

CHAPTER V - GREEN PLANNING

In addition to land use and town policies associated with specific character areas, one topic area emerged in the planning process as cutting across character areas - Green Planning. The concept of Green Planning is being embraced by more and more communities at the local level as concerns about the environment and climate change mount and as people around the world are realizing that we are all connected as residents of one planet and that the impacts of local communities can have a direct impact on the collective quality of life and the environment across political and cultural boundaries.

ISSUES AND OPPORTUNITIES

The use of energy in the United States continues to increase while at the same time energy costs are rising. As of July, 2008, crude oil was at an all-time high of \$143 per barrel. In the United States, the consumption of energy is attributed to two major sectors: buildings and transportation. Much attention has been given to creating more fuel-efficient vehicles to help reduce transportation-related energy usage. However, there are more effective ways to approach transportation-side energy usage at the local and regional scales – through the coordination of land use and transportation. By creating communities where people can walk to the store or take a bus to work, we can have a much greater impact on energy usage.

On the other end of the spectrum, our buildings account for a large majority of energy consumption in the US. According to the U.S. Green Building Council, buildings in the United States account for 36 percent of total energy use and 65 percent of electricity consumption. Buildings have many other impacts ranging from greenhouse gas emissions to raw material usage. As energy prices continue to increase, the costs of constructing and operating buildings continue to increase, placing burdens on homeowners, governments, and businesses.

The costs of unsustainable land development, planning and building construction can be immense and they are often unknowingly imposed on the entire community. For example, if not planned and sited properly, development can impact natural resources such as drinking water, requiring the construction of costly water treatment systems. Several major research studies have suggested that there is a connection between sprawl and health problems such as obesity, because these developments are typically disconnected from other destinations and designed

for automobile travel. In contrast, mixed-use communities provide opportunities for people to walk, bike or use a combination of transportation modes to travel between neighborhoods, and to stores, schools, offices and other destinations.

Rising energy costs and the impacts of our (national and local) land use and transportation decisions affect families and businesses in everyday activities - at the gas pumps or in the grocery store. Rising energy costs also effect our local governments –for example by costing more to plow the roads, pave the streets, or heat the schools. These costs eventually trickle down to the taxpayer.

Each building can play a part in reducing the energy usage, greenhouse gas emissions and material usage by employing green building techniques. The North Country has been a pioneer in the use of green building practices related to energy conservation. Homes are well insulated and sited to take advantage of solar heat gain. Roofs are pitched and metal roofs are used to address the issues of heavy snowfall. These types of regionally-appropriate building techniques have been around for centuries. In recent years, most newly built homes, both locally and nationally, have been built to a standardized template that places little regard for regional vernacular. A home built in Watertown is, for the most part, similar to a home built in Florida, with the same design features included. In many cases, the result is excessive electrical or natural gas use due to air conditioning or heating needs that could be otherwise mitigated if local building customs were adhered to.

It is also important to note that while green building techniques can substantially reduce our energy usage, the careful siting of development in areas with existing infrastructure and public transportation systems is the most important decision that can be made to reduce our collective impacts. Green building techniques are not only for new buildings – they can be used to retrofit existing buildings. Whether a building is new or old, green building practices should be monitored to ensure that they are operating effectively over their lifetime.

CREATING HEALTHY COMMUNITIES

The creation of healthier, more environmentally sustainable communities requires the cooperation of many different players. The following list begins at the broadest level, with “regional planning” strategies to address development patterns and practices that transcend municipal boundaries, and concludes with strategies for maintaining “healthy indoor air quality” for individual structures. Communities interested in creating healthy communities should diversify their approach by implementing strategies along the entire spectrum, from broad regional strategies, to the nuts-and-bolts strategies relating to buildings and indoor environments.

1. Thoughtful **regional planning** to ensure that new development is sited in or near areas with existing infrastructure, services, and public transportation systems.

Regional planning considerations might include:

- Locating housing near where people work and near schools
- Preserving large areas of significant resources such as agricultural soils, drinking water and forests
- Concentrating development in areas with existing services
- Developing regional multi-modal transportation systems

2. **Neighborhood scale planning** to ensure diversity and connectivity within and among communities.

Neighborhood planning considerations might include:

- Planning for mixed-use development that allows people to pick up groceries or other necessities without making long trips
- Developing interconnected street networks that allow people and children to walk or bike from one neighborhood to another
- Making safe pedestrian connections between neighborhoods and schools
- Linking neighborhoods to trails and bus stops

3. Careful **site planning** to minimize the impacts on the environment and reduce the development “footprint.” A building should be sited in the area that will have the least impact on the environment.

