

GUIDELINES TO DEVELOP A PROTECTED TREE ORDINANCE

Overview

Numerous cities within unincorporated Los Angeles County have tree protection ordinances. However, many cities do not. This appendix was developed as a reference for unincorporated cities without a tree protection ordinance interested in developing one. To have a sustainable community forest, planting, maintenance, and removal of trees must be coupled with effective policies and ordinances that adhere to arboriculture Best Management Practices (BMPs) for tree protection and preservation. Ordinances must have penalties sufficient to deter policies from being violated.

Clear Staff Responsibility

The effectiveness of a protected tree ordinance largely depends on whether it can be enforced. This begins with clearly defined roles and responsibilities for city staff charged with implementing the ordinance. There should be no ambiguity in the language of the ordinance as to who has the authority to do the following:

- Make final decisions on permit approval.
- Enforce penalties if the ordinance is violated.
- Review permits to prune or remove protected trees.
- Review appeals on denied permits.

A key factor in deciding who will be responsible for each action is what departments the individuals represent. Protected tree ordinances have a bifurcated nature in that they cover private property, typically under the purview of the Planning Department, and trees on public property, typically under the purview of the Parks or Public Works Departments. An International Society of Arboriculture (ISA) Certified Arborist should review all tree related issues to ensure arboricultural BMPs are utilized when processing tree permits. Often all private property permit review is housed in one department, including those related to a protected tree ordinance. While this streamlines each city's coordination of permit review, it can also place arboricultural decisions on staff who are not arborists, tree experts, or urban foresters. Designating an individual with the necessary credentials ensures permits for tree removals, and other impacts, are only issued when they meet the requirements of the ordinance.

Definitions

The ordinance should include clear and precise definitions for terms such as *tree*, *street tree*, *protected tree*, *heritage tree*, *grove of trees*, and *shrub*. Definitions should be carefully crafted to provide the greatest clarity for the city's protected tree ordinance and to reflect the city's values and priorities.

What Will be Protected?

Protected tree ordinances typically determine what is protected by either tree species type, tree size, or both. Some ordinances also include definitions and protections for 'heritage' trees or trees that are considered native to the city or region. The definition and criteria of what makes a tree protected impacts how many trees are considered

protected in the ordinance. These criteria are explored below to provide a framework for city decision makers on which trees will be protected.

- **Size:** The most consistently used standard for determining status as a protected tree is its diameter at standard height (DSH). DSH is the diameter of the trunk measured 4.5' from the base of the trunk. There is not a set BMP for a city to follow in determining a DSH standard for an ordinance, and standards can vary widely. Ordinances that prioritize a short list of tree species, such as native or heritage trees, typically use a smaller DSH range such as 4"-8" to provide more stringent protection for individual trees of those species. Cities with a larger selection of protected species, or no species designation at all, will use a higher DSH standard that can range from 14" - 36" in order to prioritize trees of larger size, regardless of species
- **Species:** Tree species are typically protected when they have a significant environmental or cultural value to a city. The determination of significance is specific to the city, as every city has its own unique history, native species, and culture. The role of the city is to examine those factors and determine tree species should be protected.
 - **Native trees:** Regionally native species like oaks have a significant environmental or cultural value. Native tree species support biodiversity within an area by providing habitat for regionally native birds, animals, and insects. In addition, native trees often have cultural value to the local Tribes.
- **Heritage trees:** Heritage trees are trees recognized to have exceptional value to a municipality due to their size, shape, species, or role in the community. Heritage trees are a unique designation in a protected tree ordinance as it is designated to specific individual trees, and not a general guideline of species or size. These trees are kept on record as "Heritage Trees" and often have the greatest protections.

Trees and Construction

The construction process presents several threats to existing trees. Grading, compaction, and the introduction of impervious surfaces can harm tree roots, impacting their longevity in the landscape. Incidental harm to the trunk and branches may have lasting implications on tree health, reducing the successful implementation of a tree ordinance.

- **Tree Protection Zone (TPZ):** Minimum TPZ's are usually defined in tree protection ordinances. The TPZ is an area designated to protect roots and soil that are critical to tree health. The size for a TPZ is usually defined as "x amount of feet away from the tree's drip line" or "x amount of feet in diameter for every inch of trunk diameter measured at 45" above the ground." Construction activities, such as grading or trenching are restricted within TPZ's.
- **Tree Protection Plan:** Tree ordinances often include a requirement for a tree protection plan to be submitted alongside building and development permits. A tree protection plan includes a map drawn to scale, consistent with the format for other construction plans. The map displays every tree on the site, any tree off site that may be impacted by construction activities, as well as proposed TPZs. A good tree protection plan displays which trees are planned for removal as well as any tree with extra protections (ie. Heritage Trees).
- **Arborist Review and Monitoring:** An ISA Certified Arborist on contract with the city is often required to review Tree Protection Plans, which may include a site visit. It is recommended to require arborist monitoring for any construction activity within a tree's TPZ, as impacts of construction are apparent only after the tree has had time to respond to construction activities.

