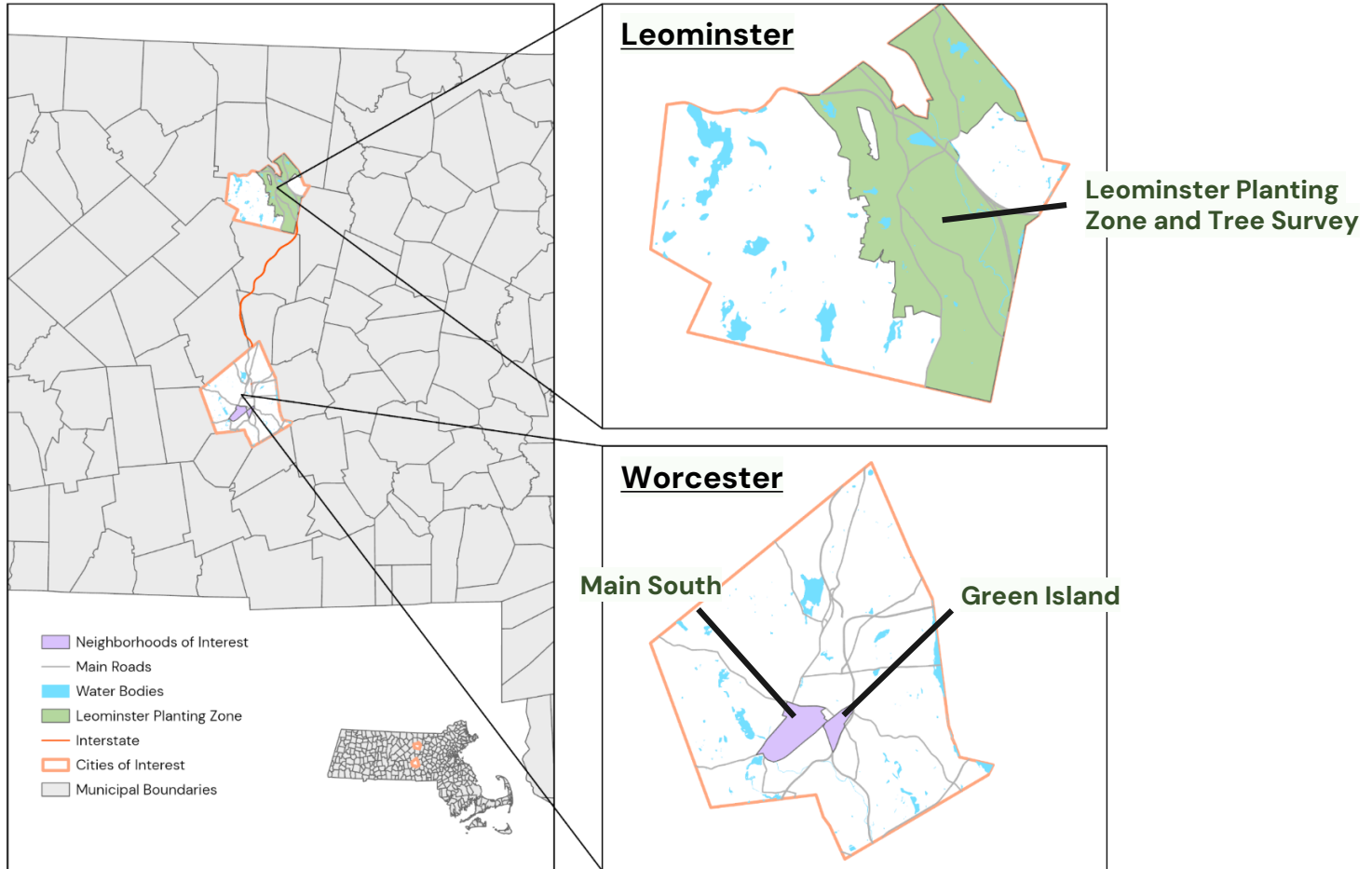# Meet the Research Team!

