



# Trees Pay Us Back

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Of all the benefits that trees provide, those that are economic in nature are least understood. People naturally recognize the benefits they can see and feel. For instance, we love the visual appeal of leafy neighborhoods. And it does not take a Ph.D. to know that trees make it cooler. Seats in the shade are invaluable on a blisteringly hot day. What people do not see or feel is that trees do so much more. Trees toil 24-7, invisibly multitasking to improve the bottom line of households, businesses, and communities every day.

A number of researchers are working hard to measure bottom-line, economic benefits. Such evidence is increasingly important to justify public spending for tree plantings and care. Despite the many benefits of trees, public investment in urban forests continues to decline at the same time that tree cover is disappearing. New development, aging trees, and exploding deer populations have caused Southeastern Pennsylvania to

lose eight percent of its heaviest tree cover between 1985 and 2001. Tree cover in Southeastern Pennsylvania stands only at 27 percent, far below the 40 percent American Forests recommends for large metropolitan areas. How can we persuade decision makers to see trees, like roads, as infrastructure necessary for a healthy economy?

Many communities contend they cannot afford trees, but the Center for Urban Forestry has meticulously documented all the costs and benefits associated with public trees. The results are clear: benefits exceed costs by a wide margin. Tree benefits are, on average, three times greater than tree-care costs. Their greatest economic benefits come from increased property values and energy savings.

## **Boosting Property Values**

The American dream house may or may not be a single-family home with a white-picket fence, but it definitely sits on a tree-lined

street. Anton Nelessen and Associates, who pioneered the use of Visual Preference Surveys for community visioning, queried residents across the country about how their community should look. Consistently, one of the highest-ranked community scenes was the “cathedral street,” or a street where tree canopies form a green ceiling and create a sense of complete enclosure. When 250 residents of Detroit were interviewed concerning their preference of trees in urban areas, eight out of 10 respondents stated that trees would have an influence on their choice of a place to live.

This preference for trees translates into higher property values. Many studies have looked at the impact that mature trees and landscaping have on home values. Results vary by location, indicating the impact from a single landscaping tree ranges from one to 10 percent. Other studies have

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## Trees Pay Us Back *continued from page 6*

shown that the value of homes in neighborhoods with trees is higher than those of comparable neighborhoods without trees. In addition, neighborhood greenspaces, or greenways, typically increase the value of properties located nearby. New developments that conserve existing trees on site also command higher prices.

One of the most astonishing studies comes from researchers at the University of Pennsylvania's Wharton School. They found that trees have a huge impact on sale prices in modest row-house neighborhoods with low tree cover. The presence of just one new street tree boosted sale prices 10 to 15 percent, or approximately \$3,500 per house. That single new street tree also lifted the values of other row-houses within 50 feet. Amazingly, a \$500 investment in one new street tree resulted in a combined property-value gain of over \$20,000.

### Saving Energy

With energy costs rising sharply, people are increasingly looking for ways to save. Trees conserve energy through direct shading and evapotranspiration (the release of cooling moisture through their leaves). According to the U.S. Forest Service, three or more large trees planted on the east and west sides of a house can reduce air-conditioning costs as much as 30 percent. Just shading an air conditioning unit can capture a 10-percent savings. And, in some locations, winter heating costs can be reduced 5 percent by using evergreen trees to buffer prevailing winds and severe cold.

As populations and energy use continue to grow, planting trees can reduce peak demand and the need for costly new power plants. A study by the Center for Urban Forestry estimated that the energy saved by planting 50 million trees on residential properties in energy-saving locations could help California avoid building seven new 100-megawatt power plants in the future.

### Other Bottom-line Benefits

Researchers at the Center for Urban Horticulture at the University of Washington have spent the last decade studying trees in commercial districts. According to them, shopping has become an "experience" and much more than a routine trip to buy goods and services. Thus, amenities that enhance the shopping experience are taking on greater importance. Studies completed show that well-maintained trees create a positive impression of the district and influence behavior. Shoppers are likely to visit more frequently, stay longer, pay more for parking, and spend more on goods and services in districts with healthy, attractive, tree-lined streets.

