

SHRP 2: Project L07- Evaluation of Cost-Effectiveness of Highway Design Features

Overview

This project focused specifically on design treatments that can be used to improve travel time reliability. The objectives of this research were to (1) identify the full range of possible roadway design features used by transportation agencies to improve travel time reliability and reduce delays from key causes of nonrecurrent congestion, (2) assess their costs and operational and safety effectiveness, and (3) provide recommendations for their use and eventual incorporation into appropriate design guides.

This research generated two companion products that allow transportation agencies and professionals to apply these research findings effectively in daily practice. These products are the Design Guide for Addressing Nonrecurrent Congestion, which is a catalogue of the design elements and their associated use information, and the Analysis Tool for Design Treatments to Address Nonrecurring Congestion, which is a tool to execute the various analysis procedures and models to measure the effectiveness of a design element on travel time reliability.

Data Sets

1. **California-Section-Location-Data.csv** – This dataset provides a description of the California freeway sections used for the study; corridors covered include I-5, US-50, CA-51, CA-65, I-80, CA-99, CA-113 and CA-160.
2. **caSpeedVolumeLOSData1.csv** – This dataset provides the speed, volume and Level of Service (LOS) on each California freeway section; corridors covered include I-5, US-50, CA-51, CA-65, I-80, CA-99, CA-113, and CA-160.
3. **Kansas-Section-Location-Data.csv** – This This dataset provides a description of the Kansas freeway sections used for the study; corridors covered include I-35, I-435, I-635, I-70, K-10 and US 69.
4. **ksSpeedVolumeLOSData1.csv** – This dataset provides the speed, volume and Level of Service (LOS) on each Kansas freeway section; corridors covered include I-35, I-435, I-635, I-70, K-10 and US 69.
5. **Minnesota-Section-Location-Data1.csv** – This dataset provides a description of the Minnesota freeway sections used for the study; corridors covered include I-35, I-94, I-35E, I-35W, I-394, I-494, I-694, MN-05, MN-36, MN-55, MN-62, MN-77, MN-100, MN-610, US-10, US-12, US-52 and US-169.
6. **mnSpeedVolumeLOSData1.csv** – This dataset provides the speed, volume and Level of Service (LOS) on each Minnesota freeway section used for the study; corridors covered include I-35, I-

94, I-35E, I-35W, I-394, I-494, I-694, MN-05, MN-36, MN-55, MN-62, MN-77, MN-100, MN-610, US-10, US-12, US-52 and US-169.

7. **Missouri-Section-Location-Data.csv** – This dataset provides a description of the Missouri freeway sections used for the study; corridors covered include I-29, I-35, I-435, I-470, I-670, I-70, US 50 and US 71.
8. **moSpeedVolumeLOSData1.csv** – This dataset provides the speed, volume and Level of Service (LOS) on each Missouri freeway section used for the study; corridors covered include I-29, I-35, I-435, I-470, I-670, I-70, US 50 and US 71.
9. **Washington-Section-Location-Data1.csv** – This dataset provides a description of the Washington freeway sections used for the study; corridors covered include I-5, SR-18, I-90, SR-167, I-405, SR-520, SR-525 and SR 599.
10. **waSpeedVolumeLOSData1.csv** – This dataset provides the speed, volume and Level of Service (LOS) on each Washington freeway section used for the study; corridors covered include I-5, I-90, I-405, SR-18, SR-167, SR-520, SR-525 and SR-599.