From Left to Right: Robert Moore, Jamie Young, Alicen Civilikas, Abigail Riseman, Aidan Humphreys, Julia Head, Nate Kidd, and Aidan Caron.

Undergraduate Research Cohort:
Alicen Civilikas, Aidan Humphreys, Abigail Riseman, Julia Head, Nate Kidd, and Jamie Young

Graduate Program Managers:
Aidan Caron and Robert Moore

Directors (not pictured):
Dr. Nicholas Geron, Dr. Deborah Martin, and Dr. John Rogan

Study Site

Leominster Planting Zone and Tree Survey

Leominster

Worcester

Main South

Green Island

Neighborhoods of Interest
Main Roads
Water Bodies
Leominster Planting Zone
Interstate
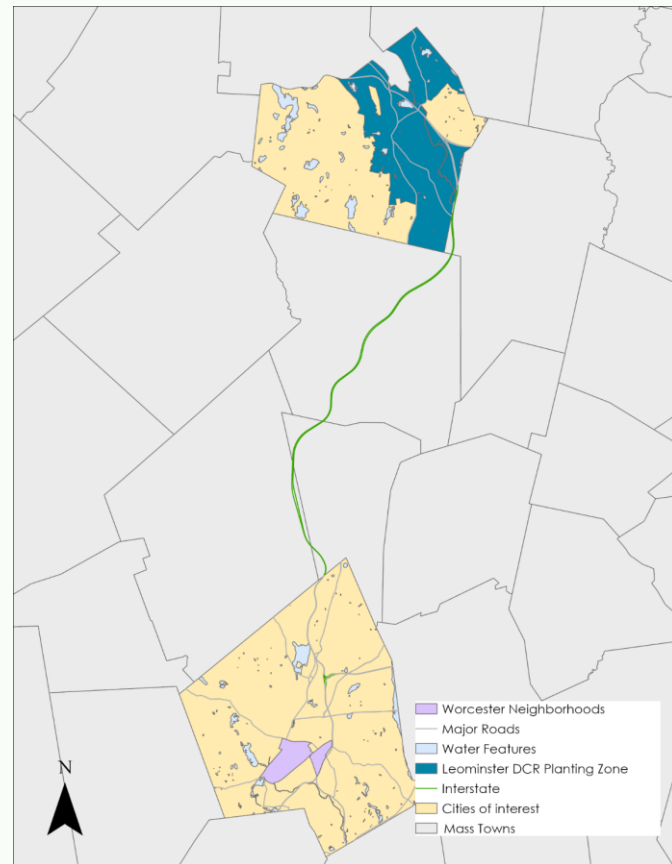Cities of Interest
Municipal Boundaries

3

Research Goals

Objective:

Characterizing property/business owners' **perception of urban tree planting**, identify barriers to planting programs and ways to **overcome** them, and enable **data-driven decision-making** by urban foresters.

Research Questions:

- What are the major reasons business/property owners **do or do not** want to accept trees?
- Do business/property owners perceive any relationship **between trees and the economic success** of their storefront/property?
- How does **willingness to participate in planting programs vary** between property owners and business owners?

Legend:
- Worcester Neighborhoods
- Major Roads
- Water Features
- Leominster DCR Planting Zone
- Interstate
- Cities of interest
- Mass Towns

GREEN WORCESTER

Study Neighborhoods

**Green Island:** Mostly commercial, contains Polar Park, Canal District, and Worcester Public Market.

Main South: Mostly residential, contains Clark University and University Park.

