

## Historic Preservation Tax Act and Department of Defense Rehabilitation Study

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WHAT PROGRAM IS OUT THERE THAT YOU CAN USE RIGHT NOW in parks and protected areas, like Fort Monroe, Virginia, to take care of historic buildings? What program has no dollar limit, uses public-private partnerships, and each year generates \$4 billion annually in private investment for approximately 1,000 projects, and is run by the National Park Service (NPS)? It is the Federal Rehabilitation Tax Credit Program. Tax credits are the most valuable economic and historic preservation tool in your tool box. Just in case you think that this is some obscure program for old buildings, I will begin with two high profile projects currently being done with leased federal buildings, one on each coast.

The 1899 Old Post Office on Pennsylvania Avenue in Washington, DC, a historic property owned by the federal government, has just been leased for 60 years by Donald Trump's organization to undergo a \$200 million rehabilitation. It will become a luxury hotel in time for the 2017 presidential inaugural parade. On the West Coast, NASA is leasing three former Navy blimp hangars, located just a little south of San Francisco on Moffett Field, to Google. The buildings will undergo a rehabilitation to support public and private flight operations and are pursuing receipt of the federal rehabilitation tax credit.

Big historic buildings or small ones, the federal rehab tax credit has been behind the transformation of thousands of buildings since the 1970s. So what is this tax credit and how can you use it in your park, heritage area or protected area?

The Federal Rehabilitation Tax Credit enables investors to obtain 20% of the total cost of a certified rehabilitation (money spent inside and outside) to be used as a dollar-for-dollar credit (it is not a deduction) against the federal income taxes owed—up to 90% of one's tax liability. That means if a private investor spent one million dollars on a rehab, he would receive \$200,000 as a credit against his or her federal income taxes. It can be carried back two years and forward ten. The credits can be combined with state rehabilitation tax credits.

The building must be on, or eligible for, the National Register of Historic Places. The work must be substantial and follow the secretary of the interior standards. If it is owned by the local, state or federal government, it must be leased for at least 28.5 years for housing uses, or 39 years

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for commercial and industrial uses. Most important of all, it must have an income-producing use. That includes any kind of income-producing use from commercial or housing rental, a barn, a store, a café, or even an aircraft hanger.

If you think tax credits are only for hotels and offices in urban areas, think again. In Chicago the 1893 Daniel Burnham horse stables are being converted through use of the federal rehab tax credit into a gallery space for the DuSable African American Museum in the Chicago Park District. It is called the Roundhouse Project. In the Stories of the Chesapeake Heritage Area on the Eastern Shore of Maryland on the Worsell Manor Farm in Earleville, a 1920s milking parlor was converted into a music and party venue. And a nineteenth century granary was converted into a dining and meeting venue. An Amish timber framer completed the repairs.

How many empty or underutilized buildings do you have in your park or heritage area? “But wait,” you say, “I want a green building. I want to reduce carbon emissions.” President Obama recently issued a new executive order. It calls for all federal agencies to cut greenhouse gas emissions by 40% by 2015 from 2008 levels. The executive order specifically calls for an agency-wide reduction of Scope 1, 2, and 3 greenhouse gas emissions by 2015, and at least 15% of an agency’s existing buildings are the target of energy efficiencies.

Can rehabbing old buildings be one of the most effective ways to achieve this goal? Most definitely. I recently finished a study for the Office of the Secretary of Defense for Installations and the Environment, *Demonstrating the Environmental & Economic Cost-benefits of Reusing DoD’s Pre-World War II Buildings* which compared new, green LEED construction with rehab. It shows through extensive data documentation that rehabilitating masonry buildings built before World War II produces less carbon emissions than new construction. How is that possible?

Nationwide the Department of Defense (DoD) owns 344,950 buildings and, of these, 142,409 are 50 years old or older. In other words the DoD manages 75% of all federal buildings and one-third of those are 50 years old or older. They are the largest building owner in the world.

