

Growing Street Tree Canopy

Joint UFC-IDT Meeting – October 2023



Seattle
Department of
Transportation

One Seattle Tree Plan

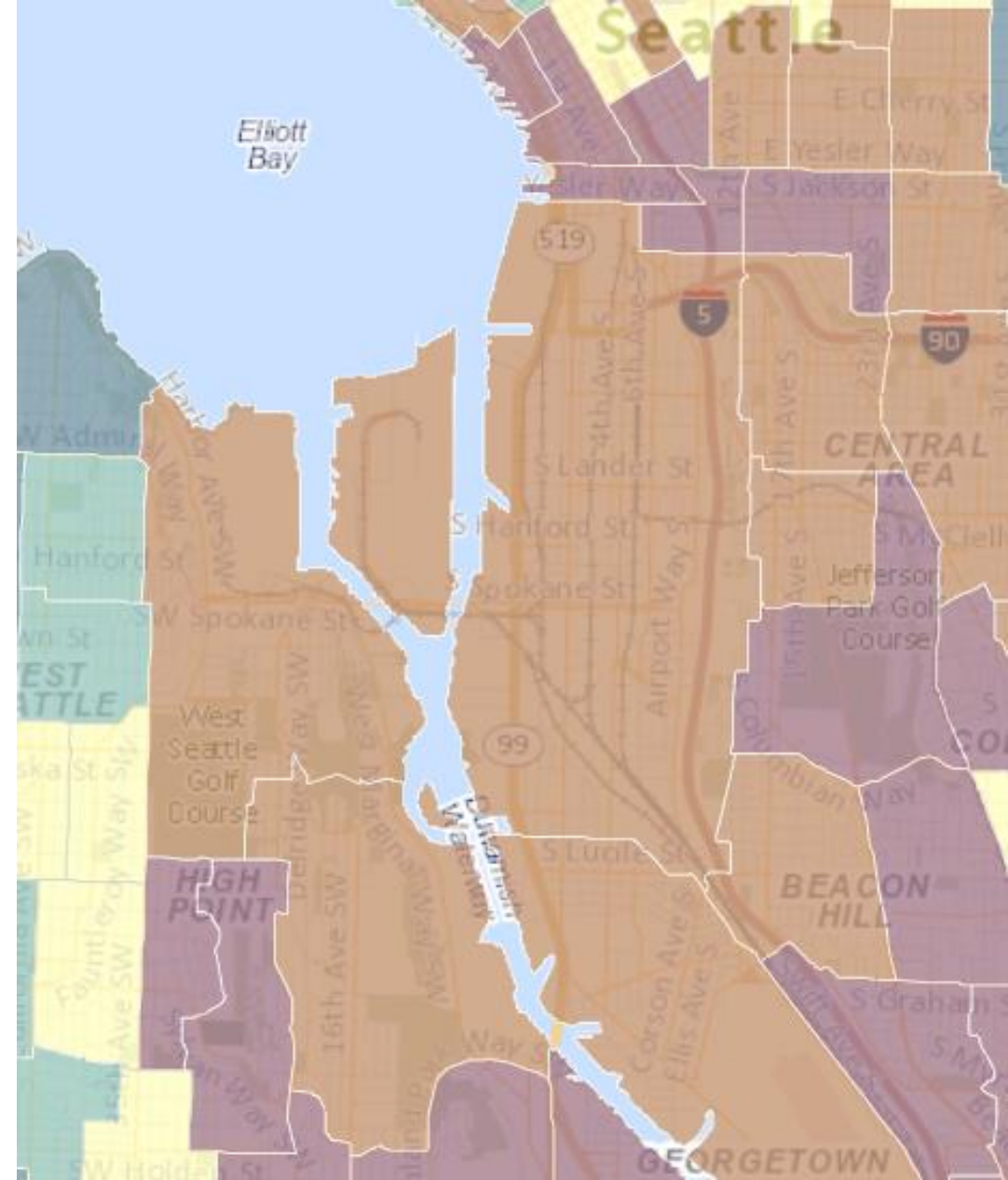
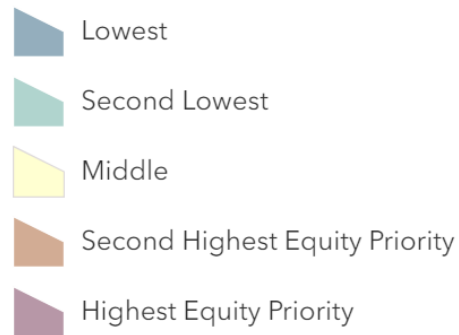
- Effective March 7, 2023
- Requires 3:1 tree replacement for healthy trees removed on city property
- Creates the One Seattle Tree Fund to collect payments from property owners and developers