Demographics	Main South	Green Island	Worcester	Massachusetts
Population	19,616	2,490	211,286	7,136,171
Median Household Income	$30,622	$38,215	$67,544	$101,341
% Minority	73%	64%	49%	21%

Average Summer Land Surface Temperature (June 2025)

Worcester (Citywide)	93 °F
Main South	101 °F
Green Island	102 °F

Average Land Surface Temperature (LST) of Main South and Green Island, June 2025
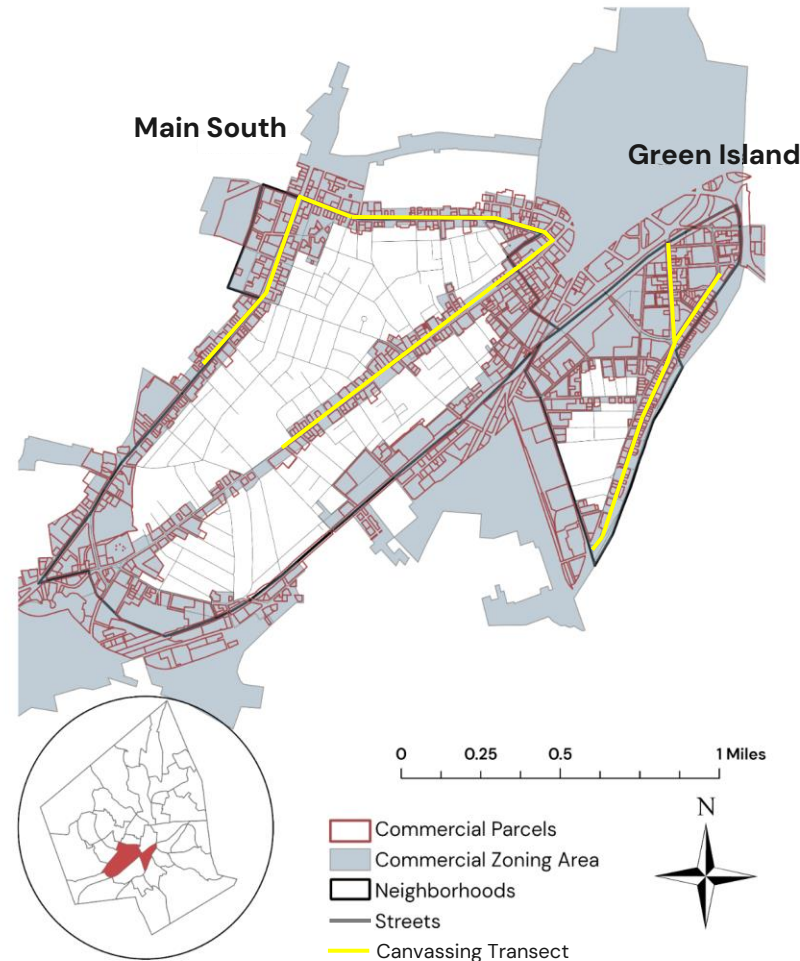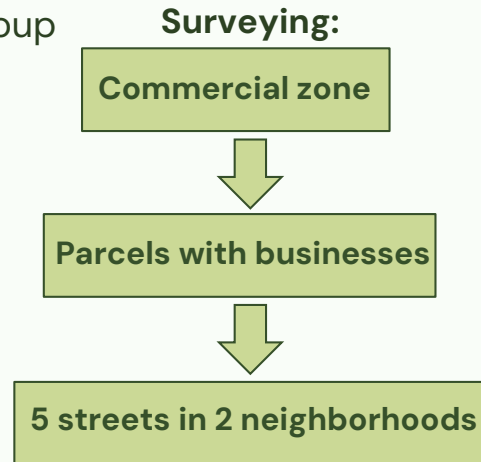
5
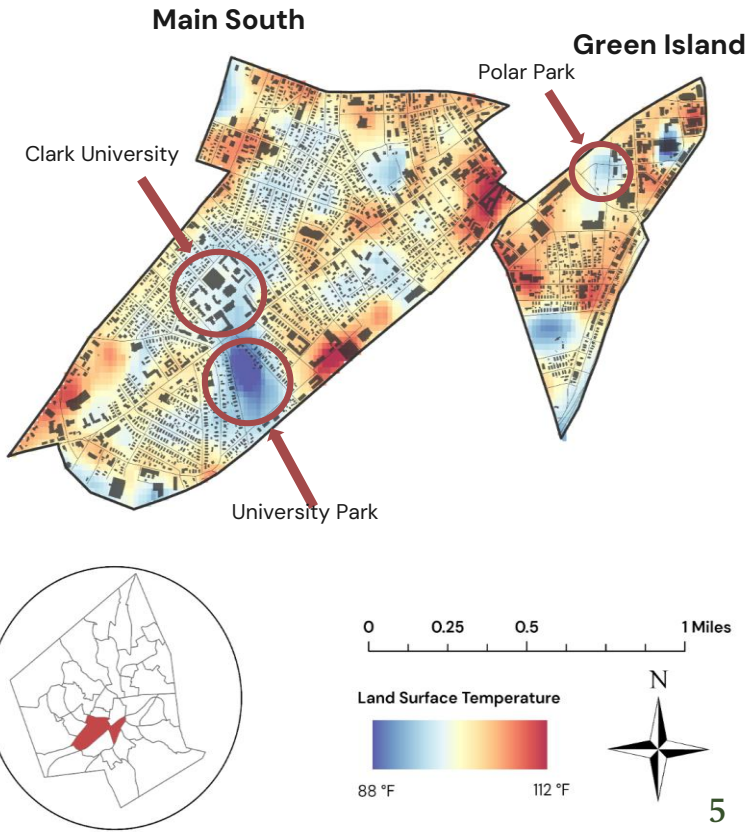
Interview Methods

