



**Green Guidelines:**

**Promoting Environmental and Economic  
Sustainability  
Through Historic Preservation**

**For Town and City Decision-Makers  
2009**

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## **Promoting Environmental and Economic Sustainability Through Historic Preservation**

The re-use of historic buildings, reinvestment in downtowns and villages, and protection of historic landscapes can -- and should -- be central ingredients in environmental and economic sustainability<sup>i</sup> policies for the state of New Hampshire. This document is a guide for promoting public policies that direct investment toward those goals and strengthen our historic downtowns and town centers, agriculture and forestry, existing housing stock and cultural tourism.

**Investment in energy reduction must consider the use and construction of buildings as buildings represent 59% of all energy use in the state.**<sup>ii</sup>

While the marketplace often urges us to consider new as better, data from the U.S. Energy Information Agency shows that the **only buildings more energy efficient than buildings built before 1920 are those built after 2000.**<sup>iii</sup> The majority of these pre-1920 buildings were constructed using repairable and often local materials and were sited and designed to minimize heating and cooling requirements. That doesn't mean that historic buildings are always as energy efficient as they might be; but old buildings can, and should, go green.

Historic preservation practice encourages us to look beyond operating energy to the total energy associated with a building's development. Energy is used to extract and create building materials, transport them, and assemble them into a building. Recent calculations indicate that **it takes about 35-50 years for an energy efficient new building to recover the embodied carbon expended in construction.**<sup>iv</sup> Original materials, and existing buildings, contain embodied energy, an environmental asset destroyed by modern replacement.

We need "green" planning as much as green design. **Investment in older and historic villages and downtowns can reduce demands for transportation, new infrastructure and new building materials.**<sup>v</sup> Compact development and use of existing infrastructure can also help protect important open space, farm land and forest land.

New Hampshire leaders are well positioned to address critical energy and economic issues. The Governor's Commission on Climate Change has engaged industry, government and other civic leaders on these topics. New Hampshire legislators advanced several regional, state and locally-focused energy-related initiatives last session. Private and public sector community development programs offer opportunities to direct existing resources to meet critical needs. Citizens are responding to changing energy and economic needs by forming local energy committees and setting new goals.

### **1. Lead by Example in Building-Related Investment and Management**

Town and cities generate important economic activity and major environmental impacts.

- Adopt sustainable practices for your public works investments and planning and community development practices, using principles like those in RSA 9-B.<sup>vi</sup>
- Utilize existing buildings, and locate municipal services in downtowns and village centers, wherever economically practical.
- Encourage communication and collaboration between all appropriate municipal bodies to maximize their effectiveness. Groups may include your planning board, energy committee, economic development group or heritage or historic district commissions.

### **2. Choose Sustainable Design Options**

Think of historic preservation activity as “the original green.”

- Use advisors experienced with old buildings and comprehensive evaluations of costs when exploring renovation or re-use of old structures, or the option of new construction.
- Audit your municipal buildings for energy use. Keep records of your energy consumption and compare them from year-to-year to monitor trends and identify waste. Buy more efficient replacement appliances and lights to take advantage of developing technology.
- Try to repair, rather than replace, windows. Even though windows often account for a relatively low percentage of a building’s energy loss, they are often targeted as major energy sinks. Compare the value of a window that has to be replaced in 10 years to one that’s been in place for 50 or 100 years. Historic wooden windows are simple to repair, and when properly maintained or restored will generally outlast replacements.
- Buy locally-produced buildings materials. Transportation is costly in both energy use and in generating pollution, and this option helps your local or regional economy.
- If you have a local historic district commission, prepare its members and applicants with facts about window replacement and policies for dealing with solar panels, wind towers and other new technologies.

### **3. Maximize Use of Opportunities to Advance Green Planning**

Promote green planning which is needed as much as green design. Investment in older and historic villages can reduce demands for new roads, utilities and other services.

- Feature environmental and economic sustainability goals and practices in master plan updates. Adopt a heritage commission, or support your existing group.
- Take advantage of programs that encourage sustainability such as:
  - +RSA 79-E, a downtown tax incentive that promotes strong local economies and smart, sustainable growth.
  - +The ERZ Business Tax Credit that expands the commercial and industrial base, creates new jobs, reduces sprawl and increases tax revenues.
  - +The Housing and Conservation Planning Program that offers matching grants to municipalities to plan for growth and development in a manner that permits a balanced housing stock.

### **3. Promote Sustainable Agriculture and Forestry**

Historic preservation and land conservation are closely linked. Investing in downtowns and villages can help protect open areas, preserve farmland and prevent forest fragmentation. Open space helps absorb carbon dioxide, and forest and agriculture industries offer sustainable economic opportunities. More can be done to harness these connections:

- Form or support a local agricultural commission to promote agricultural activity in your municipality.
- Explore opportunities with transferable development rights, expedited site review and other similar tools as incentives to development practices that meet economic and environmental sustainability goals.
- Support the creation of a state food policy that offers incentives to local agriculture and reduces obstacles.

### **4. Encourage the Use of Older Structures to Create Workforce Housing**

Housing and business leaders report that New Hampshire's housing crisis threatens the state's economic growth, the stability of its communities and the health of its family structure. Historic buildings often provide housing near the village center and promote a walking community while taking advantage of the water, sewer, roads and existing infrastructure.

- Provide training and incentives for your local code officials to help create reliable, safe and innovative approaches to achieve the re-use of old buildings, village centers and downtowns.
- Urge the state to adopt the Existing Building Code. The International Existing Building Code is tailored for old buildings and allows owners and developers more flexibility and lower project costs than the current codes meant for new construction.

