



Rockingham Planning Commission

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Summary:

Green Building Ordinances: Municipal Experiences from Across America

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Introduction

In 2007, the Rockingham Planning Commission conducted a report for the City of Portsmouth on the experiences municipalities have had with Green Building Ordinances. The focus of the report was to look at the communities' successes and challenges encountered by implementing higher energy efficiency and sustainability requirements. Out of the 72 communities with Green Building Programs, 8 communities were chosen to be studied more in depth through personal phone interviews and written survey. These communities were chosen based on varying geographic regions, population size, size of green building program and willingness to participate. These communities included:

- Arlington County, Virginia (pop. 203,000)
- Austin, Texas (pop. 700,000)
- Boston, Massachusetts (pop. 590,000)
- Cambridge, Massachusetts (pop. 101,000)
- Cranford, New Jersey (pop. 22,000)
- Epping, New Hampshire (pop. 6,000)
- Normal, Illinois (pop. 50,000)
- Pleasanton, California (pop. 66,000)

The goal of this research was to help support efforts already underway by the City of Portsmouth to strengthen their green building requirements, which include density bonuses to the private sector in their Central Business A District. While the report was conducted for Portsmouth, it is applicable to any community that is considering adoption of Green Building Standards. A copy of the full report is available from The Rockingham Planning Commissions website (www.rpc-nh.org).

Green Building Programs in U.S.

**Summary Table: Jurisdictions with Green Building Programs
United States**

Category	Commercial	Residential	Public
Total Green Programs		72	
Programs in Respective Areas	33	26	60
Mandatory Program			
LEED Certified	8	6	21
LEED Silver	3	n/a	36
LEED Gold	n/a	n/a	4
Other Standard	5	2	4
Incentive Program			
Tax Credit or Other Financial Incentive	8	5	n/a
Increase Density/Building Code Variance	6	7	n/a
Priority Plan Review	8	6	n/a
Permit Fee Reduction	3	2	n/a
Staff Support	2	2	n/a
Voluntary/Education Program	3	4	n/a

* Due to many jurisdictions having multiple programs, the totals do not add up.

