Project Components
of SDOT's Trees and Sidewalks Operations Plan

Building on the project's goals and objectives, the project team researched how other cities have successfully managed conflicts between trees and sidewalks, developed a toolkit of solutions to apply best practices in Seattle, conducted case studies to test the toolkit on corridors, and engaged with the public as the ***Trees & Sidewalks Operations Plan*** was developed.

Best Practices Research

The team used information about existing SDOT practices and conducted new research to learn about approaches to managing conflicts between trees and sidewalks. This work identified national and international best practices as well as emerging practices and promising areas of new research that could be used in Seattle. Our research spanned tree-related best practices (e.g., species, roots, nutrients, irrigation) as well as infrastructure and design best practices (e.g., street edge, design standards, materials, utilities). The best practices research is summarized in the **plan** on pages 13-20 and in **Appendices A and B**.


Rubber sidewalks can provide a flexible walking surface
Photo by: University of Florida

Decision Process

As the project evolved, the team recognized a need to clarify the decision process that SDOT uses to address conflicts between trees and sidewalks. While SDOT has traditionally used checklists and forms as part of the assessment process, these are not broadly available to the public. To make the decision process around the retention or removal of trees more transparent and consistent, the operations plan clarifies the typical process and includes diagrams that highlight the key decision points.

The decision process considers existing trees and sidewalks as well as opportunities to plan new trees within the right-of-way. The process helps project and program managers understand the amount of time and type of resources that must be allocated toward a project to provide and promote tree canopy growth and accessible sidewalks. Detailed information about the decision process is available on pages 21-30 of the **operations plan**.
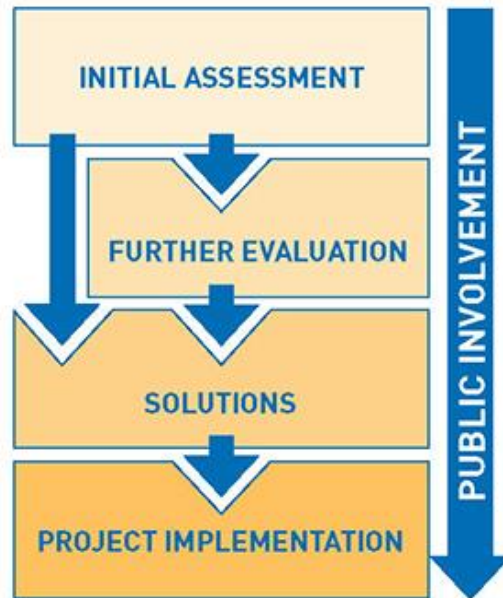
Solutions Toolkit

The team developed a toolkit of resources that can be used to address conflicts between trees and sidewalks or other public infrastructure. The toolkit identifies solutions that may be used to plant and retain healthy trees and provide accessible, walkable surfaces. This toolkit will guide SDOT's future work and also may be used as a resource for other City departments and private developers or property owners seeking guidance on installation and maintenance of sidewalks adjacent to their property.

The toolkit includes both tree-based and infrastructure-based techniques and materials to guide design, construction, and maintenance activities related to trees and sidewalks. Each tool is categorized as proactive or responsive and includes costs, expected useful life, and other relevant considerations. Most projects will require multiple solutions to resolve tree and sidewalk conflicts. The toolkit can be found on pages 31-69 of the **plan**.

ROOT PRUNING

Root pruning is a responsive treatment in which tree roots that are causing issues, such as sidewalk uplift, are removed, typically in conjunction with repair of damaged sidewalks or other infrastructure. The amount of root pruning that a tree can handle varies by tree size, species, condition, age, and root distribution, and must be supervised by a qualified arborist.

BEST USED IF
- A minimal amount of root pruning can prevent or defer future damage caused by the tree's roots.
- Removal of specific roots makes space available for an appropriate repair (e.g., allows proper sidewalk width and/or grading).

EXPECTED USEFUL LIFE

M	Y		D		C
	YEARS				

COST
$-$$

Tool addressed in
SDOT Street Tree Manual

DON'T USE IF
- Arborist determines that root pruning would significantly impact health or structural integrity of the tree.
- Qualified arborist has not been consulted.

