

Emergent Properties of Tree Protection Ordinances

by James Komen, RCA #555

An “emergent” property is a phenomenon arising from a combination of smaller parts of a group and can be a side effect of adding complexity to a system. Larger systems have properties not always exhibited by their parts. For example, one would be unable to predict the behavior of an ocean by observing only a single water molecule just as one would be unable to predict the behavior of an economy by only observing a single transaction.

Tree protection ordinances, bylaws, or rules have the stated intention of preserving trees in a given jurisdiction. Although varying in range and scope, they often limit the removal and/or pruning of certain species or sizes of trees. Many ordinances limit the ability to perform construction work that encroaches upon protected trees, with the intention of avoiding potential damage to the trees.

In municipalities with tree protection ordinances, many trees have been successfully preserved that would otherwise have been removed or injured. To a degree, tree protection ordinances have performed their intended function.

The intent of this article is to discuss some of the unintended consequences of some tree protection ordinances. Rather than adopt an adversarial position regarding tree protection ordinances, the goal is to support them while highlighting issues that might not always be considered. While proposing solutions to the emergent properties of implementing tree protection ordinances is outside the scope of

this article, they are offered for the future consideration of tree managers, within the guidelines of their local ordinances.

Avoidance of Protected Trees

Tree protection ordinances often have the stated goal of preserving the arboreal assets of a municipality. Specific tree species are either listed as protected or receive a higher degree of protection than other tree species. Presumably, these species are valued more for their landscape contribution, expected longevity, or native plant status. The intent is to retain a population of these protected trees.

In practice, however, these ordinances may have the opposite effect. When property owners learn that their ability to prune, remove, or build near certain trees will be restricted, they tend to avoid planting trees of that species. While some community members may value trees for their beneficial attributes, others may view trees as straight liabilities on their bundle of ownership rights.

While they may have longer lifespans than their owners, protected trees will eventually die. Sometimes they are replaced with new protected trees, but often they are not. There are several cases where this occurs:

- Property owners may be given exemptions from replanting replacement trees if the removed protected tree either died of natural causes or posed an undue risk or financial burden.
- Replacement trees may not be the same species as the originally removed trees.



- Some ordinances permit cash payment in lieu of planting a replacement tree. While such cash payments may sometimes be used for offsite planting, they also may instead be incorporated into the general maintenance fund, which may or may not result in an offsetting number of new planted trees.

As many ordinances play out over time, the population of protected trees decreases at a higher rate than replanting can offset. Over time, tree protection ordinances may result in the unintended consequence of reducing the population of trees intended for protection.

Stricter ordinances, such as those found more often in the cities on the West Coast, tend to have a stronger reactive unintended consequence. The more of a liability the trees pose to some property owners, the more those owners are motivated to avoid them.

“But-For” Reduced Property Values

Arborists commonly consider that trees add value to urban properties. Trees provide shade, add aesthetic appeal, and perform many other functions in the landscape; however, the protection of a tree may lead to a reduced property value, “but-for” the existence of the protection ordinance. The term “but-for” refers to an outcome that would have been true if an existing condition (such as a tree protection ordinance) did not exist.

A property’s value is related to its Highest and Best Use (HBU): the HBU of a

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property is the legal and financially feasible use of an improved property that results in the highest value. Constructing a home on a vacant lot in a residential neighborhood may add substantially to the value of the vacant land. Although it may be possible, legal, and feasible to construct a 900-square-foot house on a 1-acre lot in a suburban area, it may not result in the HBU. A 2,000-square-foot house may have a higher market value.

In “greenfield” development, structures are built on vacant land. Often, existing protected trees preclude the maximum utilization of the land area. The size or orientation of the proposed structures must be adjusted from time to time to the detriment of the market value of the property, “but-for” the existence of the tree protection ordinance. Although removing the benefits provided by the trees may reduce a property’s value, developing the land may substantially increase it.

To address this issue, some ordinances have an “undue burden” clause that permits protected trees to be removed if restricting their removal would constitute an excessive financial hardship to the property owner. For example, if a large protected tree were growing on the center of a ¼-acre vacant lot, preservation of the tree would preclude almost any form of development. If the property is made undevelopable by the tree protection ordinance, it would constitute an “undue burden” on the property owner in most cases, and a permit to remove or encroach upon the tree may be granted.

The “undue burden” clause has its limits, though. While restricting the construction of any driveway or *any* structure may be deemed unreasonable, restricting the construction of luxury elements may be deemed reasonable by some interpretations. Here are some examples I have seen in municipalities in Southern California:



An older house near a large protected Coast Live Oak (*Quercus agrifolia*) in Glendale, California. Extensive renovation of the house or expansion of the footprint that otherwise would have been legally permissible and financially feasible is restricted by the tree protection ordinance.

- Proposed pool projects have been denied on the basis that a pool is a luxury and that restricting its construction does not constitute an “undue burden.”
- Proposals for 3,000-square-foot homes have been denied on the basis that a 2,000-square-foot home could be constructed without removing protected trees, and the extra 1,000 square feet constitutes a “luxury.”
- Extra square footage or structures may have increased a property’s value, even more than the offsetting reduction in value from the loss of the trees, but the construction has been restricted because protecting the tree was not determined to be an “undue burden.”

In urban renewal or “brownfield” development, some existing structure or prior use is usually no longer compatible with the HBU. The existing structure may be dilapidated and/or the zoning of the property has changed, allowing a more productive function such as a single family home on a lot zoned for multifamily residential. At some point, it becomes financially feasible to remove the existing structure and build a new one that creates substantially more value and meets the property’s HBU.

Consider a large protected tree growing in the center of a property near an existing older home. In the absence of the tree protection ordinance, the HBU may have involved demolishing and rebuilding the home. But, due to the additional cost of preserving the tree or to the restriction placed on construction activity near it, there is no financially feasible or legal use beyond occupying the existing older home. Renovating the existing home may have been the HBU “but-for” the existence of the tree protection ordinance. The limitation on renovation reduced the overall property value from what it could have been in the absence of the tree protection ordinance.

One justification for limitations on development at the expense of trees is that the trees create value for adjacent property owners that they do not recover when the trees are removed; however, even the value lost by adjacent property owners does not match the foregone value creation from restricting additional development. A method for segregating these cases to mitigate the burden caused by tree protection ordinances is not within the scope of this article.

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Reporting requirements in some municipalities require a tree protection inspection and report even when there are no trees on the property.



Conclusion

Tree protection ordinances as they exist on paper can be useful tools for preserving arboreal assets that outlive their owners and provide benefits to neighboring properties; however, there are three emergent properties that can result from the practical application:

1. Property owners can be discouraged from planting protected species.
2. Properties can sometimes be restricted from what would otherwise be their HBU.

3. Property owners sometimes must pay for the additional burden of compliance reporting.

I fully support the existence of tree protection ordinances when they are supported by the constituency of a municipality, but I encourage consideration of both the intended and unintended consequences of their implementation. Municipal arborists should be able to justify their reasoning when making permitting decisions. Consultants should keep these attributes in mind when advising clients and writing reports discussing the out-

come of compliance with tree protection ordinances. Municipal officials should consider these emergent properties when writing and updating their ordinances. 🌿

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