (LTBP™) Program InfoBridge™ is an intuitive, user-friendly Web portal to access, visualize, and analyze bridge performance data. The following are key features of the Web portal:

Bridge Selection

Users can select bridges through a combination of tools including Find Bridges, Advanced Find and Map Find. These three data filtering tools can be used independently as well as in conjunction to refine the selection of bridge data records.

Find Bridges is a data filtering tool providing the most commonly used selection options from a series of data sources including National Bridge Inventory (NBI), National Bridge Element (NBE), LTBP, and Special Projects.

Advanced Find includes more in-depth attributes and filter operators to query for bridges based on NBI and NBE data, Metropolitan Planning Organizations (MPOs) and political district boundaries, and data from special projects.

Map Find provides an interactive map interface allowing users to draw various shapes on the map to select bridges that are located within or outside the drawn boundaries.

Selected Bridges table displays the bridge records resulting from any of the filtering tools. The table options provide capability for modifying and saving the table layout and loading a saved layout. The data can also be exported to a comma-separated file.

Map

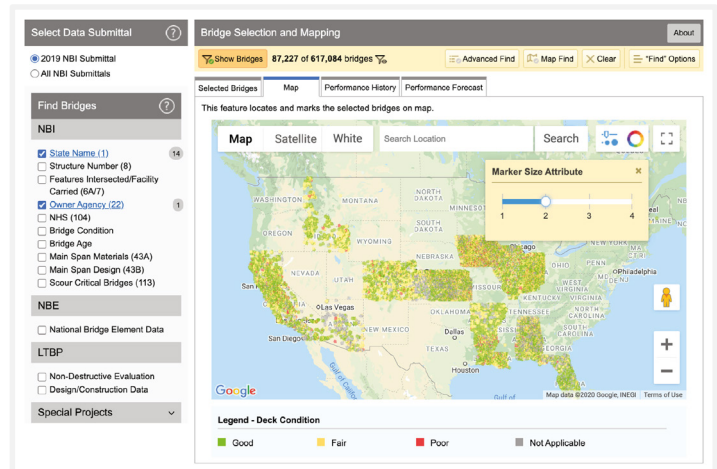
This interface geographically plots selected bridges on a base map. Users can adjust the size of the bridge markers and change their color based on data attributes. Clicking on a bridge provides summary information and a link to the bridge data page.

Bridge Performance

Performance History provides a snapshot of the most recent performance statistics for the selected bridges in tables and bar charts. It also graphs the historical bridge performance by number, percentage, and percentage of deck area for the selected subset of bridges.

The screenshot shows the 'Bridge Selection and Data Presentation' interface. On the left, there are filters for 'Find Bridges' (NBI, NBE, LTBP, Special Projects) and 'Selected Bridges' (Map, Performance History, Performance Forecast). The main area displays a table of selected bridges with columns for State Name, Structure Number, Owner Agency, County Name, Year Built, and Average Deck Condition. The table shows 20 records for Alabama bridges, with the first record being: 1 - Alabama, 019946, County Highway Agency, 049 - DeKalb County, 2007.

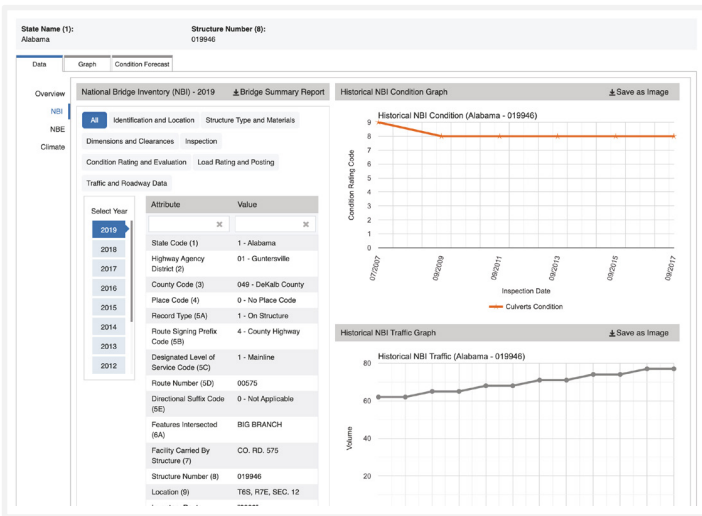
Find Bridges and Selected Bridges Table (Source: FHWA)



Bridge Data Visualization on the Map feature (Source: FHWA) Original Map: © 2020 Google and Data © 2020. Modified by: FHWA Map can be seen at: <https://infobridge.fhwa.dot.gov/Data/Map>



Performance History: Bridge Performance Graphs (Source: FHWA)



Bridge Information: Data (Source: FHWA)

Performance Forecast includes graphs that show forecasted future performance for the group of selected bridges based on models developed under ongoing FHWA research.

Bridge Information

Choosing a bridge from the Selected Bridges table allows the user to display and visualize the bridge's information through multiple graphs and tables.

Data includes an overview with the bridge location on the map, a data availability chart, and data tabs for any of the available data under NBI, NBE, Climate, LTBP, and Special Projects.

Graphs include historical trendlines for bridge component condition ratings, annual daily traffic counts, and bar charts for climate data.