One Seattle Tree Plan

- Prioritizes tree planting in census tracts identified as priorities in the city's Racial and Social Equity Index
- Targets areas with low canopy cover, a history of urban flooding, or higher urban temperatures

Racial and Social Equity Composite Index Current



One Seattle Tree Plan

Prioritizes tree species that:

- Are native or climate adapted
- Have cultural significance
- Maximize carbon sequestration (large canopy trees or trees with longer life spans)
- Absorb stormwater runoff to prevent flooding (evergreen species)

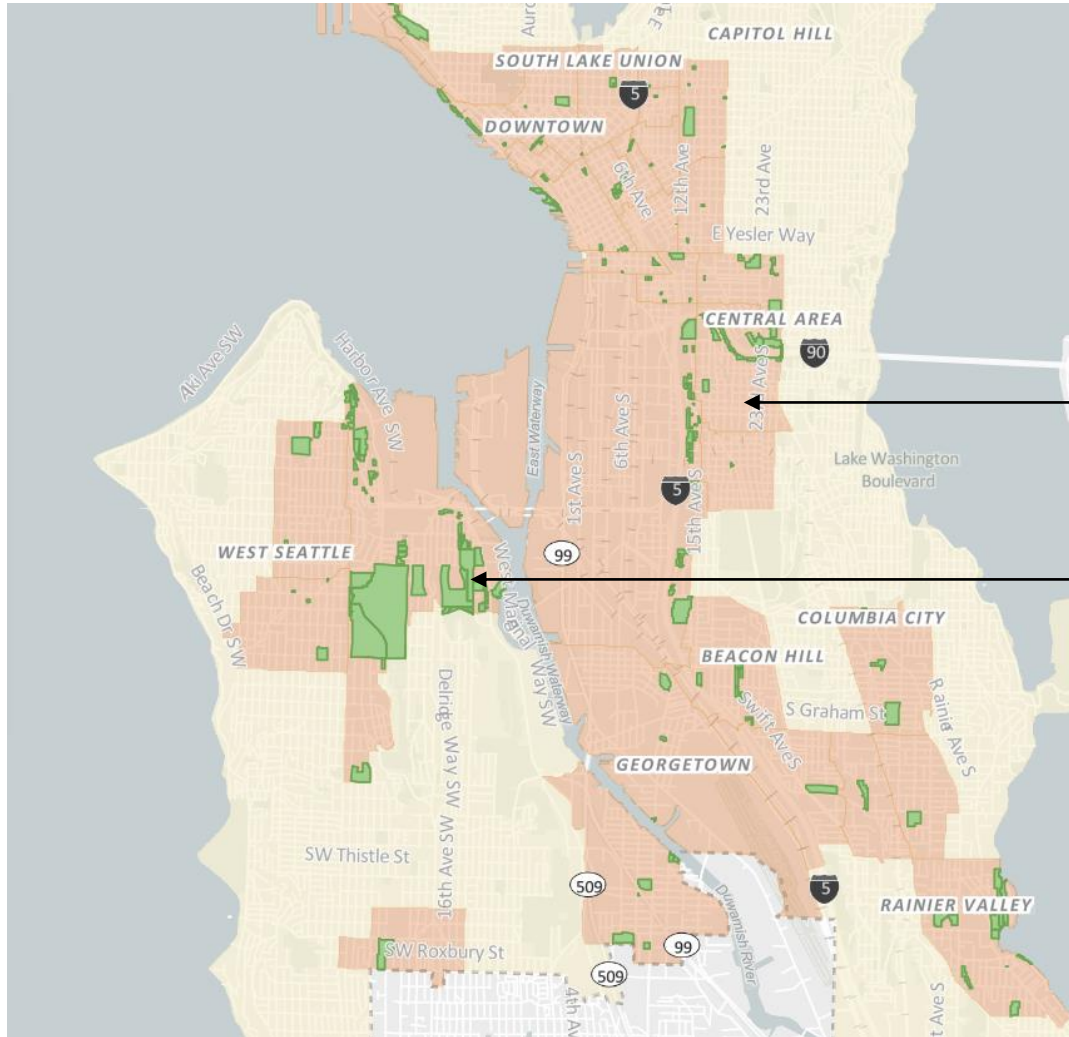




One Seattle Tree Plan

Creates the One Seattle Tree Fund to collect payments from developers and property owners to fund tree planting on public land in accordance with the Tree Protection Ordinance.

