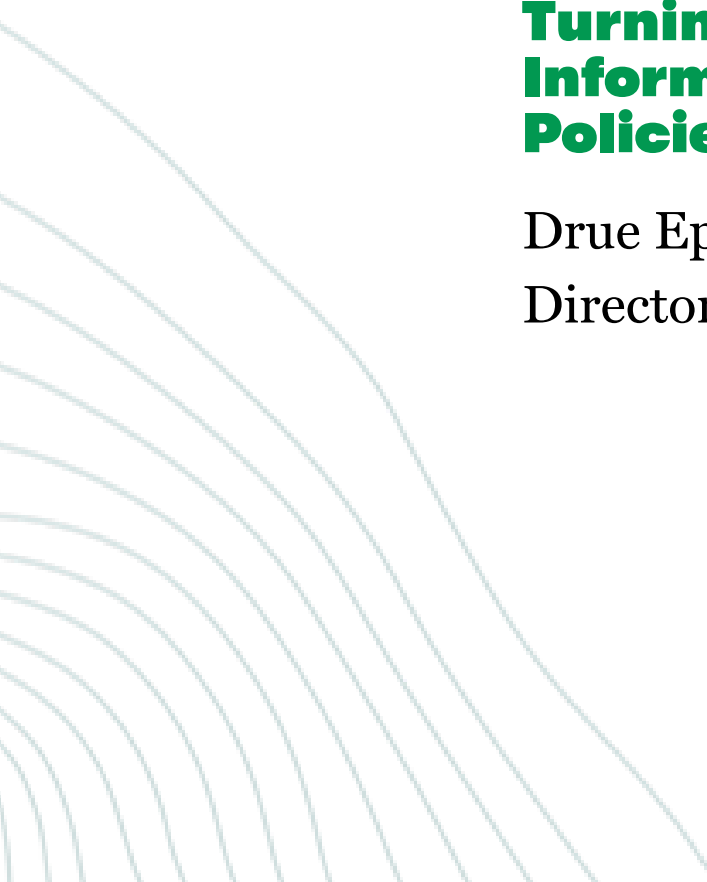


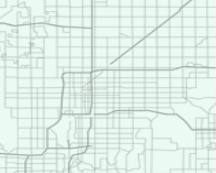
# Data-Driven Decision Making

**Turning Urban Forest Data into Informed, Equitable, and Actionable Policies**

Drue Epping

Director, PNW & West Coast Urban Forestry





# About Me

- Arborist
- Urban Forest Planner
- College Instructor
- Fun Person



## Our Mission

American Forests creates **healthy and resilient forests**, from cities to large natural landscapes, that deliver **essential benefits for climate, people, water and wildlife.**

We advance our mission through forestry innovation, place-based partnerships to plant and restore forests, and movement building.



### Resilient Forests

Restoring and protecting forests to withstand climate change and other threats



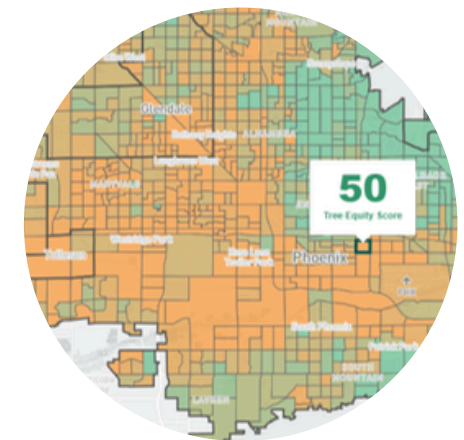
### Policy & Partnerships

Advancing laws and funding to protect and expand forests nationwide



### Tree Equity

Providing tools and resources to communities to ensure equal access to the benefits of trees



### GIS & Data Science

Using cutting-edge mapping and analysis to guide forest and tree solutions where they're needed most

**We invite local leaders to reimagine their cities to be greener, more just places to live**



**Our Tree Equity program focuses on identifying the gaps that each of our key actors have in prioritizing and planting trees and providing them with the resources they need to advance Tree Equity.**



### **Municipal Support**

Empowering **city and state leaders** to commit to Tree Equity and adopt the necessary data, planning tools, and policies through coaching, consulting services, and local coalitions.



### **Tools & Resources**

Equip **urban forestry practitioners** with science-based approaches to achieve Tree Equity via new research, usable tools and guides, and innovative practices.



### **Community Support**

Organize and fund under-resourced **frontline and faith organizations** to catalyze advocacy, equity-driven plantings and community voices in city-wide processes



### **Career Pathways**

Developing the next generation of urban forestry professionals by empowering **youth and underemployed** with needed curricula, programs, and training.



### **National Partnerships**

Engage **federal policymakers** and **allied national partners** to build the case for Tree Equity and to unlock new funding and resources for communities.

