

Document Summary

SHRP 2 L02: Establishing Monitoring Programs for Mobility and Travel Time Reliability

ITRE at North Carolina State University

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Summary of the Work

The SHRP 2 L02 project is being carried out to “develop system designs for programs to monitor travel time reliability and to prepare a guidebook that practitioners and others can use to design, build, operate, and maintain such systems.” During Phase I of the project, interviews were conducted with various agencies to understand their existing practices and future interests related to travel time reliability. The guidebook includes discussions about what reliability is, how to measure it, what data to collect, how to prepare the data for use, how to conduct a reliability analysis, and what to expect. These discussions are intended to help agency staff identify functionalities they would like in a monitoring system or to learn new functionalities that can be implemented using a current system. The guidebook also describes the analytical techniques and system functional specifications for developing a reliability monitoring system. The guidebook provides guidance about the data collection, data management, computational engine, and management of a travel time reliability monitoring system. Case studies are presented to show how the functionalities can be implemented using data feeds from five locations in the United States. Use cases provide a comprehensive review of the types of reliability questions that might be posed and how to address them.

Applied to Practice

The guidebook is written as a resource for transportation agency personnel to use to identify their potential needs for a travel time monitoring system and to develop a functional specification for a system to meet those needs. The guidebook is intended to help agencies develop a new monitoring system by outlining potential functionalities and providing instructions about how to create such a system. The guidebook does not present an exhaustive list of the functional features that ought to be included in a monitoring system but it does identify similarities among the necessary data for specific uses so that agencies can expand the functionality of their systems.

Related Work

The SHRP 2 L02 project deliverables contain information about user needs from stakeholder interviews completed as part of the SHRP 2 L11 project. The guidebook also includes a list of recent National Cooperative Highway Research Program (NCHRP) projects that have explored the effectiveness of various operational improvements. In addition, reference lists are included.

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