Background / Overview

The key to making sound investment decisions to improve safety and operations of roadways requires access to reliable and accurate data. More specifically, with the passage of SAFETEA-LU, safety has been elevated to level equal to other core funding programs. In general, agencies have had good pavement records, while the safety management systems for tracking and mitigating traffic hazards have been more reactive than proactive. With the increased funding levels in safety, requires better mechanisms to identify, track, mitigate and evaluate traffic safety engineering projects.

Current National Practices

There are a variety of methods agencies have taken to improve the quality of traffic safety data. One example of a large scale project is TRaCS.

TraCS is a software tool developed by the Iowa DOT to improve its safety data collection processes available as a National Model Program resource to interest agencies. TraCS, a suite of data collection software applications for safety management combines seamless messaging and reporting under one easy-to-use graphical user interface. The customizable TraCS solution provides the foundation on which an agency can build a data collection tool, based upon their unique needs and requirements.

Wisconsin is a TRaCS partner state, but roll-out of the program will be done over a long time span with significant investment.

Other methods for state DOTs have taken relates to improved access to existing data. Many states have made safety data available through password-protected internet pages.

Current Wisconsin Practices

WisTransPortal
To help meet a variety of traffic operations and safety analysis needs such as safety studies, traffic flow studies, and real-time freeway operations, the Wisconsin DOT has partnered with the Wisconsin Traffic Operations and Safety Laboratory to develop a data management system (WisTransportal) to facilitate continuous collection and archiving of transportation operations data. WisTransportal capabilities include integration, management, analysis, and dissemination of real-time and historical traffic operations and safety data through a centralized database and communications infrastructure.

The data archiving component of WisTransportal consists of automated services that connect to various data sources. The main data elements have been developed in the first phase of the project

- Crash data
- Freeway management system traffic data
- Planning count station traffic data

- Real-time video and incident data
- Lane and ramp closure data
- Computer Aided Dispatch (CAD) traffic incident data (under development)
- Road weather information

Crash Data Export Facility Highlights
- High Level Crash Data Query Interface
- Roadway / Intersection Query Refinement Tool
- Online Query Results Page (HTML Format)
- Data Download Tool (CSV Format)

Intersection Safety Evaluation Tool (ISET)
- Provide WisDOT with Tool to Efficiently Use Existing Intersection Crash Data for Safety Analysis
- Compare Crash Rates and Percentages at One or More Intersections by Combinations of Intersection Characteristics and Geometric Features
- Complete Three Levels of Analysis - Minimum, General, or Specific
- Seven Excel Worksheets for Data Input, Viewing Results, and Documentation
- User Selectable Safety Measure Thresholds
- Intersection Database from Intersection Crash
- Summary Statistics for Wisconsin Projects (2001-2003)

Technical Issues

- Data Reliability
- Mapping Standards and Plotting Methods
- Intersection Crash Mapping Tools
- Use of Google Maps
- Best Practices for evaluating improvements

Additional Resources
- Wisconsin Crash Facts: http://www.dot.wisconsin.gov/safety/motorist/crashfacts/
- Wisconsin Crash Outcomes Evaluation System (CODES): http://www.chsra.wisc.edu/codes/default.htm
- Accessing Crash Data via WisTransportal (Public Agencies): http://transportal.cee.wisc.edu/
- WisTransportal Point of Contact, Dr. Steven Parker, sparker@engr.wisc.edu

Wisconsin Traffic Operations and Safety (TOPS) Laboratory   **www.topslab.wisc.edu**
Institute of Transportation Engineers-Wisconsin Section   **www.itewisconsin.org**

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