

# FY 2009 RESEARCH PROBLEM STATEMENT

Use this form to submit a problem statement

barnie.p.jones@odot.state.or.us

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

PEA-09-04 The Oregon Boulevard Study: Transportation Approaches Supporting Infill Development

## PROBLEM (Description of need)

Cities across the U.S. that are struggling with congestion resort to remedies that are increasingly difficult to implement. Adding capacity is a more challenging proposition given limited land availability, greater environmental constraints, and fiscal barriers. Replacing individual trips with transit has seen limited success and can typically only be justified at greater levels of density than many communities currently support. Additionally, continued growth at the edges of metropolitan areas threatens valuable farmland and contributes to the social, environmental, and economic costs of sprawl. Alternatives that attract development to urban cores rather than edges are needed to accommodate projected urban growth throughout Oregon. Unfortunately, in most cities, land within the developed core is already dedicated to existing uses, including low-density subdivisions and commercial development adjacent to strip arterials. Multiway boulevards offer one possible but little studied alternative to the problem of congested arterials and edge growth in metropolitan areas. These streets, which are common in Europe, have several lanes of faster moving through traffic in the middle separated by medians from parking and access lanes on the sides. With local traffic traveling in the slow moving access lanes, these streets support a wider array of land uses than typical arterials. Ground level retail uses can take advantage of on-street parking in the access lanes. Residential uses are attracted to the park-like quality of the landscaped boulevards.

## PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

This study will investigate the transportation and land use potential of replacing the ubiquitous arterial with multiway boulevards. This is an applied research project that will examine the opportunities and constraints to converting an auto-oriented five-and six-lane arterial into a multiway boulevard with transit as a way of reducing congestion, improving pedestrian and automobile safety, and supporting more unified land uses. The study is designed to meet the Oregon Department of Transportation's Integrated Multi-modal priority area. Specifically, this study will examine the costs and benefits in terms of livability, sustainability, and environmental quality of converting arterials into multi-modal facilities that can accommodate through and local traffic, dedicated bus rapid transit, bicycles, and pedestrians. This is a two-part project that will begin with a study of existing arterials in the case study communities in order to analyze the potential for their conversion into multiway boulevards. It will also include an analysis of existing multiway boulevard precedents, followed by development of prototype sections and plans based on precedent studies indicating required right-of-way widths. These plans will be overlaid on the existing conditions and analyzed in terms of the impacts on existing buildings and parcels. Part II of the study will be an analysis of the proposals and will include calculations of added residential and commercial capacities and the development of a journal article and a presentation that describes the findings of the study.

## BENEFITS

The results of this study will address the potential for transforming arterials in two Oregon communities into multiway boulevards and a discussion of how these boulevards can reduce congestion and function as magnets for attracting residential and commercial capacity within existing Urban Growth Boundaries. Specific findings will include boulevard sectional characteristics and right-of-way requirements, property acquisition requirements (if needed) to obtain needed right-of-way, added residential and commercial capacities along the boulevard length (in terms of total dwelling units and commercial gross floor area), and concomitant reduction in land requirements at the urban edge as well as forecasted reductions in VMT and associated carbon dioxide emissions. In addition, financial projections will be completed that identify the costs of conversion and potential property tax revenue that results when mixed use development can be built along urban arterials. This will include a discussion of the possibility of using redevelopment bonds, paid for with the additional property tax increment, to fund construction. This could be an important new revenue source for Oregon transportation departments.

CONTACT PERSON:

FOR RESEARCH UNIT USE ONLY

Name, address phone number and e-mail  
Mark L. Gillem, PhD, AIA, AICP  
Department of Architecture, University of Oregon  
Eugene, OR 97403-1206  
mark@uoregon.edu (510.551.8065)

*NCHRP*  
*SPR*  
*POOLED FUND*  
*STATE*  
*OTHER*