- **Penalties for Noncompliance:** Penalties for noncompliance may include but are not limited to fees and stop work orders.

Permit Process

This section outlines the opportunity to develop a permitting system that works best for each city's systems and staffing capacity. The following aspects are outlined for consideration:

- **Exemptions:** It is common for municipalities to recognize certain tree species as a nuisance to the city and the community due to factors such as hazardous conditions or invasive species status. Such trees may be considered exempt from tree protections. However, especially in the case of a hazardous tree removal, a municipality may still require evidence of conditions that justify exemption and therefore, removal.
- **Permit Requirements and Fees:** Tree removal permit requirements and fees often vary depending on the protection status of the tree. For example, a smaller ornamental tree may require a simple tree removal permit and relatively small fee, whereas a large native tree may require an arborist report justifying the reason for removal and a larger permit fee.
- **Required Findings:** Not all tree removal permits submitted are approved. This section of the ordinance provides information on permitted tree removals and provides clear details for situations where a tree permit would or would not be approved.

Tree Replacement

Whenever a tree is removed in the city, new trees need to be planted to begin replacement of lost environmental services from removed trees. Cities will often assign replacement ratios of 1:1 or 2:1 when trees are removed, but other types of tree replacement requirements can be considered to align with the city's goals for sustainable community forest management..

- **DSH replacement:** This method states that the amount of trunk diameter planted should replace what was lost from tree removal. For example, the removal of one 8" DSH tree could be replaced by eight 1" DSH trees, two 4" DSH trees, or any other variation thereof. The concept supporting this practice is to replace the amount of wood that was lost. In practice, however, it can lead to an extreme quantity of trees needing to be replanted, and little available space to plant them, or resources to maintain them.
- **Canopy replacement:** Another method is to base the quantity of new trees planted on the size of the canopy of the removed tree. **Table C-1** shows an example of a replacement ratio based on tree canopy. While this is a variation on a standard replacement ratio requirement, y, the focus on tree canopy rather than tree number makes for a more robust requirement.
- **Tree container size:** Replacement ratios are usually based on the standard tree container size required to be planted by the city in the public right of way. In some cases, the container size can be increased when available space limits the number of trees that can be planted. As an example, the replacement plan for a project may require four 15-gallon size trees to be planted on-site, but there is only enough space for two trees. In lieu of planting four 15-gallon trees, a city may request two 24" box trees, or another larger size to replace environmental benefits and economic services lost due to tree removal.

Table C-1: Example of a Replacement Ratio based on Canopy Cover

Removal Tree Size	Replacement Ratio
0' – 30'	2:1
31' – 50'	4:1
51' – 70'	8:1
70'+	12:1

Penalties

The city must be committed to consistently enforcing the ordinance and imposing penalties strong enough to deter violation for a protected tree ordinance to be effective. The overall environmental and economic value of the tree is one consideration for determining an appropriate fine. The environmental services of a tree like carbon sequestration, avoided stormwater runoff, and lower energy temperatures have a real and quantified economic value to the city. Some cities use a valuation method, calculating the financial value of significant trees to a property in the tens of thousands of dollars. The following discussion explores frequently used methods for penalty and/or fine methods to help the city determine what is considered a sufficient penalty.

- **Administrative Fines:** Fines issued to private property owners. The fee should be significantly higher than the permit cost in order to deter violation. If a violation is considered particularly egregious, elevation to a misdemeanor can be considered, punishable by a \$1,000 fine or 6 months in prison. Although this is a relatively straightforward method in issuing penalties, provides a flat penalty that is not dynamic in accordance with the relative value of individual trees.
- **Guide for Plant Appraisal:** A methodology created by the ISA to provide arborists with an industry method to evaluate the financial value of a tree. This method considers tree species, health condition, size (height and DSH), location on the property, and other factors in generating an appraisal value. Using this method, large, mature trees are frequently evaluated to be worth thousands to tens of thousands of dollars. A variation of this method would need to be considered in cases when a tree has been removed and a method to complete the valuation is not viable due to a removed tree stump.
- **Calculating Environmental Services.** Programs like i-Tree Eco generate a value for each tree that considers most of the same information as the Guide for Plant Appraisal. The main difference is that i-Tree Eco only calculates the replacement costs and environmental values of the tree and does not include its landscape value. If used to determine a fine amount, it would provide a relatively accurate cost for the city to replace the environmental benefits and economic values lost. Again, flexibility in implementing this method is necessary when limited information is available.