

GreenSource

Sustaining the Past

Guidelines For Historic Preservation Shouldn't Have To Clash With LEED Requirements, Since Preservation And Sustainability Share Many Similar Goals.

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For three decades, the secretary of the interior's standards for the Treatment of Historic Properties have guided the preservation of thousands of historic structures. The recent recognition of the importance of green building strategies, however, has sometimes brought the goals of sustainability and historic preservation into conflict. Installing new mechanical systems into historic structures may require destroying interior finishes. Replacing original single-pane windows with today's double-paned versions can achieve energy efficiency at the cost of the building's appearance.

These issues are not new to historic rehabilitation. However, now that many local, state, and federal agencies are starting to mandate that new construction and major renovation projects obtain specific levels of certification in the U.S. Green Building Council's LEED rating system, historic features are not always considered first in well-intentioned efforts to meet these standards. Efforts to achieve sustainability and preserve valuable structures do not have to be in competition if advocates on both sides work together.

Sustainability and historic preservation share many underlying values, such as an emphasis on resource conservation and energy efficiency. Most buildings built before World War II have features that are inherently energy efficient and sustainable, such as excellent cross-ventilation, operable windows, extensive use of glazing, and awnings to mitigate solar heat gain. Buildings built after World War II frequently rely heavily on mechanical systems for climate control. Many have been sited without consideration for natural lighting or ventilation, and lack insulation or thermal mass. Nevertheless, while it can be difficult to balance preservation and sustainability for Modernist buildings, many are worth the extra effort.

Part of the challenge is that the standards for sustainability and historic preservation are structured differently. LEED is a point-based system that evaluates buildings according to a checklist. It provides an effective way to reward the easily quantifiable aspects of a project. Interior's Standards, in contrast, are not an evaluation system, but rather a documented philosophy intended to provide guidance for the owners and managers of historic buildings, preservation consultants, architects, contractors, and project reviewers before treatment of the building begins. Its emphasis is on retaining historic material as much as possible in its original state and introducing new building systems without compromising the structure's integrity. The two systems are also used by different entities for different purposes. For LEED, the USGBC awards the certification. In contrast, a range of entities may use the Interior's Standards in reviewing design, including the National Park Service, state agencies, local agencies, and environmental impact report consultants, depending on the type of project. The broad guidelines of the Interior's Standards can be subject to differing interpretations, often resulting in extensive discussion between the design team and review agencies.

Currently, the LEED system does not adequately recognize some complicated but still quantifiable aspects of historic projects. For example, historic buildings are often much more durable than modern ones, with long life spans if well maintained. In addition, they contain a great deal of embodied energy and natural resources, which likely had to be harvested, manufactured, and transported. While LEED may give short shrift to these conditions, the opposite is true for the Interior's Standards: the National Park Service developed the Standards in 1977, long before



The 1949 United Nations building in New York, an icon of Modernism, will be renovated and is aiming for a LEED Silver rating.

contemporary green building strategies came into wide use. Manufacturers now offer several technologies, materials, and products that Interior's Standards don't recognize.

Both systems should recognize that the term 'historic' applies to a wide range of buildings of different sizes, types, ages, and materials, and that the reasons for preservation vary. Other historic buildings may themselves be undistinguished architecturally, yet contribute to a larger historic district. These cases may warrant more extensive alterations. Some historic buildings may have already been extensively remodeled in the past; thus, introducing sustainable strategies may alter valuable details less. Both preservation review agencies and green rating systems should consider the degrees of alteration appropriate for any historic building, balancing sustainability's needs with those of preservation.

In many cases, building owners rely on preservation tax credits to fund the rehabilitation of historic properties, and in many instances, both the state and the National Park Service will review the design using Interior's Standards as a benchmark to determine eligibility. Developers are generally willing to sacrifice LEED points if implementing them jeopardizes the potential to obtain tax credits. Bringing LEED and Interior's Standards into greater harmony, therefore, will make it more likely for developers to achieve certification in preservation projects.

There are already some ways to creatively integrate the goals of sustainability and preservation. The LEED system offers up to two credits for reusing a percentage of an existing building's walls, floors, and roof, as well as one credit for reusing at least 50 percent of interior non-structural elements. This is a step in the right direction. However, LEED does not distinguish between reusing portions of a building that is five years old and preserving one that is more than a century old.

Many of the improvements that LEED awards points for are related to systems such as lighting, electricity, and mechanical, which tend to have a life span of 10 to 15 years. Making major changes to a structure with a life span of many decades for the sake of short-lived systems may not represent an effective conservation of resources.

The LEED system also offers up to four credits in the category of innovation in design. Broadening the guidelines might allow application of an innovation credit if the rehabilitation restores original building features like arcades or natural ventilation systems, using design strategies ignored by Modernism. Historic construction techniques provide valuable information about the past and can teach us to design for the future when today's inexpensive energy sources run out.

While not all historic structures can or should be rehabilitated to meet LEED standards, most of them can—in ways that maintain their integrity and achieve the goals of preservationists and sustainability advocates alike.

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