

Creating a Greener San Francisco



Open source geospatial software helps city protect the urban forest.

San Francisco is widely known for being eco-friendly and “green.” Two local groups, the Friends of the Urban Forest (FUF) and the San Francisco Department of Public Works, (DPW) Bureau of Urban Forestry (BUF) partnered to help protect trees, ensuring that the city’s reputation endures.

Using MapGuide Open Source (Autodesk, Inc., www.autodesk.com), FUF and BUF are working together to:

- Create an open source urban forest management application.
- Offer the application to cities and agencies around the world for free download.
- Improve interagency communication.
- Streamline manual workflows.

- Develop an accurate cost/benefit analysis for San Francisco’s urban forest.
- Increase public access to urban forest information.
- Encourage public participation and volunteerism.

It is no secret that trees deliver substantial economic, environmental, and aesthetic benefits. And, their role is even more important in the hustle and bustle of San Francisco. Trees absorb rain, reducing runoff and lessening the burden on the sewer and stormwater systems. Trees reduce wind and provide shade that lowers the energy costs of nearby buildings. Green landscapes reduce carbon dioxide and absorb air pollutants, improving the city’s air quality. Attractive, green landscapes and

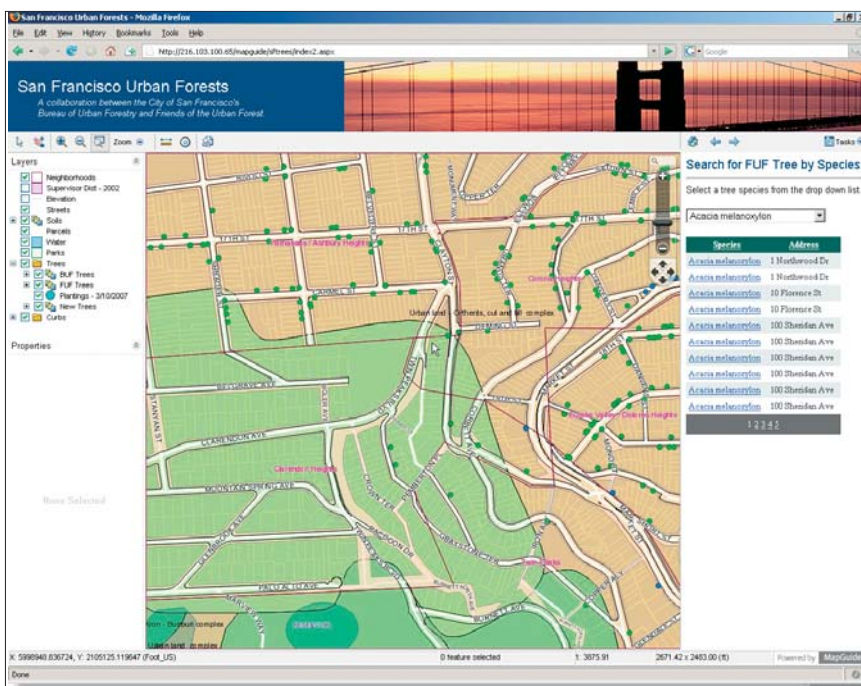
tree-lined boulevards attract more tourist dollars and improve property values. Not to mention, they provide an excellent habitat for birds and other wildlife. Recent studies have linked trees and green landscapes to reduced crime, stronger inner city communities, and a greater sense of optimism among citizens.

Understanding the value in planting and maintaining trees, two groups are actively adding new specimens to the landscape. Although they operate in different ways, BUF and FUF share a common goal: to maintain and enhance the city’s urban forest.

A public agency, BUF takes the initiative to find streets or neighborhoods in need of beautification through tree plantings. BUF crews and other city employees are responsible for planting and maintaining these trees for the long term. On the other hand, FUF relies on donations, community input, and volunteers. Friends of the Urban Forest works directly with neighborhood groups and helps community leaders organize plantings. This volunteer organization teaches the neighborhood to care for the young trees and it is the community, not the city, that is responsible for long-term maintenance of these privately donated trees.

Database Limitations

As separate entities, BUF and FUF maintain two separate and large tree databases. Although the databases’ combined 140,000 entries contain useful details about trees, species type, planting date, planting team, and maintenance dates, both databases were incomplete and difficult to use. And, with more than 5,000 trees planted each year, the databases were difficult to maintain on



This screen shows the results of a search for FUF tree by species—Acacia melanoxylon or Australian Blackwood.

News & Notes

the Pima Freeway (Loop 101) located about a quarter mile east.

The project, awarded to Parsons Brinckerhoff (PB, www.pbworld.com), involves preparation of an alignment study, a design concept report, and an environmental assessment intended to document the need for improvements to the roadway and to define its function and character for the future. The project is scheduled for completion in summer 2008.

Dump Trucks for Pennsylvania

The Pennsylvania Department of Transportation and the Pennsylvania Turnpike have ordered 200 dump trucks due for delivery in the second and third quarters of 2007. The contract was awarded through Mack Trucks (www.macktrucks.com). The trucks will be equipped with dump bodies from Thiele Manufacturing LLC (www.thielebody.com), which will install the bodies, plows, spreaders, and hydraulics on the Mack chassis at its Windber, PA, facility before the completed vehicles are delivered to depots throughout the state.

New Rail Trail

The Clipper City Rail Trail in Newburyport, MA, a one-mile trail section along the old B&M railroad, is designed to link the MBTA Newburyport Commuter Rail Station with various neighborhoods and the water front. Running from Parker Street to the Merrimack River, the trail will include a ten-ft wide path, two at-grade street crossings, the conversion of a railroad bridge at Merrimack Street for pedestrian use, and a new 80-ft long pedestrian bridge over Low Street. As part of Newburyport's Strategic Waterfont Plan, an existing trestle abutment at the Merrimack River will be modified to allow pedestrian access under the Route 1 Gillis Bridge, opening public water front access to the west of the bridge. The contract for design services for the first phase of the project have been awarded to Vollmer Associates (www.vollmer.com). The project is being funded primarily by the state through the use of a Congestion Mitigation Air Quality grant. Vollmer

will coordinate activities with the local conservation commission and the State Department of Environmental Protection. Coordination with the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife is also required since the project is located in a priority/estimated habitat of endangered species. Construction is expected to be completed in early 2009.

