

## Placing a Price on Nature's Free Services

### The Challenge

In order to compete successfully for limited city funding, municipal foresters need compelling evidence that urban forests are worth the investment of citizens' tax dollars. Typically municipal foresters have relied on data that analyzed trees' contributions to property values and community aesthetics, as well as the support of community tree advocates. However, as municipalities continue to tighten their purse-strings, urban foresters need additional tools to continue comprehensive urban forestry programs.

### The Solution

The USDA Forest Service Northeastern Area and the Pacific Southwest Research Station collaborated on a research study with the Minneapolis Parks and Recreation Board to determine whether the accrued benefits of public trees in the Midwest justified their annual expenditures.

### Resulting Benefits

The research study found that every tree planted in the right place and given the proper care provided \$3 to \$7 in annual benefits for every dollar invested in their care! For the first time ever, municipal foresters have data as well as a model to support urban forests' contributions to energy savings, carbon dioxide reduction, net air



*"Trees Pay Us Back" was the theme of Minnesota's 2005 state-wide Arbor Day Celebration. Each tree on the capitol grounds was tagged with the price of the benefits they provide to the citizenry.*

pollutants removed, reduced stormwater runoff, as well as increased property values. All of these benefits have been calculated into dollars providing a full accounting of the value of urban trees.

### Sharing Success

"Trees Pay Us Back" and the research summary report, "Midwest Community Tree Guide," were featured at the statewide Arbor Day Celebration at the Minnesota State Capitol. The results of the study were featured in 7 newspaper articles, 3 radio spots, and 23 television teases and segments. The Minnesota Conservation Volunteer will feature a full-length magazine story on the study. In addition, over 80 Minnesota volunteers assisted in collecting the data that was ultimately used in the research study.

The results of the report have been shared throughout the national urban forestry and municipal forestry network. Cities in the Midwest can use this model to calculate the exact benefits trees provide to their communities. In addition, the USDA Forest Service Pacific Southwest Research Station is duplicating this study in approximately 19 cities across the country to develop a model for other climate zones.

*Based on the study, street trees in Minneapolis:*

- *Saved citizens \$6.8 million dollars in energy costs*
- *Reduced 55,125 tons of carbon dioxide valued at \$827,000*
- *Removed 2 lbs. of air pollutants per tree*
- *Intercepted an average of 1,685 gallons of stormwater per tree saving \$9.1 million dollars in stormwater treatment city wide*
- *Added \$7.1 million dollars to aesthetics and property values*



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