BEAT THE HEAT

CITY OF BOYNTON BEACH

Green Infrastructure Center

FOREST SERVICE — U.S. DEPARTMENT OF AGRICULTURE

BOYNTON BEACH, FLORIDA

Green Cities = Cool Cities

Demographics

Top Five Racial and Ethnic Groups*

49.1%	White (Non-Hispanic)
31.3%	Black (Non-Hispanic)
13.3%	White (Hispanic)
1.93%	Asian (Non-Hispanic)
1.54%	Two+ Races (Non-Hispanic)
$53,504	Median Household Income

*Source: 2018 Data USA, at:
https://datausa.io/profile/geo/boynton-beach-fl

Urban Forest

16.1%	Current tree canopy
29.0%	Potential tree canopy
12.9%	Potential canopy increase
51.6%	Impervious surfaces
722	Acres of Potential Planting Area (PPA)

Urban Heat

101°F Average surface temperature*

Projected future days above 100°F**

28	days Historically	(1971 – 2000)
121	days Mid-century	(2036 – 2065)
157	days Late century	(2070 – 2099)

*across study area on September 15th, 2020
** Data source: Union of Concerned Scientists, Killer Heat in the United States, at: https://www.ucsusa.org/resources/killer-heat-united-states-0

Overview

In some communities, certain neighborhoods have higher percentages of people over the age of 65, who are more vulnerable to heat-related illnesses than other age groups. One strategy to mitigate urban heating is to plant trees in those neighborhoods with low tree canopy, high heat and a greater proportion of residents over the age of 65 years. While these neighborhoods in Boynton Beach are not the hottest in the city, the lack of canopy and increasing temperatures will increase the costs to cool single-family homes during peak summer months. The good news is that these properties also contain significant space for planting and growing healthy, large shade trees. While newly planted trees will take time to grow and fully provide

Retirement communities and villages can be an important group to engage around heat and health since older individuals are more susceptible to heat-related illness and many are on fixed incomes.

To meet the city's new tree planting goal it partnered with the nonprofit *Community Greening* to donate trees to residents, focusing on planting the hottest neighborhoods first.

shade benefits, not planting them now means that people living there will age into a hotter world instead of a healthful neighborhood with good shade and cooler temperatures. Although the city is currently focusing tree planting efforts on low-income and minority neighborhoods that have high heat and lack of canopy, the elderly population also needs attention to ensure that they can avoid some of the health impacts of higher heat.

One specific mitigation strategy is illustrated by Leisureville, a 55+ retirement community that has a high percentage of residents aged 65 years and older. Constructed in the 1950s-70s, this development is an older subdivision, yet it is lacking in canopy cover. In this retirement community, the homeowner's association (HOA) is responsible for lawn care maintenance, which may be the reason for the lack of trees, since it's easier to maintain uniform lawns than an urban forest. Or there may be HOA rules governing vegetation that discourage woody vegetation or trees. Whatever the reason, one possible strategy the city could pursue is sharing information with these residents on the energy efficiency and cost savings of trees. Since many elderly people are on a fixed income, this kind of outreach and messaging may be effective.

Another angle is sharing data about the direct links between health, heat and air pollution and the increasing frequency of 100+ degree days. Other barriers to trees in senior communities could be ability of elderly residents to care for and maintain trees. Costs, time and labor are barriers that should be addressed when implementing any tree planting strategy, but the ability to plant and care for trees should be a consideration when engaging older residents around tree planting. One community in Richmond, Virginia, tackled this problem by hiring local youths to rake leaves for elderly residents, thereby removing reluctance to plant trees, deal with increased maintenance burdens and increase social cohesion through positive youth and elderly interactions.

GIC built a tool to show where to plant trees in cities to maximize cooling for buildings. To learn more, contact GIC at www.gicinc.org.

Step-Wise Strategy
to Identify Communities and Mitigation Opportunities

1. Use maps to identify hot spots with low canopy and high planting potential.
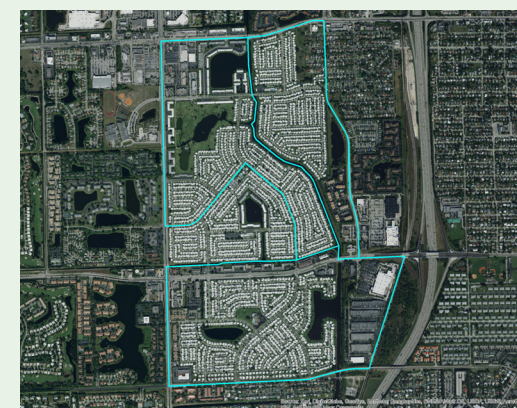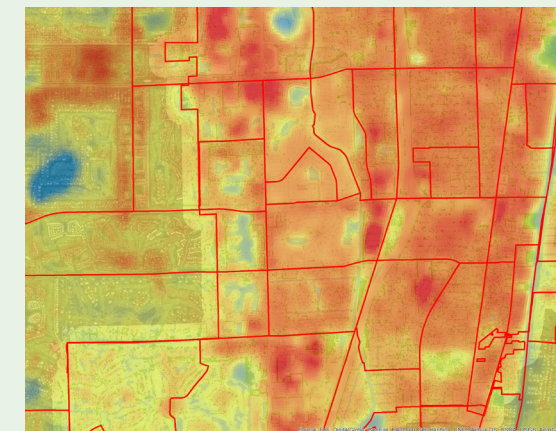
2. Identify vulnerable or underserved populations of interest.

3. Prioritize areas that meet the first two criteria.

4. Outreach and engage with the community.

5. Identify the hottest planting spots within the neighborhood.

6. Strategically identify planting spots that will cool buildings.