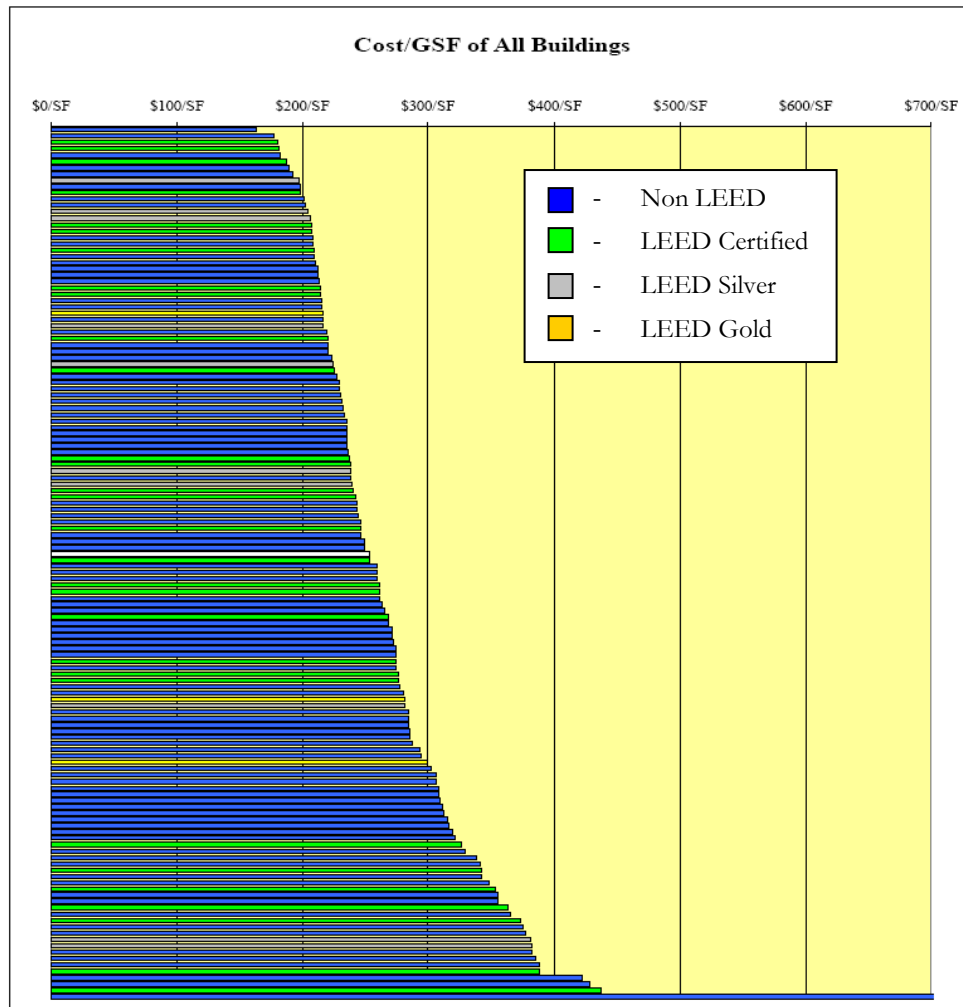
Source: USGBC, 2007

- **Municipal Projects:** Communities favor mandating green development on municipal projects over mandating private development to meet the requirements. Mandates on commercial development is favored over mandates on residential development.
- **Residential Development:** Mandatory programs on residential development is limited to multifamily dwellings.
- **Incentive Programs:** Incentive Programs are a preferred method to encourage residential development to build be built using green building standards. Incentives can also be used in combination with mandated programs.
- **LEED Standard:** The LEED rating system is the preferred standard to evaluate the level of green performance.
- **LEED Self Certification:** The majority of the jurisdictions require projects to meet LEED certification but do not require projects to be LEED registered.
- **Exemption Clause:** The majority of the communities include a provision to exempt buildings from the performance standard due to hardship. Additionally, newer ordinances have included a tiered program, stating if the payback period is greater than a specified period of time (5 or 10 years), then the project is exempt or the next lowest level of LEED will be encouraged.

- Minimum Threshold: Almost all of the communities with mandates offered some sort of minimum threshold that development must meet before the green building standards are applied. This varied from community to community and included minimums on square footage between 5,000 sq. ft to 100,000 sq. ft. Others had a monetary value on projects. An example is New York City which required all nonresidential projects over \$2 million to adhere to their green building standards.

2. Costs of Green Building in US

**Comparison of Green Building Costs
United States**



Source: Langdon, Davis. 2007

- Projects meeting green building standards are no more expensive to build than conventional projects. They are evenly distributed throughout the study's sample.

3. Recommendations:

- Use LEED as the standard: USGBC LEED building rating system is the national standard to evaluate the performance standards of green development and should be used as the standard in developing a green building ordinance. While customized standards are becoming increasingly used, this is being done by larger municipalities who have dedicated staff working on green development. (Epping is an exception).
- Self Certify projects: Projects should be self certified through the public plan review process. Self certification process does not require developers to register projects with USGBC. Self certification reduces the burden on town employees (building inspectors and planning departments) and minimizes the costs to the developer.
- Municipal Standards: Towns should lead by example. The first step is to pass an ordinance mandating green building standards on municipal buildings. Discussion should include sunset provisions, requirements on new construction versus existing structures, minimum thresholds (ex. sq. footage) and rules on exemptions.
- Minimum Thresholds for Private Development: Most green building ordinances offer a minimum threshold that a project must meet before green building standards are applied. These thresholds include restricting green standards to certain zones, minimum square footage on projects, or minimum dollar value on a project.
- LEED Accredited Professional: It should be a requirement that a LEED Accredited Professional (AP) shall be part of the design team working on projects that must comply with the green building standards.
- Plan Review Advisory Committee: Local Energy Advisory Committee should be utilized as advisors to Planning Boards in reviewing plans adherence to green building standards.
- Stakeholder Forum: Hold stakeholder forums representing developers, finance, businesses, building inspector, public boards, and energy advocates to craft ordinance that will work for everyone.
- Incentive Programs: Incentive programs have had varying levels of success, largely determined by the level of the development community to buy in to the green building program. Mandating standards will have definitive results but may take longer to pass at town meeting. Educational outreach by Local Energy Committees on green development standards will help to improve the success of any incentive program.
- Costs of Green Building: If developers incorporate green building practices early on in the project design process, they are able to fulfill the projects a minimal if any increase to project costs.

4. Additional Resources- Pertinent Studies:

Boston Society of Architects, Case Studies in New England,
http://www.architects.org/portals/index.cfm?doc_id=123#case_studies.

Fisk, William J. 2000. *Health and Productivity Gains from Better Indoor Environments and Their Relationship with Building Energy Efficiency*. Annual Review of Energy and Environment 25: 537-66.

Kats, Greg. 2003. *The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force*.

Langdon, Davis. 2007. *Cost of Green Revisited: Reexamining the Feasibility and Cost Impact of Sustainable Design in Light of Increased Market Adoption*.

Mayor Menino's Green Building Task Force. 2004. *Everyone Benefits From Green Building*. Boston.

Regional Environmental Planning Program (REPP). NH Dept. of Environmental Services, NH Office of Energy and Planning. 2007. *Innovative Land Use Planning Techniques Guide, Energy Efficient Development*, <http://www.des.state.nh.us/REPP/index.asp?go=ilupth>.

US Green Building Council. 2007. *LEED Initiatives in Governments and Schools*.
<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1780>.

Yates, Alan. 2001. *Quantifying the Business Benefits of Sustainable Buildings*. Center for Sustainable Construction. Building Research Establishment Ltd. Project Report number 203995.

Yudelson, Jerry and Alan Whitson. 2004. *365 Important Questions to Ask About Green Buildings*. Portland, OR: Corporate Realty Design and Management Institute.