



Florida Department of Transportation Research

Opportunities on the State Highway System to Generate Revenue or Offset Expenditures for the State of Florida
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The Florida Department of Transportation (FDOT) and many other transportation agencies are increasingly challenged by the shortfall in resources from traditional sources, especially fuel taxes. The current system of fuel taxes was conceived in the 1950s, but fuel tax revenues have not kept pace with the rate of expansion or maintenance needs of Florida's highway system. This has led to many cost-saving and revenue-earning ideas, including using the highway right-of-way (ROW) to generate revenue.

Revenue-generating projects on highways face many challenges, such as legal issues, technical feasibility, environmental considerations, impacts on stakeholders, and, often, whether they will actually produce a return on the investment. In this project, Florida International University researchers studied ROW value extraction projects. The researchers worked closely with FDOT to select types of projects most likely to be helpful and successful on Florida's highways and studied these options in detail, focusing on barriers and opportunities. They also developed decision-support tools, which FDOT can use in evaluating specific projects.

The researchers reviewed value extraction projects now on U.S. highways, diverse projects like energy production, carbon sequestration, electric vehicle charging stations, infrastructure siting, such as utilities or pipelines, LED lighting, natural resource extraction, and advertising and sponsorships. Energy production included solar photovoltaic (SPV) panels, wind turbines, or cultivating biomass for making alternative fuels. A number of departments of transportations (DOT) lease space over, under, or adjacent to highways for buildings, parking facilities, or cell towers.

FDOT identified three projects as most likely to succeed in Florida: SPV, LED lighting, and ROW cultivation. For each of these, the researchers prepared case studies of current practice and issues to be considered in implementation.



The right-of-way on Florida's thousands of miles of highways is an important and useful resource.

Though SPV is widely used, the study showed many obstacles to SPV on ROWs, primarily cost. Without incentives, SPV is too costly to install and maintain on the scale needed. However, SPV prices continue to decrease, and an improved partnering and political landscape make planning for SPV appropriate.

The researchers found LED lighting being pursued or implemented by several state DOTs. LED lighting is much more efficient than traditional lighting, with significant potential savings. As with SPV, prices continue to fall, and new research yields a wider variety of improved products.

ROW cultivation of hay or other crops presents several problems, mainly safety. Height and placement of crops can interrupt sightlines, and more slow-moving vehicles accessing roadways means more chances for collisions. Also, crops or nursery stock are attractive to wildlife, creating the possibility of more wildlife entering the roadway. Nevertheless, the right policies and procedures could make ROW cultivation viable.

This project is one of many in which FDOT pursues advances in technology and practice to produce a safer, more efficient, and cost-effective highway system for the people of Florida.

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For more information, visit <http://www.dot.state.fl.us/research-center>