For the Public Good

Sustainability Demonstration in Public Library Building Projects

Lynn Boyden and James Weiner

Sustainable design of public libraries provides a highly visible and effective venue for communicating the benefits of environmentally responsible construction and building to the community. At the same time, it reduces the burden of a community's support of the operating expenses of the building and increases the productivity of both library patrons and staff. This article places the concepts of sustainability in the context of the "bootstrap" philosophy underlying Andrew Carnegie's gifts to libraries across the nation in the late nineteenth and early twentieth centuries.

> Whatever agencies for good may rise or fall in the future, it seems certain that the Free Library is destined to stand and become a never ceasing foundation of good to all the inhabitants.
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> —*Andrew Carnegie, 1881, at the laying of the foundation stone of the Dunfermline Free Library*

Introduction to Sustainability

The three aspects of a sustainable culture are often described as environment, economy, and equity.

Environment

The major story of the 3.8 billion-year geologic history of the earth has been about the removal of toxic compounds from the earth's surface and atmosphere. Geologic processes have tempered an atmosphere swirling with caustic and inhospitable compounds, allowing life to evolve from the proverbial primordial soup. Some toxins have, over time, been sequestered beneath the earth's surface, locked up in things like fossil fuels and radioactive compounds. From this perspective, over the last two hundred years, human endeavor has been largely about releasing these toxins from their sources and reintroducing them into the environment in which we live. In the geologic sense, our very recent pursuit of industry and economic progress has been a concerted effort to reverse a natural process of billions of years. This is not sustainable.

Economy (of Resources and Means)

Much of our industrious life is spent in the creation and use of buildings. It is reported that the creation of buildings generates nearly 40 percent of United States landfill, consumes 25 percent of all harvested wood, and uses 3 billion tons of raw materials annually.[1] Daily operation of these buildings (air conditioning, lighting, and powering electrical equipment) accounts for more than 30 percent of the total energy consumed in the United States and two-thirds of the electricity produced here. The ill-considered use of nonrenewable resources and generation of waste in construction and operation of buildings is expensive in both the short run and the long term. The detachment of the culture from essential natural processes contributes to atomization of community, as individuals must compete for scarcer resources in a setting where the complex interdependency of systems is little understood.

Energy efficiency does not refer merely to the ongoing cost of operation, but also takes into account how energy and other resources are consumed in the production of the materials and in the labor used in the construction process. The savings in operating expenses resulting from sustainable design will be realized by local communities for years to come over the course of the life of the building.

Sustainable design provides solutions to this broad problem, and others, by addressing individual issues in the context of larger interrelated systems. The sustainable design process begins by understanding the true goals of a community and allocating resources appropriately to meet those goals. Sustainable buildings are designed and built to reduce reliance on nonrenewable resources, to consume only the resources that are needed, and to shift consumption of those resources to recycled or recyclable products, thus reducing waste. Dollars diverted from the purchase of imported energy and materials can be reinvested in local economic development.[2] Such buildings provide healthful spaces that contribute to the productive livelihood of those that use them.

Equity

Sustainable processes solicit and incorporate the contributions of those com-

munities involved in the project. This involvement begins in the planning stages and continues throughout the design, construction, and occupancy phases. These processes reveal essential aspects of the local culture by bringing them to the table at the outset. Issues are identified, prioritized, and made into action items through meetings between members of the community and government, utility, and funding agencies. This balancing of interests promotes the development of a community network that is self-sustaining.

Sustainable processes lead to individual projects that support our health and aspirations in a way that takes into consideration the needs of future generations. In sustainable design, the programming, construction, and operation of our buildings are understood to be a part of a long-term life cycle of investment, use, and renewal that can be measured by appropriate means.

The Carnegie Library as the Center of the Community

Andrew Carnegie began funding the building of public libraries in 1886 as a direct result of his strongly held belief, espoused in his 1889 article *The Gospel of Wealth*, that an individual's wealth, beyond what was needed to meet the requirements of one's family, should be regarded as a trust to be administered for the benefit of the community.[3] In his speech at the opening of the Carnegie Library in Pittsburgh, he stated, "What we must seek for surplus wealth, if we are to do real, genuine good, are uses which give nothing for nothing, which require co-operation, self-help . . ."[4] Given free access to a private library during his youth as a weaver's son, Carnegie felt that the creation of free public libraries throughout America would allow motivated individuals the opportunity for self-improvement and self-education. This education would permit them to realize their potential. His hope was that these self-made men would follow his lead and repay the debt by investing their wealth into their communites.

