

I-Tree Landscape Summary Report:

Historical Downtown - City of Hampton Virginia

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Site Area Description:

The city of Hampton is located on the southeastern coast of Virginia. It is known as a coastal town with an urban lifestyle. The city was established in 1610 and has a vibrant history that is attractive to tourists. The city is also home to Hampton University, a black private research university with roughly 3,500 students enrolled each semester. The university campus is a part of the historical downtown area of Hampton as well as the Town of Phoebus and notable Hampton Roads attractions such as the Virginia Air & Space Museum. As is the case with many urban areas across the country, downtown Hampton has a low tree canopy density in relation to population density. This is indicated through high surface temperatures throughout the developed area. Because this area is located on the coast, it is also subject to sea level rise, flooding and potential damage from hurricanes.

Project Objectives:

Identify ways the Virginia Department of Forestry can assist in the management and growth of downtown Hampton's urban forest canopy by identifying priority planting areas. Understand what benefits are being provided currently and potential ways these benefits can be maximized into the future.

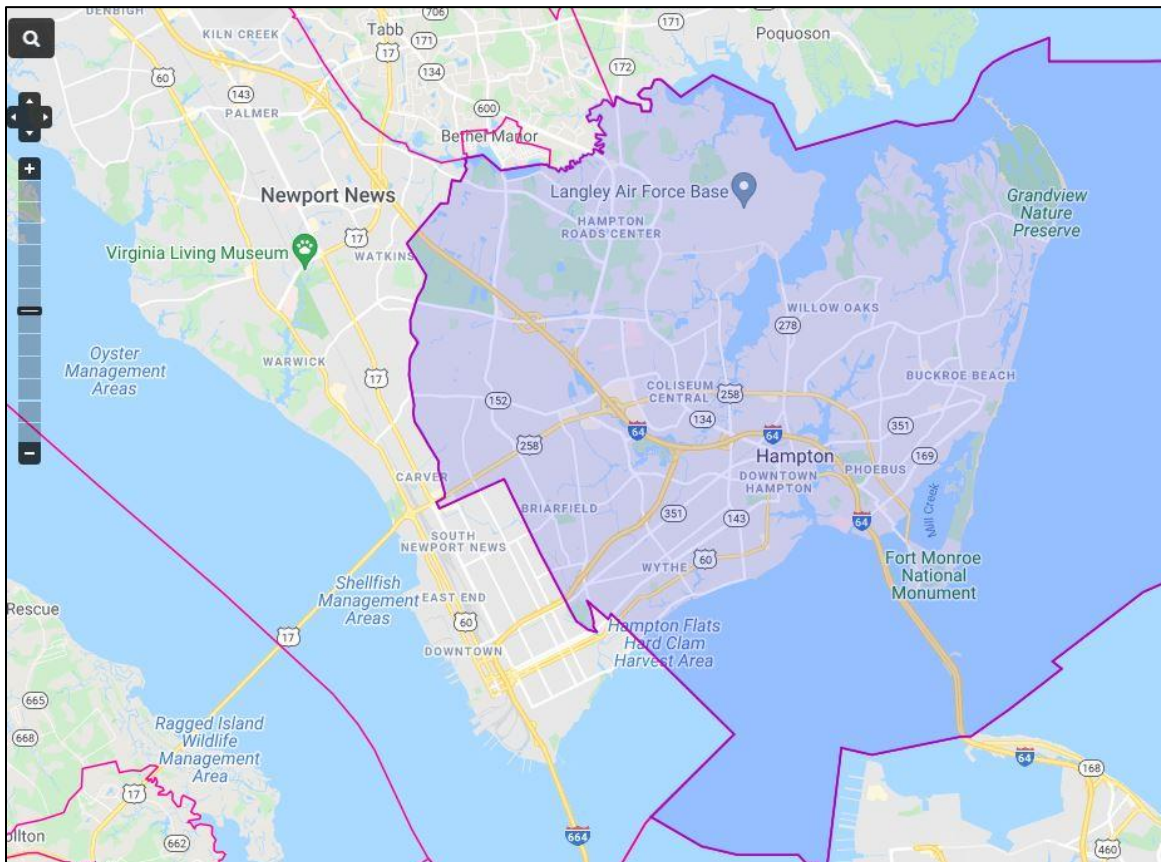


Figure A: Shaded red area contains the overall boundary for the City of Hampton, VA (Above)

