

# Preliminary Results

*Seattle's Canopy Cover Assessment*

August 2022

Office of Sustainability & Environment



**City of Seattle**



# What is the tree canopy assessment?



- We combine LiDAR data with aerial imagery to determine the amount of canopy cover and the change in cover since 2016.
- This round of assessment is our first opportunity for trend analysis.
- Preliminary data includes canopy citywide and by land use type (management unit\*); change in canopy since 2016

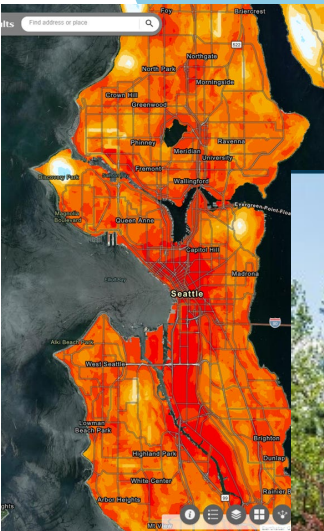
\*The [Urban Forest Management Plan](#) defines nine management units that cover all the land in the city. The management units consider trees based on their geographic location within the city.

# Seattle's urban forest can foster climate resilience, health, and equity

## Climate resilience

Heat mitigation, cooling

Biodiversity, pest resistance



## Health

Air quality improvement

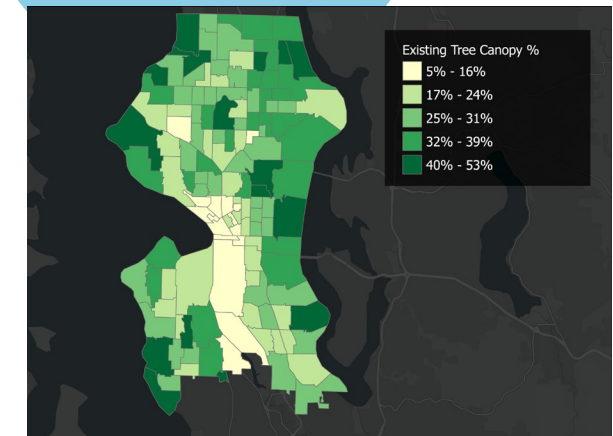
Physical and mental health and well-being



