

SHARING DATA AND TARGETING RESOURCES TO SAVE LIVES

OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

Objective

Early in the 21st Century, Ohio was experiencing an average of 380,000 crashes and 1,400 fatalities annually. ODOT redoubled its efforts to drive down the numbers. To accomplish this, the Department established the following ambitious goals:

- Reduce the crash fatality rate to less than one fatality per 100 million vehicle miles traveled (VMT);
- Reduce motor vehicle crashes by approximately 40,000 statewide (a 10 percent reduction from the 2002 base-line), and rear-end crashes by approximately 25,000 (25 percent reduction); and
- Target and implement all low-cost, short-term safety solutions, all medium-cost improvements, and 80 percent of the high-cost improvements at high-crash safety locations in the annual safety and congestion work plan.

“It all comes down to communicating and using the data to set priorities. Our relationship with the Department of Public Safety as well as all the safety stakeholders from MPOs to local governments has improved dramatically because we are now sharing the data and targeting our resources to the highest priority areas. The result is a safer Ohio transportation system that not only utilizes engineering solutions but also enforcement and education countermeasures.”

*Jennifer Townley,
Office of Systems Planning and Program Management,
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The Department succeeded in achieving these remarkable targets through organizational changes, establishing key policy positions, leveraging partnerships, and the effective use of data to identify problems and monitor progress on solutions.

Approach

The first task ODOT undertook was to elevate the importance of safety. At ODOT, like many DOTs, safety efforts in the past were under the Office of Traffic Engineering. To elevate the importance of safety, the Department's Executive Management created a high-priority Project Management Office that reports directly to top officials. This structural change resulted in some notable improvements:

- Safety-related projects were assessed and prioritized from a statewide strategic viewpoint but maintained active involvement of the Department's Districts;
- Identification of rural freeway and nonfreeway safety-related projects were based on crash rate, frequency, and severity;
- Urban safety-related projects (freeway and nonfreeway) were identified under a safety “hot spot” program;
- Thresholds were set to address the highest percentage of crashes on the smallest percentage of the system; and
- Good ideas and best practices were shared across the state.

As the program evolved, the department wisely realized that safety and congestion are too interrelated to address separately and created the Office of Safety and Congestion to manage both problems in 2004.

Resources

Another key element in the success of ODOT's safety program has been the use of data. Data are used to identify safety-related projects, and to follow-up and monitor results. In the past crash records and data, gathered and archived by the Ohio Department of Public Safety (ODPS) lagged as much as a year and a half behind. ODOT's

new goal of monitoring safety projects year-by-year presented a challenge. To solve the problem, a partnership was established at the executive level between ODOT and ODPS, which created a greater understanding between the agencies on why the data were critical for improving safety. The partnership also allowed ODOT to provide information technology (IT) support and potential solutions.

Crash data is now available on a structured weekly basis, and the lag time has been reduced to two weeks with some minor exceptions. This partnership also increased ODOT's ability to capture up to 80 percent of all crashes (on state routes and local streets) across the entire state.

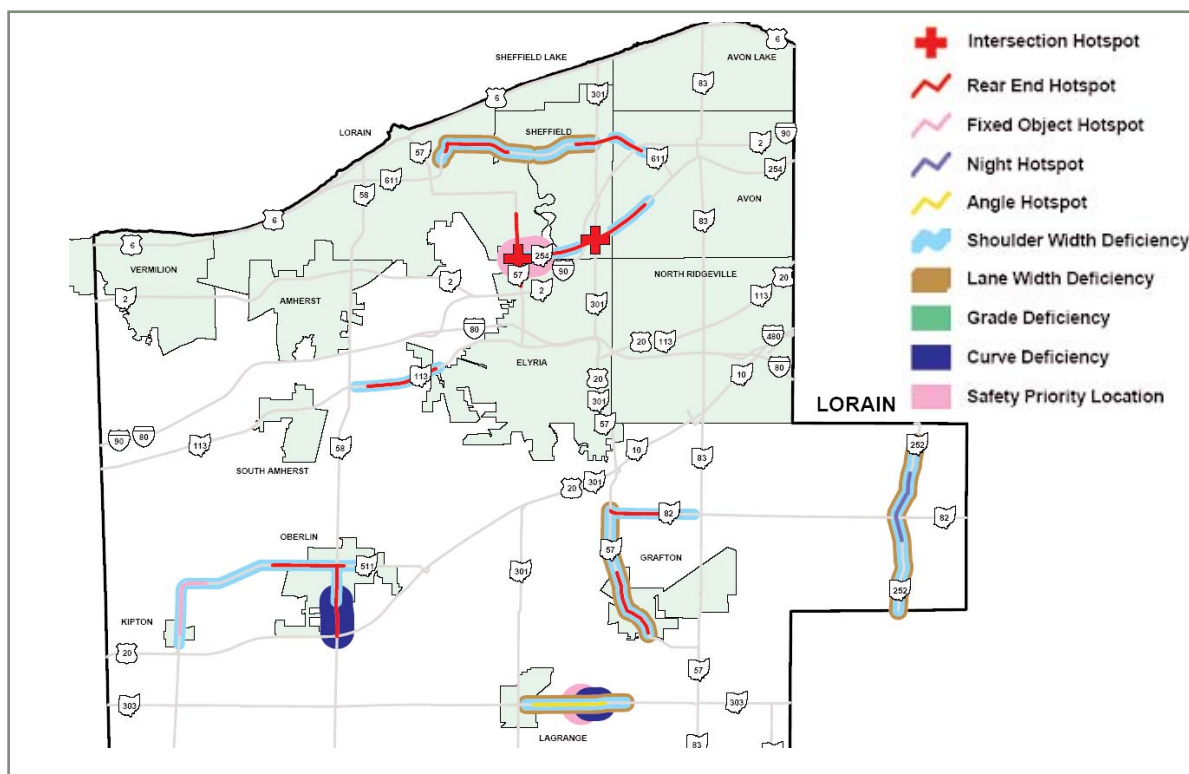
Additional data were obtained through a close working relationship between the Safety Project Management Office and the Department's Office of Technical Services (OTS). OTS collects congestion data through an annual count program, information provided by permanent traffic recorders, and from the state's two Freeway Management Systems. To assist local municipalities and the Ohio County Engineer's Association in their data collection efforts, ODOT provides enhanced data tools such as the Location-Based Response System (LBRS). Information on LBRS can be found at <http://oit.ohio.gov/SDD/ESS/Ogrip/LBRS.aspx>.

