

A4825 SUSTAINABILITY & PRESERVATION

Spring 2014 – Columbia/Graduate School of Architecture, Planning & Preservation
Tuesdays, 6:00-8:00pm, Buell Hall, room 300

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Office hours by appointment

Course Description and Rationale

Preservation can play an important role in creating and managing a sustainable built environment, but significant changes in the policies and practices of the preservation field are required. This course will examine the positive -- and negative -- effects of heritage conservation vis à vis sustainability, and will explore tools and strategies for enhancing preservation's contributions toward a more livable planet and society.

The built environment is one of the most egregious culprits with regard energy and resource consumption, waste generation, landscape destruction, and climate change. The evolving sustainability discourse has given rise to greater environmental awareness in architecture, preservation, planning, and real estate development. In the face of growing populations, demographic shifts, and diminishing resources, sustainability concerns compel drastic changes in the way we develop, design, construct, and manage the built environment, particularly in urban regions where market pressures and complex regulatory structures compound decision-making. As the scarcity of greenfields and developable land in urban areas grows more acute, redevelopment densification within existing neighborhoods becomes ever more prevalent, inherently involving greater community participation and potential conflict over existing resources and future needs. Improved integration of preservation within a broader agenda for sustainability will require a new set of priorities and trade-offs that balance the range of environmental, economic, and social concerns with traditional preservation values.

Balancing an examination of theory with issues of policy and practice, this course will approach sustainability through a tripartite model: environmental, economic, and social. It will cover fundamental concepts of sustainable land use planning and green building and the role preservation plays. It will also examine the ways in which preservation contributes to economic vitality and social justice and cohesion. Drawing from multiple disciplines, students will explore a variety of tools and metrics to assess social, economic, and environmental factors related to heritage and the benefits (and costs) of preservation. An overall aim of the course will be to evaluate how the processes and policies of preservation can be made more sustainable in the long-term, and ensure positive outcomes for both people and places.

Course Format

The course will include lectures, case-based analyses, dynamic discussion, and student projects. Through exchange with their peers and independent research, students will develop ideas for change in education, practice, and policy that would better incorporate environmental, economic, and social concerns in preservation practice and better align the goals of preservation with those of sustainability.

Over the course of the semester, students will develop an understanding of a range of qualitative and quantitative assessment methods, tools, and indicators, which will be applied to a final project involving a mock cost-benefit analysis of the National Historic Preservation Act.

Course Requirements

Class Participation: Policies, practices, and the concepts that underpin them will be explored largely through robust discussion of the texts, lectures, and cases presented.

Readings & Essays: Two brief essays (500 word min.) will be required during the semester. The essays will use the course readings as a basis to begin identifying the costs and benefits of preservation, and measurement tools, so as to demonstrate its contributions to environmental, economic, and social sustainability. These will serve to build the toolbox of ideas for the final project.

Presentations & Debates: One in-class presentation/analysis (Green Rating Systems) and one in-class debate (New Gournia Village, Egypt) will be required during the semester; both will be done in groups.

Final Project: When the Clean Air Act was amended in 1990, Congress added a provision under section 812 that required the Environmental Protection Agency to conduct periodic, scientifically reviewed, studies to assess the benefits and the costs of the entire Clean Air Act. The provision was largely a result of industry opposition to more stringent regulations and claims that the costs would outweigh the benefits to the American people. However, the studies have consistently demonstrated that the benefits of the legislation far exceed the costs. Using this basic model, the final project will involve the development of a mock cost-benefit analysis of the National Historic Preservation Act. While students will not actually monetize the range of costs and benefits related to the NHPA, they will develop categories of study, identify indicators of success, and recommend tools (quantitative and qualitative) for assessing the effects of the NHPA on society and the environment, so as to demonstrate the sustainability of historic preservation policy.

The final project will be developed in groups, culminating in a final presentation (group) and a final paper (individual) of 2500+ words. The papers will examine the changes to existing preservation institutions, policies, and practice that would be required in order to implement and advance the findings of the mock cost-benefit analysis. Papers should be fully cited, using published literature as well as the ideas generated throughout the semester. Emphasis should be on well-crafted and well-supported arguments that demonstrate critical thinking.

