

Good. neighbors

The tree and sidewalk guru of Los Angeles makes sure gray and green live together in perfect harmony.

Sidewalks and trees are often-overlooked assets. Los Angeles chief forester George Gonzalez believes both are just as much a part of a city's infrastructure as a road, a water main, or a sewage pipe—but most cities don't realize the true worth of either. He thinks it's high time they did.

A WALK ON THE GREEN SIDE

Los Angeles has about 700,000 street trees stretched across 465 square miles; with more than 1000 different species, Gonzalez is charged with maintaining both the largest and most diverse tree population in the country. He also maintains the city's 10,000 miles of sidewalks—again, the most in the United States. It's a big job, but Gonzalez—a certified municipal specialist with the International Society of Arboculture and frequent lecturer on tree- and sidewalk-management issues—knows it's important, based on the role sidewalks and trees play in a city's culture.

According to Gonzalez, a thriving urban forest adds value to a municipality by:

- Reducing noise levels: Trees absorb the cacophony of urban life, especially beneficial near highways and industrial areas.
- Cutting down energy consumption: Lining a residential street with trees reduces summer cooling costs by creating shade, and cuts heating bills by blocking harsh winds.
- Increasing water quality: A tree filters rainwater, and it reduces soil erosion and runoff by absorbing stormwater.

- Boosting property values: Trees make the houses on a street more desirable to prospective buyers.

- Increasing the "feel-good" quotient: Community beautification, civic pride, and other benefits are less tangible but still worth considering.

Also, sidewalks let pedestrians travel to and from residences, businesses, schools,

and other establishments. Neighborhoods without them experience significantly higher numbers of vehicle-pedestrian collisions, so their contribution to a neighborhood's safety is crucial.

Los Angeles might have a reputation as being the city that drives everywhere, but Gonzalez says that's not so. "L.A. is really a large city made up of many small

Top: In Los Angeles's Hyde Park neighborhood, buckled, cracked sidewalks such as this were a common eyesore. **Bottom:** Installing "reduced" sidewalks—pavement with cutouts to allow room for tree roots—have significantly reduced broken pavement and made Hyde Park a more walkable neighborhood. **Photos:** George Gonzalez





Tree roots can turn a city sidewalk into an impassable mess of broken-up concrete.

communities and neighborhoods,” he says. “Many Angelinos rarely venture outside of their neighborhoods, and within our neighborhoods you’ll find as much pedestrian traffic as you would in other large cities.”

PLANNING FOR PEACEFUL COEXISTENCE

Unfortunately, trees and sidewalks often are at odds. One can cause damage to the other, thanks in part to poor planning.

“Trees historically have been treated as an amenity—something nice to look at, but not a vital infrastructure element,” he says. “They’re often that last thing considered when planning a development. Not a lot of forethought is given to how trees coexist with neighboring infrastructure elements.”

Most often, a tree’s closest “neighbor” is a sidewalk. However, Gonzalez says sidewalk design frequently doesn’t take trees into account. Only recently have municipalities begun being diligent about planting the right tree in the right place. Even so, most of the time trees are not al-

lowed adequate space to grow, so foresters are stuck with planting smaller trees, which provide less benefit.

Here are a few sidewalk design features to consider for preventing future problems:

- Spacing it out: Placing a sidewalk and tree right on top of each other is a recipe for disaster. They should be a significant distance apart so that expanding roots don’t eventually disrupt the pavement when the tree grows to adulthood.

- “Meandering” sidewalks: A curving pathway can provide ample room for trees, and the contours provide a unique aesthetic feature.

- “Reduced” sidewalks: These straight lines have notched areas to allow room for tree growth.

- Ramped sidewalks: An inclined path can give tree roots sufficient room to grow underneath; these are often used as a way to install a sidewalk in proximity to an established tree without disturbing roots.

- Rubber sidewalks: A relatively recent development, these flexible pathways

give to allow for root growth. An added benefit: precast panels can be lifted to maintain roots or infrastructure underneath, then simply dropped back into place—a feature that traditional concrete doesn’t offer.

MAKING THE GRADE

A good forester monitors and evaluates the health of his city’s trees. Gonzalez uses a five-point grading scale to gauge whether a tree is the picture of health, needs “medical” attention, or should be taken down:

A: exceptionally healthy, structurally stable, and attractive.

B: healthy, stable, and has a useful lifespan of five years or more.

C: in decline, creating extensive structural damage, and/or is the wrong species or size for its site.

D: declining, structurally unsound, and there’s a good chance it’ll die.

F: the tree is dead.