Constructed before the era of “cheap” energy (the 1960s to the 1980s) masonry buildings built before World War II exhibit many qualities which we have coined “original design intelligence.” Specifically, they were sited and built to respond and be resilient to their environmental conditions. When rehabilitated, this quality makes them greener than new leadership in energy efficiency design (LEED) construction, and makes the buildings no more costly to heat and cool. In fact the density of the materials used in these buildings such as the thermal qualities found in a nineteenth century brick wall combined with new technologies leads to energy operating efficiencies which are the same or less than new construction.

This is not some pie-in-the-sky generalized feel-good report about how wonderful it would be to save old buildings. Our team of 10 prepared detailed specifications (at the planning level) of actual federal buildings at three different installations in different climates. The specifications corresponded with all required DoD united facilities criteria requirements, including whole building design guidance, anti-terrorism force protection, the LEED silver checklist, and the secretary of the interior’s standards for rehabilitation as part of the alternatives. The results are applicable way beyond the DoD.

Can we reduce carbon emissions by rehabbing an old building? According to the U.S. Environmental Protection Agency, the built environment accounts for 39% of total energy consumption, 38% of all carbon emissions and 40% of raw materials use in the United States. If we are going to dramatically lower the carbon emissions in this nation, repurposing *existing* buildings, rather than building new “green” ones, is key.

The findings of the DoD study showed us that reusing pre-World War II masonry buildings, which easily meet LEED standards, rather than constructing new green LEED certifiable buildings will save federal dollars and lower carbon emissions. The building industry would have

us believe that through new green construction and net zero buildings we can build our way to reducing carbon emissions through new green construction, that existing buildings, especially those from before World War II, are the biggest energy hogs of all. Through this study we learned that the broad assumption that these buildings use more energy every day than new Green LEED certifiable buildings and cost more to rehabilitate and operate than new construction was wrong, very wrong. And we have the data to prove it.

The way to lower carbon emissions is not to build more buildings, even green ones. That only produces more Scope 3 carbon emissions, the kind generated by extraction, production and transportation of new materials to a site which can take as long as 70 years to dissipate. That kind of carbon emissions will increase carbon emissions if we continue building new buildings rather than repurpose old ones. Building more new buildings will actually contribute to the spike in the generation of carbon emissions we are seeing right now rather than reduce it. Further, the study found that rehabbed buildings could also match the energy performance of new construction for Scope 1 and 2 emissions with lower costs than new construction. In summary, rehabilitation can reduce carbon emissions, reduce operating expenses, generate jobs, provide less costly and more durable buildings, and create innovative space for new uses.

Masonry buildings constructed before World War II exhibit original design intelligence, a term coined in our study to describe the passive design features which contribute to an ability to naturally conserve energy, such as durable materials, natural lighting and ventilation, heat wells, open floor plans, siting to take advantage of prevailing winds, basements, tall ceilings, and plaster walls. These are built-in green design characteristics which contribute to an ability to naturally conserve energy. Before there was central heating or cooling, builders took advantage of solar patterns and prevailing winds in siting buildings. We found in our study that if these features could be recovered, made operable, and combined with new energy efficiency technologies, the operation efficiency of these buildings could equal or exceed those of newly constructed buildings.

The environmental benefits of rehabilitation include the following:

- minimal use of new materials equals significantly lower greenhouse gas emissions,
- less waste stream generated,
- recovery of original intelligence features and reuse of durable materials,
- less sprawl, more heritage protected,
- less cost to existing infrastructure, communities and local governments, and
- rehabilitation of pre-war buildings can achieve comparable levels of energy consumption as new construction at LEED Silver level.

The take away lessons of all this are the following:

- use tax credits in protected areas—be creative,
- use private money for public stewardship,
- rehabilitation generates far fewer carbon emissions than new construction,
- original design intelligence reduces energy expenses, and
- tax credits are an NPS program.

For more examples and information, go to <http://www.nps.gov/tps/>.

So there you have it: money for rehabilitating historic buildings, big and small, through tax credits, and seeing historic buildings with new eyes as renewable resources for your agency that can reduce carbon emissions and energy operating costs while providing new and exciting space for a broad variety of uses. What are you waiting for?