His first library gifts were simple donations of money; later he and the staff of the Carnegie Corporation refined the funding process to require that a commitment of extensive support from the recipient community be made. In order to be eligible for funding for a Carnegie library, a community was required to levy an annual tax against itself equivalent to 10 percent of the total gift to support the building maintenance, collection development, and staff salaries.[5] This was intended to identify those communities that were willing to make their own contribution to Carnegie's efforts to improve its citizens.

Carnegie understood that the library plays an essential role in the development of individuals and their communities. He constructed a program that inextricably linked individual growth to a community process revolving around the library. Carnegie's sustainable process demanded community involvement and commitment. It created a singular place where any person could have access to the information they desired to improve themselves to the benefit of their community. His foundation created a method for carrying his ideal forward to future generations.

The Evolution from Symbolic to Practical

The architecture of the Carnegie libraries was singular and, where possible, expressed the library as a temple in a park in their form and siting. The library was an exalted space in Carnegie's view, and it served his ideals to evoke this sensation in the communities where these libraries were built. The classical style (though not always rigorously so) conveyed a sobriety of purpose. These buildings stand at the center of democratic civic order prompting the secularization of information. The public embraced these buildings and came to respect the library's importance as a gateway to information.

The public library has been a center for community activities since Carnegie began his philanthropy, and so this formal architectural symbolism no longer carries the same message. Library buildings now can be read more directly and describe their relationship to their environs and users. Library programs have extended well beyond the provision of ready and equitable access to books. ALA now speaks explicitly of "building sustainable communities" through the creation of outreach programs, homework centers, and workshops. Many of these programs are conducted outside of library hours, and in rooms that can serve patrons independently of the traditional library functions of circulation, reference, and access to materials.

Libraries also can serve their communities by carrying the message of sustainability to the community at large. This certainly includes outreach programs, access to collections, and resources that allow community members to inform themselves about relevant issues that affect the decisions that must be made. The challenge for libraries can be carried further to include buildings and operation. The dialogue that informs the library-building mandate must now include a response to local environmental conditions. The library building itself can express a community's pressing need to take local responsibility for processes that have global impact.

Support in the Public Realm

In the spirit of the Carnegie tradition of helping others to help themselves, there are various funding incentives available from government agencies, planning commissions, utility companies, and associations of local governments for sustainable building practices. Sustainability advocates can also augment finite capital funding sources by taking advantage of the following.

Educational Programs

The library is increasingly the site for the extended curricula of local schools, colleges, and universities, and their distance learning programs. These programs can be promoted through and funded by a variety of agencies. In California, for instance, the recently approved voter referendum Proposition 14 provides funding for the construction of joint-use public library facilities, with an emphasis on cooperative/collaborative facilities.

USGBC / LEED

Without measurement and recognition of demonstrated sustainable efforts, the message of sustainability can be lost. The U.S. Green Building Council's Leadership in Energy and Environment Demonstration (LEED) certification program is one such nationally recognized program. This program allows for the comparative evaluation of projects, and awards points for buildings that meet requirements related to site design, water efficiency, energy and atmosphere, materials and resources, and indoor environmental air quality. LEED Green Building certification comes in four levels: certified, Silver,

Gold, and Platinum. A Platinum-certified building meets stringent criteria, satisfying at least fifty-two of sixty-four possible core points (five additional bonus points are available). In the city of Seattle, any new construction over 5,000 square feet is required to meet the criteria for LEED Silver certification. (LEED has been adopted in Seattle with regionally specific amendments to the national program.)

Funding Programs

The advantages to integrated solutions to building programs frequently include third-party beneficiaries to the process. These can be identified and brought to the table as vested stakeholders in the solution process and its funding. Common beneficiaries include utility companies and those public agencies involved in water use, storm water control, air quality, and waste management. Private entities involved in distributed power generation and construction materials often provide assistance, especially for the introduction of new technologies.

