URBAN TREE CANOPY

U.S.Department of Agriculture
Forest Service
Northeastern Area
State and Private Forestry
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Assessment and Goal Setting Case Study

Roadmap to Planning and Planting Trees
Dallas Urban Tree Canopy Project, 2009

Project Overview

The Roadmap model connects tree planting with Geographic Information Systems (GIS) technology to redefine why and where trees are planted. The model assesses the benefits and costs of tree plantings related to energy savings, storm water management, water quality, public health improvements, or heat island and local climate mitigation. The model maps area and percent of existing and potential tree canopy cover by parcel, land use, neighborhood, watershed, or other boundaries. The model also provides a Web-mapping application to host data online, allowing access by nontechnical users (Texas Trees Foundation. 2010. Roadmap. www.Texastrees.org/roadmap. (6 May 2011)).

Location and Geographic Extent of Project

Dallas, TX (385 mi^2)

Objectives and Outcomes

Texas Trees Foundation and Oncor Energy, Texas' largest electric supplier, were interested to determine and quantify the potential for reducing electric energy use through strategically planted trees. A model was developed and refined to identify potential tree planting sites with maximum environmental benefits.

Project Timeline and Budget

Model Design: September 2008 – January 2009

The initial model, The Dallas Pilot Project, consisted of mapping five 1-square mile areas of interest and was completed within 5 months. Funding of $20,000 was provided by the Texas Forest Service, with matching funds from the Communities Foundation of Texas.

Roadmap to Planning and Planting with Trees: Spring 2009 – December 2009

The city-wide map of Dallas was completed within 9 months. Texas Trees Foundation contracted AMEC Earth and Environmental to develop the mapping. By working together participating organizations were able to create more than 21 different criteria for searching and identifying potential planting sites. In addition, partners provided technical assistance, field verification, and digital data layers. The collaboration of professionals, funders, and others provided the framework to complete the project in a relatively short time frame and expanded the focus beyond the urban forestry community. A separate contract was used to specify the contents of the written report. Funding of $230,000 was provided by Oncor Energy.

Project Management and Implementation

The project was contracted to and managed by AMEC Earth and Environmental through the Texas Trees Foundation. Partners in the project provided technical assistance, field verification, and digital data layers.

Participating Organizations

- Texas Trees Foundation (Lead)

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- City of Dallas Office of Environmental Quality
- Esurance
- North Central Texas Council of Governments
- Texas Forest Service (Sponsor)
- U.S. Forest Service (Sponsor)
- AMEC Earth and Environmental, Inc. (Contractor)
- City of Dallas Department of Parks and Recreation
- Communities Foundation of Texas (Sponsor)
- Houston Advance Research Center
- Oncor Energy (Sponsor)
- Urban Renewal, Inc. (Contractor)

Lessons Learned

When identifying funding sources, look beyond the city forestry budget. The Roadmap affected various departments within the city. Public works, economic development, environment, and parks and recreation departments all benefited from being able to incorporate trees into their programs. Funding from the various budgets can be conglomerated.

The Roadmap helped to justify potential partners, especially utility partners, who had much to gain from investing in the map to bring down the demand side of energy, vegetation management, public relations, and education about “right tree, right place.”

The better the input data, the better the results. It is essential to have information on the location of power lines, building footprints, and local energy costs to conduct an analysis such as this.

Public-private partnerships are the means to achieve implementation of the results and goals.

Consider integrating this “top down” (satellite) approach with a “bottom up” method, such as i-TreeECO.

Consider using tree inventory information, such as available tree pits, to reduce field verification time.

Pearl of Wisdom

Planting the right tree in the right place and quantifying the values of trees, both existing and potential, provide the framework for how funding is secured, how environmental impacts can be achieved, and how urban forestry planning can better be projected in budgets. The Roadmap moves away from “tree plopping” to planting with intent and purpose.

Compiled by
Anne Cumming, Urban Forester
Northeastern Area State and Private Forestry

For More Information

Texas Trees Foundation
Janette Monear, Executive Director
214–953–1184
http://www.texastreesfoundation.org/

AMEC Earth and Environmental, Inc
Ian Hanou, Senior IM Project Manager
303–503–4846