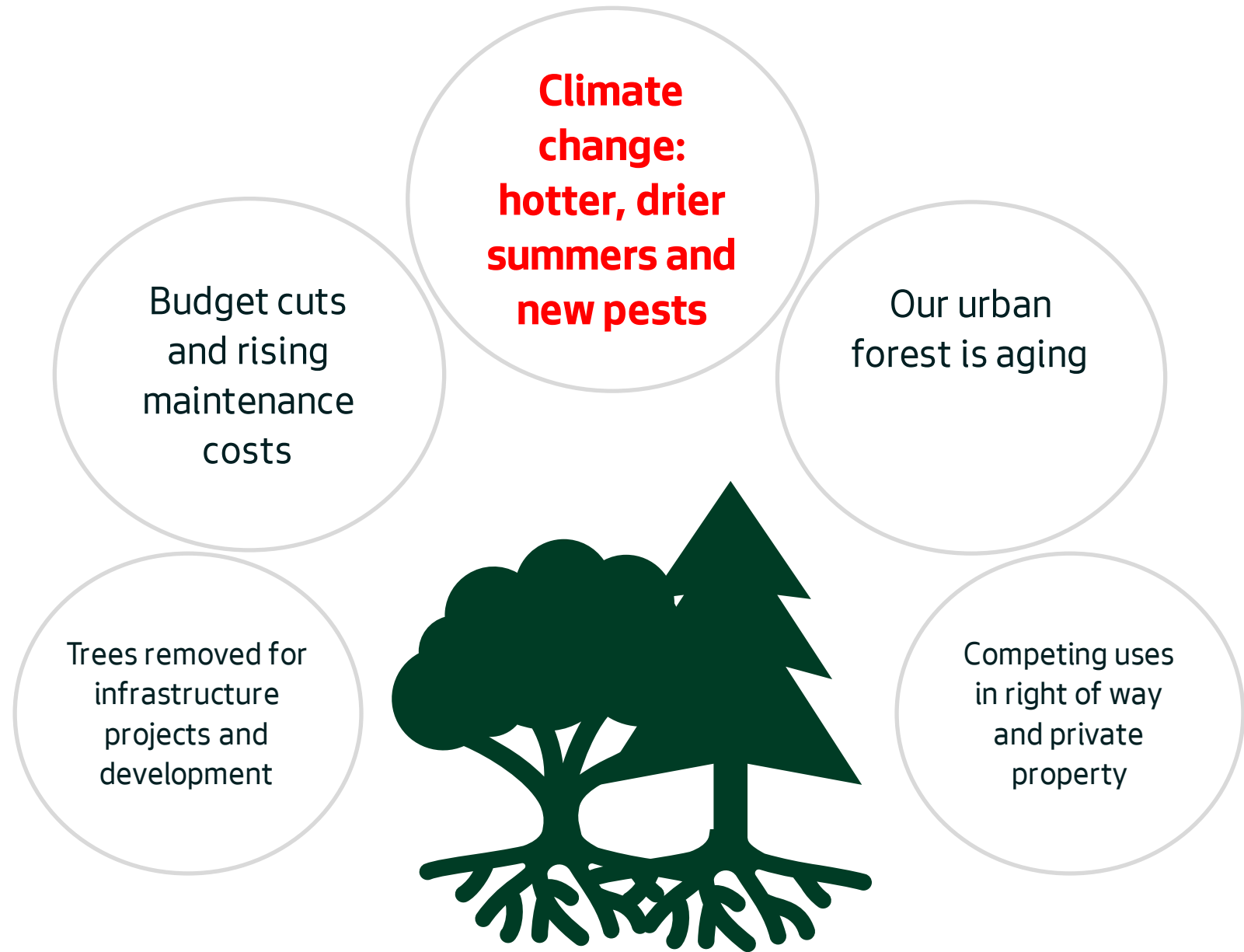
## Equity

Addressing canopy inequities

Reducing health disparities



# Our urban forest faces increasing challenges... made all the worse by climate change

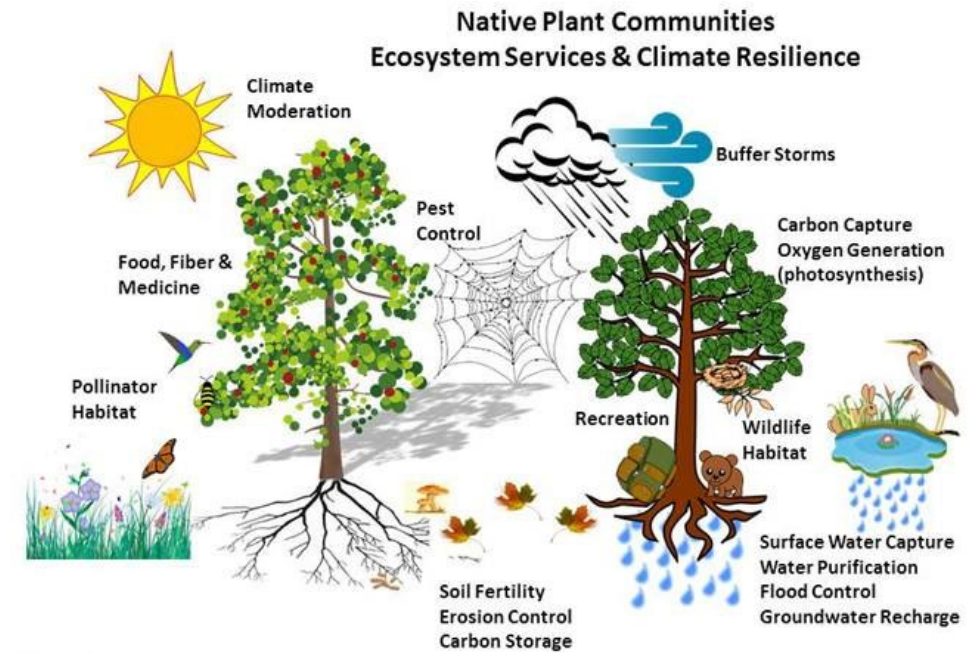




# Our tree canopy decreased by 255 acres (about the size of Green Lake) between 2016-2021

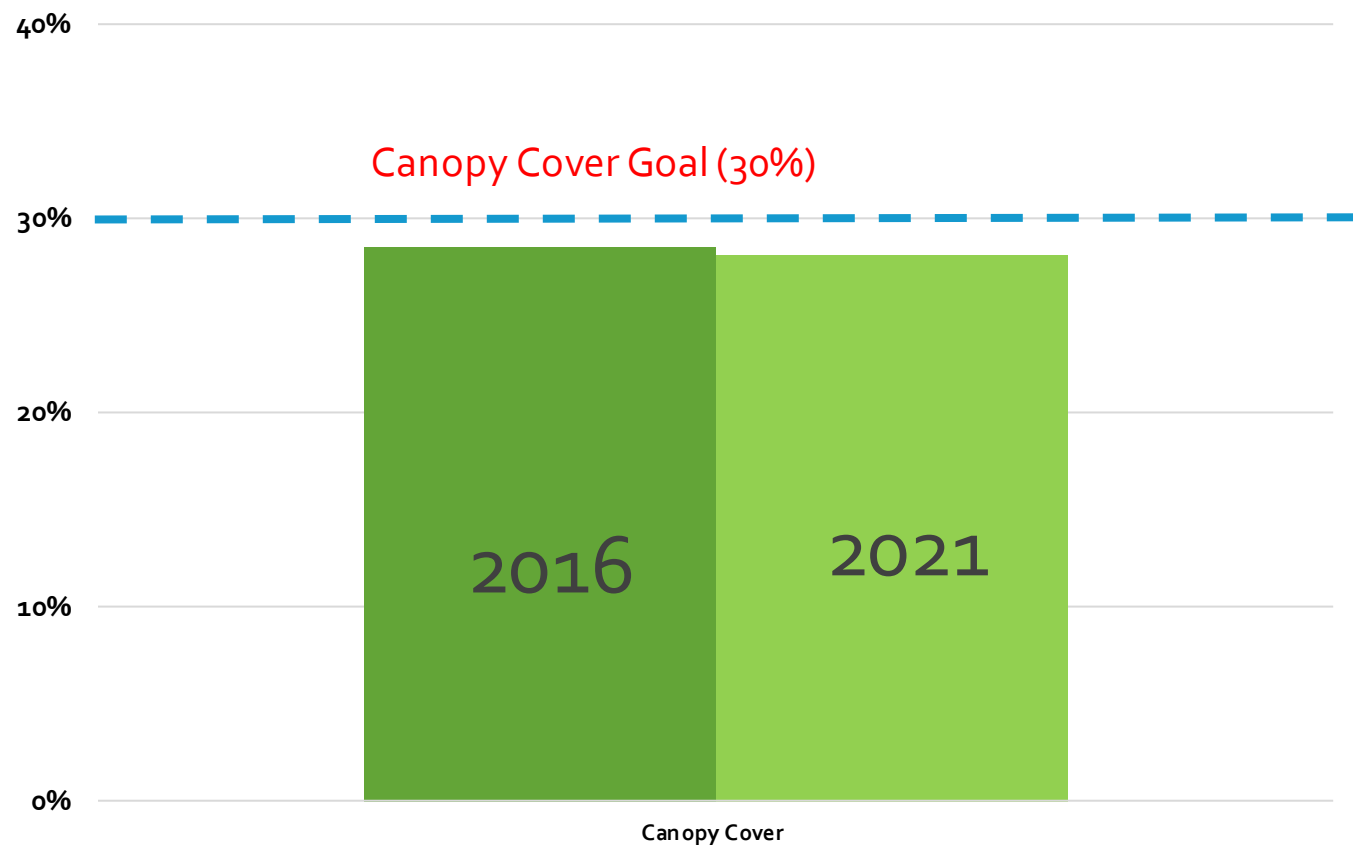
## Functionality lost without those trees:

- **Carbon** – hundreds of thousands of lbs CO<sup>2</sup>/year not sequestered
- **Stormwater** – millions of gallons of runoff not avoided
- **Heat/cooling** – hundreds of acres shade lost; millions of gallons water not transpired;
- **Air quality** – hundreds of thousands of lbs of pollutants not absorbed