# What is going on with Urban Forestry in Washington State?

## Funding, Approaches and Landscape

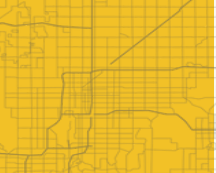
- Things are moving fast
- Influx in funding from State and Federal Sources (but also reduction...)
- New comprehensive plan element
- Ordinance adoption is growing (private and public)
- How we views trees is shifting



## Biggest Challenges to the Work

- Political will
- Community buy in
- Funding planning and not implementation
- Cohesion with other planning efforts
- Monitoring progress and making adjustments
- Unintended consequences





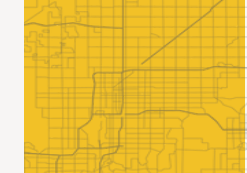
# Trees are the Answer



Society of  
American Foresters

[www.eforester.org](http://www.eforester.org)





# Data Is

# the Answer

[www.eforester.org](http://www.eforester.org)

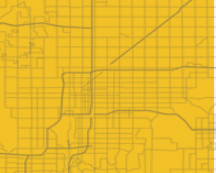


Society of  
American Foresters

## Data considerations for successful UF work

- What goal are we working towards
  - UFMP, ordinances, etc.
- Do we have the whole picture
  - is key data available
- Qualitative and Quantitative
- How can we use it to strengthen our case
- Are we effectively serving the needs of the community





# Unintended Consequences if Decision-Making is not Rooted in Data

## Community Consequences

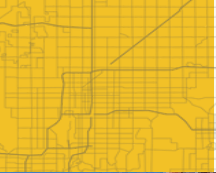
- Creating additional burden on low-income families and small businesses
- Limited voices represented in decision-making process
- Mistrust between public and the city

## Legal Consequences

- Enacting plans & policies that interfere with reasonable use of property
- Creating tree funds that cannot be used for actual city needs
- Lawsuits from interest groups that feel limited by these policies

## Management Consequences

- Unnecessary obstacles and barriers for the city, NGOs, and community members
- Enacting plans & policies that don't serve our goals
- Creates financial burdens



## Biggest Challenges to the Work

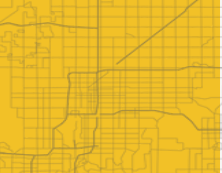
- **Community buy in**
- **Political will**
- **Cohesion with other planning efforts**
- Funding planning and not implementation
- Putting data and planning into action
- Unintended Consequences



## Challenge: Community Buy In

- Strong community outreach component for UF or larger efforts
- Want to make sure you're working "with" community not just "in" community
- Working with professional groups such as Master Builders Association, local Arborists, Architects
- Avoid unintended consequences





# Community Buy In

## Qualitative Data

- Reveals feelings about trees
- Identifies barriers to tree planting to consider
- Insights into community readiness

## Quantitative Data

- Does it tell a story?



## Evaluate Current Plans & Policies

- Tree Equity Handbook
- Benchmark data



## Set New Plans & Policies

- Informed by community and tree data



## Reassess, Stay Engaged

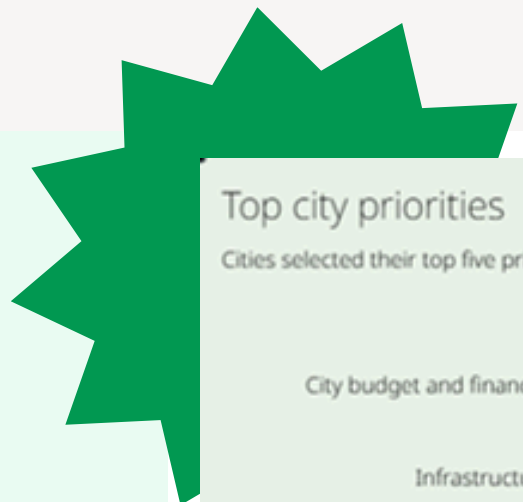
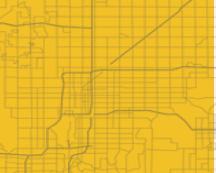
- Tree boards
- Community partners
- Periodic updates