Process:

i-Tree Landscape Tool

- Define project area of Downtown City of Hampton by the census places boundary
- Calculate overall benefits that trees are currently providing to this area of Hampton with a strong focus on the monetary benefits
- Utilize the planting priority tool, to highlight areas of low canopy coverage, high minority population and high potential planting areas

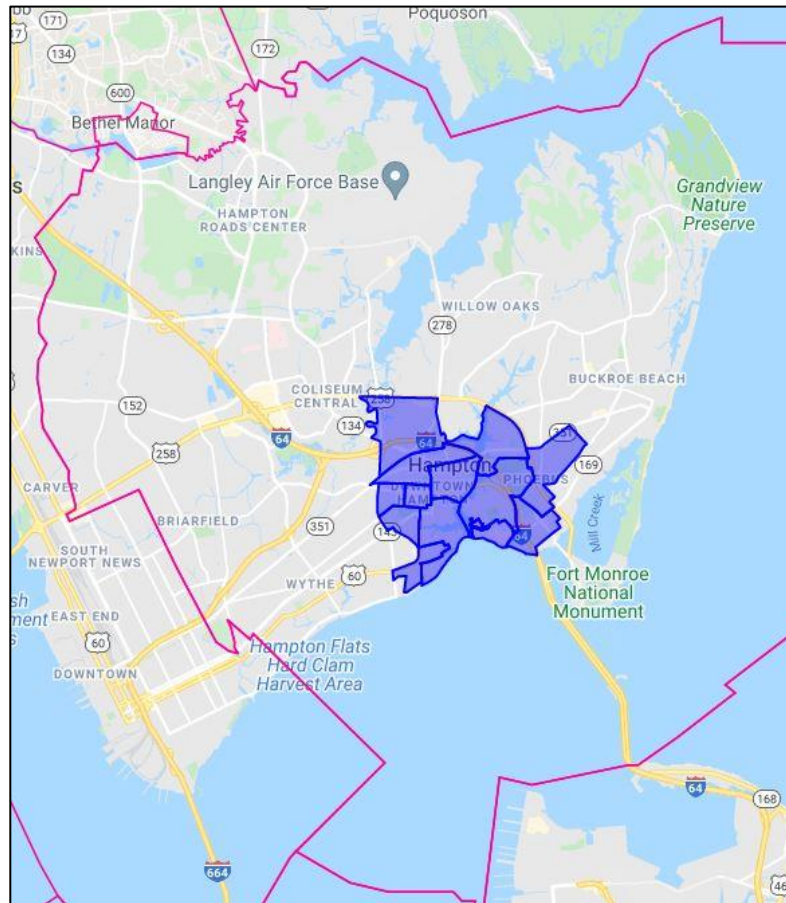


Figure B: Highlighted Blue area designates the project focus area of Downtown Hampton. All benefit figures and recommendations apply to this area (Above)

Recommendations:

To increase the monetary benefits associated with urban tree canopy, targeting tree planting in the highlighted 'high priority areas' will make a larger difference in a shorter amount of time. Work with community stakeholders to gain insight on whether or not this mapping looks to be correct with what they observe. Involve the community in planting initiatives and work with city council to establish canopy goals in accordance to the state Water Improvement Implementation Plan (WIIP).

