



TREE INVENTORY SYSTEM

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Agenda



- 1. Tree Inventory**
- 2. Tree Data Collection**
- 3. GPS / GIS System**

What is Tree Inventory



Tree Inventory is the gathering of accurate information on the attributes of trees within a property in order to facilitate management decision via tree management plan.

Inventories can supply information on tree quantities, location, condition, size and maintenance requirements.

Advantage of Tree Inventory



An inventory assists communities, tree care personnel, and city planners with:-

- Prioritizing tree maintenance schedule.
- Creating a valid and true budget plan for maintenance.
- Facilitate planning.
- Provide the basis of developing a comprehensive tree management plan.

Methods of Tree Data Collection

The modes are:-

- Most conventional methods of recording trees' information is by manually filling out the details on a printed forms.
- Using mobile data collection software.
- Using customized mobile collection software with GPS / GIS Technology.

Methods Comparison

Methods Factors	Manual	Mobile Device	Mobile Device with GPS / GIS
Weather	Not likely to work in slight adverse weather(ie. Raining)	Able to work in most weather condition.	Able to work in most weather condition.
Data Collection	Double entry, having to physically enter the data into the main computer system, expose to human error	Data collected can be easily transferred into the main computer system.	Data collected can be easily transferred into the main computer
Maneuverability	Require the use of print-out map to locate specific tree location	Require the use of print-out map to locate specific tree location	Instantaneously

Methods of Collecting Tree Data

Methods Factors	Manual	Mobile Device	Mobile Device with GPS / GIS
Analytical component	Absent	Absent	Present
Availability of tree data	Manual	Manual	Instantaneously
Report generating	Manual	Manual	Automatically via customized report format
Time required to generate out tree report (20 trees) including visual tree assessment (VTA)	VTA = 200 mins Data transfer to computer = 100 mins Tabulating tree data into report = 400 mins Total = 700 mins	VTA = 160mins Data transfer to computer = 20mins Tabulating tree data into report = 400mins Total = 580 mins	VTA = 100mins Data transfer to computer = 20mins Tabulating tree data into report = 100mins Total = 220 mins

Why use GPS/GIS System to manage tree assets?



- ☑ Increase productivity and efficiency.
- ☑ Allowing user to analyze tree data and results in the form of interactive maps.
- ☑ Improve work flow
- ☑ Improve tree risk management
- ☑ Make better management decision
- ☑ Improve data integration

What is GPS / GIS?

The Global Positioning System (GPS) is a navigational system that can determine the latitude and longitude of a receiver on Earth by computing the time difference for signals from different satellites to reach the receiver.

Geographic Information System (GIS) is an integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes.

Combining the GPS data with GIS allows for greater capabilities than what GPS and GIS can provide individually. With the combination of two technologies one is able to display the “FIELD/ACTUAL SITE” on a PC and make informed decisions. There is no need to make specific site visits or review several documents/drawings. Another benefit of the integration is the fact that the data can be shared by unlimited users in various departments for their own specific needs and analysis.

Main components of GIS / GPS

1. Mobile device gives field-based personnel the ability to capture, edit analyze and display geographic information easily and efficiently
2. GIS Desktop editor allows multiuser updating and managing geographical tree data simultaneously.
3. GIS Sever gives you the ability to create, manage and distribute GIS services over the web to support desktop, mobile and Web mapping applications.