Where will the One Seattle Tree Fund plant trees?



Trees can be planted in parks, natural areas, or public rights-of-way in census tracts that have 25% or less tree canopy.

Qualifying census tracts are shown in pink.

Qualifying parks are shown in green.

Historic underinvestment limits tree planting



Priority neighborhoods often lack sidewalks and planting strips.

Open ditches eliminate tree planting spaces on whole block faces.

Historic underinvestment limits tree planting

Fences, parking, or other structures encroach on the right-of-way due to lack of clear boundary.

Aging utilities in non-standard locations preclude tree planting to protect existing infrastructure (water, sewer).



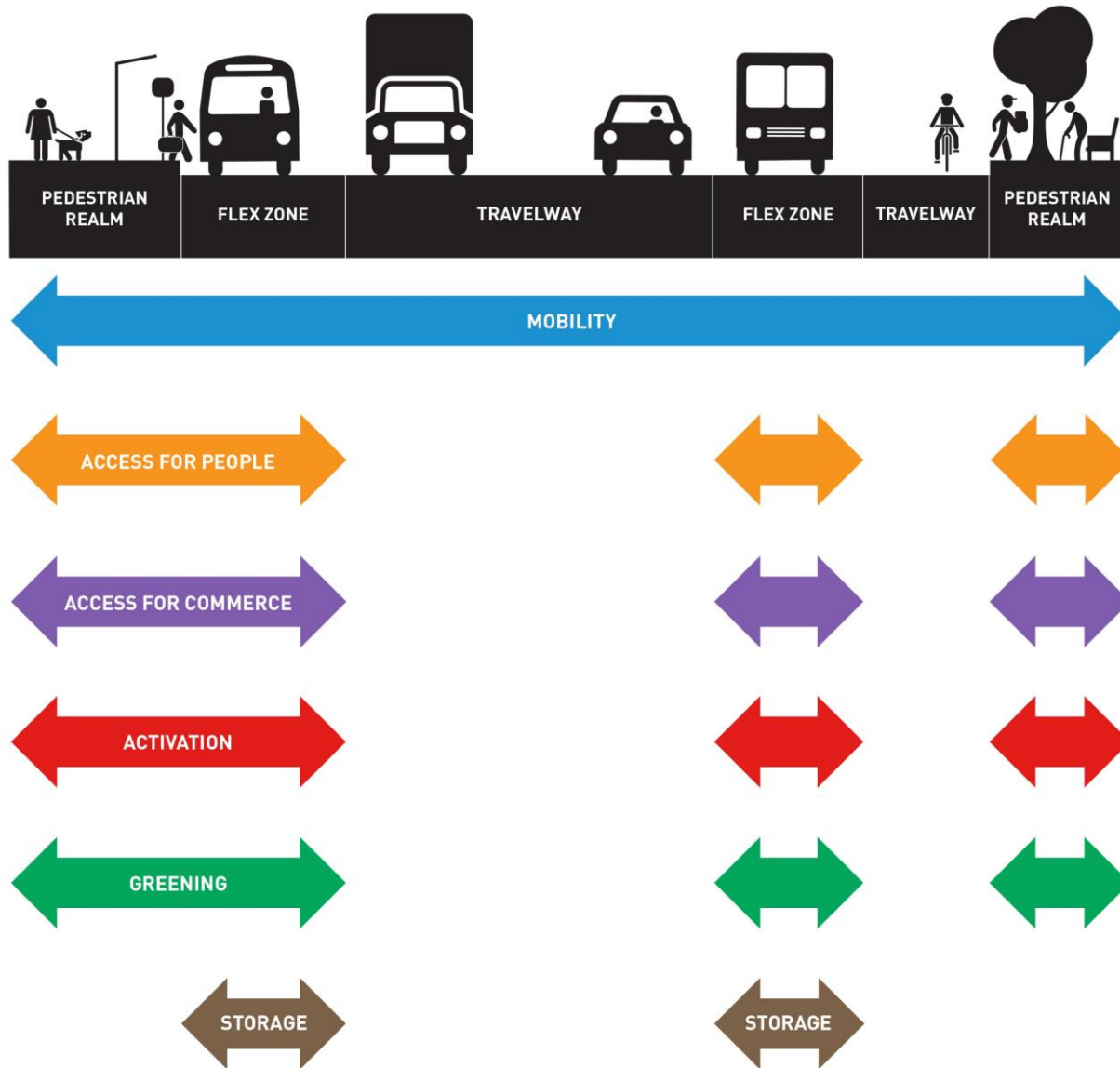
Denser development reduces space for trees