24 Interviews

21 Property/Business Owners Interviewed
- 18 people reached through canvassing in Green Island and Main South
- 3 scheduled via outreach/phone banking

3 Community Partners Interviewed
- Main South CDC
- Green Island Residents' Group

Surveying:

Commercial zone

↓

Parcels with businesses

↓

5 streets in 2 neighborhoods

Main South

Green Island

| | | | | |
| 0 | 0.25 | 0.5 | | 1 Miles |

N

Commercial Parcels
Commercial Zoning Area
Neighborhoods
Streets
Canvassing Transect

Interview Demographics

Interview distribution

n = 24

Community Partner - 11.5%
n = 3

Property Owner - 15.4%
n = 7

Business Owner - 73.1%
n = 18

3 interviewees were both property **and** business owners
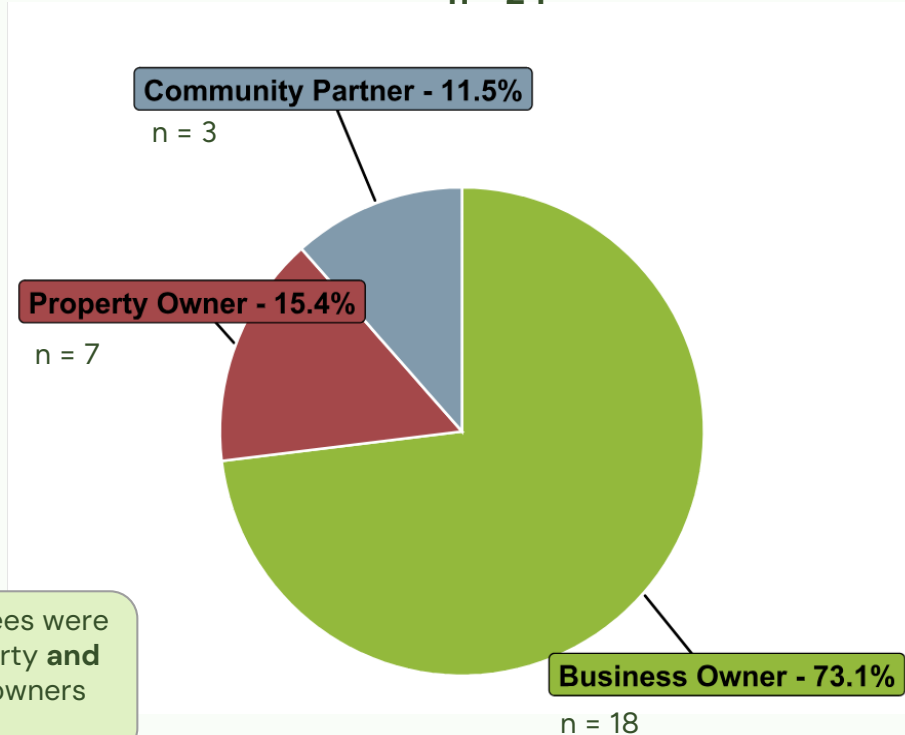
Business types