**75% of Interviewees Felt Residents Lacked Knowledge/Ability for Tree Care**

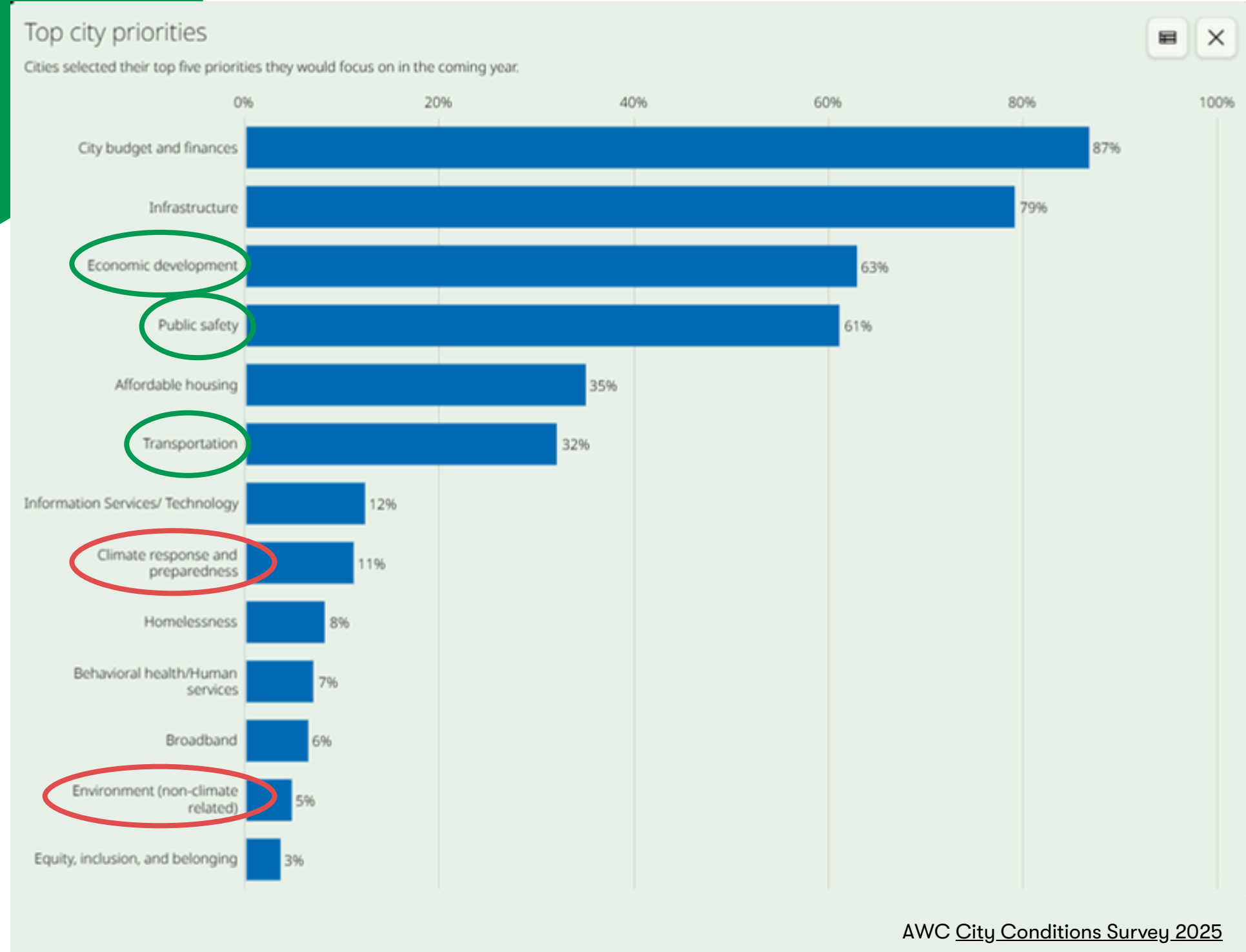
*“If I’m a homeowner and someone tells me I need a tree in front of my house, at first it’s a beautiful idea. Then you have to think about it —what kind of tree is this going to be? What about when it falls over? Who is going to take care of it?”*

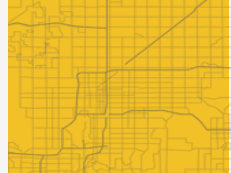
*Uncovering barriers to participation in urban tree planting initiatives*



# Challenge: Political Will

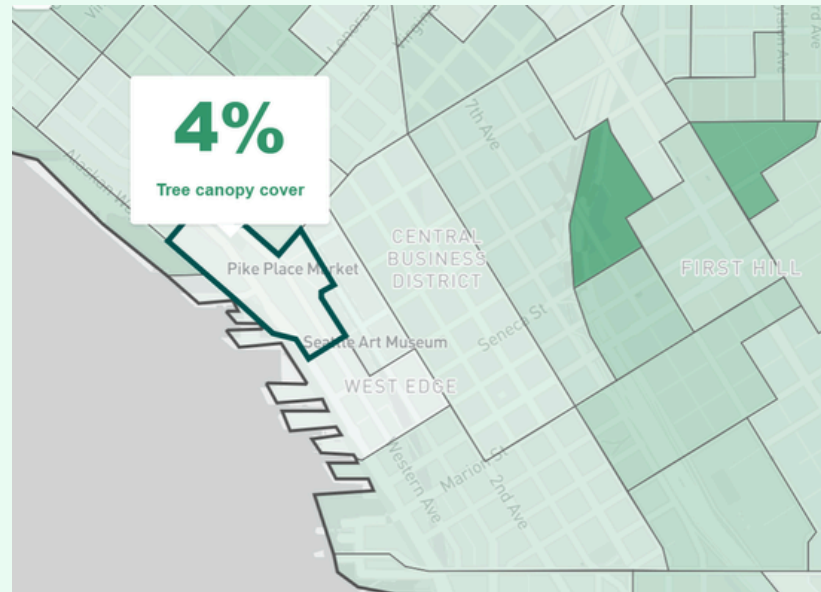
- Matching elected leader priorities
- Environmental is not always a top priority for community leaders
- Applying different lenses to urban forestry work





