

# EQUITABLE CANOPY, PLANTING PRIORITIES, AND





# Agenda for Today



## Overview

- What do we do?
- What tools are we using?
- How are we combining our solutions to address equitable canopy, planting priorities, and technology?
- TreePlotter Inventory and Canopy
- Justice40 and USFS IRA

## Land Cover Tree Equity Data Pack

- What is it
- Who is it for
- What it solves

Summary

Q & A









Leaders in software, data solutions, and supporting consulting services for urban forestry and related green infrastructure.



# **Urban Forestry Hub**

### Holistic solutions for clients worldwide



Tree Care Operations

#### Mapping & Visualization

#### DATA DRIVEN PLANS

Strategy, Policy, & Climate Action

## MAP & MANAGE

# Holistic Urban Forestry Solutions

# Tree Inventory and Assessments –

- GIS-based tree inventory
- Risk assessments
- Maintenance
- recommendations, valuations and mitigation reports

## Geospatial Mapping Services –

- Urban tree canopy
- assessments
- Green infrastructure mapping
- Web-mapping applications

### Urban Forestry Consulting

- Urban Forest Management and Master Plans
- Ordinance and policy review
- Stakeholder engagement and plan websites

# **TreePlotter Solutions**

Save you and your staff time and money with increased efficiency, better communication, and smarter, data-driven decision-making.

- High-powered functionality in an easy-to-use format
- Map-centric and web-based
- API and WFS integrations



Collect and manage tree data in real-time, anywhere, on any device.



View, Plan, and Grow your urban forest with tree canopy data analysis tools.





TreePlotter INVENTORY is a comprehensive tree inventory, risk assessment, and work management software.

#### **Features & Functionality**

- Capture tree and asset information using GIS/GPS in the field on mobile devices
- Conduct maintenance, work orders, and inspections with configurable dashboards, analysis, and reports
- Public-facing maps, i-Tree eco benefits, and customizable user roles/permissions
- Collect other data types: park assets and amenities, groups of trees, etc.

#### Users

• Unlimited users can locate assets, assess conditions, store photos, and view stats and report

#### Subscription

• 1 year or 3 year contracts with 5-star support

Scalable product levels and add-on functionalities help create the perfect software fit for your needs.



Visualize and monitor tree canopy and land cover data with TreePlotter CANOPY software.

#### **Features & Functionality**

- Identify areas with low canopy and high planting potential Fine-tune priorities based on a range of metrics Evaluate canopy goals (grow-out scenarios) Measure projected impacts on ecosystem benefits 60-cm resolution land cover data updated every other year
- $\bullet$

- Analysis is completed in days, not months

#### Users

- Subscription
- 1 year or 3 year contracts
- Includes GIS data files, software tools, and 5-star support

We partnered with EarthDefine<sup>™</sup> who have created the most detailed U.S. tree canopy data available. Options available internationally as well.

# TreePlotter<sup>™</sup> CANOPY

• Unlimited users and publicly available online maps

# Nationally Available Data, at High Resolution

Existing and historical tree canopy, plantable areas, impervious surfaces (building, road, parking lots, etc.) and other classes.



# **Artificial Intelligence and Machine**

#### What is AI/ML?

Image analysis leveraging the latest computer vision technology "at scale" nationally

#### What does it offer?

- "LiDAR-like" accuracy (~96%)
- A comparable and consistent methodology
- Historical data for change analysis (canopy trends over time)
- Recurring data and analysis updates every time USDA NAIP imagery is flown (every 2 yrs on average)
- In partnership with...





University of Richmond, VA 2018

# Justice40 and USFS IRA

The Justice40 Initiative ensures that disadvantaged communities receive the benefits of new and existing Federal investments. Through the President's Investing in America Agenda — including the Inflation Reduction Act (IRA, Bipartisan Infrastructure Law, and the American Rescue Plan — Federal agencies are making historic investments to advance environmental justice and benefit disadvantaged communities.

#### IRA

- The USDA Forest Service awarded >\$1 billion to nearly 400 projects to expand access to trees and green spaces in communities nationwide
- The core objective of the IRA grants are to enhance urban forest benefits in underserved areas.
- IRA grants have no match requirements for work benefiting specific areas. To support this, PlanIT Geo recently released the Land Cover and Tree Equity (LCTE) Data Pack, an add-on to TreePlotter™.



# What is the Land Cover and Tree Equity Data Pack (LCTE)?

IRA grants require work to benefit communities within census tracts based on the Climate and Economic Justice Screening Tool (CEJST).

