

convention 2007

TH62 Is Historic Preservation Green?
05/03/2007, 6:00 PM - 7:00 PM

1 LUs (HSW) Intermediate level

Learning Objectives

Explain the concept of adaptive use as an act of sustainability

Demonstrate the advantages of preservation in a sustainable practice to benefit the firm and serve as a teaching aid in architecture schools

Identify and quantify the financial benefits to be derived from adaptive use and rehabilitation

Speakers

Victoria T. Jacobson, AIA
National Park Service
Santa Fe, NM

This presentation is protected by US and International Copyright laws. Reproduction, distribution, display and use of the presentation without written permission of the speaker is prohibited.

This program is registered with the AIA/CES for continuing professional education. As such, it does not include content that may be deemed or construed to constitute approval, sponsorship or endorsement by the AIA of any method, product, service, enterprise or organization. The statements expressed by speakers, panelists, and other participants reflect their own views and do not necessarily reflect the views or positions of The American Institute of Architects or of AIA components, or those of their respective officers, directors, members, employees, or other organizations, groups or individuals associated with them. Questions related to specific products and services may be addressed at the conclusion of this presentation.



Is Historic Preservation Green?

[Answer on last page]

**AIA Convention 2007
San Antonio, Texas**

TH62

Victoria T. Jacobson, AIA
Thursday, May 3, 2007
6:00 – 7:00 PM

Is Historic Preservation Green?

INTRODUCTION

- Historic Preservation should not be thought of as the "elephant in the closet."
- Misconceptions tend to get in the way of recognizing the inherent interrelationship between green building ("Sustainability") and historic preservation
- Goal of achieving sustainability should be a collaborative one

WHAT IS SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT?

- The currently accepted definition of sustainability: *meeting the needs of the present without compromising the ability of future generations to meet their own needs.*
- Implications: environmental, economic, and social responsibilities.
- Interrelated

ENVIRONMENTAL RESPONSIBILITY

- New Construction vs. Historic Preservation (recycling)
- Reduce waste
- Save energy
- Save landfill space
- Embodied energy
- Recycling
- Renewable resources

ECONOMIC RESPONSIBILITY

- Economically viable communities
- Small business incubators
- labor force is local
- Heritage Tourism
- Property values go up

SOCIAL/CULTURAL RESPONSIBILITY

- Housing crisis nationally
- *Smart Growth* principles – desired outcome for future
- Sense of place
- Community

- Significance

EXPLODING THE MYTHS

Myth #1: Historic buildings cannot be made green!

- Building envelope—can be sealed and insulated as appropriate for historic fabric; low embodied energy historic fabric
- Windows—natural ventilation, historic character defining
- Plumbing fixtures—can be retrofitted to save water
- Thermal Comfort—heating systems can be upgraded or replaced with more energy efficient models without destroying historic fabric; ceiling and whole-house fans
- Historic light fixtures—can be rewired to accept compact fluorescents, historic character defining
- Appliances—can be energy efficient
- Human factor—mindset, put on sweater; open and close fully operable windows

Myth #2: Replace historic windows will guarantee lower heating bills!

- Majority of heat loss through ceiling
- Infiltration around frames
- Discarding resources/embodied energy
- Space in landfill
- Historic character
- Repairable
- Storm windows

Myth #3: The Secretary of the Interior's Standards in direct conflict with Green Building guidelines.

- Standards make sense as they promote the retention of historic fabric whenever feasible—an act of sustainability in and of itself.
- The Standards and Guidelines serve primarily as reminders of the intention of preserving character defining features and materials as a service to the historic significance of a property as well as the community.
- Green strategies can be employed without major intrusions into historic fabric

CONCLUSIONS

- Our expectations and the technologies to meet them have exceeded the threshold of sustainability several times over.
- Whichever side of the fence you came in on, get involved and educated; get involved and educate!
- Become a collaborator

Questions?

BIBLIOGRAPHY AND SUGGESTED RESOURCES

Association for Preservation Technology *APT Bulletin* Volume XXXVI, No. 4, 2005, was entirely devoted to Sustainability and Preservation, following the annual meeting of the Association in Nova Scotia with Sustainability and Preservation as the focus.

Jackson, Mike, "Building a Culture That Sustains Design." *APT Bulletin*, Volume XXXVI, Number 4: 2.

Lesak, John D. "APT and Sustainability." *APT Bulletin*, Volume XXXVI, Number 4: 3-4.

Powter, Andrew and Susan Ross. "Integrating Environmental and Cultural Sustainability for Heritage Properties." *APT Bulletin*, Volume XXXVI, Number 4: 5-12.

Rose, William B. "Should the Walls of Historic Buildings Be Insulated?" *APT Bulletin*, Volume XXXVI, Number 4: 13-18.

Cavallo, James. "Capturing Energy-Efficiency Opportunities in Historic Houses." *APT Bulletin*, Volume XXXVI, Number 4: 19-24.

Sedovic, Walter and Jill H. Gotthelf. "What Replacement Windows Can't Replace: The Real Cost of Removing Historic Windows." *APT Bulletin*, Volume XXXVI, Number 4: 25-30.

Meryman, Helena. "Structural Materials in Historic Restoration: Environmental Issues and Greener Strategies." *APT Bulletin*, Volume XXXVI, Number 4: 31-38.