# Economic Development

## Tree Canopy Data



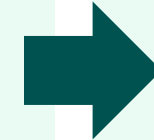
## Community Input

Project was shaped through decades of collaboration with Tribal partners, community members, civic leaders, and public servants, turning a public safety challenge into an opportunity to reimagine the city's identity.



## Project

- Waterfront Park Redevelopment
- 1,000 new trees, set up for success
- Reimagining of waterfront use and community



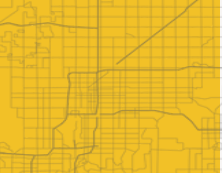
## Impact Data

- Logged 3.2 million visits over four months
- From May through September, PlacerAI tracked 2.4 million unique visitors
- Of those visits, 61 percent came from Washington residents, including 375,200 people from Seattle itself
- Friends of Waterfront Park data supports this

## Before/After

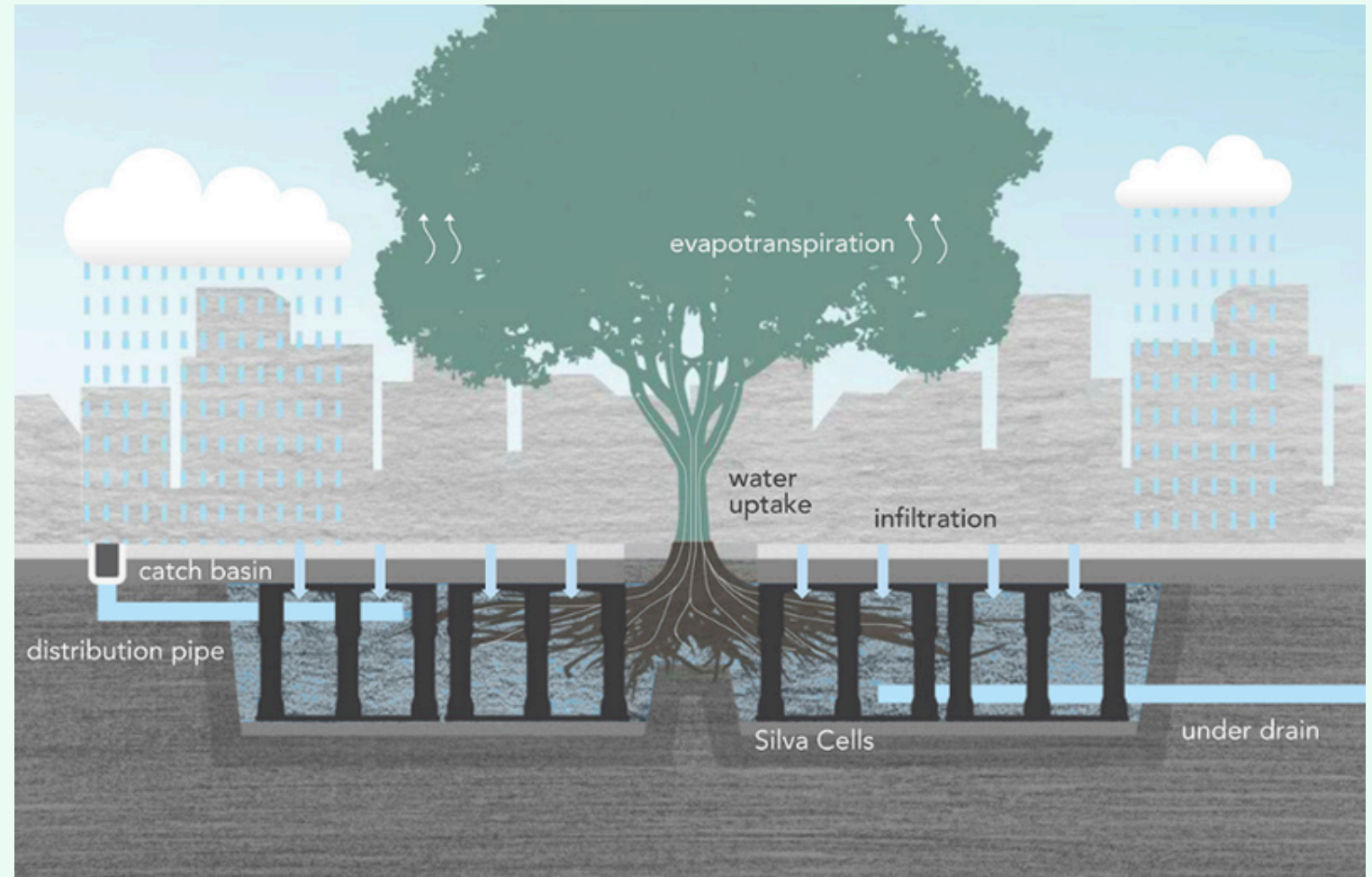
*Case Study - [deeproot.com](https://www.deeproot.com)*