I-Tree Landscape Assessment

Census Data

Population: 16,800

Minority Percentage: 74%

Landcover Statistics (Acres)

Impervious Surface: 1,028

Plantable Space: 717

Current Canopy: 1,076

Tree Benefits – Annually

Carbon Storage: \$ 2,102,551.00

Total Air Pollution Removal: \$ 297,802.00

Avoided Runoff: \$ 129,628.00

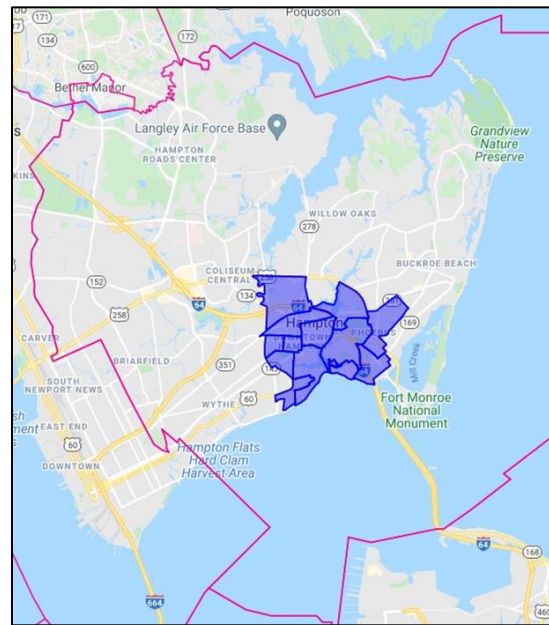


Figure C: Aerial View of Project Area (Above)