Buildings That Teach

It is often argued that it is efficient (measured in first cost savings) to do things as they are most commonly done. If buildings were designed and built so that all four sides were the same, it would certainly be faster and cheaper than making each face individually respond to the different conditions at each side. Standardized solutions and their wide acceptance were a primary basis for the Industrial Revolution, and much of today's building environment has been realized with relatively standardized responses to widely differentiated sites and problems. But what worked for the automobile factories of Henry Ford and the steel mills of Andrew Carnegie is not a sustainable solution for the building environment. Standardized approaches to complex, site-specific projects bring compromises that reveal their true costs over time. These costs are borne by the environment and by the members of the communities in which the projects are built.

Resistance to mainstreaming environmentally responsible processes in our community comes primarily from a common lack of understanding of the long-term costs of producing buildings that are not sustainably designed and constructed. Opposition often comes from a reluctance to commit to technologies, materials, and processes that are perceived as nascent or unproven. This resistance is strong, and it must be acknowledged, understood, and addressed directly in order to be overcome by those who are committed to introducing change into their community. This increases the potential for higher initial costs associated with the use of unique materials and systems, and the likelihood of longer time schedules associated with prototyping designs, means, and methods of project delivery.

One way of overcoming resistance is with a successful demonstration project. Demonstration is valuable to bringing new ways of doing things into the mainstream. It requires a dedication to learning, involvement, and implementation that is at a higher level than for typical projects. Demonstration shows a commitment to the long-term return on an initial investment, savings in future costs related to maintenance or operation, or the implementation of nascent or untested technologies. Demonstration projects also set the groundwork for planning future projects. This kind of engagement makes a demonstration project effective as an agent for change and rewarding as a path of community action.

Public buildings are especially important to demonstrate novel practices that support a longer-term and larger definition of community. At their best, these buildings are the result of a shared consensus regarding community needs and goals. As such, they have already embraced a primary aspect of sustainability: community involvement. Public buildings are broadly accessible and so can illustrate their solutions to great numbers of people. As their use is typically intended for the long run, their sustainable qualities will remain unaltered or enhanced, and their measurable benefits more evident with the passage of time. As the building ages, this longer-term life expectancy allows for a clear illustration of the long-range benefits of sustainable construction, materials, and processes. Since the operation and maintenance expenses are a part of the public record, these also can be useful in demonstrating savings over the long term.

Libraries have highly visible and accessible spaces, open to all members of the community. Thus, the library plays a special role in the community. As a focal point for the interface between participants in the community and the world of information, the library's connection to education is direct. The diverse client base of a typical public library makes it an ideal place to teach the concepts and realities of sustainable processes to the community. The opportunity to provide information about how this library is different, and why, affords an additional venue for communicating the sustainability message.

Conclusion

As discussed at the Libraries Build Sustainable Communities preconference held at the ALA Annual Conference in Chicago last summer, sustainable communities do not happen without a focused and concerted effort to ensure their success. Andrew Carnegie made a contribution to a sustainable community when he established his criteria for awarding library grants. His strong drive to help those who help themselves was expressed in his requirements that a community make a long-term commitment to support the library in the building he was donating. His inclusive process built cooperation, ensured commitment, and led to an understanding of a community's common goals. The move toward sustainable processes, materials, and operations in library buildings is the logical extension of Carnegie's bootstrap approach to library building. ■

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References

1. D. Roodman and N. Lenssen, "A Building Revolution: How Ecology and Health Concerns Are Transforming Construction," Worldwatch Paper #124 (Washington, D.C.: Worldwatch Institute, 1995), 22.
2. R. Brown, B. Green, and L. King, "Sustainable Development: Municipal Services with Broad Appeal," *Nation's Cities Weekly* 18, no. 6 (1995): 7–10.
3. A. Carnegie, *The Gospel of Wealth, and Other Timely Essays* (New York: The Century Co., 1901), 15.
4. "The Carnegie Library of Pittsburgh," *Library Journal* 20, no. 11 (1895), 383.
5. A. Van Slyck, "'The Utmost Amount of Effectiv [sic] Accommodation': Andrew Carnegie and the Reform of the American Library," *Journal of the Society of Architectural Historians* 50, no. 4 (1991): 369.