Grading

Class Participation:	20%
Essays:	20%
Presentation & Debate:	20%
Final Project – Group Presentation:	20%
Final Project – Individual Paper:	20%

Course Schedule

- Jan 21 Course Overview and in-class Survey
- Jan 28 Heritage and Planning Policy: A Primer

Environmental Sustainability

- Feb 4 Systems Approach to Sustainability and the Built Environment
- Feb 11 Energy and Resource Consumption: Tools and Metrics
Essay #1 Due, Ratings Systems sign-up
- Feb 18 Guest Lecture by Lisa Kersavage – Local Sustainability Policy (New York City)
- Feb 25 Green Rating Systems: in-class presentations & analyses
- Mar 3 Managing Growth and Land Use: Assessment and Planning Tools

Economic Sustainability

- Mar 11 Real Estate Dynamics and Property Valuation
- Mar 18 *Spring Break*
- Mar 25 Methodologies for Valuing Heritage and Preservation
Essay #2 Due, New Gourni debate sign-up
- Apr 1 Quantifying the Qualitative: Cost-Benefit issues & Final project preparation

Social Sustainability

- Apr 8 Sustainability and Stakeholders: in-class debate – New Gourni, Egypt
- Apr 15 Tools and Methodologies from the Planning and Environmental Sector
- Apr 22 Tools and Indicators from the Arts, Culture, and Anthropology Sector
- Apr 29 Final Project Presentations
- May 9 Final Project Papers Due

Course Texts

All of the required course readings will be available as PDFs on Courseworks or through URL links.

Readings

Reading assignments will be posted weekly on Courseworks.

Jan 21 Course Overview and in-class Survey

Avrami, Erica. Sustainability and the Built Environment: Forging a Role for Heritage Conservation, *Conservation Perspectives*, Vol. 26, no. 1 (Spring 2011), 4-9.
http://www.getty.edu/conservation/publications_resources/newsletters/26_1/feature.html

Nordhaus, Ted, and Michael Shellenberger. 2007. Break Through: From the Death of Environmentalism to the Politics of Possibility. New York: Houghton Mifflin. Introduction + Chapter 1.

Sumner, Jennifer. 2005. Searching for Sustainability: Past and Present. *Sustainability and the Civil Commons: Rural Communities in the Age of Globalization*. Buffalo, NY: University of Toronto Press, pp. 76-92.

Avrami, Erica. "Heritage, Values, and Sustainability," *Conservation: Principles, Dilemmas, and Uncomfortable Truths*. Alison Richmond and Alison Bracker, eds. London: Butterworth-Heinemann, 2009.

Jan 28 Heritage and Planning Policy: A Primer

de Monchaux, John , and J. Mark Schuster. 1997. Five Things To Do. *Preserving the Built Heritage: Tools for Implementation*, Schuster, de Monchaux, and Riley, eds. Hanover: University press of New England, pp. 3-12.

Birch, Eugenie, and Christopher Silver. 2009. One Hundred Years of City Planning's Enduring and Evolving Connections. *Journal of the American Planning Association* 75 (2), pp. 113- 122.

Wagner, Richard. 2011. Finding a Seat at the Table: Preservation and Sustainability, *Sustainability and Historic Preservation: Toward a Holistic View*. Newark: University of Delaware Press, 1-16.

Mazmanian, Daniel A., and Michael E. Kraft. 2009. The Three Epochs of the Environmental Movement. *Toward Sustainable Communities: Transition and Transformations in Environmental Policy*. Cambridge, MA: MIT Press, pp. 3-32.

Additional Readings (not required):

International Council for Research and Innovation in Building and Construction (CIB). 1999. *Agenda 21 on Sustainable Construction*. CIB Report Publication 237. Rotterdam: CIB.

International Council for Research and Innovation in Building and Construction (CIB) and United Nations Environment Programme, International Environmental Technology Centre (CIB & UNEP-IETC). 2002. *Agenda 21 for Sustainable Construction in Developing Countries: A Discussion Document*, prepared by Chrisna du Plessis. Pretoria: CSIR Building and Construction Technology.