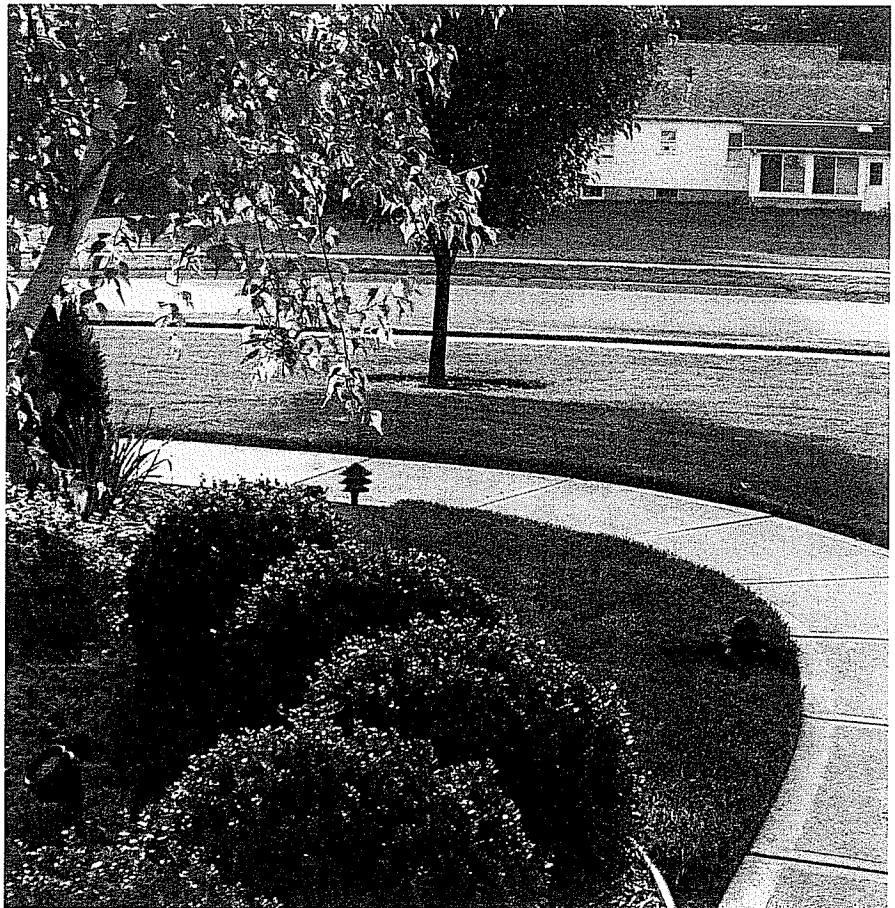
Public works budgets can also achieve big savings with trees. The Center for Urban Forestry recently reported that streets shaded by trees need less maintenance. For example, shaded asphalt requires only two-and-a-half slurry seals over 30 years, slashing resealing costs by 60 percent.

Because trees intercept rainfall, investing in them, or preserving existing trees, can preclude the need for costly stormwater systems. American Forests estimates that the existing tree cover in the nine-county Delaware Valley region detains 53 million cubic feet of stormwater. Without trees, the region would have to spend over \$105 million to build retention ponds and other engineered systems to intercept this water.

Many experts agree that planting trees is often the most cost-effective strategy to addressing a number of environmental, economic, and even social issues. What is so unique about tree-planting strategies is their multiple benefits. If trees are planted specifically to reduce energy use, they do not stop there. Trees pay us back in so many ways.

### Additional Online Resources:

- TreeVitalize: [www.TreeVitalize.net](http://www.TreeVitalize.net)
- U.S. Forest Service, Trees Pay Us Back Program: [www.na.fs.fed.us/Urban/TreesPayUsBack](http://www.na.fs.fed.us/Urban/TreesPayUsBack)
- Center for Urban Forest Research: [www.fs.fed.us/psw/programs/cufr](http://www.fs.fed.us/psw/programs/cufr)
- Center for Urban Horticulture, University of Washington: [www.cfu.Washington.edu/Research.EnvMind](http://www.cfu.Washington.edu/Research.EnvMind)
- TreeLink, An Urban Forestry Portal: [www.TreeLink.org](http://www.TreeLink.org)
- Tree Benefit Estimator: [www.AppaNet.org/Treeben/Calculate.asp](http://www.AppaNet.org/Treeben/Calculate.asp)
- American Forests: [www.AmericanForests.org](http://www.AmericanForests.org)



*Trees pay back with higher property values.*