

SHRP 2: Project L33 Validation of Urban Freeway Models

Download Data Zip files:

L03-01: <https://doi.org/10.21949/1500858>

L03-02: <https://doi.org/10.21949/1500868>

L03-03: <https://doi.org/10.21949/1500869>

L03-04: <https://doi.org/10.21949/1500870>

L03-05: <https://doi.org/10.21949/1500871>

Overview

The goal of the SHRP 2 Project L33 *Validation of Urban Freeway Models* was to assess and enhance the predictive travel time reliability models developed in the SHRP 2 Project L03, *Analytic Procedures for Determining the Impacts of Reliability Mitigation Strategies*. SHRP 2 Project L03, which concluded in 2010, developed two categories of reliability models to be used for the estimation or prediction of travel time reliability within planning, programming, and systems management contexts: data-rich and datapoor models.

The objectives of Project L33 were the following:

- The first was to validate the most important models – the “Data Poor” and “Data Rich” models with new datasets.
- The second objective was to assess the validation outcomes to recommend potential enhancements.
- The third was to explore enhancements and develop a final set of predictive equations.
- The fourth was to validate the enhanced models.
- The last was to develop a clear set of application guidelines for practitioner use of the project outputs.

Data Sets

- **L33 Processed Traffic Data – Los Angeles Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Los Angeles Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – Los Angeles Sections, 5 Minute datasets.
- **L33 Processed Traffic Data – Sacramento Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03

methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.

- **L33 Sacramento Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – Sacramento Sections, 5 Minute datasets.
- **L33 Processed Traffic Data – San Diego Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 San Diego Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – San Diego Sections, 5 Minute datasets.
- **L33 Processed Traffic Data – San Francisco Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 San Francisco Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – San Francisco Sections, 5 Minute datasets.
- **Los Angeles Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Los Angeles Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Los Angeles Raw Traffic Data 3:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
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- **Los Angeles Raw Traffic Data 4:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Los Angeles Raw Traffic Data 5:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Los Angeles Raw Traffic Data 6:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Sacramento Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Sacramento Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Sacramento Raw Traffic Data 3:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **San Francisco Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **San Francisco Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.

- **San Francisco Raw Traffic Data 3:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **San Diego Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **San Diego Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **L33 Processed Data – Demand-to-Capacity:** This dataset represents an output from the SHRP2 Project L33 raw data processing. It provides the demand to capacity ratios for each analysis period for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Capacity Data, By Station:** This dataset represents an input to the SHRP2 Project L33 raw data processing. It provides roadway capacity for each station along the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Processed Traffic Data – Minneapolis-St. Paul Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Minneapolis Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – Minneapolis Sections, 5 Minute datasets.
- **Minneapolis-St. Paul Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.

- **Minneapolis-St. Paul Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Minneapolis-St. Paul Raw Traffic Data 3:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **Minneapolis-St. Paul Raw Traffic Data 4:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases in place.
- **L33 Processed Incident Data – LHL Summary:** This dataset represents an output from the SHRP2 Project L33 raw data processing. It provides incident lane-hours-lost for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Processed Data – Weather:** This dataset represents the outputs from the SHRP2 Project L33 raw data processing. It provides weather data hours of precipitation and snow for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Processed Traffic Metadata:** This dataset is an output from the SHRP2 Project L33 raw data processing and provides roadway detector station metadata for each of the stations used in the data processing. Yearly metadata files were created for each analysis section and year. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Processed Traffic Data – Summary:** These datasets represent outputs from the SHRP2 Project L33 raw data processing and provide summary statistics for the Data Poor and Data Rich models for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Processed Traffic Data – Yearly:** This dataset represents outputs from the SHRP2 Project L33 raw data processing and provides 5-minute section data, aggregated to the entire analysis year (288 5-minute periods per year) for the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model

inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.

- **L33 Raw Incident LHL All Data, Caltrans:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL All Data, MNDOT CAD:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL All Data, MNDOT IRIS:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL All Data, UDOT:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL All Data, WSDOT:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL Summary Data, Caltrans:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL Summary Data, MNDOT CAD:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL Summary Data, MNDOT IRIS 1:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details

for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.

- **L33 Raw Incident LHL Summary Data, MNDOT IRIS 2:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL Summary Data, UDOT:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Incident LHL Summary Data, WSDOT:** These datasets represent inputs to the SHRP2 Project L33 raw data processing. They provide incident lane hours lost summary details for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Precipitation Data:** This dataset represents inputs to the SHRP2 Project L33 raw data processing. It provides weather precipitation data by weather station. These data were then processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Temperature Data:** This dataset represents an input to the SHRP2 Project L33 raw data processing. It provides temperature weather data. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.
- **L33 Raw Traffic Metadata:** This dataset was collected for the SHRP2 Project L33 and provides roadway detector station metadata for each of the stations used in the data processing. Metadata was extracted from the Iteris Performance Measurement System (PeMS) deployment database.
- **Shoulder Clearances:** This dataset provides information about shoulder clearances.
- **L33 Processed Traffic Data – Salt Lake City Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.

- **L33 Salt Lake City Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – Salt Lake City Sections, 5 Minute datasets. See Related Artifacts for relevant datasets.
- **Salt Lake City Raw Traffic Data 1:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **Salt Lake City Raw Traffic Data 2:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **Salt Lake City Raw Traffic Data 3:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **Salt Lake City Raw Traffic Data 4:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Processed Traffic Data – Spokane Sections, 5 Minute:** These datasets represent the outputs from the SHRP2 Project L33 raw data processing and provide traffic data for each of the Project L33 analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Spokane Station Configuration File:** This file provides geographical information for the "section_id" variable in the L33 Processed Traffic data – Spokane Sections, 5 Minute datasets. See Related Artifacts for relevant datasets.
- **Spokane Raw Traffic Data:** These datasets were collected for the SHRP2 Project L33 and provide roadway detector station traffic data for each of the stations used in the data processing. Data were extracted from the Iteris Performance Measurement System (PeMS) deployment databases.
- **L33 Weather Station to Section Mapping:** This dataset represents an input to the SHRP2 Project L33 raw data processing. It provides a mapping of each weather station to the Project L33

analysis sections. These data were processed according to the Project L03 methodology in order to generate travel time reliability model inputs.