Business	Number present
Restaurant	5
Hair salon	3
Auto	2
Grocery	2
Retail	2
Laundromat	1
Real estate	1
Convenience store	1
Church	1
Landscaping	1

Property/Business Owner Reception of Trees

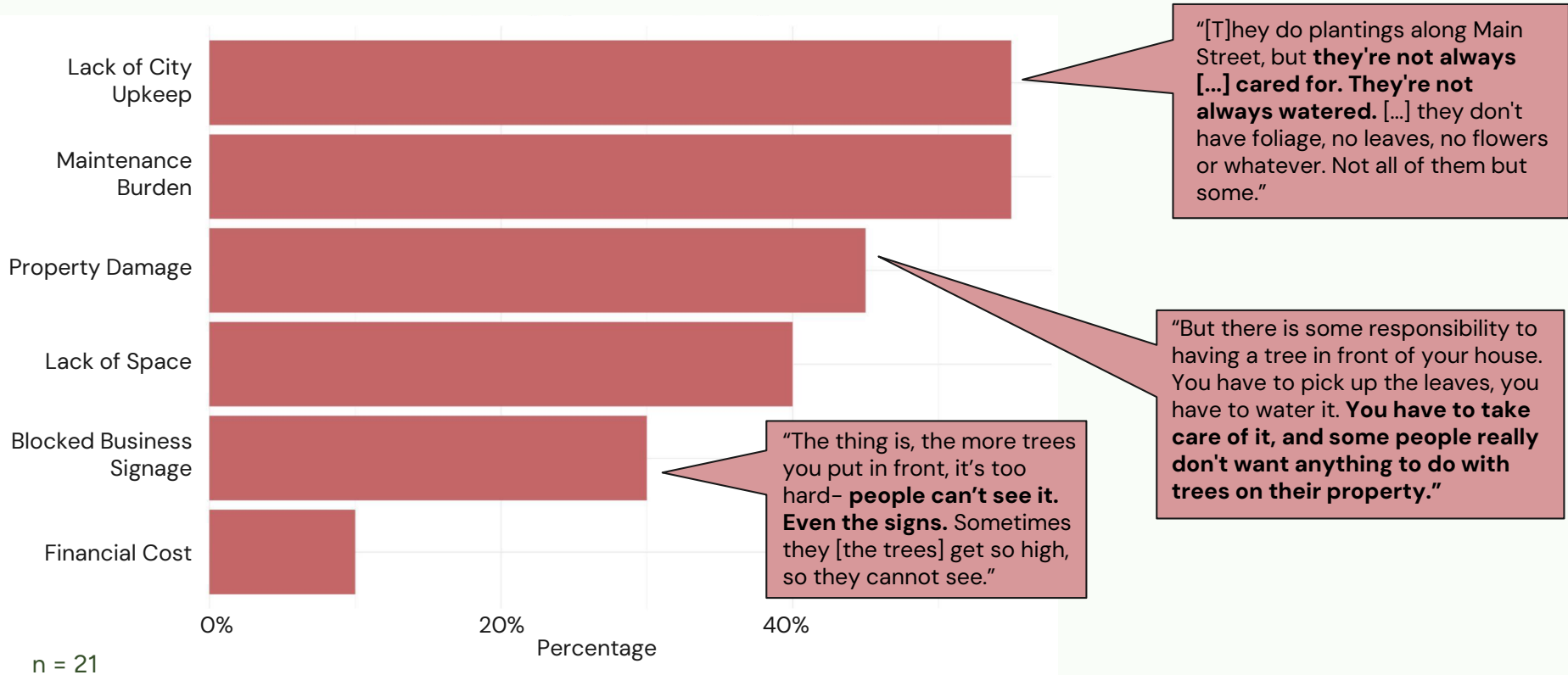|	
Interested lessor Owns property, **expressed interest** in planting. **20%** n =5	**Interested lessee** **No agency** over property decision, **expressed interest** in planting. **65%** n =13
Uninterested lessor Owns property, **not open** to planting. **15%** n =2	**Uninterested lessee** **No agency** over property, **not open** to planting. **5%** n =1

