

# AN ASSESSMENT OF EXISTING AND POTENTIAL URBAN TREE CANOPY



The urban forest of Wilsonville offers a lot more than greener views and patches of shade. It creates meaningful environmental, economic, and social benefits for the community, valued at \$1.58 million/year in addition to the over \$12 million in stored carbon. To better understand this essential infrastructure, this assessment identified urban tree canopy (UTC), possible planting area (PPA), and areas unsuitable for planting. It analyzed how they are currently distributed throughout the City Limits and Urban Growth Boundary, Significant Resource Overlay Zone (SROZ)/Greenway, study areas, zoning, and U.S. census block groups as well as how their distribution has changed over time. The results, based on the most recently available source aerial imagery from the USDA's National Agriculture Imagery Program (NAIP) collected in 2020 and 2012 will allow the City to revise existing strategies and develop new ones to protect and expand the tree canopy. The maps and data from this assessment will help concentrate efforts in areas with the greatest need, where tree planting space is available, and where benefits can be realized.

## WILSONVILLE, OR



5,811 LAND ACRES  
26,519 RESIDENTS

### URBAN TREE CANOPY



2012: 1,421 ACRES  
2020: 1,468 ACRES

### ECOSYSTEM BENEFITS



ANNUAL BENEFITS: \$1,581,155  
STORED CARBON BENEFITS: \$12,422,897

**25%**

URBAN TREE CANOPY

**30%**

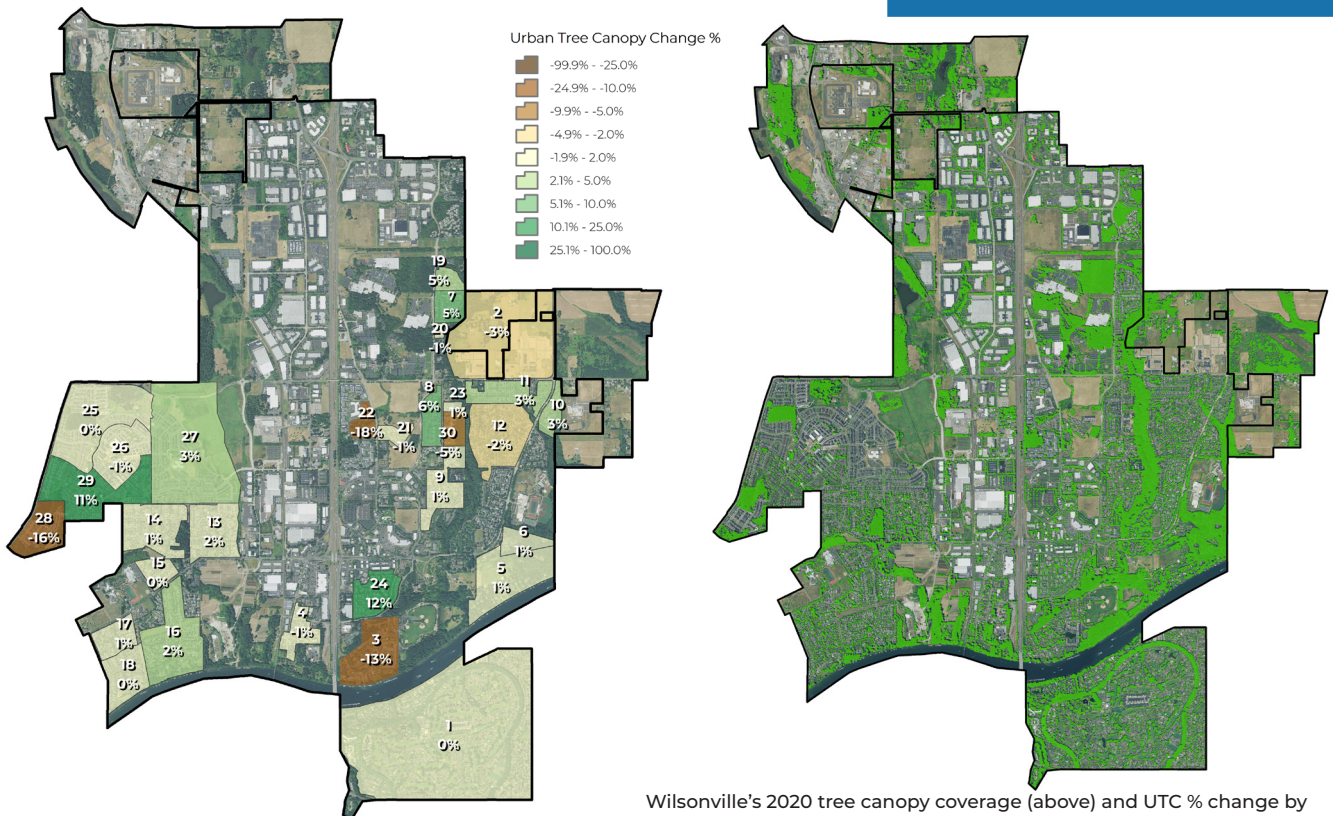
POSSIBLE PLANTING AREA

**44%**

UNSUITABLE AREAS

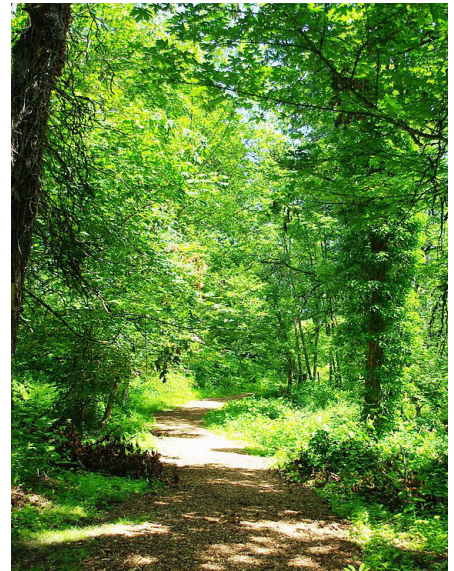
**+1%**

CANOPY CHANGE 2012 - 2020



Trees are green infrastructure that, with proper care, appreciates in value over time. A land cover map was created from 2020 aerial imagery to capture all of Wilsonville's urban tree canopy area, and values from [i-Tree](#) were used to quantify the benefits that those trees provide. Wilsonville's urban forest provides \$1.58 M in annual benefits by removing air pollutants, reducing stormwater runoff, and sequestering carbon. In 2020, tree canopy constituted 25% of citywide land cover; non-canopy vegetation was 30%; soil/dry vegetation was 3%; impervious was 38%; and water was 3%. Wilsonville's UTC came from over 1,400 acres of healthy trees.