### **5. Showcase Sustainable Practices with Schools**

Coordinating school facility needs with other municipal activities, and decisions to renovate or build a new school, can be challenging.

- As with any building, long-term capital planning can assist decision-making and on-going maintenance can maximize resources.
- Update your knowledge of facilities' energy efficiency with a comprehensive audit. Helpful resources include the Jordan Institute, [www.thejordaninstitute.org](http://www.thejordaninstitute.org). For tips go to [www.ed.state.nh.us/education/doe/organization/programsupport/TIPSFORSAVINGENERGY.htm](http://www.ed.state.nh.us/education/doe/organization/programsupport/TIPSFORSAVINGENERGY.htm). Models for comprehensive "green" practices can be found through the U.S. Environmental Protection Agency ([www.greenschools.net](http://www.greenschools.net)).
- When evaluating major facilities decisions, invest in thorough feasibility analysis with qualified professionals. Consider high performance school incentives with the N.H. Department of Education.

Public investment in schools on the outside of town centers or neighborhoods can contribute to a greater reliance on personal automobiles and bus transportation and may exacerbate a dispersed pattern of growth. The reuse of older school buildings (as a school or for another use) allows the retention of the embodied energy in the existing structure.

## **6. Promote Transportation that is Safe and Efficient while Meeting Civic and Sustainability Goals**

A vision for transportation playing a critical role in preserving the state's unique character and quality of life, enhancing environmental quality and promoting sustainable economic development and land use was emphasized by a Community Advisory Committee, convened by the N.H. Charitable Foundation, as part of the N.H. Department of Transportation's most recent Long Range Transportation Plan.

- Actively engage in transportation planning. Participate in context sensitive design which promotes efficient and effective use of resources and preserves environmental, scenic, aesthetic, historic, and natural resource values.
- Consider scenic road legislation and preservation alternatives for historic bridges. Wrought iron and steel truss bridges are a particularly endangered resource type. Over the past twenty years, New Hampshire has lost nearly half of these engineering landmarks. There are only 63 left, and only 39 are still in use.

Older buildings and traditional landscapes not only link us to the state's history but also have an integral role in the everyday economy and workforce. Preservation investment and policies associated with existing building, downtowns and village centers, agriculture and forestry, housing and tourism are central features of policies that meet environmental and economic sustainability goals.

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Share suggestion and examples by contacting Jennifer Goodman at [jg@nhpreservation.org](mailto:jg@nhpreservation.org) or 603-224-2281 ext 12. For additional information:

[www.nhpreservation.org](http://www.nhpreservation.org)

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[www.preservationnation.org/issues/sustainability/](http://www.preservationnation.org/issues/sustainability/), [www.nh.gov/nhdhr](http://www.nh.gov/nhdhr), [www.nh.gov/oep](http://www.nh.gov/oep), and [www.des.nh.gov](http://www.des.nh.gov) for Governor's Commission on Climate Change

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<sup>i</sup> Environmental Sustainability Historic preservation is an effective tool for valuing and protecting our environmental resources, including those that have already been expended as well as those not yet used. Because it encourages us to reuse sound older buildings instead of abandoning or demolishing them, and to direct development into already-developed areas instead of sprawling into open land, farm land and forest land, preservation is “recycling” on a grand scale. Economic Sustainability An economic system is not sustainable unless it respects the limits of the ecosystems on which it depends. By advocating wise stewardship of existing resources and judicious development and use of new ones, historic preservation advances this goal. Labor-intensive rehabilitation creates more jobs, and keeps more money circulating locally, than new construction. Revitalizing communities helps prevent expensive sprawl.

<sup>ii</sup> Jordan Institute, [www.thejordaninstitute.org](http://www.thejordaninstitute.org) from 11/20/07 *Energy Facts* from N.H. Office of Energy and Management using 2004 data from U.S. Energy Information Agency.

<sup>iii</sup> U.S. Energy Information Agency. Consumption of Gross Energy Intensity for Sum of Major Fuels for Non Mall Buildings. 2003.

<sup>iv</sup> Building and Social Housing Foundation and Empty Homes Agency, *New Tricks with Old Bricks*. [www.emptyhomes.com/documents/publications/reports](http://www.emptyhomes.com/documents/publications/reports).

<sup>v</sup> The costs of sprawl include higher per capita expenditures for municipal services and lost or stranded investment when school and municipal facilities are relocated to mere distant sites – all resulting in higher taxes. Other costs include loss of green space... as well as the undermining of existing town and city centers. *Achieving Smart Growth in NH*. Office of State Planning April 2003.

<sup>vi</sup> From RSA 9B:

I. In addition to clean water and air, productive mountain, forest, and agricultural open space land is one of the state's most valuable assets, and is necessary for the economy and health and welfare of the citizens. The maintenance of this asset is vital if the state is to provide future generations with the same quality of life and environment that we have traditionally enjoyed.

II. Economic development is essential to the well-being and prosperity of our citizens. However, when haphazard development sprawls across the state's landscape, our collective well-being suffers. Fortunately, economic development can take place in a form that maximizes smart growth.

III. The state can encourage development in accordance with this chapter by regularly reviewing its operating procedures, granting policies, and regulatory framework.

IV. A coordinated and comprehensive planning effort by state agencies on future development in the state is needed, which will not only improve our economy, but also encourages smart growth by locating development in appropriate growth areas and thus retaining as much open space land as possible for the long-term.

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