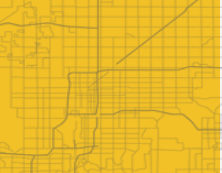




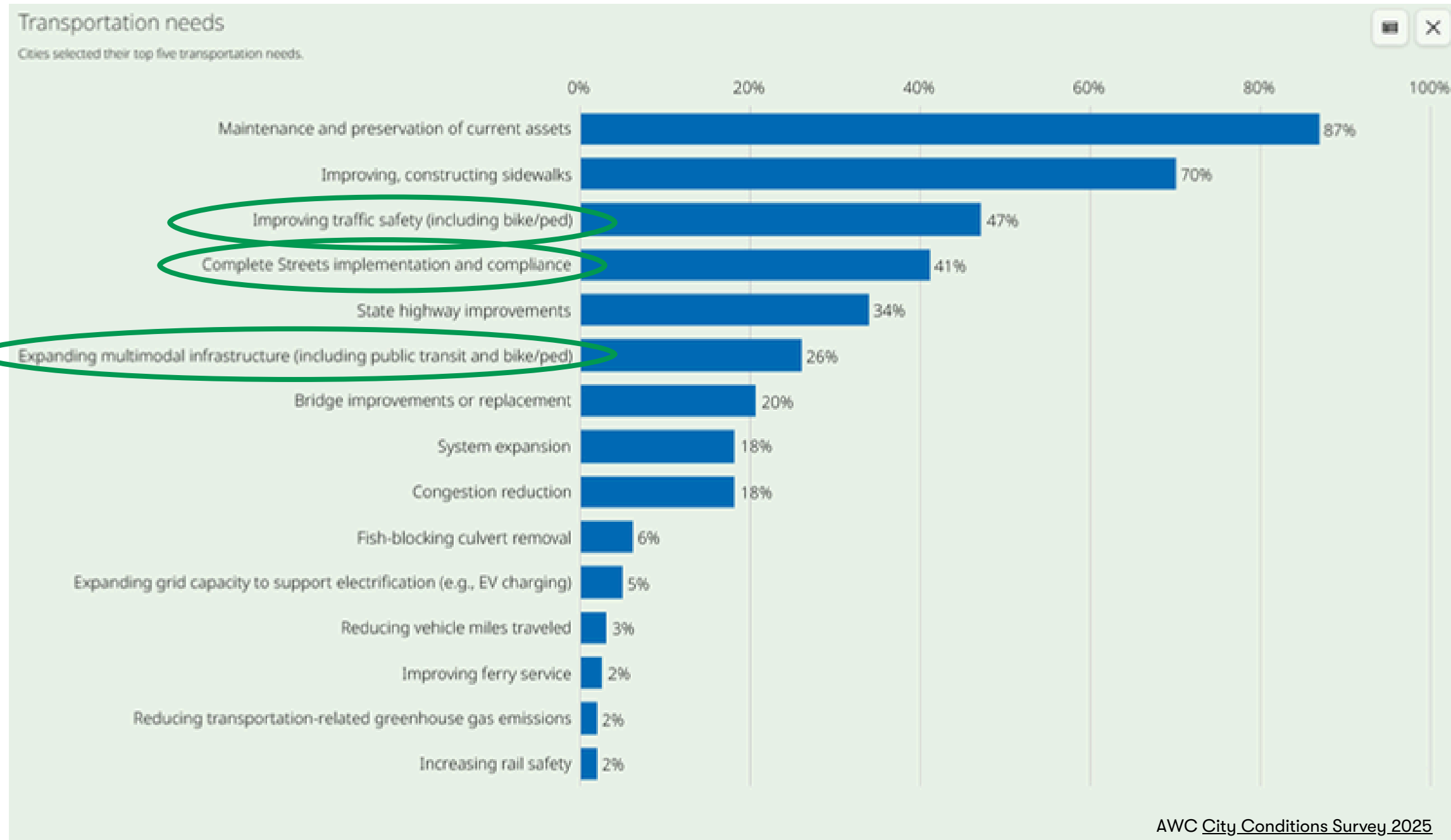
# Economic Development

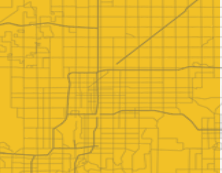
*Silva Cell Info - [deeproot.com](http://deeproot.com)*





# Transportation





# Transportation

## Safety Data

- A significant drop in cruising speed (an average decrease of about 3 miles per hour) was detected for most drivers when trees were present on the suburban street (adequate data collection was not possible for the urban setting). An “edge effect” created by the presence of trees contributed to a sense of safety.

