TDAG Case Study

Seattle's Urban Forest Stewardship Plan

Seattle, Washington, USA

Tree strategy

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Completion date:
First plan completed in 2007, with comprehensive updates every six years thereafter (2013, 2019)

Team:
The plans were prepared by the City of Seattle Urban Forest Interdepartmental Team, a working group representing the eight City departments with tree management or regulatory responsibilities. All plans were subject to extensive public consultation, as well as adoption by the City Council.

Further information:
Trees for Seatle (City of Seattle website dedicated to the urban forest):
www.seattle.gov/trees/
To download the plans, workplans and progress reports:
www.seattle.gov/trees/management.htm
About the Seattle Urban Forest Commission:
https://www.seattle.gov/urbanforestrycommission/membershipandroster
May 2017 webinar presentation of the 2016 Canopy Cover study findings:
https://tinyurl.com/yauvumry

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The City of Seattle introduced the *Urban Forest Management Plan* (UFMP) in 2007 as a guiding document to help address the needs of the local urban forest. The plan set a goal to increase the city's canopy cover to 30 percent by 2037. This was based on rough canopy cover estimates available at the time, Seattle's land use mix and other land-use specific goals pursued by the City (eg encouraging density, facilitating freight mobility, etc), a generic assemment opportunities planting, American Forests' recommendations as benchmarked against other cities as well as advice from experts, the University of Washington, and the public. Because capacity for tree planting or management in an industrial setting is very different from that found in residential neighbourhoods or in public parks, the UFMP defined nine land-use based urban forest management units. Goals for canopy cover increase were set for each. The UFMP also defined a framework for City departments, non-profit organisations, residents, and the community as a whole to support efforts to grow and care for the urban forest. Resulting achievements include:

- Creating of the Urban Forestry Commission, a ten-member council of volunteers with various specialised backgrounds to advise the Mayor and City Council on policy matters related to the protection, management, and planting of trees in Seattle (Mayor/City Council – 2009)
- Creating a new, permanent position to grow and manage reLeaf, the City of Seattle's community engagement and outreach program on urban forestry (Mayor/City Council – 2011)
- Completing an online map of street trees and updating the street tree ordinance and manual (Seattle Department of Transportation – 2012/2013)
- Enrolling 1,000 acres of forested parklands in the restoration process to remove invasive species and plant native trees and understory plants (Parks and Recreation Department through the Green Seattle Partnership – 2012)
- Adopting a "Green Factor" policy for new developments, and updating tree regulations for private property (Department of Planning and Development – 2009 and 2013)
- Using i-Tree Eco to analyse the structure, function, and economic benefits of Seattle's urban forest (2012)
- Being named by American Forests as one of the top ten best cities in the US for urban forestry (2012).

A first major update of the UFMP was adopted in September 2013. To more clearly convey the importance of engaging Seattle residents and organisations along with City staff in the care of the urban forest, the term stewardship was incorporated into the plan's title. The 2013 *Urban Forest Stewardship Plan* (UFSP) maintained both the citywide and land-use based canopy cover goals previously set. Budget wasn't available at the time to produce the more accurate canopy cover and planting potential data needed to adjust these figures. While the goals weren't based on accurate enough data to provide a basis for detailed prioritisations of work and monitoring of year-on-year progress, they still offered useful general guideposts for success. Building upon the enhanced baseline data on forest structure and benefits provided by 2012 i-Tree Eco study, the UFSP introduced additional objectives to:

- Improve the health and longevity of the urban forest through widening and enhancing the age and species distribution of Seattle's tree population, and
- Achieve a net increase in the functions the urban forest performs and the related environmental, economic, and social benefits it delivers.

Like previously with the UFMP, the recommendations identified in the 2013 UFSP have provided the basis for developing yearly work plans for action. These are made available on the City's website, alongside yearly progress reports.

As part of the UFSP implementation, a comprehensive canopy cover assessment was conduted in 2016. The high resolution Lidar (light detection and ranging) technology used for the mapping yielded much more detailed and reliable data than the City had ever had access to before. This revealed a higher citywide canopy cover than expected (28 percent, +/-1 percent error margin), confirmed strong differences accross land uses, as well as between neighbourhoods within an individual land use. The City now intends to revise its citywide and management units-focused canopy cover targets and release an updated *Urban Forest Stewardship Plan* in 2019.