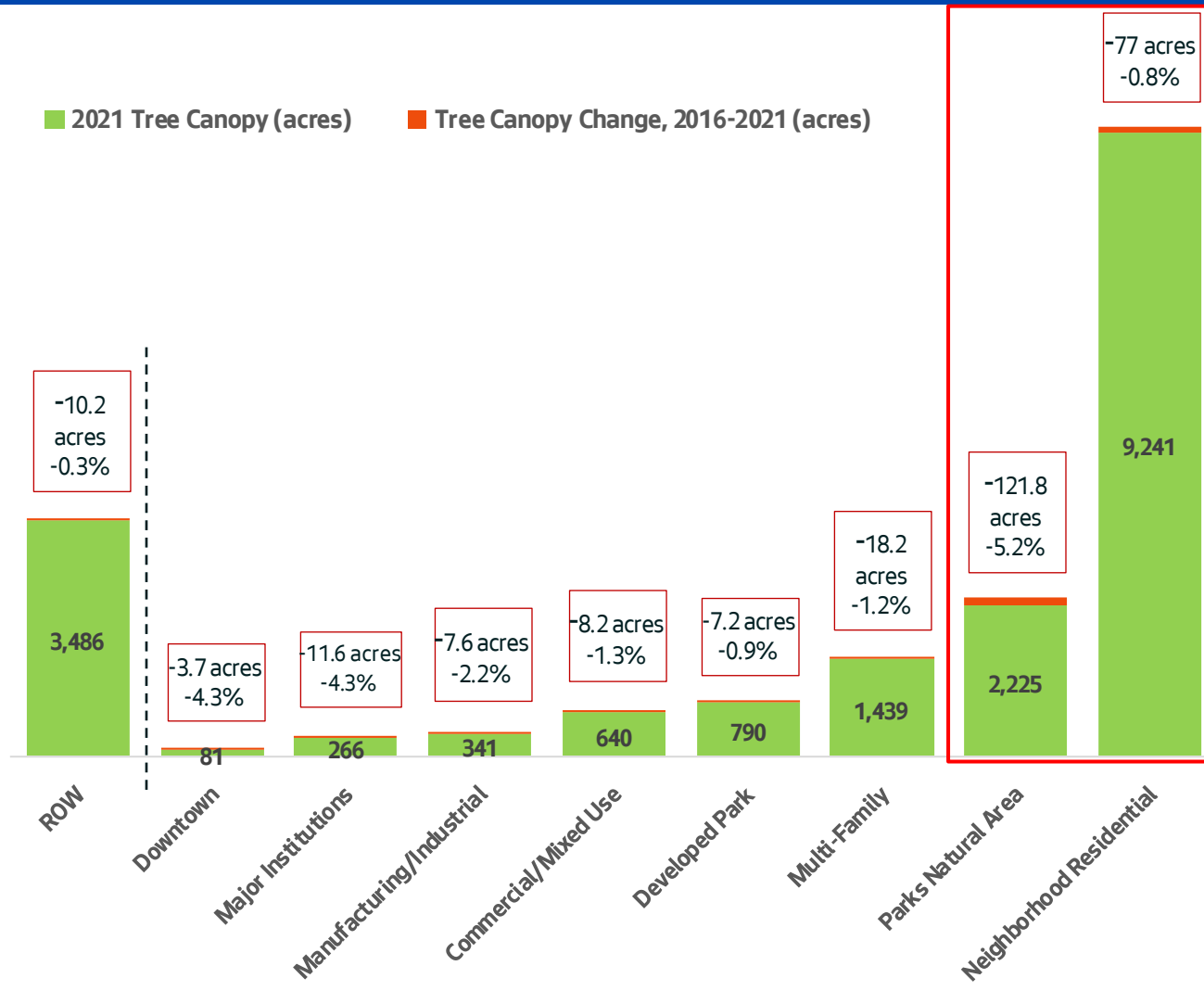
# Canopy declined by 1.7% between 2016 and 2021, in a period where population grew by 8.5%

Seattle Canopy Cover, 2016 and 2021 (preliminary)



- Preliminary data indicate a net loss of 1.7% (255 acres) during the 5-year period between 2016-2021.
- During this time, population grew 8.5%, adding ~58,000 people and ~47,000 housing units.
- Losses are due to climate change exacerbated by lack of investment, aging trees, and competing uses.

# Climate Change is exacerbating tree canopy loss across land use types.



The reasons for loss in each area are complex – some examples:

- Summers getting hotter and drier
- Aging trees more susceptible to drought conditions and pests are more likely to come down during weather events.
- Large construction projects for utilities, transportation and other infrastructure
- Housing grew substantially during this period

Areas to focus for the future:

- Developed parks and natural areas
- Neighborhood residential
- Protecting and maintaining existing trees





## Additional analysis will inform short and long-term approaches



**Inventory, protect and maintain** existing trees to promote canopy growth.



**Plant new trees** in frontline communities with low canopy.



**Pilot innovative approaches** to managing multiple needs in limited spaces like ROW and private property.



**Engage residents and business owners** on tree planting and care to foster and sustain trees on private land.



**Coordinate opportunities** for planting and maintenance across departments and with community, school district and other partners.

# Next Steps

1. Receive detailed assessment analysis that builds on high level snapshot
3. Work with consultant to develop full canopy assessment report
4. Develop tree strategy and investment plan
5. Pursue additional local, state and federal funding to scale up investment

# Additional Resources

[Trees for Seattle 2021 Progress Report](#)

[Trees for Seattle website](#)

[2020 Urban Forest Management Plan](#)

[Seattle 2035 Comprehensive Plan](#)