Given the importance of data, ODOT's Safety Program Manager developed a series of safety and congestion analysis tools for use in the Central Office and the Districts to streamline the work required to achieve the safety goals and respond to new requirements from the Safety Congestion Work Plans. One such tool is the Crash Analysis Module, an Access and Excel-based series of programs available through ODOT's intranet that conducts standardized safety analyses. This process, which in the past could have taken days, now takes minutes. Other features include the ability to chart and graph the analysis; view video of the segment; access straight line diagrams and pictures of the accident report; and other elements. An example of the type of visualization that can be provided through this tool is shown in Figure 1. This figure shows how road conditions and crash data can be combined in a single map or graphic to provide a strong visual connection between roadway deficiencies and crash rates.

“Once Ohio’s traffic safety partners adopted the national goal of one fatality per 100 million VMT by 2008, the need for timely, accurate, and reliable data became obvious. ODPS has worked hard to improve the data collected and shorten the time it takes to deliver it back to our partners. ODOT is to be commended for their diligence in locating our crashes, no matter where they occur. As a result, decision-makers at all levels are better able to attack their most serious problems.”

Lorrie Laing, Governors Highway Safety Office, Department of Public Safety

Figure 1. Relating Crash Data to Roadway Attributes



Access to the data allowed the safety program leaders to successfully push for increased safety-related funding. In 2004 ODOT nearly doubled the annual spending on high-accident, spot safety locations from \$35 million to \$65 million and allocated \$15 million for short-term, low-cost countermeasures which could be initiated almost immediately. Through heavy investment in data and safety tools, ODOT has already achieved many of the new safety requirements of the 2005 Federal transportation bill.

Another component of the program's success comes from active partnerships with Metropolitan Planning Organizations (MPOs) and other key local municipalities. As a home rule state, Ohio faces a number of challenges to strategic and statewide policy implementation. ODOT realized that to achieve their goals, a structured mechanism to actively involve local stakeholders had to be developed. A program similar to the statewide Safety and Congestion Work Plan was developed as a requirement for all MPOs.

Currently, ODOT and DPS are conducting a series of safety conscious planning workshops with each MPO where local elected officials and other safety stakeholders are briefed on the overall program, the safety problems within their region, the requirements for the local Safety and Congestion Work Plan and ODOT's safety program funds. MPOs are provided a required format for the Work Plans but have the flexibility to develop their own prioritization process using local data. A parallel effort has been implemented to reach the townships and counties not included in the MPO boundaries.

Outcomes

The results speak for themselves. From 2002 to 2003 Ohio experienced a 10 percent decrease in the total number of motor vehicle crash fatalities and moved from 17th in the nation to 9th.

ODOT continues to increase safety's role in their overall planning process by implementing programs and processes developed by the Project Management Office of Safety across all planning modes and through integration into highway safety of the 4E's – engineering, enforcement, education, and emergency medical services. This has led to safety program funding that is goal driven and supported by objective data that determines statewide priorities.

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Best practices are being identified and documented by the Transportation Safety Planning Working Group (TSPWG). For more information go to tsp.trb.org or www.fbwa.dot.gov/planning/SCP.

