



Memorandum

Date: August 18, 2022
To: Tree Commission
From: Urban Forestry Program Staff
Subject: Item 6B – Clarification on the City Data sets used in the Urban Forestry Management Plan

Recommendation

Informational Item.

- Receive clarification from Urban Forest program staff of the various data sets referenced in the Urban Forestry Management Plan: City Tree Resource Analysis. No action is requested of the Commission.

Background

Due to questions that have been received from the Tree Commission and the general public, the City of Davis' Urban Forestry staff has prepared a brief memo to provide additional clarification on the data referenced in the initial work on the Urban Forestry Management Plan (UFMP).

Clarification on Data Sets - LiDAR, and the City Inventory

Two different data sets were utilized in the presentation – UFMP: City Tree Resource Analysis -, LiDAR and inventory data.

LiDAR

The first data set, or LiDAR (also written lidar, LIDAR, LADAR), refers to laser imaging, detection and ranging. This method of data collection utilizes the reflected light from a laser to measure distances, resulting in high-resolution mapping that is useful in a multitude of applications. When mapping tree canopy LiDAR can track physical properties like canopy height and canopy diameter, which are extremely useful in formulating urban ecosystem conditions, modeling and valuations. This data analysis is what provides the City of Davis with the large scale information like percent canopy, potential canopy and primary land use. This is extremely useful when overlaid with additional data sets like Davey presented, such as by census tract, private vs. public, park canopy, heat island, and zoning. This data will help in creating long-term planning on how to improve and increase the canopy within the specific subsets tied to location, land use and/or other large scale variables.

City Tree Inventory

The second set of data is our most recent inventory which was completed in 2018. This data set was used to provide the City of Davis with the species composition, conditions, and other tree and/or species specific reporting. This data set is useful for seeing trends and patterns at a localized level, whether that be species-by-species, or location-by-location. The intent of staff is for this inventory and future inventories to be a living, breathing data set that is constantly updated as work is completed. Ideally, the City's inventoried data set on City trees would be more current and up-to-date. This is something staff anticipate will be addressed in the final UFMP, by looking to establish a set standard by which future inventories are completed. Part of the current challenge in reviewing City tree inventories over the years is the shifting methodology and data collection criteria. By setting a standard for inventory data collection moving forward, City staff will be able to complete comparative analyses of hyper-localized metrics.

The City tree inventory from 2018 and the breakdown of species, size and condition is what allows the calculation of value specific benefits Davis' urban forest can provide. As discussed at the meeting in July, however, the currently calculated value for trees are not inclusive of all the benefits the trees provide, just the ones that can be scientifically calculated currently – such as carbon storage, air quality, and stormwater.

In summation, LiDAR is looking at Davis as a holistic forest, whereas the inventory is seeing the forest for the trees. Both are extremely important in telling the whole story of Davis' urban tree canopy.