Underground vaults associated with denser development displace soil for trees.

Building canopies and zero lot line buildings limit tree selection and canopy spread.

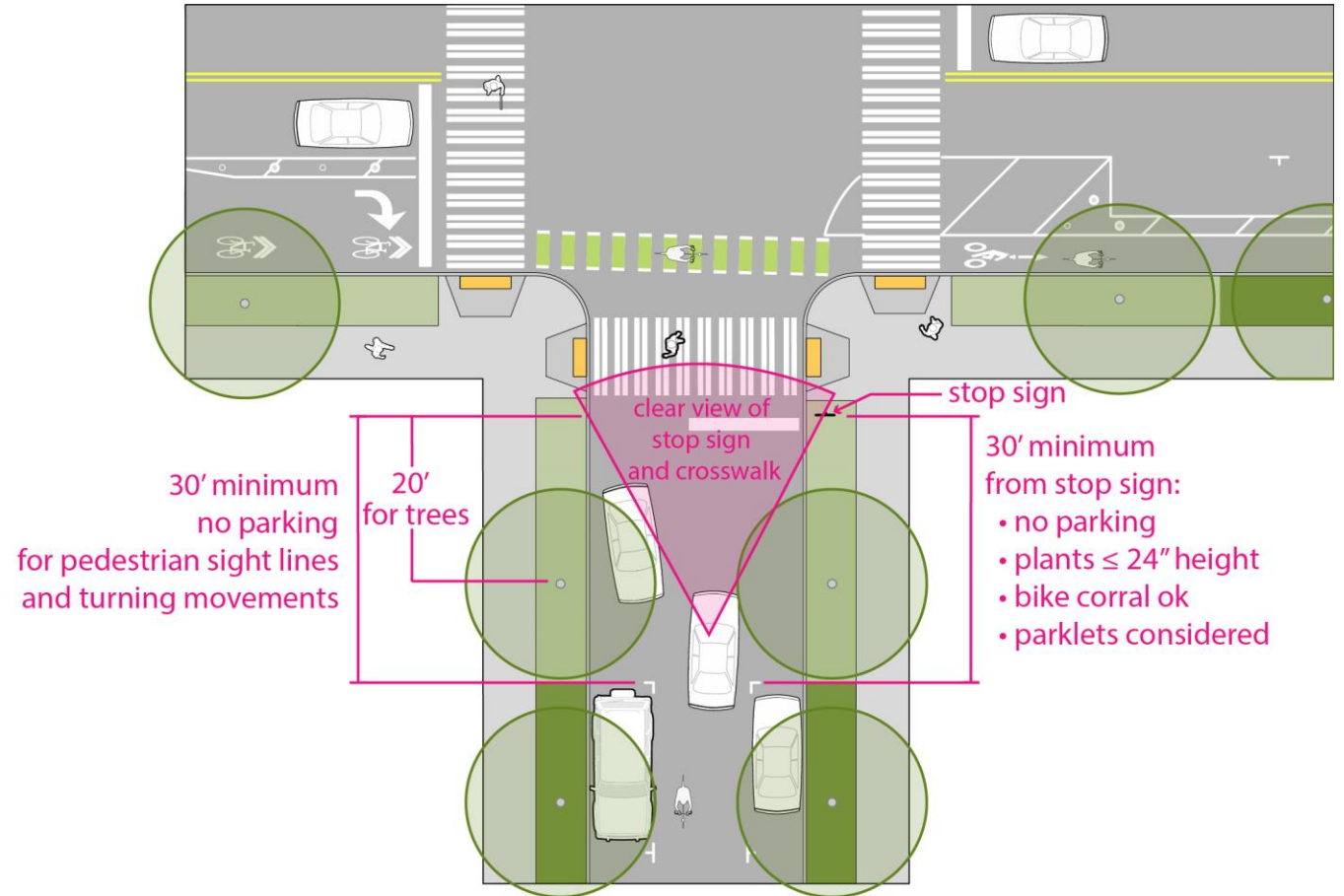


Public amenities reduce soil volume for trees

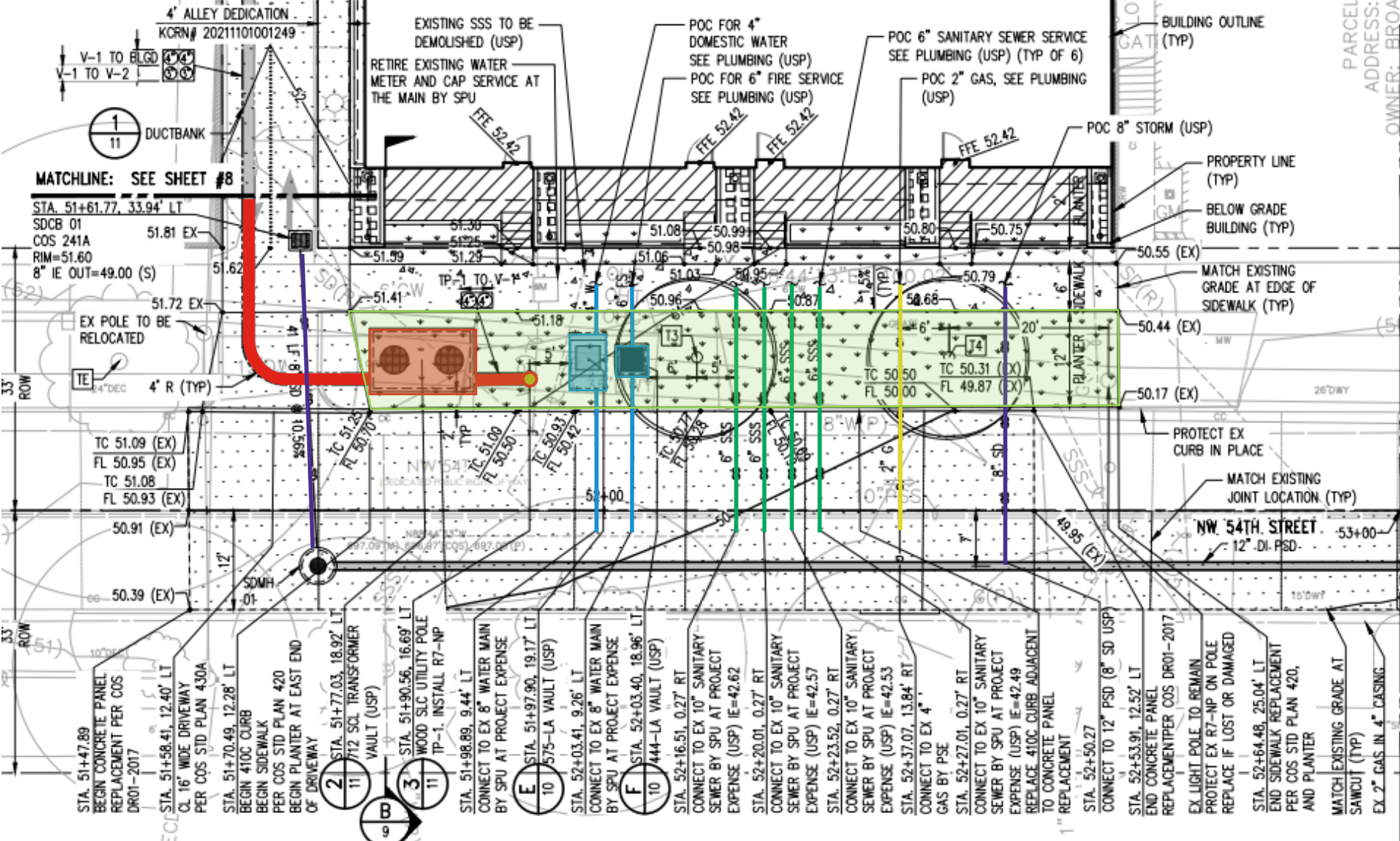


Standard offsets limit tree locations

From	To	Standard Clearance
Centerline of Tree	Face of curb	3.5 feet
	Sidewalk or sidewalk landing	2 feet
	Driveway (measured from edge of driveway at sidewalk)	7.5 feet
