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The mission of Iowa's LTAP:

To foster a safe, efficient, environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, thus improving the quality of life for Iowans.

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Advantages of TraCS over traditional reporting

What is the advantage of TraCS over traditional crash data reporting? Electronic reporting such as that used by TraCS saves time, eliminates data entry duplication, and greatly improves data quality.

Before TraCS, reporting using paper methods often took 12 to 18 months from crash date for crash data to be input, cleaned up, and available for analysis. Using TraCS, the data are in a usable electronic database in as little as eight hours.

TraCS success in Iowa

TraCS was developed by the Iowa DOT, with support from the Iowa Department of Public Safety, FHWA, National Highway Traffic Safety Administration, Federal Motor Carrier Safety Administration, and others. CTRE developed the crash location component of the software package.

Within the state, 213 agencies—including 156 police departments, 55 sheriffs' offices, the Iowa State Patrol,

and Iowa DOT motor vehicle enforcement officers—use TraCS. Each year in Iowa, about 115,000 citations (20 percent), 50,000 DOT inspections (100 percent), and 30,000 crash reports (55 percent) are completed using TraCS.

Cross-country customization

As a key component of the National Model, TraCS has also been adapted for use outside the lead state of Iowa. TraCS is currently being used in 19 states plus the Virgin Islands.

TraCS has successfully migrated to other states because the software is designed to be customizable. As additional states decide to use TraCS, they design and create their own state or local forms as needed.

For more information

For more information, contact Mary Jensen, TraCS program manager, 515-237-3235, mary.jensen@dot.state.ia.us, or visit www.dot.state.ia.us/natmodel/. •

Optimizing traffic signal phases for safety

USING INSTITUTE of Transportation Engineers (ITE) formulas to calculate the duration of yellow and all-red traffic signal phases may help reduce crashes at intersections.

Generally, a yellow signal phase should be followed by a brief period in which all signals at the intersection are red. This allows motorists entering the intersection on green or yellow plenty of time to clear the intersection before the signals for cross traffic turn green.

But just how long should the yellow and all-red phases last?

Traffic engineers traditionally rely on MUTCD guidelines (Section 4D.10), various traffic studies, and their own best judgment to set signal phase durations. But the results are fairly subjective.

In contrast, formulas for phase duration in the *ITE Traffic Engineering Handbook* are based on quantifiable variables like vehicle approach speed, reaction time, and approach grade. Any traffic engineer using these formulas to calculate phase durations for a particular intersection should arrive at the same durations.

In 2000, Richard A. Retting, Janella F. Chapline, and Allan F. Williams (Insurance Institute for Highway

Safety) re-timed yellow and all-red traffic signal phase durations at several New York intersections according to ITE formulas. When they compared before-and-after crash rates, researchers discovered that reportable crashes at the re-timed intersections were reduced by eight percent. In addition, crashes involving pedestrians and bicyclists were reduced by 37 percent relative to a control group of intersections.

For more information

See the Insurance Institute for Highway Safety's April 28, 2001, issue of *Status Report*, www.hwysafety.org/sr.htm. For a copy of Retting's report, "Changes in Crash Risk Following Re-Timing of Traffic Signal Change Intervals," write to Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201.

For more information on the ITE recommendations for signal timing, consult the *ITE Traffic Engineering Handbook (5th Ed.)* pp. 480–482. This publication is available on loan from the Stan Ring Memorial Library, Item P 792. Contact Jim Hogan, library coordinator, 515-294-9481, hoganj@iastate.edu. •