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## Benefits of Trees In Urban Areas

Trees are major capital assets in cities across the United States. Just as streets, sidewalks, public buildings and recreational facilities are a part of a community's infrastructure, so are publicly owned trees. Trees -- and, collectively, the urban forest -- are important assets that require care and maintenance the same as other public property. Trees are on the job 24 hours every day working for all of us to improve our environment and quality of life.

Colorado's urban forest provides many environmental benefits to our community. Aside from the obvious aesthetic benefits, trees within our urban forest improve our air, protect our water, save energy, and improve economic sustainability.

Source: <http://www.coloradotrees.org/>

## **Urban Forests Can Increase Real Estate Values**

- Property values increase 5-15% when compared to properties without trees (depends on species, maturity, quantity and location)
- A 1976 study that evaluated the effects of several different variables on homes in Manchester, Connecticut, found that street trees added about \$2686 or 6% to the sale price of a home. (10)
- A more recent study indicated that trees added \$9,500, or more than 18 percent, to the average sale price of a residence in a suburb of Rochester, New York. (8)

8. Nowak, David J., “Benefits of Community Trees”, (Brooklyn Trees, USDA Forest Service General Technical Report, in review)

## **Urban Forests Can Increase Sociological Benefits ·**

Two University of Illinois researchers (Kuo and Sullivan) studied how well residents of the Chicago Robert Taylor Housing Project (the largest public housing development in the world) were doing in their daily lives based upon the amount of contact they had with trees, and came to the following conclusions:

- Trees have the potential to reduce social service budgets, decrease police calls for domestic violence, strengthen urban communities, and decrease the incidence of child abuse according to the study. Chicago officials heard that message last year. The city government spent \$10 million to plant 20,000 trees, a decision influenced by Kuo's and Sullivan's research, according to the Chicago Tribune.

Residents who live near trees have significantly better relations with and stronger ties to their neighbors.

- Researchers found fewer reports of physical violence in homes that had trees outside the buildings. Of the residents interviewed, 14% of residents living in barren conditions have threatened to use a knife or gun against their children versus 3% for the residents living in green conditions. (15)
- Studies have shown that hospital patients with a view of trees out their windows recover much faster and with fewer complications than similar patients without such views. (13)
- A Texas A&M study indicates that trees help create relaxation and well being.
- A U.S. Department of Energy study reports that trees reduce noise pollution by acting as a buffer and absorbing 50% of urban noise.

## **What a Large Tree Can Do For You**

- A large front yard tree in a San Joaquin Valley community like Modesto (dry like Colorado) provides the following benefits each year:

1. Saves \$30 in summertime air conditioning by shading the building and cooling the air (250 kWh), about 9% of total annual air conditioning cost.
2. Absorbs 10 lbs of air pollutants, including 4 lbs of ozone and 3 lbs of particulates. The value of pollutant uptake by the tree is \$45 using the local market price of emission reduction credits. Uptake of NO<sub>x</sub> by the tree is equivalent to NO<sub>x</sub> emitted by a typical car driven 3,600 miles.
3. Intercepts 760 gal of rainfall in its crown, thereby reducing runoff of polluted stormwater and flooding. This benefit is valued at \$6 based on local expenditures for water quality management and flood control.

4. Cleans 330 lbs of CO<sub>2</sub> (90 lbs C) from the atmosphere through direct sequestration in the tree's wood and reduced power plant emissions due to cooling energy savings. The value of this benefit is \$5 assuming the California Energy Commission's price of \$30/ton. This tree reduces the same amount of atmospheric CO<sub>2</sub> as released by a typical car driven 500 miles.
5. Adds about 1% to the sales price of the property, or about \$25 each year when annualized over a 40-year period. This assumes a median residential property sales price of \$100,000. The value of all benefits is \$111 in this example. Typically, a city will spend \$20- \$40 per year to maintain a street tree of this size (sometimes located in a front yard easement) and a resident will spend about \$10 per year maintaining a large yard tree. Our benefit-cost analysis for Modesto's 90,000 street/park trees found \$1.89 returned annually for every \$1 invested in stewardship. -- Greg McPherson