Condition Forecast plots forecasted bridge component condition ratings for individual bridges. Condition forecast models are being developed under ongoing FHWA research.

Analytics

InfoBridge data analytics features include Charts and Bridge Condition by State.

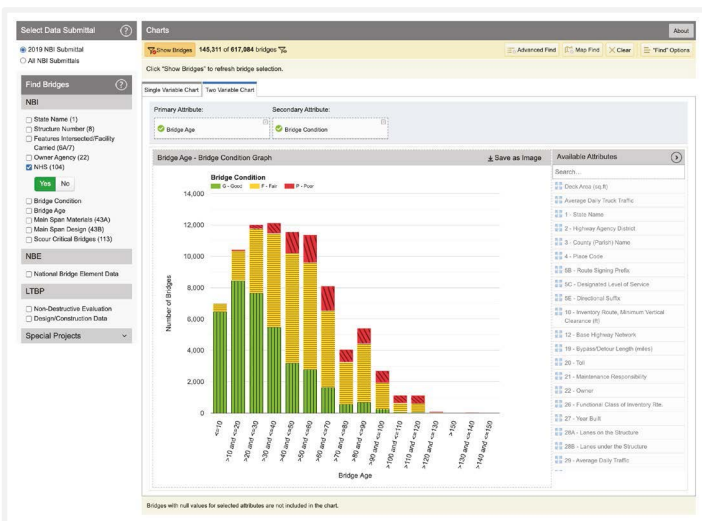
Charts provide an interactive interface to plot analytical charts using various bridge attributes to discover potential meaningful patterns in the data. Users can choose between one-variable and two-variable charts and select desired attributes to plot.

Bridge Condition by State displays percentage of bridges in good and poor condition by count and by deck area for each state on an interactive map and a searchable table. By hovering over each state, bridge performance information for that state is displayed.

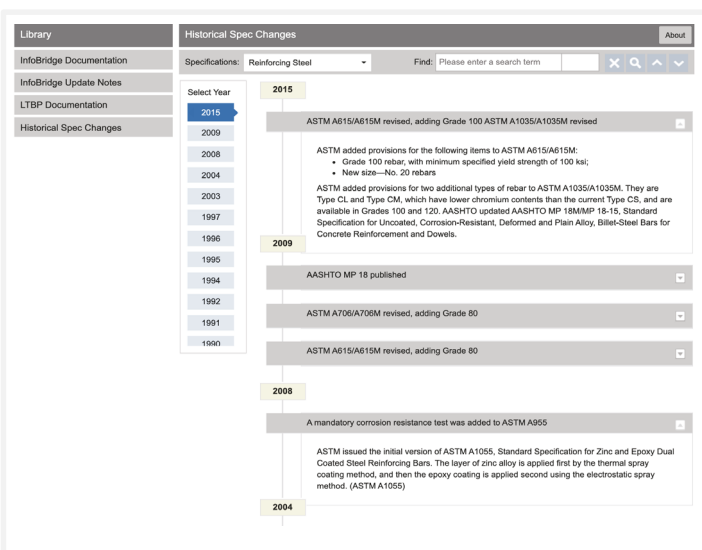
Library

The Library feature provides access to InfoBridge Documentation, InfoBridge Update Notes, LTBP Documentation, and Historical Spec Changes.

Historical Spec Changes document the historical changes in bridge materials and design specifications in chronological order.



Analytics: Charts (Source: FHWA)



Library: Historical Spec Changes (Source: FHWA)

InfoBridge: an intuitive and user-friendly Web portal to access, visualize, and analyze bridge performance data and information.

InfoBridge is developed by the LTBP Program, which is an FHWA long-term research effort to help the bridge community better understand bridge performance. The overall objectives of the LTBP Program are to monitor representative samples of bridges nationwide to collect, document, maintain, manage, and disseminate high-quality quantitative performance data over an extended time horizon. This will be accomplished by taking advantage of advanced condition forecasting techniques, NDE, and structural health monitoring (SHM) technologies in addition to traditional visual bridge inspection approaches. Achieving these objectives requires close collaboration with State transportation departments, academia, and industry. The LTBP Program is designed to collect critical performance data that are not available elsewhere and merge them with data gathered from available sources.

The LTBP InfoBridge Web portal is a centralized gateway providing efficient and quick access to bridge performance-related data and information. The portal includes multiple tools that facilitate bridge data visualization and analytics. It provides for storage, retrieval, dissemination, analysis, and visualization of data collected through State, national, and LTBP Program efforts to provide users with the ability to holistically assess bridge performance on a network or individual bridge basis.



Data



Analytics



Library

Our goal at FHWA is to make LTBP InfoBridge a comprehensive bridge performance portal enabling researchers to develop tools and products that will enhance understanding of the performance of highway bridge assets and that will lead to more efficient design, construction, rehabilitation, maintenance, preservation, and management of those assets.



For more information about LTBP InfoBridge or the LTBP Program, contact the LTBP Customer Support Service Center at 202-493-3035 or ltbp@dot.gov.

LTBP InfoBridge can be accessed at: <https://infobridge.fhwa.dot.gov>

The front cover page shows the [Dames Point Bridge](#) (officially the Napoleon Bonaparte Broward Bridge) located over the St. Johns River in Jacksonville, FL. The base maps on InfoBridge are provided by Google, map data are modified by FHWA.