McInnis, Maggie and Ilene R. Tyler. "The Greening of the Samuel T. Dana Building: A Classroom and Laboratory for Sustainable Design." *APT Bulletin*, Volume XXXVI, Number 4: 39-46.

Jackson, Mike. "Embodied Energy and Historic Preservation: A Needed Reassessment." *APT Bulletin*, Volume XXXVI, Number 4: 47-52.

Elfante, Carl. "Historic Preservation and Sustainable Development: Lots to Learn, Lots to Teach." *APT Bulletin*, Volume XXXVI, Number 4: 53-54.

Coldham & Hartman Architects. "(Embodied) Energy in Residential Building Construction." Available online:
<http://www.coldhamandhartman.com/whitepaper.php?id=31>

Corbett, John H. "A Last Look at Historic Wood Windows." *Traditional Building*, November/December 2001, Volume 14, No. 6: 5.

Guiding Principles of Sustainable Design. Denver: National Park Service, 1993.

Jordan, Steve. "Strips and Storms.: Techniques for tuning up sash windows for winter." *Old House Journal*, October 2004. Available online:
<http://www.oldhousejournal.com/magazine/2005/jun/theins.shtml>

NPS Technical Preservation Services *Preservation Briefs* provide information on preservation issues and treatments in light of the Secretary of the Interior's Standards in an effective and succinct format. The following Briefs deal with issues identified in this presentation and are easily downloaded from the Internet:
<http://www.cr.nps.gov/hps/tps/briefs/presbhom.htm>

Smith, Baird M., AIA. "Conserving Energy in Historic Buildings," *Preservation Brief No. 3*, Technical Preservation Services, 1978.

Meyers, John H. "The Repair of Historic Wooden Windows," *Preservation Brief No. 9*, Technical Preservation Services, 1981.

Park, Sharon C., FAIA, "The Repair and Thermal Upgrading of Historic Steel Windows," *Preservation Brief No. 13*, Technical Preservation Services, 1984.

Park, Sharon C., FAIA. "The Use of Substitute Materials on Historic Building Exteriors." *Preservation Brief No. 16*, Technical Preservation Services, 1988.

Nelson, Lee H., FAIA, "Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character," *Preservation Brief No. 17*, Technical Preservation Services, 1988.

Park, Sharon C., FAIA, "Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches," *Preservation Brief No. 24*, Technical Preservation Services, 1991.

Jester, Thomas C. and Sharon C. Park, FAIA. "Making Historic Properties Accessible," *Preservation Brief No. 32*, Technical Preservation Services, 1993.

Park, Sharon C., FAIA, and Doug C. Hicks. "Appropriate Methods for Reducing Lead-Paint Hazards in Historic Housing," *Preservation Brief No. 37*, Technical Preservation Services, 1995.

Look, David W., FAIA, Terry Wong, PE, and Sylvia Rose Augustus. "The Seismic Retrofit of Historic Buildings: Keeping Preservation in the Forefront," *Preservation Brief No. 41*, Technical Preservation Services, 1997.

Palmer, Christine. "Historic Preservation and Sustainability." *Preservation Seattle*, September, 2006. Available at this web address: <http://www.historicseattle.org/preservationseattle/preservationenv/defaultSEPT06.htm>

Roberts, Tristan. "Historic Preservation and Green Building: A Lasting Relationship." *Environmental Building News*, Volume 16, Number 1, January 2007. Available at: <http://www.buildinggreen.com/articles/>

Rypkema, Donovan D. *The Economics of Historic Preservation*. Washington, DC: National Trust for Historic Preservation, 1994.

Rypkema, Donovan D. "Economics, Sustainability, and Historic Preservation." Speech delivered at the National Trust for Historic Preservation Annual Meeting, Portland, Oregon, October 1, 2005. Available online:

http://www.nationaltrust.org/advocacy/case/Rypkema_Speech_on_sustainability_in_Portland.pdf

Stein, Richard G. *Architecture and Energy: Conserving Energy through Rational Design*. New York: Anchor Books, 1978.

Von Hagen, Betinna, Erin Kellog, and Eugénie Frerichs, Editors. *Rebuilt Green: The Natural Capital Center and the Transformative Power of Building*. Portland, OR: Ecotrust, 2003.

Weeks, Kay D. and Anne E. Grimmer. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. Washington, DC: National Park Service, 1995.

Wilson, Alex. "Passive Survivability: A New Design Criterion for Buildings." *Environmental Building News*, Volume 15, Number 5, May 2006. Available at: <http://www.buildinggreen.com/articles/>

Wilson, Alex, "Durability: A Key Component of Green Building." *Environmental Building News*, Volume 14, Number 11, November 2005. Available at: <http://www.buildinggreen.com/articles/>

USEFUL WEBSITES

<http://www.traditional-building.com>

<http://www.AIA.org>

<http://www.Apti.org>

<http://www.Greenbuilding.com>

<http://www.Nationaltrust.org>

For a series of technical articles on energy and building features from the Public Housing Authority Toolbox go to this website:

<http://www.globalgreen.org/pha-energytoolbox/>

For a good simple guide to everything you ever wanted to know about energy, embodied or otherwise:

<http://www.energyguide.com/esu/textpage.asp?bid=JEA&page=7>

Plug in any of the terminology used here into the search function of your favorite search engine! You'll find thousands of articles on sustainability and preservation!

YES!!