A majority of Seattle's tree cover resides in single-family residential neighbourhoods, like Fauntleroy
Image: Martin Cathrae

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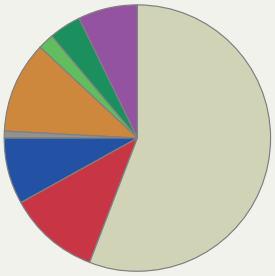
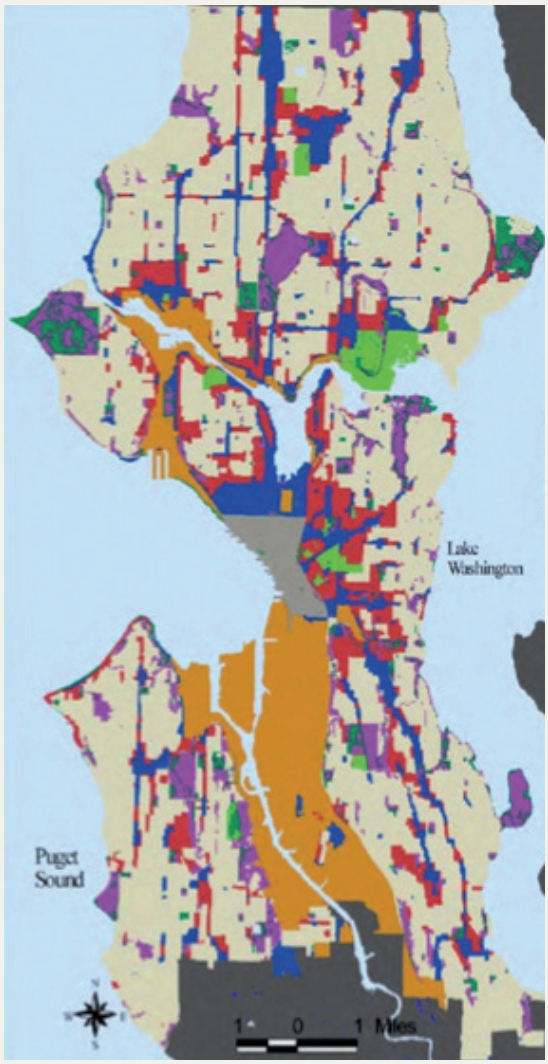
Management Units of city
%



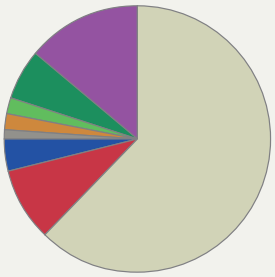
- 56% Single-Family Residential
- 11% Multi-Family Residential
- 8% Commercial/ Mixed-use
- 1% Downtown
- 11% Industrial
- 2% Institutional
- 4% Developed Parks
- 7% Parks and Natural Areas



Clockwise from left:
Chart
Image: Extract from Seattle's 2007 *Urban Forest Management Plan*

Map of Seattle's nine urban forest management units
Image: Extract from Seattle's 2007 *Urban Forest Management Plan*

Contribution to Seattle's canopy cover
%



- 63% Single-Family Residential
- 9% Multi-Family Residential
- 4% Commercial/ Mixed-use
- <1% Downtown
- 2% Industrial
- 2% Institutional
- 6% Developed Parks
- 14% Parks and Natural Areas

Chart
Image: Adapted from *Seattle 2016 Tree Canopy Assessment*

Management Units (MUs)	Land area (% of city)	2016 canopy cover	2037 canopy goal (set in 2007)	% contribution to city's canopy cover	Difference between 2016 canopy cover and 2037 goal
Single-Family Residential	56%	32%	33%	63%	-1%
Multi-Family Residential	11%	23%	20%	9%	3%
Commercial/Mixed-use	8%	14%	15%	4%	-1%
Downtown	1%	10%	12%	<1%	-2%
Industrial	11%	6%	10%	2%	-4%
Institutional	2%	25%	20%	2%	5%
Developed Parks	4%	34%	25%	6%	9%
Parks and Natural Areas	7%	89%	80%	14%	9%
City Total	100%	28%	30%	100%	-2%
Rights-of-way (runs through all other MUs)	27%	23%	24%	22%	-1%

Seattle's 2016 canopy study revealed much higher canopy coverage than previously identified
Image: Adapted from *Seattle 2016 Tree Canopy Assessment*

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About this Case Study

In 2012, TDAG identifed 12 good practice principles for urban trees. The project described in this case study illustrates the principles highlighted below:

1/ **Know your Tree Resource**

2/ **Have a Comprehensive Tree Strategy**

3/ Embed Trees into Policy and Other Plans

4/ Make Tree-friendly Places

5/ Pick the Right Trees

6/ Seek Multiple Benefits

7/ Procure a Healthy Tree

8/ Provide Soil, Air and Water

9/ Create Stakeholders

10/ Take an Asset Management Approach

11/ Be Risk Aware (Rather than Risk Averse)

12/ Adjust Management to Needs

For more about the 12 principles, see *Trees in the Townscape: A Guide for Decision Makers*

Keywords
Tree strategy, Citywide, Canopy cover target, Canopy cover mapping, Governance.

Author and sources
This case study was drafted by Anne Jaluzot, based on documentation and webinars available on the City of Seattle website.

Version 1.1
This case study was originally published in *Trees in Hard Landscapes: A Guide for Delivery* (2014). Version 1.1 was released in February 2018.

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