

Smart Growth Design Standards: Tree Conservation Ordinances

Why Tree Conservation Ordinances Make Economic Sense



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C L A R I O N

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7 Reasons why Tree Conservation Ordinances Make Economic Sense:

- 1. Higher tax revenues**
- 2. Energy cost savings**
- 3. Ease compliance with federal requirements**
- 4. Reduce stormwater management costs**
- 5. Reduce street repaving costs**
- 6. Collection of fines and fees-in-lieu**
- 7. Future sale or banking of carbon offsets**



1. Higher Tax Revenues...

- **Healthy, mature trees add between 10 and 23 percent to a property's value – US Forest Service [1]**
- **Rental housing along tree-lined streets rents for higher prices and has lower turnover [2]**
- **Office complexes with high-quality landscapes (including trees) rent for 7% higher rates, on average [3]**
- **Inclusion of trees within retail areas helps attract shoppers who pay 8% to 11% more for goods and services [4]**

2. Energy Cost Savings...

- **Mature trees help to reduce air conditioning costs by up to 35% [5]**
- **Helps to remove the need for peak demand facilities**



3. Compliance with Federal Requirements

- **A tree shading a building reduces the production of CO₂ (through reduced energy demands) in an amount equivalent to the total carbon uptake of 15 forest trees [7]**
- **Existing trees in Charlotte, NC remove air pollutants at a rate that would cost approximately \$43.8 million per year to duplicate [6]**



4. Reduce Stormwater Management Costs...

- **Trees are nonstructural stormwater quality management devices that absorb stormwater**
- **Urban “greening” efforts in D.C. reduced stormwater flows by 10% (1.2 billion gallons) over the 30-year life of the facilities [8]**
- **Public trees in D.C. provide stormwater management savings of \$3.7 million, annually [9]**
- **Retention of existing trees in Charlotte, NC saved the city over \$1.47 billion in stormwater management infrastructure [10]**



5. Reduce Street Re-Paving Costs...

- **Shaded streets require less maintenance and can save up to 60% of repaving costs over 30 years [11]**



6. Collection of Fines and Fees...

- **Fines from tree-removal violations and payment of fees-in-lieu of tree retention can be used to defray public tree purchase costs**



7. Sale or Banking of Carbon Offsets...

- **American Clean Energy and Security Act of 2009 calls for a mandatory cap and trade system with enhanced development of carbon capture/sequestration**
- ***Regional Greenhouse Gas Initiative*: 10-state regional effort in New England to lessen greenhouse gas emissions, along with nation's first cap and trade system for electric utilities**
- **This kind of system sets the stage for the use of tree preservation as an offset to greenhouse gas production that could be banked or sold**
- **Similar kinds of ideas in carbon offset registry legislation and requests to recognize tree planting as an eligible project for reducing greenhouse gas emissions from mobile sources**

Conclusions:

- **Tree Conservation Ordinances:**
 - May result in higher tax revenue
 - Can help reduce expenditures on energy and some public utilities
 - Promote more sustainable development practices and
 - May help a community establish a competitive advantage as greenhouse gas cap and trade systems become more prevalent



Notes:

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4. Wolf, Kathleen. "Public Response to the Urban Forest in Inner-City Business Districts." *Journal of Arboriculture* 29(3). May 2003.
5. Duerksen, Christopher & Richman, Suzanne. "Tree Conservation Ordinances: Land Use Regulations Go Green." *Planning Advisory Report* 446. 1993.
6. USDA Forest Service & American Forests. "Urban Ecosystem Analysis: Mecklenburg County, North Carolina." http://www.americanforests.org/downloads/rea/AF_Charlotte.pdf. 2003.
7. National Arbor Day Foundation
8. Deutsh, Barbara et al. "The green Build-Out Model: Quantifying the Stormwater Management benefits of Trees and Green Roofs in Washington, D.C." May 15, 2007.
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11. McPherson, G. and Muchnick, J. "Effects of Street Tree Shade on Asphalt and Concrete Pavement." *Journal of Arboriculture* 31(6). November 2005