(Ewing, R. and S. Brown. 2009. U.S. Traffic Calming Manual)

## Heat Island Data

- Climate models project **4 to 6°F summer warming** in the Pacific Northwest in the 2050s
- The number of extreme heat days is projected to increase on the order of five-fold by the 2050s

(Climate impact groups, University of Washington, 2024)



## Funding for Trees & Streets

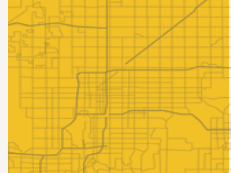
- Federal Surface Transportation Reauthorization expansion (IIJA)
- Safe Streets and Roads for All NOFO
- DOC Climate Funding
- WA Climate Commitment Act Funding



## Example of existing Project

- SafeTREE Routes to School (Tacoma, WA)
- Phoenix Cool Corridors Plan

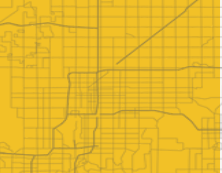




## Challenge: Cohesive Planning

- Urban forestry work can get siloed in a single department
- Not linked to larger planning efforts
- Inherently cross-sector work
  - Stormwater
  - Climate
  - Wildfire preparedness (CWPP)
  - Hazard mitigation planning (HMP)
  - Parks planning
  - Public health initiatives



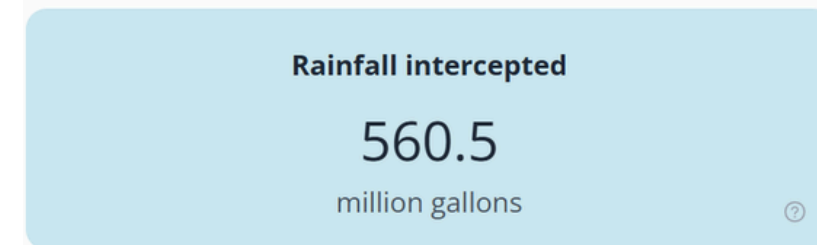
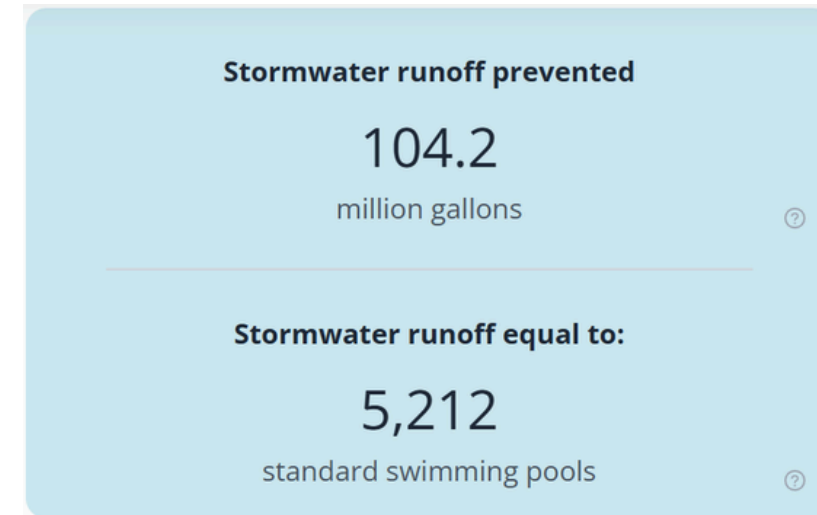
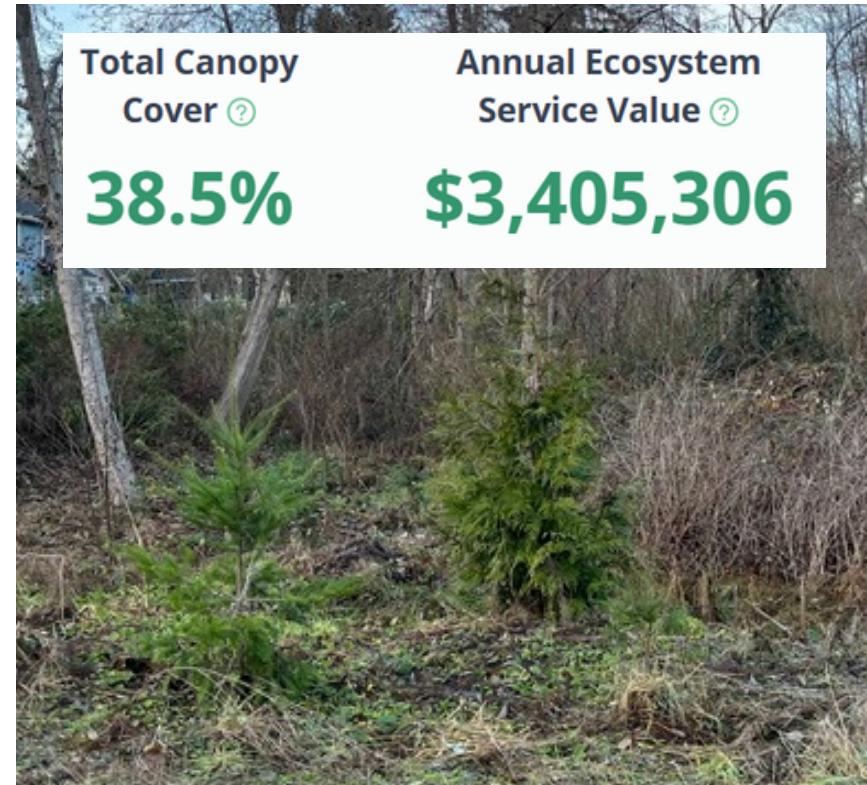


