

FY 2009 RESEARCH PROBLEM STATEMENT

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IM-09-01 Traffic, Safety, and Environmental Implications of School Siting

PROBLEM (Description of need)

Oregon suffers from a dearth of data regarding the traffic congestion, student safety, and environmental effects of school siting, school design, and neighborhood design. Research outside Oregon reveals that:

- school-related travel can increase morning rush-hour traffic by as much as 30%;
- 50% of children hit by cars near schools are hit by cars driven by parents of other students;
- school location affects air emissions by influencing travel options (asthma rates among children ages 5 to 14 years have risen by 74% in the last 25 years);
- school site size and location can increase the distance between schools and neighborhoods served by them;
- long distances and poor walking environments are leading barriers to walking to school; and
- the percentage of students nationwide who walk or bike to school fell from 48% in 1969 to less than 16% in 2001.¹

These issues have gone largely unexamined in Oregon, despite the fact that state taxpayers now contribute \$143 million annually for student transportation. State investments in student travel – and in Oregon’s *Safe Routes to School* and *Bicycle and Pedestrian* programs – could be enhanced if the state had better information on the effects of school siting and school/neighborhood design on student travel behavior.

PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

- Gather baseline data on travel modes – walking, biking, riding by school bus, riding via transit, driving/being driven, carpooling, other – used by Oregon students to get to and from school;
- Examine the extent to which parents use state highways, especially during morning rush hours, to drive children to school, and describe the impacts of such usage;
- Examine the impact of several factors – school site size, location, and design as well as the quality of “walking environments” in/near school neighborhoods – on travel distance, travel behavior, and student safety;
- Identify potential school siting/design, walking environment, and other improvements that could: (1) reduce school-related traffic; (2) improve student safety; (3) alleviate harmful environmental and air-quality impacts associated with vehicular student travel; and (4) improve land use and transportation efficiencies.

BENEFITS

The information gathered through this research could: (1) help ODOT maximize the benefits of state-financed infrastructure improvements; (2) enable the state to monitor future trends in student travel; (2) suggest state policies that could encourage school siting/design practices that reduce student-related traffic congestion and accidents, cut energy costs, and alleviate environmental problems; and (3) help the state and school districts capture savings in student transportation budgets that could be used to enhance educational budgets.²

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Research Proposal-ODOT-school travel-12.13.07

¹ See *Travel and Environmental Implications of School Siting*, U.S. Environmental Protection Agency, October 2003, pp. 1 and 2, at http://www.epa.gov/livability/pdf/school_travel.pdf; *Safe Routes to School, National Highway Traffic Safety Administration*, 2002, p. 73, quoted in the *Oregon Supplement to the NHTSA Safe Routes to School Toolkit*; and *Wait for the Bus, How Low Country School Site Selection and Design Deter Walking to School and Contribute to Urban Sprawl*, South Carolina Coastal Conservation League, by Christopher Kouri, Duke University – Terry Sanford Institute of Public Policy, 1999.

² As an October 2007 report, *Yellow School Bus Blues*, by 1000 Friends of Maryland states, “School budgets are too tight to have scarce dollars disappear out of school bus tail pipes.” See <http://www.friendsofmd.org/data/School%20Bus.pdf>