* One interviewee was counted twice in the study due to simultaneous property and business ownership, 3 community partner responses omitted.

Property/Business Owner Perceived Benefits

n = 21

9

Property/Business Owner Perceived Barriers

"[T]hey do plantings along Main Street, but **they're not always [...] cared for. They're not always watered.** [...] they don't have foliage, no leaves, no flowers or whatever. Not all of them but some."

"But there is some responsibility to having a tree in front of your house. You have to pick up the leaves, you have to water it. **You have to take care of it, and some people really don't want anything to do with trees on their property.**"

"The thing is, the more trees you put in front, it's too hard– **people can't see it. Even the signs.** Sometimes they [the trees] get so high, so they cannot see."

n = 21

Key Barriers

75% of interviewees had **no knowledge** of the GGC program or the Green Worcester Plan.

55% of interviewees mentioned that distrust in city maintenance **discouraged them** from tree planting and tree planting initiatives.

50% of interviewees answered that they **lacked adequate space** for trees.

"There's not much room to have trees here, just not the space, we physically don't have the space for it."

65% of interviewees **expressed interest in receiving trees** but do not own the property.

"[T]he building belongs to them. I just rent it. So I've been here 39 years, so they never put a tree as long as I've been here."

Tree in a Green Island parking lot.

Key Motivations

70% of interviewees answered that trees would contribute to the **curb appeal** of their storefront or property.

"[T]rees looks more beautiful, natural, and it might attract more people."

Every interviewee identified benefits that trees have on the neighborhood, even if they were not open to planting trees on their own property.

70% of interviewees said that they would prefer **more trees** in Worcester rather than having the same number or fewer.

"Oh, always more. Always more oxygen in the world."

65% of interviewees said that **policy or tax incentives** would encourage them to plant trees.

"[H]ow can I reduce my tax burden pretty actively, it is definitely compelling."

Aidan H. and Nate canvassing in Green Island

Interviewee Recommendations

Funding	"**Discretionary funds**, it's something [that] makes the neighborhoods look a little more appealing."
Marketing	"There's so much opportunity for governments to be **better at marketing,** [...] **having something more interactive** than the dry, bland flyers that [...] say 'free trees'."
City-specific initiatives	"It's not super practical to convince homeowners to plant trees [..] on their own property throughout the city, but **if the city can take initiative and plant 5,000 trees in one footprint**, you're getting a lot of value there."
Neighborhood consultation	"If there was **a section within the planning division** that really worked with groups such as the Community Development Corporation to **implement and support strategic neighborhood-based plans**"
Supportive services	"If they have **people who come in** once in while to clean around and **do a little bit of maintenance**, that would be nice."
Policy enforcement	"If the city recognizes it needs vegetation and trees [...] then it needs to **enforce that through planning regulations**."

Summary of Worcester Interview Analysis

Tree Perceptions

Benefits: Cooling/shade (70%), aesthetics (70%), air quality (40%), climate change mitigation (20%).