# Cohesive Planning - Stormwater

## Rain Data

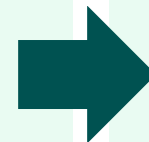
- **Flooding is Washington's most common and costliest natural disaster.** Since 1970, all Washington counties have received a presidential disaster declaration due to flooding.
- **Heavy rainfall events**, often called “Atmospheric River” events, are projected to be more frequent and more intense

*(WA Dept. of ecology, 2024)*



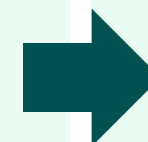
## Stormwater Data

- Tree equity Score i-tree data on canopy benefits
- Economic and hydrologic benefits



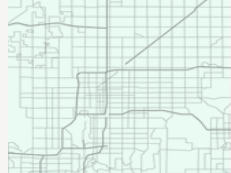
## Leverage Cross-Sector Opportunities

- Include trees in green infrastructure projects
- Unlock nontraditional funding sources for tree projects



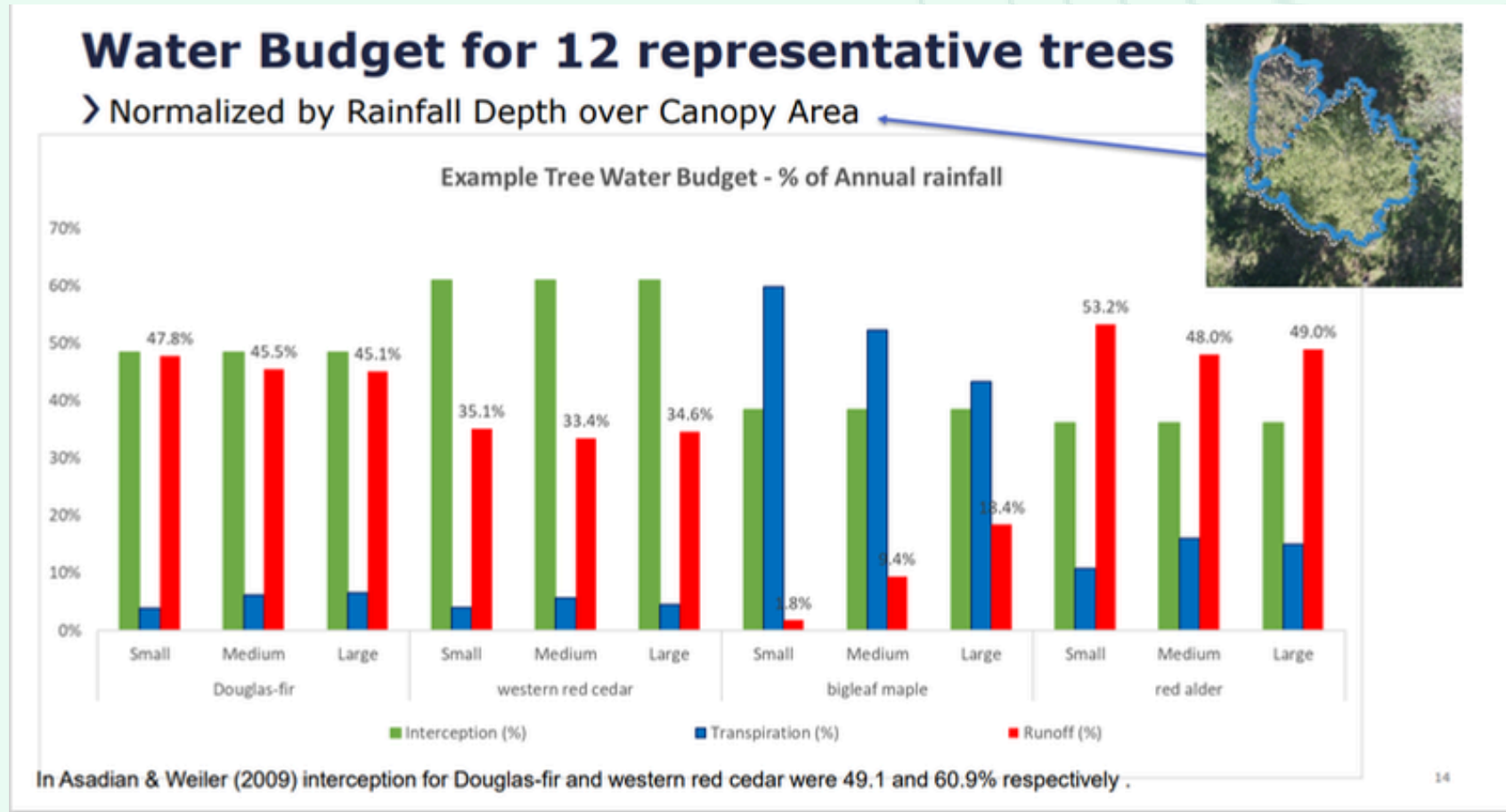
## Stormwater and Trees in Action

- Municipal Stormwater Permits
- SPU Trees for Neighborhoods Program
- Oregon State Green Infrastructure Grants



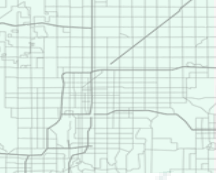