To preserve a tree, Gonzalez’s team seeks to avoid cutting roots, compacting the surrounding soil, or changing drainage

or grade within the root zone. Pruning, the most common maintenance, can be called for if the tree's crown is too high, low, or thick. The practice also can be used, after pavement is removed, to prevent future sidewalk damage. The risk: If not done properly, the branches could die, the tree could become unstable, root regrowth may increase, and the susceptibility to various conditions (drought or insect attack, for example) increases. Gonzalez recommends evaluating root-pruned trees periodically

in the months after treatment to gauge their continuing health.

Tree replacement, he advises, should be a last resort. Residents tend to get very attached to their trees—especially the well-established ones—so removal tends to attract angry phone calls from constituents. Environmental regulations mandate that foresters pay close attention to whether removal affects nests or habitats—which could draw unwanted attention from the Audubon Society and the Sierra Club.

Tree and sidewalk action

Los Angeles is busy keeping up with its trees and sidewalks.

The forestry department of Los Angeles, captained by chief forester George Gonzalez, had its work cut out for it last year. The crews:

- Placed 449 miles of sidewalk
- Root-pruned 16,700 trees
- Removed 447 trees
- Planted 20,000 new trees

Similarly, you should keep an eye on sidewalks to ensure they continue to offer the most value to residents, without posing a trip/fall hazard. In Los Angeles, crews decide a sidewalk should be repaired if the pavement has been vertically displaced by at least ¼ inch. High-use areas, such as school zones, shopping areas, hospitals, places of worship, or any place with a significant trip hazard, get top priority.

FORMING A SOLUTION

Los Angeles's foresters rely on evaluation forms to help keep tabs on trees and walks. These documents help them decide whether a sidewalk or tree needs to be fixed or replaced. The advantage of using the documents is twofold: it helps them prioritize maintenance and replacement efforts, and the documentation provides recorded justification, should constituents complain when a tree is removed.

These forms, the first two developed by Gonzalez, include:

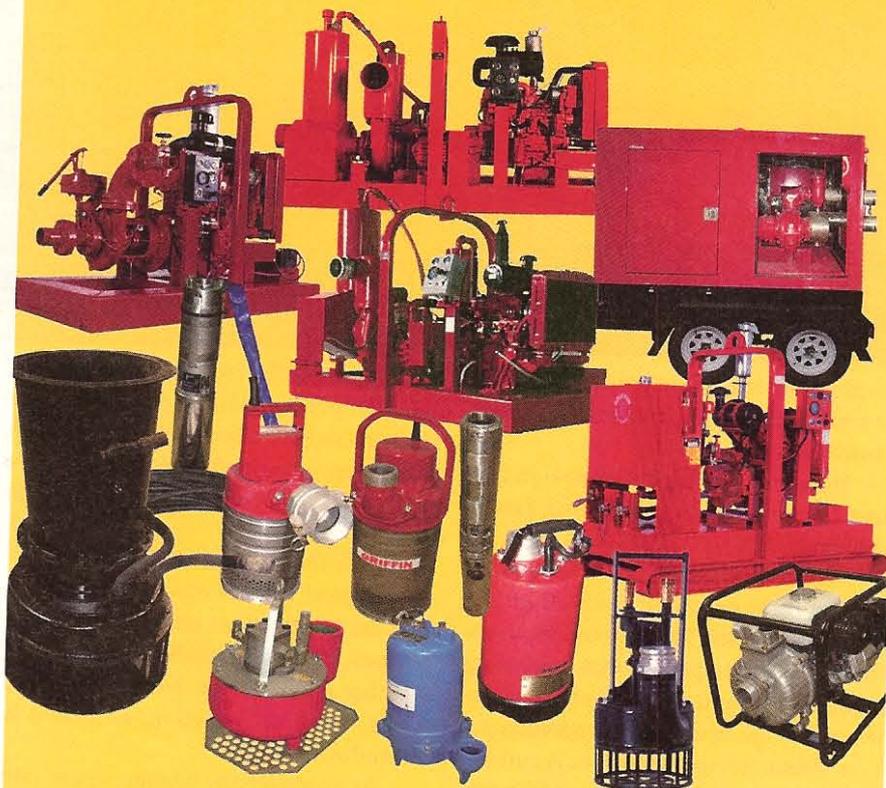
- Tree Evaluation Form: includes information about location, size, physical condition, and recommended remediation.
- Root Prune Evaluation Form: provides guidance on treating roots.
- Tree Hazard Evaluation Form: This document follows standards set forth by the International Society of Arbiculture to gauge potential for failure.

These forms can be viewed on the PUBLIC WORKS Web site at www.pwmag.com.

While remediation helps improve aesthetic, community, and economic benefits that healthy trees and sidewalks provide, Gonzalez stresses that cities need to start thinking ahead—and we have a long way to go.

"Mitigation efforts are valuable, but we have yet to get city planners, developers, municipal arborists, and landscape architects together," he says. "The city of the future needs to be designed to maximize these benefits. We're not there yet." **PW**

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