Challenges: Perceived lack of city upkeep discourages business/property owners from planting trees (55%) due to maintenance burden (55%) and potential property damage (45%).

Planting Perceptions

Planting barriers: Lack of knowledge surrounding green initiatives, lack of space on properties, businesses may not own their property.

Recommendations: Better tree program marketing, planting on city property, neighborhood input focus, tree maintenance support, enforcement of policies.

Key Takeaways & Next Steps

General lack of awareness of tree planting initiatives

Key motivations for planting are curb appeal and policy or tax incentives

Property lessees generally open to the idea of planting

Property owners hard to reach by both researchers and lessees

4 HERO Fellows will be continuing research projects relating to Worcester greening initiatives

Communicate with city officials and program directors about tree planting initiatives

Continue to interview Worcester property and business owners

Thank you!

DCR foresters * Business/property owners of Worcester

Green Island Residents Group * Main South CDC

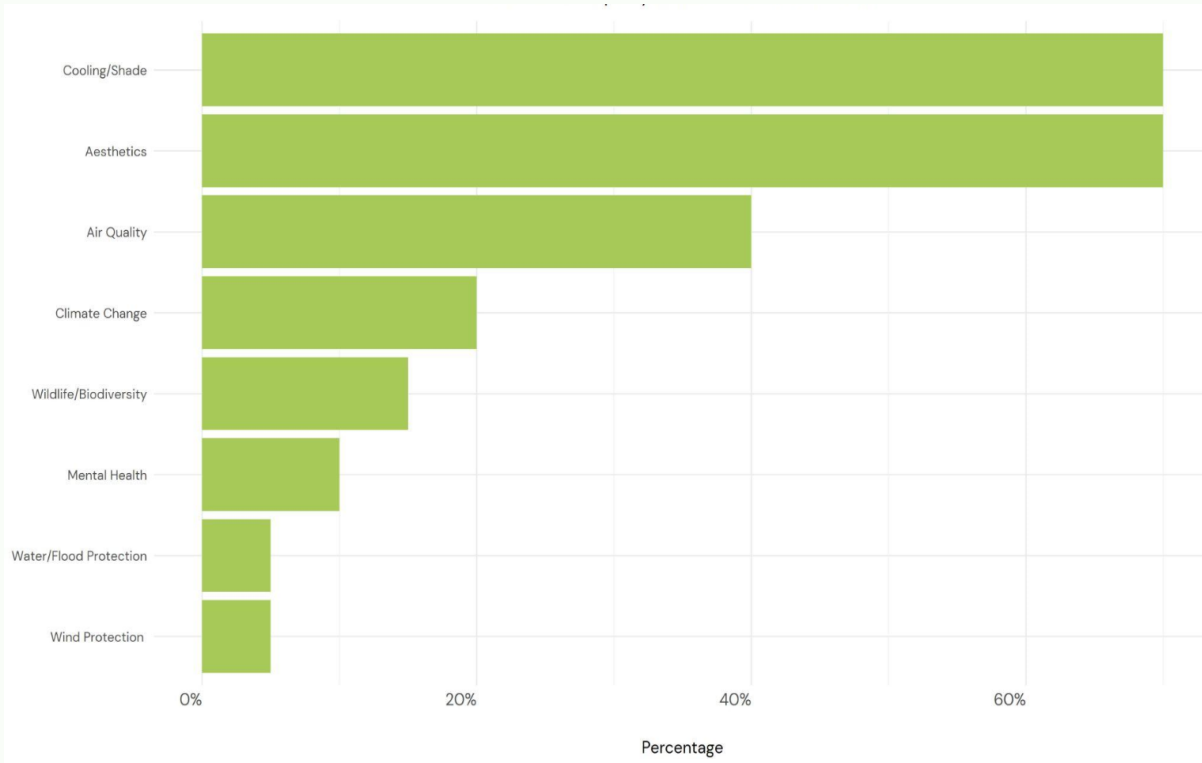Clark Geography: Marjorie Miller and Yaa Poku

