

# FY 2010 RESEARCH PROBLEM STATEMENT

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ODOT Research Unit  
200 Hawthorne Ave. SE, Suite B-240  
Salem, OR 97301-5192

Office Phone: (503) 986-2700  
FAX Phone: (503) 986-2844

## TITLE ([more info](#))

The evaluation of microsurfacing as a maintenance option for deteriorating roadways.

## PROBLEM (Description of need) ([more info](#))

Many highways throughout Oregon are in need of preventative maintenance or resurfacing. Raveling, rutting, map cracking, and other pavement distresses result in the need for maintenance or rehabilitation. Current maintenance practices only allow for a limited range of solutions (thin-lift overlays, chip seals, or do nothing). Microsurfacing provides a thin, durable ski-resistant surface that extends the life of an existing pavement and reduces pavement deterioration.

Microsurfacing is a composite mixture of polymer-modified asphalt emulsion, 100% crushed aggregate, mineral filler (Portland cement, lime, or other additives), and water. Microsurfacing is a cold mix paving process that can result in a finished surface treatment of less than 1/2" thickness, or be used in multiple lifts as a leveling course. The typical design life for microsurfacing is 7 years.

## PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY ([more info](#))

Identify a rehabilitation project that exhibits pavement deficiencies that fit the characteristics of a good candidate for a microsurfacing project. Develop final plans and specifications using other state DOT or industrial standards for microsurfacing projects. Construct a microsurfacing project and evaluate the pavement performance, construction cost, and construction operations.

## BENEFITS [\(more info\)](#)

Microsurfacing has become increasingly popular throughout the United States, resulting in more experienced contractors and lower bid prices. Because the process utilizes asphalt emulsion and cold mix paving, several lane miles can be completed per day by a relatively small construction crew. And the material may be opened up to traffic in a matter of hours depending on weather conditions. Other states have experienced success using maintenance personnel to construct microsurfacing projects.

Microsurfacing can be placed in thinner lifts, faster and at lower initial cost than non-structural overlays. It also does not have the instability of common chip seals. Microsurfacing may be used to overlay both asphalt and concrete pavements, and it may be a good candidate for filling ruts caused by studded tires. Projects have been completed in other states on roadways ranging from low-volume rural roads to interstates.

## CONTACT INFORMATION:

Name <sup>1</sup> :	<input type="text" value="John Wolf"/>	Name <sup>2</sup> :	<input type="text"/>
Address <sup>1</sup> :	<input type="text" value="Preliminary Design Unit&lt;br/&gt;Region 1, Roadway"/>	Address <sup>2</sup> :	<input type="text"/>
Email <sup>1</sup> :	<input type="text" value="John.P.Wolf@odot.state.or.us"/>	Email <sup>2</sup> :	<input type="text"/>
Phone <sup>1</sup> :	<input type="text" value="503-731-8565"/>	Phone <sup>2</sup> :	<input type="text"/>

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Problem Statement Number: