

Urban Forest Initiative Albuquerque, New Mexico

“Embracing sustainable urban forest management and energy programs is an important step where together we can make a difference toward a sustainable future for our city.”

-Martin J. Chávez, Mayor, Albuquerque, New Mexico



Project at a Glance

Project Partners: City of Albuquerque, Tree New Mexico, Open Space Alliance, and several other partners from government and nonprofit organizations.

Location: Albuquerque, New Mexico

Award Category: Population 100,000 or more

Timeframe: 2005-2006 (ongoing)

Size and Scope: The City of Albuquerque has planted over 11,750 2” caliper trees and landscaped 500 acres in over 200 designated neighborhoods. Tree New Mexico helped plant 3,600 small caliper trees, 210 large caliper trees and coordinated over 2,600 plantings.

Total Cost of Project: \$4,115,000

Outstanding Accomplishments

- Committed to plant 2,000 trees a year.
- City itself has planted over 11,750 trees (minimum 2” caliper) in parks, community centers and streetscapes.
- Total energy cost savings of over \$170,000 or \$8 per tree.
- Energy savings reduce carbon dioxide (CO₂) emissions by an estimated 1,725 tons per year.
- Removes 735 tons of CO₂ annually.
- Gained support from neighborhood associations, non-profit groups, the Army Corps of Engineers, New Mexico State Forestry, Tree New Mexico, property owners, and youth groups.

Project Overview

The Urban Forest Initiative, initiated by the Mayor of Albuquerque, is a city-wide tree-planting program. In addition, through education on the benefits of urban trees, the Initiative encourages others to engage in tree planting. The Urban Forest Initiative, particularly the environmental benefits provided by trees, contributes to the City of Albuquerque’s (COA) efforts as a leader in green and carbon neutral initiatives. These benefits — including carbon sequestration, air quality improvements, energy use reduction, water management, wildlife, and reduction of the heat island effect — represent key goals that motivate the tree planting, public education, and assistance programs. The Initiative also plays a critical role in bringing shade to the community and enhancing residents’ opportunities for social connections. With new personnel and dedicated funds, the Initiative incorporates input from all City Departments and others in establishing sustainable management objectives. A primary partner of the Initiative is Tree New Mexico (TNM), which provides trees and education to community residents and groups.

Urban Forest Initiative - Project Description

Pre-Existing Conditions

Albuquerque is a community with a unique set of geologic, historic and environmental factors, located in a high desert river valley environment. The City covers 160 square miles with over 50 percent in residential use, about 18 percent in parks and open space, and 2,600 miles of city streets. The population of the City is under 500,000, with rapidly growing neighboring communities. It has little natural canopy cover and few tree species. Only developed and older neighborhoods have extensive trees. The main forest management concerns are limited space due to increasing growth, limited water resources, and protection of existing and future tree plantings. The Initiative addresses these needs and provides the leadership for including trees in long-term growth, planning and development activities. In addition, the Initiative educates citizens and City employees on how to achieve good urban forest management.

Project Components

Purpose: The purpose of the Urban Forest Initiative is to address the lack of

Project Goals

- Increase city and private tree planting and management efforts in a planned and controlled method to increase canopy cover, number of trees, and associated green space with long term management, benefits, and goals.
- Coordination between departments to follow one set of goals and technical specifications.
- Educate residents and developers on tree issues.
- Consistent message and continuing leadership in urban forest management.
- Manage growth and maintain urban forest by using the Urban Forest Master Plan and data collected.



canopy cover and to obtain more extensive city-wide data. Prior to the Initiative, City ordinances required plantings to be done without a clearly-articulated unified set of goals or priorities. Moreover, there was little direction or technical assistance provided concerning the appropriateness of which species to plant and their ongoing care and maintenance. Based on input from residents, planners and local experts, the Urban Forest Initiative seeks to resolve these problems.

Process: The Urban Forest Initiative is committed to plant 2,000 trees a year. The Initiative covers all park and street frontage, while outreach effort is intended to lead and educate by example and be a model for all New Mexico communities. A new City Forester has been appointed as part of the Initiative, whose charge is to make it a city-wide project, to improve the City's long-term environmental health and quality of life. These goals drive the scope of the Initiative beyond standard urban forestry programs to a new level of City infrastructure management. The Initiative will increase City and private tree planting and management efforts in a planned and controlled method that increases canopy cover and associated green space. It also has a commitment to long-term maintenance and management.

Outreach: All of the Initiative's tree planting projects are announced in local

paper, radio and TV media. Announcements are included on the City's web site and those of cooperating groups. The City also has a cable TV channel where announcements are made and interviews aired with participants from tree planting projects. The Planning Department has a neighborhood newsletter that is distributed to all local associations, City offices and other groups on its extensive mailing list. All tree planting projects and accomplishments are announced in this newsletter and other Department reports. In addition, Tree New Mexico (TNM) posts the City's on-going efforts in their quarterly newsletter, The Tree Press.

Funding

Funding for many of the community planting projects came from local sources, with some state and federal grant funds through TNM. The City tree planting projects that are part of new development and streetscapes are completely City funded through Capital Implementation funds. All educational and personnel funds are from the City. Equipment dedicated for forest restoration was purchased through state and City funds. The City of Albuquerque Capital Implementation Program or General Fund provided the primary funding for personnel, equipment, outreach programs and matching grant dollars.



Urban Forest Initiative - Benefits



Community and Economic Benefits

Economic Vitality: The Initiative and all City-wide plans focus on improving livability of residential areas, increasing business, and providing recreational opportunities. The Mayor's support of urban forestry has been instrumental in getting all development projects in the City aware of and aligned with the Initiative's goals of enhancing quality of life and access to recreational opportunities. Improvements along the river trail, for example, provide access to recreation for the adjacent lower income and older neighborhoods.

Safety: The Urban Forest Initiative influences all updates of City ordinances and plans. A particular change in the landscape ordinance requires pedestrian connectivity between neighborhoods, across parking lots, and throughout large retail developments. Safe, desirable and walkable connections are developed through the creation of tree-lined trails, sidewalks and paths through residential, business, and public property.

Access to Green Space for Low Income Residents: The Initiative encourages development throughout the City to include trees in order to enhance the quality of life for all residents. The Parks and Open Space, Municipal Development, and Planning Depart-

Environmental and Economic Benefits

Energy Savings: Electricity savings from shading and the cooling effects of trees are estimated to be \$170,000 or \$8 per tree per year.

CO₂ Reduction and Sequestration: City-wide, annual carbon dioxide emission reductions due to energy savings are about 725 tons. An additional 735 tons per year are estimated to be sequestered by the program's new trees. This CO₂ reduction is conservatively valued at over \$15,500 or \$0.72 per tree per year.

Air Pollution: Conventional air pollutants avoided or removed are estimated to be about 1.04 lbs per tree per year, with a total annual value of almost \$24,000.

Stormwater Management: Albuquerque's municipal trees intercept rain, reducing storm runoff by over 11 million gallons annually, with an estimated value of \$56,000 or \$2.59 per tree.

ments coordinate closely to promote safe, attractive and healthy places to live. The Planning Department encourages development designs and site plans that use trees within a distinctively Southwestern appeal, while the Municipal Development Department includes trees and landscaping as part of the initial site planning; not as an afterthought. The Parks Department ensures easy access to urban trees and provides ongoing maintenance.

Real Estate Value: The total annual benefits associated with enhanced aesthetics, property value increases and other less tangible improvements are estimated to be \$295,000 (or an average of \$14 per tree) per year.

Resident Involvement and Satisfaction: This Initiative is making a major contribution to Albuquerque's emerging

urban look and lifestyle, providing a distinct statement of place within the community. It has provided important motivation for both residents and businesses to get involved with urban forestry by planting new trees and landscaping, including along roadway medians and throughout their neighborhoods.

Education: Public education is a leading goal of the Initiative. Since residential areas comprise the largest portion of the city, educational efforts are targeted there and designed to obtain not only support but active participation. At tree planting events, information is provided on tree species, planting site considerations, and maintenance needs. Distribution of printed materials and presentations during planting events are aimed at informing residents about the value of the urban forest and involving them in its ongoing care. Recent education efforts have included classes at the Botanic Garden, web based materials, routine presentations on tree, plant, and irrigation selection and design, and extensive media outreach through radio, print, and TV ads, interviews, and announcements.





2007 Awards of Excellence Community Trees Case Study



Urban Forest Initiative - Looking Ahead

Project Evaluation

The City Forester is expanding the management of the urban forest to a city-wide focus. Budget requests for satellite data used to assess canopy cover have been made to provide accurate information in the near future. This will be useful to several City departments and includes routine updating of the data to monitor changes in canopy cover as well as track urban growth and other city-wide issues. There will also be continuous and increased outreach efforts, which will provide feedback and help identify the gaps in the Urban Forest Initiative.

Project Maintenance

Written tree and landscape maintenance plans exist for all City of Albuquerque maintained properties, including parks, golf courses, open space, streetscapes, the international airport, and multi-use facilities. The primary source of personnel, equipment and expertise for tree maintenance and forest management has been the Parks Department. They have direct control of all median and streetscape plantings, all City parks, and certain City office locations. Trees planted where private property owners are responsible for maintenance can receive web-based, printed, or personal assistance through the City Forester, whose responsibility focuses on those areas of the City not maintained by the Parks Department.

Challenges Faced

Although the public has always supported environmental issues in Albuquerque, an educational process was required to gain public awareness of the value of urban trees city-wide. This is especially important as Albuquerque moves from uncontrolled growth to planned growth with more compact development and protection of green space. Improving public appreciation for the urban forest will be critical to the City's success in improving quality of life by providing public infrastructure and other long-term needs. It was also a challenge to coordinate with the many stakeholders involved, but a shared recognition of the common benefits helped overcome this barrier and allowed for effective joint action.

Innovation Applied

The Urban Forest Initiative has created a sustainable urban forestry plan with both similarities and significant differences to other cities. The unique innovation is the placement of the City Forester in the Environmental Health Department, which showed that the Initiative's primary goals of environmental health and sustainability are integrally linked. The City Forester is charged with setting long-term goals that prioritize the future over present issues to promote sustainable development. All efforts have been fully documented and monitored to provide information for other communities establishing or enhancing an urban forest program.

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