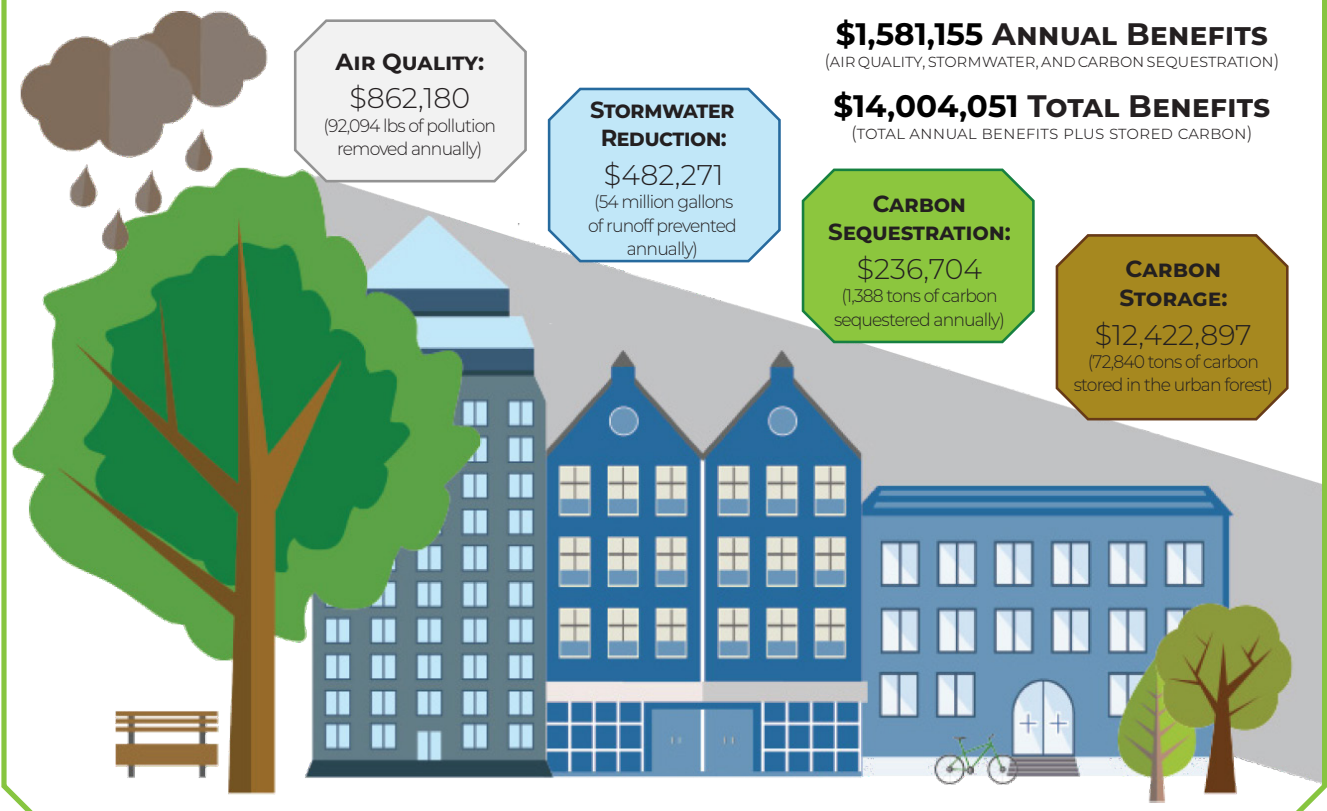
Tree canopy data were analyzed for several geographies, including Wilsonville's study areas and urban growth boundary to see how the distribution of UTC compared at different scales. In 2020, Study Area Charbonneau contained 32% UTC or 29% of the total study area canopy and 21% PPA (17% of total study area PPA). In 2020, Study Area River Estates had the highest UTC with 59%, or 45 acres within its boundary. 50% of Study Area Villebois South's acreage was determined to be possible plantable space. Study Area Villebois South experienced the greatest canopy gain (+11%, or 10 acres) between 2012 and 2020. In the same 8-year period, Study Area Brenchley Estates experienced the greatest loss of -18% (3 acres). Between 2012 and 2020, Wilsonville's City Limits experienced a canopy gain of 1%, or 61 acres, while the Urban Growth Boundary's canopy saw a decrease of 1%, or loss of 14 acres. However, the Urban Growth Boundary was calculated to have 48%, PPA or 486 acres of plantable space. The City should focus on community outreach and education programs to better inform citizens of the environmental, health, social, and financial benefits that trees provide to help grow the tree canopy in the 1,700+ acres of plantable space and protect the existing canopy.



**Table 1. Urban tree canopy, possible planting area, and tree canopy change of Wilsonville's City Limits and Urban Growth Boundary.**

Wilsonville	Land Area (Acres)	UTC (Acres)	UTC %	Total PPA (Acres)	Total PPA %	Total Unsuitable UTC (Acres)	Total Unsuitable UTC %
<b>City Limits</b>	<b>4,810</b>	<b>1,241</b>	<b>26%</b>	<b>1,282</b>	<b>27%</b>	<b>2,287</b>	<b>48%</b>
<b>Urban Growth Boundary</b>	<b>1,001</b>	<b>227</b>	<b>23%</b>	<b>486</b>	<b>48%</b>	<b>289</b>	<b>29%</b>
<b>Totals</b>	<b>5,811</b>	<b>1,468</b>	<b>25%</b>	<b>1,767</b>	<b>30%</b>	<b>2,576</b>	<b>44%</b>

### ECOSYSTEM BENEFIT VALUES OF WILSONVILLE'S URBAN FOREST



Eco-benefits of Wilsonville's urban forest.