PROACTIVE/RESPONSIVE
- Responsive - This practice is used to address tree roots that are directly contributing to an infrastructure issue.

NOTE
- SDOT Urban Forestry must approve removal/pruning of roots greater than 2" in diameter within the dripline of a street tree.
- All root pruning within the critical root zone of a street tree must be supervised or directed by a representative from SDOT Urban Forestry.

ESTIMATED COST
- $500 - $2,000 per tree

REFERENCES
- SDOT Street Tree Manual

Case Studies

The operations plan includes three case studies that recommend successful long-term management strategies for different urban conditions: 34th Avenue in Madrona; 35th Avenue NE in Lake City; and Rainier Ave S in Rainier Beach. The case studies were used to test the decision process and resulted in a conceptual plan for resolving tree and sidewalk conflicts at this scale. An introduction to the case studies can be found on pages 71-73 of the **plan**, and the concept plans are available in **Appendix D, E, and F**
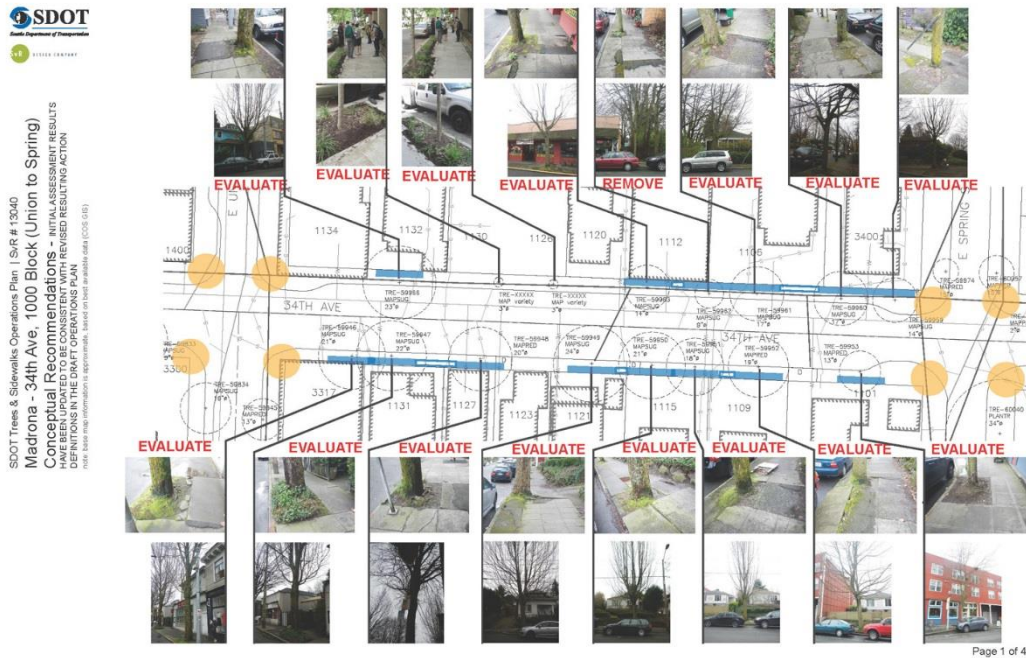
One of the case study corridors was 34th Avenue in Madrona

Action Items & Considerations

Development of the operations plan helped to identify a number of areas where additional efforts should be made to support SDOT's management of trees and sidewalks. Internal actions include requesting additional staff resources, updating the street tree list, and improving the publicly-accessible tree and sidewalk information. Considerations that require broader City coordination include integrating the tree assessment with the Complete Streets checklist, updating standard plans and specifications, and coordinating with other departments (e.g., Seattle City Light, Seattle Parks) that maintain trees. The action items and considerations can be found on page 75 of the **operations plan**.

Public Outreach

The project included extensive public involvement and discussions and meetings with key stakeholders and the general public throughout the plan's development. Much of the outreach was focused on the case study neighborhoods—with seven public meetings in Madrona, Lake City, and Rainier Beach—although citywide feedback was also solicited through the Urban Forestry Commission, the Seattle Pedestrian Advisory Board, and the Seattle Commission for People with disabilities. A summary of the public outreach conducted as part of the plan is available in Appendix G.