

TE Corner



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TE and National Wildlife Refuges: Increasing Access

By Kyle Lukacs

Over 550 National Wildlife Refuges (NWR) across the United States protect over 145 million acres of land and water. The U.S. Fish and Wildlife Service (USFWS) mission is to restore, conserve, and manage these areas that are home to more than 280 threatened and endangered species. NWRs have helped 11 species to recover to the point that they have been removed from those lists.

To help preserve these beautiful areas, it is ideal for visitors to access refuges via pedestrian paths, bicycle trails, or public transportation. A [study](#) by the Volpe National Transportation Systems Center with a grant from the Paul S. Sarbanes Transit in Parks Program has examined refuges to determine which contain these transportation options and which have high potential for building these amenities.

The study reviewed 142 refuges and ranked each on its proximity to urban areas, trail distance, trail quality, transit distance, and transit quality. 12 refuges have two or more trail connections and 23 refuges have one connection. Nathan Caldwell with the USFWS Service expects that, "increased transportation options to and within NWRs will enhance visitor experiences by getting them out of their vehicles, and also providing access to NWRs for travelers and local residents without cars."

The Minnesota Valley NWR near Minneapolis and San Diego Bay NWR received the top scores in both the transit and trail categories. Big Muddy National Fish and Wildlife Refuge (MO) and Upper Mississippi National Fish and Wildlife Refuge – Savannah District (IL) also had top scores. All four of these refuges have trails within the refuge and received the top trail access quality rating of 5.

All of these connections through trails help to increase accessibility for visitors while decreasing their impact. TE funds have been used to open four NWRs to public use for the first time and to increase access to several other NWRs. Nestucca Bay NWR in Oregon is



Nestucca Bay National Wildlife Refuge in Oregon

one of these refuges. TE funds helped pay for an entry road, parking lot, trail, and deck overlooking the Oregon coast and the Nestucca River Valley.

Steigerwald Lake NWR in Camas, Washington used TE funds to construct interpretive sites, extend existing trails, and to construct an interpretive Center. Steigerwald Lake, part of the Ridgefield NWR Complex scored highly for trail connections because of the Columbia River Dike Trail that runs along the riverside boundary.

In Northhampton County, on the Eastern shore of Virginia, TE funds were transferred from the Virginia DOT to the Eastern Shore of Virginia NWR. A 3-mile extension of a rail-trail was completed from Kiptopeke State Park to the Refuge's visitor center and is now open to the public. This project also highlights the efficiency of transferring funds to other federal agencies.

Under Section 132 of Title 23 of SAFETEA-LU, states are allowed to transfer the federal share of projects costs to other federal agencies. This saves a state's DOT time and money as another agency becomes responsible for administrative costs. Additionally this practice raises the obligation rate as the total apportionment for a state is reduced. TE funds will continue to play an important role in developing livable National Wildlife Refuges throughout the country.

Thank you to Haley Peckett and Michael Clark from the Volpe Center and Nathan Caldwell from the USFWS.

Job Creation Benefits of Building Bicycle and Pedestrian Facilities

By Kyle Lukacs

A new [study](#) by the Political Economy Research Institute (PERI) at University of Massachusetts Amherst quantifies the relative job-creation benefits of constructing bicycle and pedestrian facilities. The study's author, Heidi Garrett-Peltier, also contributed to a January 2009 report on how infrastructure investment supports the U.S. economy. The new study was funded by bicycle advocacy leaders [America Bikes](#) who have an interest in its conclusions.

The study analyzed data from 2008 from the City of Baltimore broken down by engineering, construction, and materials costs for projects. Using an input-output model, they calculated direct, indirect, and induced jobs for several types of infrastructure projects. The five categories compared in the study are pedestrian projects, bike lanes (on-street), bicycle boulevard (planned), road repairs and upgrades, and road resurfacing. According to the study on-street bicycle lanes created the most jobs with 14.4 total jobs per \$1 million spent. On the other end of the spectrum is road resurfacing which created 6.8 total jobs per \$1 million spent.

On-street bicycle lanes per \$1 million spent create 7.9 direct jobs, 2.5 indirect jobs, and 4.0 induced jobs. Direct jobs are those created directly from the project, construction workers and managers for example. Indirect jobs are created in the supply chain or through backwards linkages and support industries from sign making to asphalt producers. Induced jobs are the result of direct and indirect workers spending their income. The study explains that building bicycle and pedestrian facilities creates more jobs because of the greater labor-intensiveness of the projects. Road resurfacing projects require a larger financial commitment to materials than labor. More jobs are created as a result of this labor.

The industry most affected by investment in pedestrian and bicycle infrastructure is the non-housing construction sector. The second most affected industries are architectural, engineering, and related services. For walkway and sidewalk repairs stone cutting, stone product, and cement manufacturing industries also experience a boost. Bicycle infrastructure is also beneficial to food and drink services as workers and bikers visit local restaurants and stores.

Although this study produces job creation numbers it is important to recognize the limits of the results. Since methodology varies greatly when generating job creation numbers, the results of the study are not directly comparable to the results of other studies. For example the Federal Highway Administration conducted [studies](#) in 1996, 1997, 2005, and 2007. The FHWA studies were conducted nationwide

while the PERI study was restricted to Baltimore only. In a 2007 study the FHWA concluded that 30 jobs are supported per \$1 million. For a 1996 FHWA study, it concluded that 42.1 jobs are supported per \$1 million in federal spending. The FHWA number was calculated using 1995 U.S. dollars and uses different methodology than the PERI study and other FHWA studies. Another difference is the definition of a job. While the PERI study lists no definition, the FHWA estimate of a job is determined by person years, so 30 jobs translate to 30 jobs for one year or 15 jobs for two years. All of these differences make comparisons between studies very difficult.

Expansion of the PERI study is currently underway to address the limitations. The new study will include multiple cities to produce a national analysis. Additionally the categories will be expanded and Heidi Garrett-Peltier would like to include as much variety as possible to distinguish between different types of infrastructure. Taking into account the current limits of the study, it is easy to see that bicycle and pedestrian enhancements have economic benefits in addition to many other benefits.

Employment Per \$1 Million Expenditures				
	Direct Jobs Per \$1 Million	Indirect Jobs Per \$1 Million	Induced Jobs Per \$1 Million	Total Jobs Per \$1 Million
Pedestrian projects	6	22	3.1	11.3
Bike lanes (on-street)	7.9	2.5	4	14.4
Bike boulevard (planned)	6.1	2.4	3.2	11.7
Road repairs and upgrades	3.8	1.5	2	7.4
Road resurfacing	3.4	1.5	1.9	6.5



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