Barthel-Bouchier, Diane. 2013. *Cultural Heritage and the Challenge of Sustainability*. Walnut Creek, CA: Left Coast Press, pp. 17 - 52.

World Bank. 1998. Culture and Sustainable Development: A Framework for Action.

Environmental Sustainability

Feb 4 Systems Approach to Sustainability and the Built Environment

Nordhaus, Ted, and Michael Shellenberger. 2007. Break Through: From the Death of Environmentalism to the Politics of Possibility. New York: Houghton Mifflin. Chapter 4.

Meadows, Donella H., Dennis L. Meadows, Jörgen Randers, and William W. Behrens III. 1972. *The Limits to Growth*, excerpt.

World Commission on the Environment and Development (WCED). 1987. *Our Common Future*. London: Oxford University Press & other UN excerpts.

Barthel-Bouchier, Diane. 2013. *Cultural Heritage and the Challenge of Sustainability*. Walnut Creek, CA: Left Coast Press, pp. 177-191.

Additional Readings (not required):

Yanarella, Ernest J., and Richard S. Levine. 2011. Variations on a “Green” Theme: Overcoming Semantics in the Sustainability Debate. *The City as Fulcrum of Global Sustainability*. New York: Anthem Press. Chap. 3.

The World Conservation Union (IUCN). 2006. *The Future of Sustainability: Re-Thinking Environment and Development in the Twenty-first Century*, Report of the IUCN Renowned Thinkers Meeting, 29-31 January 2006.

Benhamou, Françoise. Is increased public spending for the preservation of historic monuments inevitable? The French case. *Journal of Cultural Economic*. 20.2 (Jun 1996), pp. 115-131.

Feb 11 Energy and Resource Consumption: Tools and Metrics

Essay #1 Due

Athena Institute. 2009. A Life Cycle Assessment Study of Embodied Effects for Existing Historic Buildings.

Cochrane, Ric, and Liz Dunn. Energy Codes 101: A Primer for Sustainability Policy Makers – working Paper. November 2010.

National Trust for Historic Preservation, Preservation Green Lab. 2011. *The Greenest Building: Quantifying the Environmental Value of Building Reuse*. Washington, DC: National Trust for Historic Preservation.

United Nations Environment Programme (UNEP). 2007. *Buildings and Climate Change: Summary for Decisionmakers*. Paris: United Nations Environment Programme.

Additional Readings (not required):

Global Footprint Network. 2010. *Ecological Footprint Atlas 2010*.

United Nations Environment Programme, Division of Technology, Industry and Economics (UNEP-DTIE). 2003. *UNEP Industry and Environment 25* (2 – 3), pp. 5-8, 17-21, 22-28.

United Nations Environment Programme (UNEP). 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*. Paris: United Nations Environment Programme.

Preservation Green Lab, National Trust for Historic Preservation. *Outcome-Based Energy Code for Existing Buildings – Seattle Model Energy Code Project*. August 2011.

Agbonkhese, Sophie, Rebbie Hughes, Monique Tucker, Annebel Hsiau-Chuan Yu. 2010. *Greendeavor Carbon Calculator*. 1772 Foundation.

Andrews, C. J. 1999. Putting Industrial Ecology into Place: Evolving Roles for Planners. *Journal of the American Planning Association* 65(4): 364-375.

Denniston, Sean, Liz Dunn Jayson Anatoff, Ralph DiNola. 2010. *Toward a Future Model Energy Code for Existing and Historic Buildings*. Working paper.

Feb 18 Guest Lecture by Lisa Kersavage – Local Sustainability Policy (New York City)

Kersavage, Lisa. 2011. The Green Opportunity in New York City's Historic Buildings. *Environmental Law in New York*. 22 (6): 83-89.

Feb 25 Green Rating Systems: in-class presentations & analyses

Students will work in groups to present and analyze the positive and negative aspects of various green rating systems used for construction and the built environment.

Mar 3 Managing Growth and Land Use: Assessment and Planning Tools

Hempel, Lamont C. 2009. Conceptual and Analytical Challenges in Building Sustainable Communities. *Toward Sustainable Communities: Transition and Transformations in Environmental Policy*. Cambridge, MA: MIT Press, pp. 33-62.

