



SPR RESEARCH PROGRAM SECOND-STAGE PROBLEM STATEMENT FY 2008-09

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I. PROBLEM NUMBER

TS-09-03

II. PROBLEM TITLE

Improving Commercial Motor Vehicle Safety in Oregon

III. RESEARCH PROBLEM STATEMENT

The most recent available data show that the crash rate for commercial motor vehicles (CMVs) in Oregon was .700 per million vehicle miles in 2005, less than half the national rate of 1.641. However, the gap between the Oregon and national rates has been narrowing. Nationally, the CMV crash rate *declined* 18% between 2001 and 2005, while Oregon's rate *increased* 17% over the period. Put another way, the number of truck crashes in Oregon has grown over four times faster than the number of truck miles traveled since 2000. Reversing this trend is a top priority of ODOT's Motor Carrier Transportation Division (MCTD).

MCTD pursues its safety mission through a number of programs, including the Motor Carrier Safety Assistance Program (MCSAP). MCSAP is a federal-aid initiative administered through the Federal Motor Carrier Safety Administration (FMCSA). To secure the 80% FMCSA match for the program, MCTD must submit an annual plan detailing objectives, strategies, and actions intended to improve CMV safety in Oregon. The plan must address five national program elements (driver and vehicle inspections; traffic enforcement; compliance reviews; public education and awareness; and data collection). The Oregon plan for 2008 also includes four state-specific objectives: 1) reducing speed-related truck-at-fault crashes on the state's major freight routes; 2) conducting a relatively higher rate of inspections of passenger carrying CMVs; 3) achieving a higher rate of seat belt use among CMV drivers; and 5) reducing the number of weather-related truck-at-fault crashes along the Siskiyou Summit corridor of I-5 and the Emigrant Hill, Ladd Canyon, and Nelson Point-Weatherby corridors of I-84 (ODOT, 2008; 2007).

FMCSA designed MCSAP to be data-driven and results-oriented. States have considerable flexibility in directing resources and effort within their plans and programs to achieve the greatest improvement in safety. In turn, federal matching support includes an incentive component linked to state MCSAP performance. As a result, objectives, strategies, and practices vary among state MCSAPs. Oregon's MCSAP is distinguished by its greater emphasis on drivers, reflecting the state's CMV safety experience and research identifying driver actions as the critical reason for 87% of large truck crashes (FMCSA, 2007). Generally, the activities pursued within the Oregon MCSAP involve practices that have been shown to be successful in improving CMV safety (Cambridge Systematics and MaineWay Services, 2006; TRB, 2007). However, if the state's increasing trend in truck crashes can be stemmed or reversed by adopting new practices, or altering practices currently employed, Oregon must identify, adopt, and/or adjust those practices to protect the motoring public. An examination of the practices of other state MCSAPs, especially those with low or declining truck crash rates, is needed to identify opportunities to improve CMV safety in Oregon.

References

Cambridge Systematics, Inc. and MaineWay Services. 2006. *CTBSSP Synthesis 10: Alternative Truck and Bus Inspection Strategies*. Washington, DC: Commercial Truck and Bus Safety Synthesis Program, Transportation Research Board, National Research Council.

FMCSA. 2007. *The Large Truck Crash Causation Study*. Washington, DC: Analysis Division, Federal Motor Carrier Safety Administration, U.S. Department of Transportation.

ODOT. 2008. *Oregon Commercial Vehicle Safety Plan, MCSAP FFY08*. Salem: Motor Carrier Transportation Division.

ODOT. 2007. *2007-09 Safety Action Plan to Reduce Truck-at-Fault Crashes*. Salem: Motor Carrier Transportation Division.

TRB. 2007. *Transportation Research Circular E-C117: The Domain of Truck and Bus Safety Research*. Washington, DC: Transportation Research Board, National Research Council.

IV. RESEARCH OBJECTIVES

The goal of the proposed project is to identify successful CMV safety program practices that are not currently employed in Oregon. MCTD seeks time-tested practices that can be implemented in Oregon with a reasonable expectation of reducing CMV crashes in short order. The objectives for achieving this goal include documenting and evaluating practices employed elsewhere, mainly represented in other states' MCSAP Commercial Vehicle Safety Plans, but also in goal-relevant research sponsored by FMCSA, other states' SPR research programs, TRB's cooperative research programs, and UTC research programs.

V. WORK TASKS, COST ESTIMATE AND DURATION

The proposed project would include the following tasks:

1. Review literature on CMV safety practices. Estimated cost: \$15,000
2. Document and analyze CMV safety practices and resource allocations represented in other states' current MCSAP Commercial Vehicle Safety Plans. Identify states with low or declining CMV crash rates and assess commonalities among their safety practices. Estimated cost: \$20,000
3. Interview or survey targeted states' MCSAP managers to identify their largest safety challenges and the practices they have found to be most effective in addressing those challenges. Estimated cost: \$20,000
4. Assess the feasibility of implementing identified new or revised practices in Oregon's MCSAP. Estimated cost: \$25,000
5. Prepare a final report covering tasks 1-5 and recommended courses of action. Estimated cost: \$5,000
6. ODOT Research Unit staff time for project coordination and management. Estimated cost: \$5,000

Estimated project duration: 12 months

Estimated project budget: \$90,000

VI. IMPLEMENTATION

The research findings will be used to revise or replace existing CMV safety practices employed in Oregon's MCSAP. These changes will be implemented through future MCTD Safety Action Plans and MCSAP Commercial Vehicle Safety Plans.

VII. POTENTIAL BENEFITS

The benefit from implementing new or revised practices identified by the project would be a net reduction of truck-at-fault crashes in Oregon. The benefit from reducing crashes could be monetized in terms of averted fatalities, injuries, and property damage (including shipment and timely delivery losses), as well as reductions in crash-related delay. Also, the benefit from implementation relates directly to ODOT's 2007-09 Key Performance Measure #6, which seeks to reduce large truck-at-fault crashes along with the preventable deaths associated with such crashes.

VIII. SUBMITTED BY

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IX. PROJECT CHAMPION

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