	Centerline of streetlight poles	20 feet
	Centerline of fire hydrants	5 feet
	Centerline of utility poles	10 feet
	Centerline of stop sign	20 feet
	Extension of cross street curb at an intersection	30 feet
	Underground utilities	5 feet (except ducts and gas pipes as shown on Seattle Standard Plan 030 for residential streets)
	Roadway edge, where no curb exists	10 feet
Roadway surfaces	Tree limbs	14 feet; exceptions apply



Preserving soil for trees requires coordination



PARCEL ADDRESS: B10A
OWNER: B10A

Soil Volume & Tree Size

Large canopy trees need adequate soil to reach their full canopy potential.



Bald Cypress Bonsai - 10 inches tall



Bald Cypress field grown - over 100 feet tall

Soil Volume & Canopy Spread

Studies have shown the relationship between soil volume and tree canopy spread.

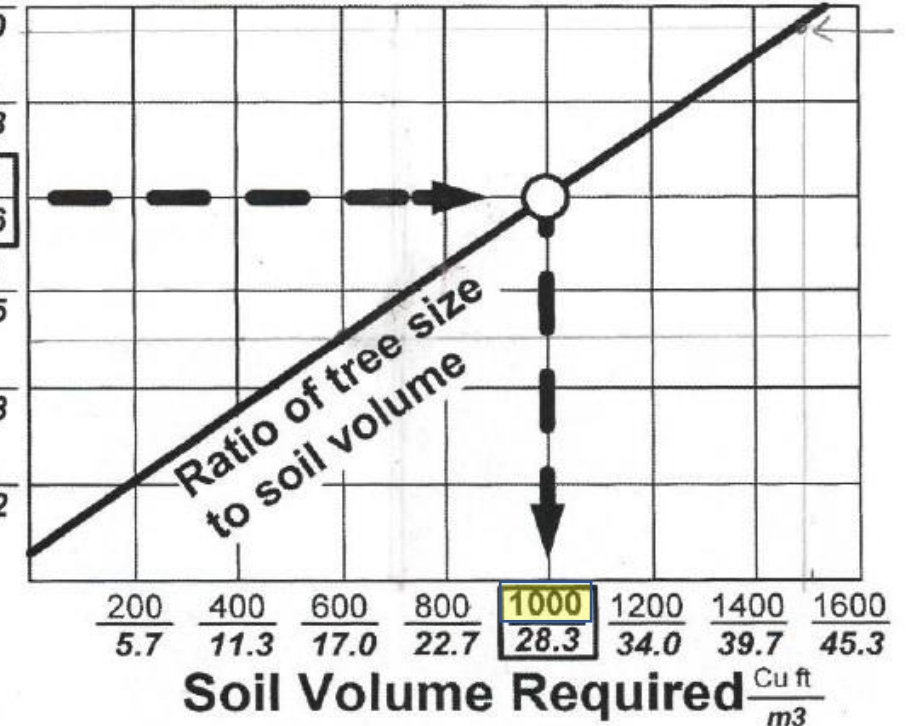
If the city wants to grow canopy, it needs to retain planting soil volume.