Keene, John C. 2003. The Links between Historic Preservation and Sustainability: An Urbanist's Perspective. *Managing Change: Sustainable Approaches to the Conservation of the Built Environment*. J. M. Teutonico and F. Matero, eds. Los Angeles: The Getty Conservation Institute, 11-19.

Listokin, David. 1997. Growth Management and Historic Preservation: Best Practices for Synthesis. *The Urban Lawyer*. 29 (2, Spring 1997), pp. 199-213.

McElfish, James M. 2007. *Ten Things Wrong with Sprawl*. Environmental Law Institute, January 2007.

Portney, Kent E. 2009. Sustainability in American Cities: A Comprehensive Look at What Cities are Doing and Why. *Toward Sustainable Communities: Transition and Transformations in Environmental Policy*. Cambridge, MA: MIT Press, pp. 227-254.

Additional Readings (not required):

Rojas, Eduardo, and Francesco Lanzafame, eds. 2012. *City Development: Experiences in the Preservation of Ten World Heritage Sites*. Washington, DC: The Inter-American Development Bank. Chaps. 5, 8, and 10.

Bernstein, Richard A., ed. *A Guide to Smart Growth and Cultural Resource Planning*. Wisconsin Historical Society, Division of Historic Preservation.

Wheeler, Stephen. 2003. Planning Sustainable and Livable Cities. *The City Reader*. R. T. LeGates and F. Stout, eds. New York: Routledge, pp.486-96.

Yanarella, Ernest J., and Richard S. Levine. 2011. "From the City to the City-Region: The Sustainable Area Budget, Rural Partnerland and Sustainability Engine." In *The City as Fulcrum of Global Sustainability*, New York: Anthem Press. Chap 5.

Economic Sustainability

Mar 11 Real Estate Dynamics and Property Valuation

Urban Land Institute. 2005. *High Density Development: Myth and Fact*. Washington, DC: Urban Land Institute.

Glaeser, Edward. 2010. Preservation Follies. *City Journal*. 20: 2 (Spring) http://www.city-journal.org/2010/20_2_preservation-follies.html

Steinberg, Theodore. 1995. *Slide Mountain, or the Folly of Owning Nature*. Los Angeles: University of California Press. Chap. 5.

Spinola, Steven. Proposed Reforms to Improve the Landmarks Preservation Commission, December 12, 2013.. *Cityland: New York City Land Use News and Research (New York Law School)* <http://www.citylandnyc.org/proposed-reforms-to-improve-the-landmarks-preservation-commission/>

Additional Readings (not required):

Lachman, M. Leanne. 2006. *Global Demographics and Their Real Estate Investment Implications*. Washington, DC: Urban Land Institute.

Mar 18 Spring Break

Mar 25 Methodologies for Valuing Heritage and Preservation

Essay #2 Due, New Gourn debate sign-up

Rypkema, Donovan, Caroline Cheong, and Randal Mason. 2011. Measuring Economic Impacts of Historic Preservation - a report to the Advisory Council for Historic Preservation.

Rutgers University and the National Park Service. July 2013. Annual Economic Impact of the Federal Historic Tax Credit for FY2012.

Listokin, David, et al. 2012. *Route 66 Economic Impact Study: Synthesis of Findings*. New York: World

Monuments Fund.

Throsby, David. 2012. Heritage Economics: A Conceptual Framework. *The Economics of Uniqueness: Investing in Historic City Cores and Cultural Heritage Assets for Sustainable Development*. Washinton, DC: The World Bank, pp. 45-74.

Additional Readings (not required):

Mason, Randall. 2005. Economics and Historic Preservation: A Guide and Review of the Literature – A Discussion Paper prepared for The Brookings Institution Metropolitan Policy Program.

Apr 1 Quantifying the Qualitative: Cost-Benefit issues & Final project preparation

Coburn, Senator Tom. A. PARKED! How Congress' Misplaced Priorities are Trashing our National Treasures. October 2013.

US Environmental Protection Agency. 2011. *The Benefits and Costs of the Clean Air Act from 1990-2020: Second Prospective Study*. Washington, DC: EPA.

