

STRATUM Frequently Asked Questions

1. What is STRATUM?

STRATUM (Street Tree Resource Analysis Tool for Urban Forest Managers) is a new street tree management and analysis tool for urban forest managers that uses tree inventory data to quantify the dollar value of annual environmental and aesthetic benefits: energy conservation, air quality improvement, CO₂ reduction, stormwater control, and property value increase. It's an easy to use, computer-based program. It allows any community to conduct a street tree inventory. Baseline data can be used to effectively manage the resource, develop policy and set priorities. Using a sample or an existing inventory of street trees, this software allows managers to evaluate current benefits, costs, and management needs.

2. Who should use STRATUM?

STRATUM was developed for urban foresters, arborists, non-profit tree organizations, landscape architects and contractors, planners, environmental consultants, and anyone else with a vested interest in their community's urban forest.

3. How does STRATUM Work?

STRATUM uses growth curves modeled for significant urban tree species within each of 19 national climate zones, along with other regionally specific data: regional climate data, building construction and energy use patterns, fuel mix for energy production, and air pollutant concentrations. This information is used to model the environmental benefits and costs—as well as effects on property value.

After the user imports their sample or full inventory, STRATUM calculates the structure of the resource, net annual benefits and costs, and indicators of management sustainability. Reports can compare canopy cover for different neighborhoods, species diversity, conflicts with powerlines and sidewalks, and species performance. Users can choose charts and histograms that display results at the city or neighborhood level, by tree type or species.

4. STRATUM does not have data for the climate zone where I live. Can I use data from another zone?

Benefit calculations are based on regionally specific tree growth measurements, hourly climate and air pollution concentration data, and building construction information. Because these factors can vary a great deal from region-to-region, users only obtain reliable results when using data from the climate zone where the tree resource is located. Our goal is to have a complete set of data for every U.S. climate zone in 2007.

5. What if our city doesn't have an inventory?

STRATUM was designed to incorporate an existing street tree data base where DBH (diameter at breast height) measurements are present for each tree. However, for communities without inventories, a complete or sample inventory can be conducted using the i-Tree PDA Utility. The Sample Street Segment Generator provides the number and location

of street segments necessary for a statistically valid sample inventory. These utilities were designed to be efficient, with a minimal input of time and investment. Using a team of two paid personnel or volunteers, experience has demonstrated that sampling 3-6% of the street tree population can be completed in a relatively short time and provide accurate estimates.

6. What makes STRATUM different?

STRATUM differs from other urban forest analysis software in many ways:

- STRATUM is designed for analyzing street tree populations, not the entire urban forest.
- It is intended to be utilized as a planning tool, going beyond the display of benefits accrued.
- Costs of management—rather than benefits alone—are incorporated to provide a platform for making strategic planning decisions.
- STRATUM is not GIS-based, requiring only basic inventory data.
- State-of-the-art research provides a scientific underpinning for STRATUM's economic reports. The benefits and environmental costs of maintaining street trees comes from exhaustive field research and laboratory modeling for each of the 19 climate zones.

Simply, STRATUM functions as a resource management tool to assist managers develop policy, set priorities, and make decisions.

7. What kind of computer system do I need to run STRATUM?

i-Tree was designed to run on the following operating systems:

- Windows 2000
- Windows XP

Minimum software required for operation includes Microsoft Access 2000, Excel 2000, Microsoft Data Access Component (MDAC) version 2.6, and .NET 1.0 (MDAC and .NET are included with the STRATUM installation package). Adobe PDF Reader 6.0 or better and Word 2000 or better provide additional utility in reporting.

Additionally, your computer must have the following hardware components:

- Pentium or compatible 450 MHz or faster processor
- A minimum of 128 MB of available RAM
- A hard drive with at least 50 MB of free space
- CD-ROM drive to install the program

8. Can I display the results with botanical names and in scientific units as well as common names and English units?

Yes, STRATUM is completely flexible in this way. Reports can be displayed, printed or exported using botanical or common names and scientific or English units. Please see the Manual for more information on how to change the display.

- 9. Our city wants to plant 250,000 trees over the next 5 years. Can STRATUM provide us with information on the benefits those trees will provide in 40 years?**

STRATUM does not currently predict the future value of urban forests. However, if you created a mock inventory of your 250,000 trees, including species and estimated diameter-at-breast-height (DBH) after 40 years, you could estimate future benefits in today's dollars.