

Managing Urban Trees to Meet Public Preferences



Policy Brief

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Urban trees and green space plays a special role in building a livable community. There is an increasing demand for aesthetic, ecological and economic functions from urban trees. Trees provide a lot of socio-economic and ecological benefits in urban areas, such as improvement of air quality, groundwater recharge, modification of microclimate, reduction of noise levels, saving of electricity use, and provision of wildlife habitat. Trees also make neighborhoods aesthetically appealing and provide community residents mental and physical benefits from a visual pleasure environment. However, the

functions might conflict each other. To use urban trees to promote community development, it is required to know not only the ecological functions but also public preferences and attitudes towards both biophysical presence of trees (e.g., the amount, size, species and spatial configuration of trees) and urban forest management and governance (e.g., tree ordinances and tree program financing). Policy should be designed to build ecologically healthy, economic viable and aesthetically appealing community.

What Urban Trees and Landscaping People Like?

As a conceptualization of people's mind, preference of landscape is an important part of assessment of landscape quality. The visual contribution of trees is largely a function of design. The line, size, location, form, texture, shape and color of trees as well as spatial configuration are important design elements and landscaping.

The results from our study indicate that most people prefer to live in a house surrounded by a lot of trees. Large trees with wide round canopy seem also favored. Most people do not like a lot of open space, and most of them indicated that they prefer a landscape with trees close to home. In this way, trees provide shadows and cover. The most preferred three designs look as the pictures:



The results also found that students majoring in wildlife science are more inclined to choose wildness/natural residential environments. This difference might come from the different education or even earlier experience: wildlife science students are more knowledgeable or more appreciating of ecological systems and more concerned about wildlife habitats. They are better informed about the notion that “messy is good.” It is also found that environmental group members more prefer to choose a natural landscape. People with a greater knowledge of ecosystems more prefer ecologically sustainable landscape. It also suggests a potential way to change public preference is to raise awareness and promote ecological education.

Although most people claimed that they love nature and wild-look residential landscape, the result suggests that they prefer to live in a clean and well maintained environment. This is consistent with earlier studies suggesting that residents prefer a natural-looking but managed forest. Woodlands with logging residues, dead snags, and decayed wood were not appreciated. Neatness may not only be a desire for aesthetic appreciation, but also a product of public communication. Humans are social animals and have complicated social relationships. A manicured lawn, clipped shrubs, and colorful flowers indicate the owner’s care for the community.

Considering residential landscape as humans’ closest environment, the culture and preference too much emphasis of the neatness may be sinister. For example, the obsessive quest for the perfect green lawn in the U.S. has caused

environmental problems such as groundwater pollution. Moreover, the pursuit of neatness is costly (e.g., the time and maintenance fees). One policy implication that can be drawn from the results is the importance of coordinating people’s preferences (the neatness-look) with ecological function. While people perceived attractiveness related with neatness—white stone edging, pathway, and horticultural plants, a landscape designer or manager might explore a way to make “wildness” look “neat.” This is some kind of a way to deceive the viewer’s eyes. It was suggested that some design strategies, such as “vivid care” which can draw attention to the human presence in healthy landscapes in order to sustain ecological health over time. Those strategies bring aesthetic expectation in a way that benefits landscape ecology.

Another policy implication is to use education and information to shape people’s preferences with ecological landscape. A better understanding of the consequences of landscaping behavior would affect our preferences. Educational material should emphasize the beauty as well as the health of a sustainable, managed landscape. Professor Joan Nassauer of University of Michigan suggested “appreciation based on knowledge is the only way to avoid aesthetic omissions and deceptions”. In a similar way, encouraging the public’s participation in tree-planting activities may increase the participant’s ecological knowledge, and thus may change their preferences toward forest management.

How to manage urban trees

To better manage forest program, intuitional designs, from laws and regulation to financing and other policies, are very important to have a successful urban tree program. Tree ordinances offer guidance to residents, and specify the rights and responsibilities and minimum standards to regulate human relationships regarding trees. Like many laws and regulations, tree ordinances are more successful when they include public participation and citizen leadership. For example, city tree commissions have usually been established through public involvement taking responsibility to develop and amend tree ordinances. Developing tree ordinances is a great opportunity to engage public participation, solve local issues through negotiation and compromise, and create policy that works for the community. A wide public participation not only can help to address the issues of the stakeholders of a city, but also to provide an education tool to the public about tree ordinance, with eventual help in implementation.

Managing urban trees require financial sources, which have been suggested as the most effective means to increase urban forestry capacity. Usually different kinds of activities in urban and community forestry programs are provided from a variety of funding. Financial assistance provides money for activities to increase tree inventories and natural resources, develop management plans, and conduct workshops to train community members. The most important activities include tree planting, public awareness, and training. Now, many other activities are also occasionally supported, such as, carbon dioxide emission reduction credits, and shade tree programs for energy conservation, storm water management, and air pollution mitigation.

Individuals provide an assured source of income for many nonprofit organizations once a solicitation program is in place. Traditionally, individuals make gifts of either money or time. Members are the lifeblood of an organization. Volunteers can serve as a link between a nonprofit and a potential donor, especially a corporate donor. For example, Trees Atlanta, founded in 1985, has been a prime force in addressing Atlanta's tree loss, creating increased green space, and conserving the city's trees. Trees Atlanta has inspired thousands of Atlanta citizens to advocate for better tree ordinances to protect the city's urban landscape. The activities have been largely supported by thousands of volunteers, as well as private donations.

Our further analysis found that people who have higher willingness to participate in urban tree programs are more likely to donate money, managers and planners should take more action to encourage the public to participate in urban tree activities. To educate the public on the functions of urban tree programs is an important means of gaining their support, especially for small communities. For example, providing public education and more accessible media information can increase public awareness of urban tree programs. Family income is significantly positive influence in the amount of donation. A good economic environment helps in fund raising. Companies that have caused air pollution may want to improve their image by financing the establishment of green space. Similarly, residents whose property value will increase as a result of increased urban green space may prove willing to contribute to a related municipal bond, beautification tax or other revenue-generating mechanism.

