

ROADSIDE RENEWABLES

EXPLORING ALTERNATIVE USES OF HIGHWAY RIGHT-OF-WAY TO REDUCE COSTS



U.S. Department of Transportation
Federal Highway Administration

Operating safe and reliable transportation networks costs money. Frequently, State Departments of Transportation (SDOTs) are under pressure to do more with less. Many SDOTs are using State-owned property to install renewable energy resources such as solar panels or wind turbines in the highway right-of-way (ROW). This can reduce electricity costs for lighting roads and powering maintenance buildings through net metering.

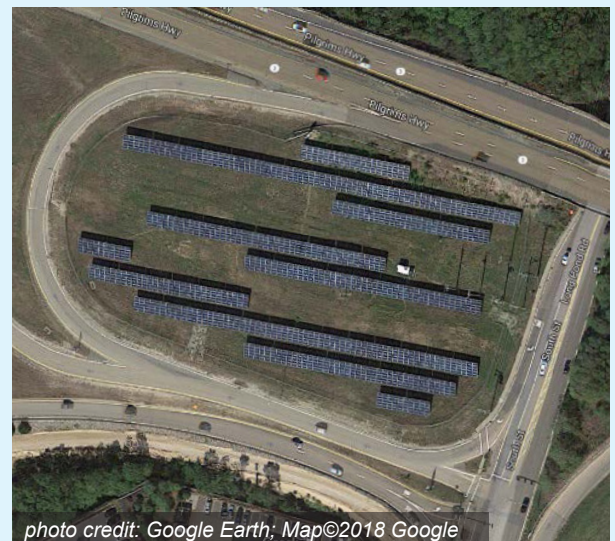
This innovative use of public land provides many benefits including:

- ▶ Saving money on electricity costs
- ▶ No up-front costs if using Power Purchase Agreement
- ▶ Funding from alternative sources such as public-private partnerships or third party owners
- ▶ Local green job market that enhances the viability of the renewable energy industry
- ▶ Reduced air pollution
- ▶ Increased energy security by diversifying energy generation and delivery methods

Several SDOTs have taken advantage of State and Federal incentives to install solar panels in the right-of-way and more are exploring the possibilities. Massachusetts, Utah, Vermont, Oregon, Georgia, and several other states have either operating solar installments or various pilot projects underway.

Massachusetts – MassDOT

- ▶ Eight solar array facilities online producing roughly 5.5 million MW annually
- ▶ Contractor finances, installs, and operates solar arrays
- ▶ Private sector partner takes tax incentives and sells electricity to MassDOT
- ▶ MassDOT buys back power at lower than usual rate
- ▶ Site is leased to the developer for 20-years
- ▶ No up-front State funding
- ▶ **First full year energy savings: \$442,500**



Utah – UDOT

- ▶ Solar panels at rest areas, on maintenance facilities, and on parking lot canopies
- ▶ Moving forward with a power purchase agreement for solar in the ROW
- ▶ Goal of 100% renewable energy at or below current electricity rate



photo credit: VTrans

Fairhaven, VT, Welcome Center

Vermont – VTrans

- ▶ Solar projects on top of parking garages, at the airport, and at a welcome center, totaling 330 kW of capacity
- ▶ Developed a Solar Plan

Oregon – ODOT

- ▶ First large scale highway ROW solar project in US
- ▶ Partnered with utility company
- ▶ Developed a [guidebook for Departments of Transportation to develop solar photovoltaic systems in the ROW](#)



photo credit: Oregon DOT

I-5 and I-205



photo credit: Oregon DOT

Baldock Rest Area on I-5



photo credit: The Ray

I-85 Visitor Information Center



Georgia – GDOT

- ▶ The Ray on I-85, a “living laboratory” for sustainable transportation innovations
- ▶ Free Solar EV charging station
- ▶ Wattway solar road
- ▶ Planning 1 MW solar ROW project

The Federal Highway Administration (FHWA) has several resources to help from regulatory requirements to design to project examples. Here are links to some of the most recent information.

- ▶ [FHWA Renewable Energy in Highway Rights of Way Peer Exchange Reports](#)
- ▶ [Renewable Energy Generation in the Highway Right-of-Way Briefing Book](#)
- ▶ [Quick Guide: FHWA Requirements for Renewable Energy Projects in Highway Right-of-Way](#)
- ▶ [Sustainable Rest Area Design and Operations](#)
- ▶ [Highway Renewable Energy: Photovoltaic Noise Barriers](#)

LEARN MORE

FHWA's Website [Renewable Energy in the Right-Of-Way](#)

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