

FY 2010 RESEARCH PROBLEM STATEMENT

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TITLE ([more info](#))

Determination of the impact of Light Electric Vehicles (LEV) on statewide transportation infrastructure and operations

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

"Sustainable Transportation: A Multimodal option for achieving Governor's Carbon Reduction Goals"

There are increasing numbers of LEV on public roadways. The LEV can range from gas powered golf carts to light electric vehicles. The electric vehicles are becoming much more common than the gas powered vehicles. These vehicles are increasing in number due to the increase in costs of petroleum based fuels, the number of active seniors, and the trend towards more sustainable transportation technologies that reduce green house gases. These vehicles are already in use on many college and industrial campuses and in gated communities in the US sunbelt. In Europe and Asia, these vehicles are increasing in number as an extended mobility and independence option of seniors and people with disabilities. The problem is to examine the impact of increasing numbers of LEV vehicles on the public road systems and multi-use paths in Oregon communities. There is strong evidence to suggest that these devices will become more mainstream, and may offer some congestion relief by being used on multiuse paths and to access public transportation. These devices do take up less road and parking space than cars but can still operate at speeds up to 35 MPH. The LEV are increasing in popularity in Oregon, but many communities are unprepared for the impact that these vehicles will have on infrastructure, land use, road safety and traffic operations.

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

1. Conduct a literature review that examines European, Japanese and North American sources to determine the impact of these vehicles in other regions where they are already in more common use, such as Japan, the Netherlands, Germany, and in the US Sunbelt senior and golf communities. The literature review will examine land use, policy, safety, licensing and permitting, infrastructure impacts; and impacts on pedestrians, mobility aids users and bike users who share the roadway or multi-use paths with LEV.
2. Examine existing Oregon and other state regulations as they currently pertain to LEV.
3. Develop a model that accounts for the costs and benefits of LEV. The model should include both disaggregate and aggregate approaches, and include considerations of safety and sustainability as well as added mobility and independence benefits of the operators.

BENEFITS ([more info](#))

1. The research results will assist ODOT and Oregon communities to establish planning, land use and operating policies associated with LEV to improve safety and sustainability goals of the state of Oregon.
2. The research is timely, and will permit ODOT and Oregon communities to be proactive rather than reactive towards the increase use of LEV as another mode that will promote increased sustainability for Oregonians.
3. The product of the research will be guidelines for Oregon communities to develop planning, land use and traffic operation policies for LEV. In addition, the research results may also provide direction for state regulators on licensing and permitting of the vehicles and the operators.
4. The research results would be added to the multimodal data warehouse for future policy and planning use.

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