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Chrissy Spence,
Four-time ITCC Women’s Masters’ Challenge Champion
Total Infrastructure Planning: Mind the Four Rs for Successful Street Landscapes

By Gary Johnson and Eric North

Most arborists and urban foresters have heard or used the phrase “right tree, right place” in reference to species selection and site design. Total Infrastructure Planning (T.I.P.) proposes extending that particular axiom to read: “the right tree, in the right place, reduces maintenance and realizes benefits over time” as a design theme. The four Rs of species selection and site design remind planners of the goal to create spaces that maximize benefits over time, while reducing the total maintenance of urban infrastructure.

Research has shown that large, mature trees in good condition provide the most benefits, and it may take 20, 30, or more years before trees reach a size capable of providing benefits. A primary design objective for urban planners should be to create well-considered tree planting spaces large enough to support tree resiliency and longevity. Here are some ways planners can accomplish just that:

- Boulevards or tree lawns smaller than ten feet (~3 m) should receive smaller-statured trees, planted closer together, as in 15–20 feet (4.6–6.1 m) on center. The smaller tree canopies will have increased opportunity to close in a short time frame, effectively creating the canopy spread of a much larger tree.
- Move the sidewalk to the curb and plant trees to the property side of the right-of-way. This increases the rooting space of the tree while maintaining usable sidewalks. The changes can come during street or sidewalk repair and maintenance work to reduce improvement costs.
- Meander the sidewalk around trees, placing the sidewalks next to the curb when near trees.
- Use maintenance methods that reduce repair costs and limit any damage to the established tree roots; many municipal planners consider “shaving” the infrastructure, to level sidewalk lift.
- Remove the tree and replant if construction activity requires substantial root severance within 6.5 feet (~2 m) of the trunk flare.
- Consider new sidewalk or path materials that flex as tree roots grow under the sidewalk without creating a trip hazard.

• Trees native to forests usually perform best in... wait for it... forests! Or parks or larger landscapes. They rarely thrive in boulevards. Trees native to prairies, open spaces, or those that are early successional trees are often better choices for boulevards.

Watch this space in Arborist News for more T.I.P.s for creating and caring for trees in street landscapes.

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