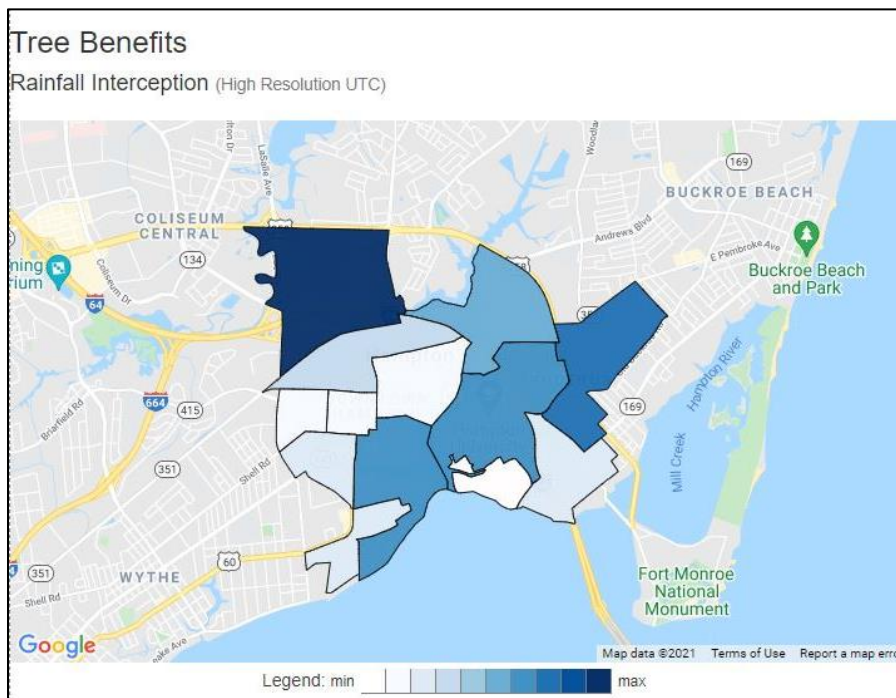
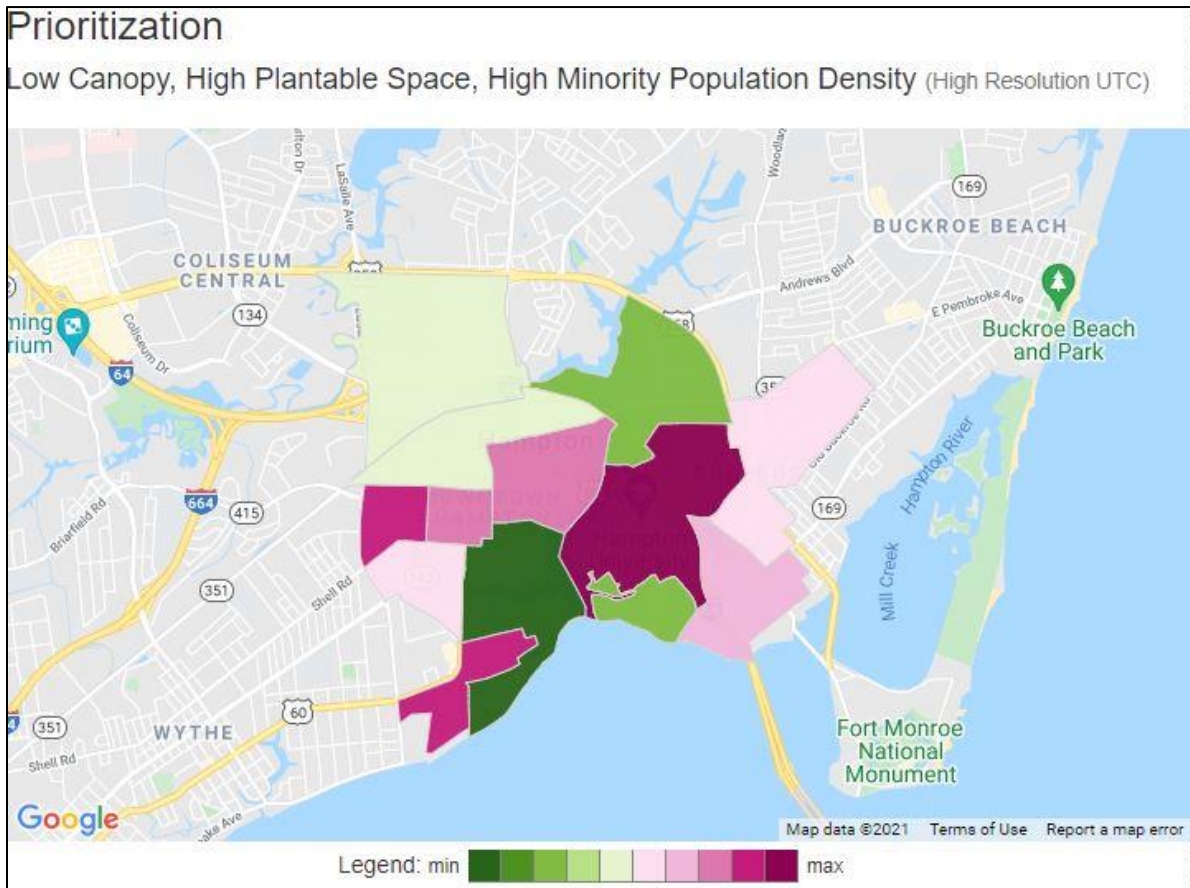


Figure D: (Left) Rainfall interception rates based on pervious/canopy coverage levels within the identified census block groups. Darker colors correlate with higher interception levels. We can determine that the blocks with darker colors have greater canopy coverage and/or pervious surfaces in the downtown area of Hampton.

Figure E: (Below) Priority Planting areas were determined via the following category percentages:

- Low Canopy – 30%
- High Plantable Space – 30%
- High Minority Population – 40%



Mapping Comparisons & Conclusions:

When comparing Figure D to Figure E, the area with the greatest planting potential (in dark maroon) also happens to have a high rainfall reception rate. This is due to the fact that the Hampton River cuts through the middle of this census block. This census block also includes Hampton University and river shoreline that potentially could be planted up with urban riparian buffers. The next areas with the most potential for planting (dark pink to light pink) correlate with the impervious urban areas within historical downtown Hampton. If the city is interested in capitalizing on the benefits associated with increased tree cover, the Prioritization map would be a logical place to direct planting efforts.