

## STUDY RECAP:

# DO YOU NEED DIFFERENT STREET TREE MANAGEMENT ACTIONS FOR DIFFERENT SUSTAINABILITY GOALS?

Image credit: Sophie Nitoslawski

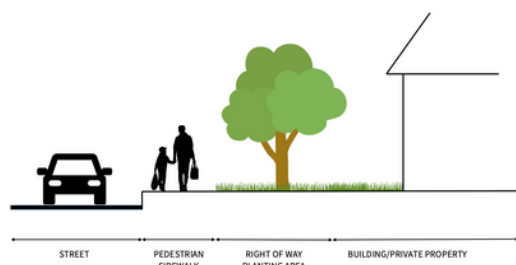
## BACKGROUND

- Multi-objective management is a fundamental challenge in ecosystem management.
- In urban forest management, typical goals focus on increasing overall tree canopy. Additionally, most research focuses on either (i) single ecosystem services (e.g., heat reduction OR stormwater) or (ii) on decisions in the planning phase, but not the full life cycle.
- However, there are potentially missed opportunities throughout the life cycle, from planning to maintenance to end of life, to serve multiple, critical, sustainability goals

## WHAT DID WE DO?

- We held expert elicitation workshops with experienced urban foresters in Washington, D.C., Vancouver, BC and Honolulu, HI. They answered the same questions about which actions were needed to increase each of five goals, within a common scenario.

### Hypothetical streetscape scenario



## Scenario management goals

	<b>Goal 1: Canopy &amp; Risk Reduction</b> Increase canopy coverage, while keeping tree risk rating for all trees to moderate (or lower).
	<b>Goal 2: Urban Heat Reduction</b> Pedestrians are able to walk comfortably during the hottest time of day during the hot season.
	<b>Goal 3: People-Nature Relationships</b> Residents develop a strong and personal connection with trees on this street.
	<b>Goal 4: Wildlife Habitat</b> Increase the abundance and diversity of species of native wildlife who use these street trees for habitat.
	<b>Goal 5: Stormwater Interception &amp; Infiltration</b> This street can experience a storm with no stormwater runoff.

## KEY FINDINGS

- **Managing for increased canopy alone could result in missed opportunities** to advance other important sustainability goals.
- Achieving all sustainability goals **requires actions in every phase** of the street tree management cycle.
- Responses between cities were overall **mostly aligned, with some key exceptions**, including in actions needed to increase habitat for native wildlife.
- Across all cities, there was highest alignment in actions needed, and highest certainty in being able to manage for **canopy, heat, and stormwater**.

**READ THE WHOLE STUDY OPEN ACCESS! [HTTPS://DOI.ORG/10.1002/ECS2.70120](https://doi.org/10.1002/ECS2.70120)**

Bassett, C. G., S. D. Day, C. C. Konijnendijk, L. A. Roman, and V. Hemming. 2024. Aligning urban forest management actions with urban sustainability goals: A multi-city expert elicitation. *Ecosphere* 15:e70120.