Table 2.4.1. Tree size to soil volume relationships (Urban 1992).

Ultimate tree size

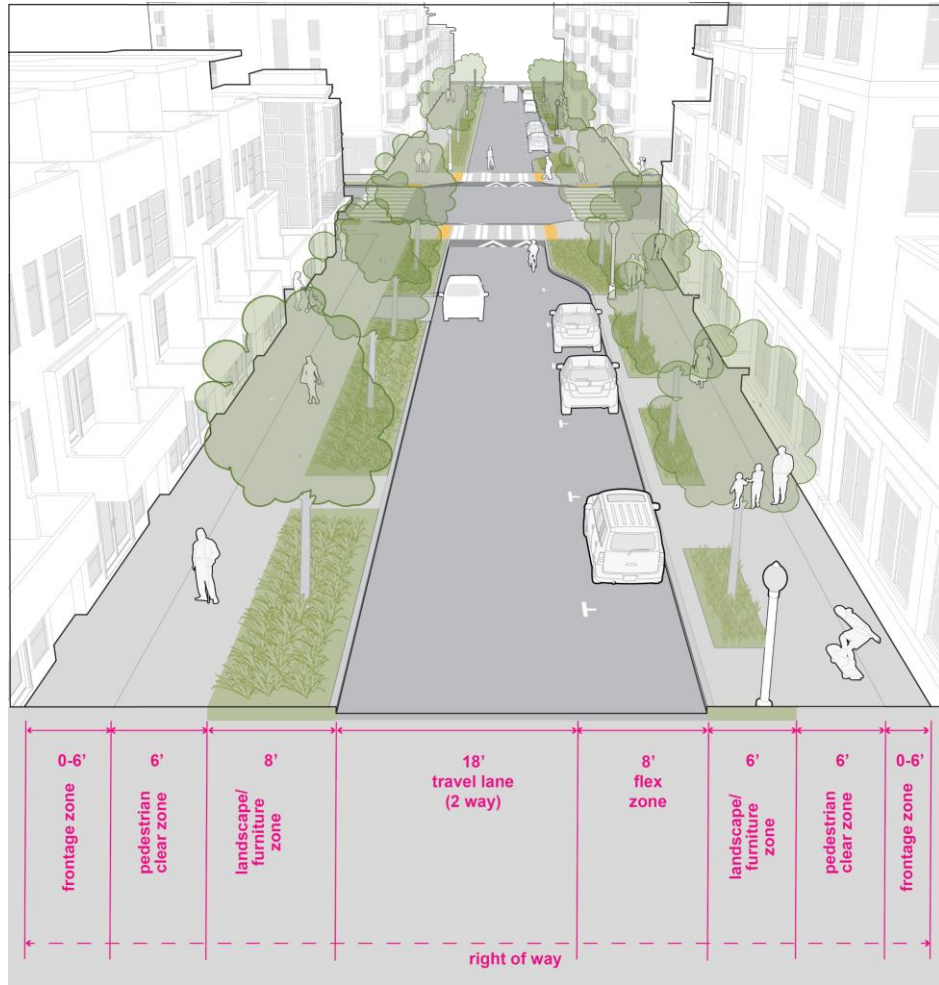
Crown Spread Sq Ft	DBH-Trunk Diameter Inch
<i>m²</i>	<i>mm</i>
1200	24
111	610
1000	20
92	508
800	16
74	406
550	12
51	305
350	8
32	203
150	4
14	102

Example: A 16 inch/406 mm diameter tree requires 1000 cu ft/28.3 m³ of soil.



Soil Volume in the Right-of-Way

SDOT's Streets Illustrated includes cross-sections with wide, continuous planting strips. Large tree pits can work as well, especially when combined with soil cells or structural soil.



Burke Museum in Seattle

Soil Volume Strategies

Soil cells support sidewalks while expanding planting soil volume below the pavement.



Escala on 4th Ave in Seattle



Questions?

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[Trees and Landscaping Program - Transportation | seattle.gov](https://seattle.gov/transportation/trees-landscaping)



Thank you!