- CEJST is the go-to tool for identifying disadvantaged communities that qualify for IRA grants.
- 8 categories of burden, such as legacy pollution, climate change, and health, to highlight overburdened and underserved census tracts nationwide.
- CEJST tool includes only one metric related to urban forestry, lack of greenspace, which measures the amount of impervious surface in the census tract. It's a starting point, but it doesn't offer much urban forest intel.
- The LCTE data pack adds the urban forestry component with 8 defined igodolland cover classes



COLUMBIA









#### Explore the map

Census tracts that are overburdened and underserved are highlighted as being disadvantaged on the map. Federally Recognized Tribes, including Alaska Native Villages, are also considered disadvantaged communities.

Zooming-in and selecting shows information about each census tract

ALBERTA

#### 🔁 Public engagement

#### Get the data 👲

Download the data with documentation and shapefile from the downloads page

#### How to use the map:

Zoom in + , search 9 , or locate yourself @ and select to see information about any census tract.

#### Things to know:

The tool uses census tracts 🖬 . Census tracts are a small unit of geography. They generally have populations A of between 1,200 - 8,000 people

Communities that are disadvantaged live in tracts that experience burdens. These tracts are highlighted O on the map.

The tool ranks most of the burdens using percentiles A. Percentiles show how much burden each tract experiences when compared to other tracts.

Thresholds 1 , or cutoffs, are used to determine if





# What is the Land **Cover and Tree Equity** Data Pack (LCTE)?





The LCTE Data Pack includes: CEJST disadvantaged census tracts Census blocks within CEJST census tracts Historical redlining areas (if available in your area) • 8-class land cover classification for disadvantaged areas down to census block scale

# Who is the LCTE Data Pack for?

For cities, counties, nonprofits, and state forestry agencies.

Communities and planners planning projects to impact disadvantaged communities by displaying disadvantaged census tracts with existing tree canopy cover.

Users can estimate available planting area and speak to the conditions in CEJST portions of your city or region.

At Right: Filtering for Disadvantaged Areas with below average Urban Tree Canopy.



# What does the LCTE data pack solve?

### Amplify and simplify equitable urban forest planning

Know where to plan urban forestry projects that:

- benefit disadvantaged communities
- are IRA-eligible
- maximize potential canopy impact

Recurring land cover updates means continuous monitoring of tree canopy in CEJST areas for impact reporting, storytelling, and more.

At Right: Land cover classification details.



|          | No Filters Applied  | LEGEND       |   | LOG OU |  |
|----------|---|--------------|---|--------|--|
|          |   | LEGEND       | Lexington KY  |        |  |
| and have |   | Layer:       | Disadvantaged Areas   | ~      |  |
| RACT     |   | Display by:  | Urban Tree Canopy   | ~      |  |
|          |   | Showing 10 c | of 23 disadvantaged areas.  |        |  |
|          | 21067001000   | 11.5%        | 0   | 25.1%  |  |
| Exceeded | 4   |              | ✓ Toggle All ②  |        |  |
|          | Legacy Pollution, Water & Wastewater, Workforce Development, Income | ☐ roggie,    |   |        |  |
|          |   | ☑ ● 11.8 -   | 20.0 (3)  |        |  |
|          | 16.8  | 20.0 -       | 20.0 - 24.2 (2)   |        |  |
|          | 0.8   | Charts       | Charts<br>Layers  |        |  |
|          | 17.7 0  |              |   |        |  |
|          | 22.8  | Layers       |   |        |  |
|          | 0.9   |              | <ul> <li>City Boundary</li> <li>Trees</li> <li>Lexington Boundary</li> <li>Redlining Area</li> <li>Disadvantaged Areas</li> </ul> |        |  |
|          | 4.8   |              |   |        |  |
|          | 53.3  |              |   |        |  |
|          | 0.6   |              |   |        |  |



# Summary

## LCTE Data Pack

- Think of this as a "mini" Urban Tree Canopy Assessment integrated with your tree inventory • The data layers are added to existing or new TreePlotter
  - **INVENTORY** app
  - a vendor for remote sensing
  - No RFP process or identifying high-resolution imagery or • Get updated land cover metrics every two years

#### • Example:

• Analogous to GPS hardware and post-processing required vs. the ease of using apps like TreePlotter to reduce complexity

# What's Best for me? Difference Between LCTE and TreePlotter CANOPY Software

| LCTE Data Pack Add-On  | <u>TreePlotte</u>                                    |
|--|--|
| TreePlotter INVENTORY Layers & Legend                                      | No TreePlotter II                                    |
| More static: Land Cover and Tree Canopy metrics within Disadvantaged Areas | More interactive<br>Canopy metrics<br>geographic bou |
| Layers are visible when plotting tree locations or planting sites          | Less interaction<br>however TreePlo                  |
| Only IRA eligible areas are included                                       | Includes both IF                                     |

#### er CANOPY

#### **INVENTORY** features

- e and configurable: Land Cover and Tree s citywide and by your choice of other undaries
- n with tree inventory points,
- Plotter Projects (new) provides this
- IRA eligible and IRA ineligible areas



# Questions?







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