Clark Marsh Institute: April Carlson
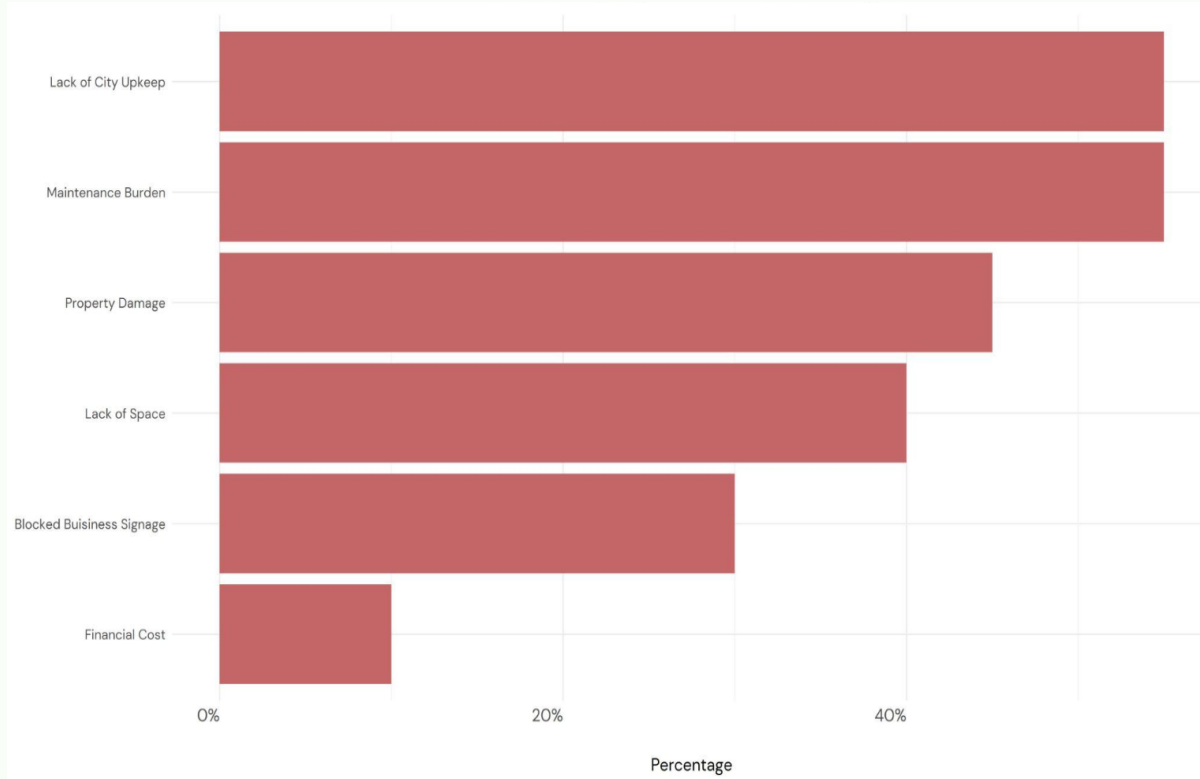
Questions?

Appendix

Property/Business Owner Perceived Benefits

Top benefits of trees listed by interviewees:

1. Cooling/Shade: 70%

1. Aesthetics: 70%

1. Air Quality: 40%

Property/Business Owner Perceived Barriers

Top barriers of tree planting listed by interviewees:

1. Lack of city upkeep: 55%

1. Maintenance burden: 55%

1. Property damage: 45%

Worcester Methods

21 Property/Business Owners
Interviewed
- 18 canvassed in Green Island and Main South
- 3 scheduled via outreach/phone banking

3 Community Partners Interviewed
- Main South CDC
- Green Island Residents' Group

1 Focus Group Attempted

City of Worcester

Neighborhoods
Main Roads
Water Bodies
Worcester Boundaries