## Stormwater Data - Localized

- Evergreen and deciduous trees captured or slowed stormwater by intercepting and transpiring 44-65% of rainfall.
- Evergreen trees provide more hydrologic benefits for stormwater management than deciduous trees.



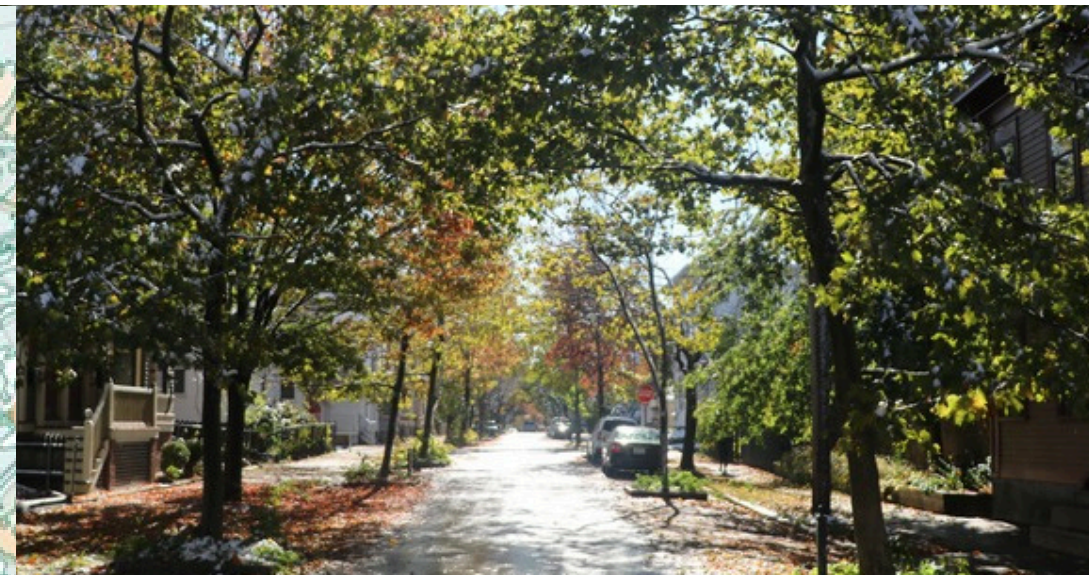
Measuring Individual Tree Water-use in Mature Native Species in the Pacific Northwest to Determine their Benefits for Stormwater  
 Year 2 Results graph (2021)  
 Highlight data (2022)

Study was overseen by Abby Barnes (WA State Department of Natural Resources), led by Dr. Ani Jayakaran (Washington Stormwater Center) and co-led by Dr. Dylan Fischer (Evergreen State College).



## Takeaways

- Data and storytelling are essential to achieving equitable urban forestry planning
- We can wield data in many ways to support our canopy and environmental equity goals
- We need to work cohesively and holistically across sectors and communities to make meaningful change



**Thank you!**



**Drue Epping**

Director, PNW & West Coast Urban Forestry

[depping@americanforests.org](mailto:depping@americanforests.org)

