

The Leighty Foundation: Investing in Capital Projects

The Leighty Foundation mission:

To carry on the Leighty family legacy of service and stewardship by leveraging our time and talents, as well as The Leighty Foundation financial resources, primarily in the areas of Earth protection, education, and the promotion of philanthropy and volunteerism & civic engagement.

The Leighty Foundation invests in grants and contributions to a variety of non-profit organizations working diligently, to deal with today's problems and opportunities, to advance the Foundation's dedication to sustainability--- meeting our needs without compromising the ability of future generations to meet their needs.

Although not a major focus of ours, we have invested in the capital campaigns of a few non-profit organizations. Usually, the grantee had chosen the site and the designer(s), and had designed the project before they contacted The Leighty Foundation about funding.

We believe our investments in capital facilities should be consistent with, and supportive of, our interests in energy conservation and efficiency. We feel this can best be done with a focus on replacing fossil energy sources with renewable energy sources, on public transportation, and on community and land use planning to prevent loss of farmland and wildlife habitat to urban sprawl. When we choose to consider capital projects funding, we want our investment in the project to minimize long-term cost to its human users, and to Earth. Therefore, we wish to be involved— if at all-- in capital projects at their earliest planning stages.

We are pleased to be able to share these thoughts with other foundations, with those considering a capital project, and with building and community design professionals. We hope to help build a mutual planning and funding interest among grantors and grantees, so that capital projects are designed and built that are ever more sustainable; that build long term Community. We are not professional planners or architects, and wish to learn as much from you as you may learn from us.

One of our board, Bill Leighty, is especially interested and informed in energy conservation, community and building design, and capital projects design. He has spent time with potential grantees suggesting improvements they might make to building design. Please contact him directly, if you wish to discuss this paper or a specific project: Phone: 907-586-1426

We consider these features of capital projects:

Land use:

1. Will the facility be built on redeveloped land, rather than on raw land now used, or valued, for agriculture or wildlife habitat?
2. Will the facility be built well within the urban boundary, rather than on the periphery of the community, or beyond?
3. Will the facility be built close to existing public transit routes and stops? Will staff and clients easily access the facility with transit? Will it stimulate improved transit?

Siting:

1. Does the site have an unobstructed southern exposure, except for deciduous trees, to facilitate passive or active solar gain and / or photovoltaic (PV) generation?
2. Will the facility be positioned and oriented on the land so as to take advantage of:
 - a. passive or active solar energy for heating and daylighting and / or photovoltaic (PV) generation?
 - b. "GeoExchange" (geothermal: ground-source heat pump) energy for heating and cooling;
 - c. landscaping and tree planting to shade the building and provide garden space?
2. Will minimum site area be dedicated to parking, to encourage public transit use?

Building design, if the project includes a building:

(This is not an exhaustive list; it may be climate-specific.)

1. How well is the building envelope insulated? R-values of walls, roof, and windows?
2. What is calculated annual energy consumption, btu / square foot / year? How good is that?
3. Is the major fenestration (window area) oriented south-facing, and designed to capture winter solar energy and reject summer solar energy? Low-e coatings on glass? Are light shelves employed? Are deciduous trees shading the south windows?
4. Is most of the interior lighting:
 - a. fluorescent, with high-efficiency, high-frequency electronic ballasts and specular luminaires?
 - b. controlled by lighting-level sensors, to switch off or dim lights as daylight increases?
 - c. fitted with high-CRI, low-mercury-content lamps?
2. Do exterior building, grounds, and parking lighting use minimum energy consumption, HID or other plasma lamps, shielded so that all light is directed downward?
3. Does the heating, ventilating, air-conditioning (HVAC) system use a "smart" control system and heat recovery ventilators, or ventilating heat pumps, to recover energy from exhaust air?
4. Will life-cycle-costs (LCC), be included in designers' calculations? Will external costs of electric energy generation, and of other energy use, be included in the LCC analysis? These external costs include carbon dioxide (CO₂) emissions, acid rain, depletion of non-renewable resources, etc. Is the building designed to minimize LCC? Over what time period; at what discount rate?

Commissioning: Does the potential grantee have a strategy to assure the building owner that the building envelope and lighting and HVAC equipment, systems, and controls are working together as intended, transforming the building and site into an integrated whole?

We have found that our early involvement in considering a project for financial support is important. We hope that considering the above questions might nudge a capital project toward more sustainable design and function within a Community.

We imagine other charitable foundations have similar experiences and interests, and have felt similar disappointments when asked, late in a project, to fund a facility which compromises some of their other funding interests.

We wish to promote, through better design, "high-performance" buildings, which:

- maximize operational energy savings

- ❑ improve comfort, health, and safety of occupants and visitors; sense of health and well-being; tangible increases in worker productivity
 - ❑ limit detrimental effects on Earth-- the environment
 - ❑ raise expectations for the facility's performance among the various participants in its design; create partnerships in design and construction process for environmental and economic goals
- The value of high performance buildings is easily underestimated by traditional accounting methods which fail to recognize "external" local, regional, and Earth-wide costs and benefits. "Internalizing" these external, but very real, costs and benefits is an appropriate challenge for the philanthropic, and independent, sectors.

❑ For further information, these resources and websites may be helpful:

- *Green Building Resource Guide* contains a database of more than 600 green building materials useful to architects, builders, and other design and building professionals:
www.greenguide.com
- *Sustainable Site Design Philosophy*, by Andropogan Associates, Ltd.
www.nps.gov/dsc/dsgncnstr/gpsd/ch5.html
- *Sustainable Building Technical manual: Green Building Design, Construction, and Operations*, Public Technology, Inc., US Green Building Council, USDOE
www.usgbc.org

The LEED (Leadership in Energy and Environmental Design) Green Building Rating System® is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council representing all segments of the building industry developed LEED and continue to contribute to its evolution. LEED standards are currently available or under development for: New commercial construction and major renovation projects (LEED-NC), Existing building operations (LEED-EB), commercial interiors projects (LEED-CI), Core and shell projects (LEED-CS), Homes (LEED-H), and Neighborhood Development (LEED-ND)

- NRDC (Natural Resources Defense Council) web site contains helpful references about their office www/nrdc.org
- Rocky Mountain Institute www.rmi.org
 - Greenfootstep www.greenfootstep.org
- EPA Energy Star www.epa.gov/energystar/
- American Solar Energy Society www.ases.org
- UCS (Union of Concerned Scientists) www.ucsusa.org
- Environmental Law and Policy Center, Chicago www.elpc.org
- The Oikos Green Building site has an online searchable database of green building material:
www.oikos.com
- Environmental Building News www.ebuild.com
- American Institute of Architects (AIA) www.aia.org
- E-architect www.e-architect.com