
Intelligent Transportation Systems Lab
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WHAT IS THE CSTSP?

In early 2003, the City of Portland Office of Transportation (PDOT) launched the Community and School Traffic Safety Partnership (CSTSP). The CSTSP is a response to the strong public demand for services that protect neighborhoods from the negative impacts of traffic and provide a safe environment for all modes of travel. It is a community-based, coalition-led effort to improve Portland’s traffic safety. The CSTSP calls for targeted traffic safety investments in three major program areas reducing crashes associated with driver error, improving pedestrian and bicycle safety, and enhancing safety around schools. Efforts in each of these major areas have a balanced approach, employing engineering, education, and enforcement strategies. As part of the program, PDOT envisions a comprehensive annual evaluation of the CSTSP, including development of performance measures to both track effectiveness and guide future investments. The mission of the CSTSP is to improve traffic safety for all modes; to create a conducive environment that supports increased walking, biking, taking transit, and responsible motorist behavior; and to enhance neighborhood livability by implementing strategic, collaborative, and sustainable traffic safety improvements.

WHAT IS PORTLAND STATE’S ROLE?

As a member of the Community and School Traffic Safety Partnership, PSU’s Intelligent Transportation Systems (ITS) Lab has provided academic research and data analysis services to the City of Portland Office of Transportation and its partner agencies. Since Fall 2005, representatives from PSU have staffed Technical Advisory Committee (TAC) meetings for:

• Safe Routes to School
• Pedestrian and Bicycle Safety
• Reducing Driver Error

as well as the Traffic Safety Coordination Council meeting. PSU provides leadership, project management, research, evaluation design, data collection, and statistical expertise via an Intergovernmental Agreement with PDOT.

During the 2005-2006 academic year, the PSU team focused on two projects for the Reducing Driver Error TAC.

DUII STRATEGIC ANALYSIS

Reducing incidents involving impaired driving or driving under the influence of intoxicants (DUII) remains a top priority in Oregon. National Highway Safety Administration (NHTSA) reports that a total of 6,000 crashes in Oregon involved alcohol in 2000. These crashes killed 188 and injured an estimated 1,900 people. As part of the initiative to reduce alcohol-involved incidents, DUII experts in Portland have formed a DUII Working Group as part of the CSTSP program to study and document best practices, and develop a strategy to reduce impaired driving and alcohol-involved crashes.

Fatal crash rate versus fatal alcohol-involved crash rate in Oregon by hour of day. The figure shows higher alcohol-involved crashes in the night hours.
In 2005-2006, researchers from PSU’s ITS Lab were enlisted to conduct academic research to identify national best practices, analyze general alcohol-involved crash trends, and interview members of the DUII Working Group to identify current efforts in the City of Portland and Multnomah County that address reducing impaired driving.

The work is ongoing, but PSU analysis has found that in Oregon, Multnomah County, and the City of Portland, the majority of alcohol-involved crashes occurred during the summer months, on weekends, between the hours of 6 PM and 3 AM, and involved males and drivers between 16-30 years of age. Overall 10 year trends indicate that while the number of crashes, including alcohol-involved crashes are falling, percentages of all crashes that are alcohol-involved are rising, especially for fatal crash events. Interview results indicated a need to address underage drinking, increase the impact of penalties, increase program funding, develop performance metrics for evaluation purposes, increase awareness of DUII as a problem, and improve overall program efficiency.

Full details on the progress report are available at: http://www.its.pdx.edu/cstsp/duii.php

S.A.F.E. CORRIDOR ANALYSIS
Portland’s experiment with targeted traffic enforcement - Strategic and Focused Enforcement (SAFE) - began in 2000 by identifying priority intersections based on citizen complaints. In 2003, PDOT identified intersections based on crash frequency that were aggregated into a series of 30 SAFE corridors. These corridors represent a small fraction of the Portland road network but a majority of the city’s motor vehicle crashes. Maps of the corridors were created and distributed to law enforcement. All precincts have been encouraged to prioritize these areas but there has not been a coordinated, continuous effort to maintain enforcement in these corridors. The ITS Lab collaborated with the Police Bureau and PDOT to produce a report in June 2006 outlining a new, more rigorous method for identifying high-crash corridors, as well as developing suggestions for how this program might be more effectively implemented in the future. These suggestions include:

• Gather additional data using continuous arterial vehicle detection as well as a new PDA ticketing system
• Instituting higher traffic fines within SAFE Corridors
• Installing signage notifying drivers of high-crash zones

Full details on this report are available at: http://www.its.pdx.edu/cstsp/safe.php

New selection methodology identified the road segments with the highest crash rates in their classifications (black dots above). Some of the original SAFE Corridors (orange lines) coincide with these findings, but there are often inconsistencies between them that deserve new consideration.

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