Nordhaus, Ted, and Michael Shellenberger. 2007. Break Through: From the Death of Environmentalism to the Politics of Possibility. New York: Houghton Mifflin. Chap. 8.

National Research Council, Committee on Identifying Data Needs for Place-Based Decision Making. 2002. *Community and Quality of Life: Data Needs for Informed Decision Making*. Washington, DC: National Academy Press. Chapter 2: The Importance of Place and Connectedness.

US Environmental Protection Agency. 2002. *Community and Culture and the Environment: A Guide to Understanding a Sense of Place*. Washington, DC: Office of Water. Chap 2 & 3.

Mason, Randall. 2002 Assessing Values in Conservation Planning: Methodological Issues and Choices. In *Assessing the Values of Cultural Heritage*, Marta de la Torre, ed. Los Angeles, CA: The Getty Conservation Institute, pp. 5-30.

Social Sustainability

Apr 8 Sustainability and Stakeholders: in-class debate – New Gourn, Egypt

Fathy, Hassan. 1973. *Architecture for the Poor: An Experiment in Rural Egypt*. Chicago: University of Chicago Press.

<http://site.ebrary.com.ezproxy.cul.columbia.edu/lib/columbia/docDetail.action?docID=10366850>

Avrami, Erica, Gina Haney, Jeff Allen, and William Reynolds. 2011. *New Gourn Village: Conservation and Community*. New York: World Monuments Fund.

INSEAD. *Environmental Quality in Siwa – Case Study*. 2009.

UNESCO. *Safeguarding Project of Hassan Fathy's New Gourn Village – Preliminary Phase Document*. April 2011.

Pini, Daniele (for UNESCO). *Safeguarding Project of Hassan Fathy's New Gourni Village – Master Plan Final Report*. January 2011.

Apr 15 Tools and Methodologies from the Planning and Environmental Sectors

US Environmental Protection Agency. 2002. *Community and Culture and the Environment: A Guide to Understanding a Sense of Place*. Washington, DC: Office of Water. Chap 4: The Tool Kit.

National Research Council, Committee on Identifying Data Needs for Place-Based Decision Making. 2002. *Community and Quality of Life: Data Needs for Informed Decision Making*. Washington, DC: National Academy Press. Chapter 1: Concept of Livability and Indicators.

Cole, David, and George Stankey. Historical Development of Limits of Acceptable Conceptual Clarifications and Possible Extensions. In: McCool, Stephen F.; Cole, David N., comps. 1997. *Proceedings—Limits of Acceptable Change and related planning processes: progress and future directions*; 1997 May 20–22; Missoula, MT. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Additional Readings (not required):

Andrews, C. J. 2001. Analyzing Quality of Place. *Environment and Planning B: Planning and Design*, 23:201-217.

Apr 22 Tools and Indicators from the Arts, Culture, and Anthropology Sector

UNESCO. *The 2009 UNESCO Framework for Cultural Statistics*. Paris: UNESCO.

UNESCO. *Measuring Cultural Participation: The 2009 UNESCO Framework for Cultural Statistics, Handbook no. 2*. Paris: UNESCO.

National Endowment for the Arts. 2012. *How Art Works: The NEA Five-Year Research Agenda, with a System Map and Measurement Model*. Washington, DC: National Endowment for the Arts.

McCarthy, Kevin, et al. 2002. *Gifts of the Muse: Reframing the Debate about the Benefits of the Arts*. Santa Monica, CA: RAND Corporation, pp. xi-xviii.

Additional Readings (not required):

Grootaert, Christiaan, and Thierry van Bastelaer, eds. *Understanding and Measuring Social Capital: A Multidisciplinary Tool for Practitioners*. Washington, DC: The World Bank.

Low, Setha. 2002. Anthropological-Ethnographic Methods for the Assessment of Cultural Values in Heritage Conservation. In *Assessing the Values of Cultural Heritage*, Marta de la Torre, ed. Los Angeles, CA: The Getty Conservation Institute, pp. 31-50.

Apr 29 Final Project Presentations

May 9 Final Project Papers Due