Site planning considerations might include:

- Reuse of previously developed sites
- Use of stormwater management best practices that filter pollutants before they reach groundwater or surface water
- Preservation of mature vegetation and trees
- Managing erosion during construction
- Protect existing natural features such as wetlands, rivers, and stream channels, including riparian and wetland buffer areas, aquifers, etc. These areas serve to improve water quality and maintain biological integrity of aquatic resources as well as provide areas for recreational activities and wildlife habitat

4. Using materials and techniques to **conserve energy**.

Energy conservation techniques might include:

- Using passive solar orientation to take advantage of the sun’s heat in the winter months
- Selecting renewable local building materials, such as local timber, which does not have to be shipped across the country
- Use of appropriate alternative energy sources such as geothermal, solar or wind power
- Use of energy-efficient lighting and energy efficient appliances
- Use of high R-value insulation materials

5. Using materials and techniques to **conserve water**.

Water conservation techniques might include:

- Using water saving shower heads, faucets and toilets
- Recycling of greywater (wastewater from sinks, tubs, or laundry machines)

- Using native plants and grasses that require less watering
6. Using materials and techniques to ensure **healthy indoor air quality** (90% of our time is spent indoors).

Techniques to preserve indoor air quality, and thus maintain healthy indoor environments, might include:

- Selecting low-emitting building materials
- Using natural ventilation systems
- Making sure to flush out the building before it is occupied to remove noxious or toxic gases present from the settling of carpeting and other building materials.

IMPLEMENTING GREEN BUILDING AND RESOURCE CONSERVATION

There are a number of ways that green building practices can be implemented in a community. Below is a short summary.

1. Many communities are taking a closer look at their **zoning and land use regulations**, which are sometimes not supportive of green building practices. Review and analysis of town code can help to uncover potential barriers for green building and site development. For example, regulations may require excessive parking and not allow for the use of pervious pavements or unpaved overflow parking areas. Another example would be a regulation that prohibits wind mills on farms and rural areas, or makes it excessively difficult for a landowner to erect a windmill. In the case of LeRay, care should be taken to site windmills, or other like tall structures, in areas that do not impair Fort Drum's training and operations.
2. Many communities make efforts to **design and construct public buildings - such as town halls, schools, and community centers - using green buildings practices**. Green buildings can be cost-effective for a community and they also serve as a model for other development. The LEED Green Building Rating System® is the most

commonly-used standard for green building in the United States. However, there are other standards such as the US Environmental Protection Agency's Energy Star Home program. Some communities have even developed their own set of standards.

While a community must always consider its fiscal responsibility to taxpayers, it can be wise to spend a little extra to evaluate the cost savings of green building over time. Many communities have found that while the initial costs of a green building may be higher than a conventional building, the long-term cost savings can be substantial.

3. Some communities have taken steps to influence the private market by creating **incentives to promote green building practices**. For example, the Town of Acton, MA offers a density bonus for buildings that achieve LEED certification in the East Acton Village District.
4. Some communities are **requiring new development to adhere to green building standards** if it meets certain thresholds, such as commercial square footage. For example, the Town of Babylon, NY adopted a local law that requires LEED certification for new construction of commercial, industrial, or multiple family buildings over 4,000 square feet. The town refunds the certification fees to the developer.
5. **Education** is a major component of green building. Education extends across the spectrum- from homeowners, to town departments, builders, and contractors. Promotion of green building alternatives and their benefits to homeowners is one way to influence decisions. Hands-on training for all departments of town government - from the highway department to the building inspector - can help to ensure coordination and eliminate conflicts between policies and programs. Promotion of green building practices to developers can also be done by providing information when they first inquire about a development project. Information on existing state and federal programs and grant opportunities, such as those offered by the NYS Energy Research & Development Authority (NYSERDA) can also be provided at Town Hall.

Green practices and resource conservation can be implemented in many ways at the local level. Town departments and programs should be coordinated in order for effective municipal actions to take place. For example, some of the types of actions that might be taken at the municipal level by the town highway department include:

- Transition highway vehicles to alternative fuels
- Landscape with native plants or avoid the use of invasive species
- Use recycled materials in road pavement
- Evaluate the potential impacts of road salts or highway mowing on important species or natural communities
- Develop effective stormwater management systems that also serve as wildlife habitat

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