

Assessing and Addressing Indiana Urban Tree Canopy South Bend, Indiana

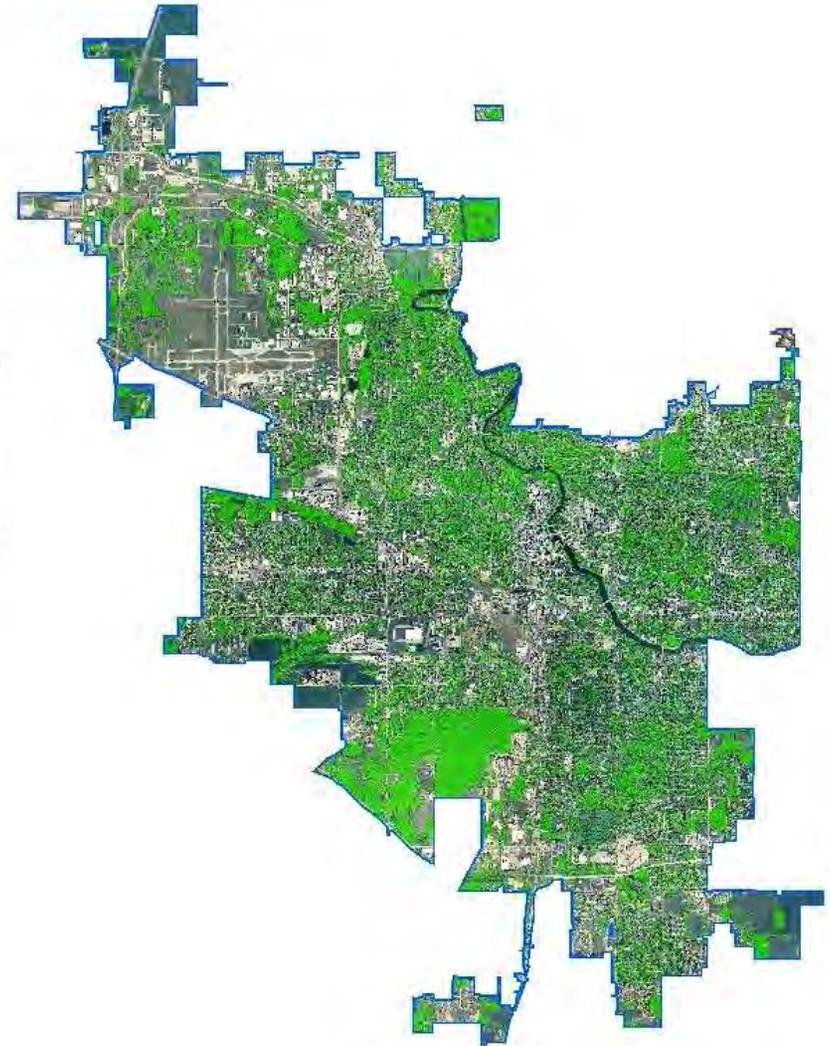
South Bend's urban tree canopy (UTC) is composed of the leaves, stems, and branches of all public and private trees as viewed from above. Using remote sensing equipment and geographic information system (GIS) land cover data, the tree canopy and other types of land cover are layered over satellite images or aerial photographs to create a representation of canopy distribution and land cover within the municipal boundaries.

Mapping and quantifying UTC allows South Bend to establish baseline conditions for current use and future monitoring, benchmark against similar communities, set goals for improving the tree canopy, and create plans for planting and protecting trees. Communities like South Bend that maintain GIS data for land use or public and private parcel data have the additional ability to determine the existing canopy for each of these classifications.

One of the most widespread uses of UTC technology is to set community canopy coverage goals. American Forests, a recognized leader in conservation and urban forestry, has established an average canopy goal of 40 percent for metropolitan areas. The State encourages this standard as a general guideline or target for Indiana communities to achieve.

This factsheet is part of a larger project that included an urban tree canopy analysis of 108 communities throughout the State and identified statewide threats and environmental pressures that affect Indiana's urban tree canopy. For more information please contact Pamela Louks, Indiana DNR-Community and Urban Forestry at 317-591-1170.

South Bend Urban Tree Canopy Cover
2010 USDA NAIP Imagery





South Bend, Indiana Land Cover

Results

Trees provide a host of benefits to the City of South Bend. They conserve energy, reduce carbon dioxide levels, improve air quality, and mitigate stormwater runoff. In addition, trees provide numerous economic, psychological, and social benefits.

Canopy covers 6,896.66 acres or 25.9 percent of the City of South Bend. The City's canopy cover is average when compared to similar class communities within the northcentral region of Indiana.

Pervious areas cover 11,078.10 acres or 41.6 percent of the City. These areas include parks, open areas, agriculture, bare soils, or golf courses and are places with the most potential for increasing the City's overall canopy. If only one half of these areas were planted with trees, South Bend's UTC would be 47 percent and over the recommended average of 40 percent.

Impervious areas cover 8,281.92 acres or 31.1 percent of the City. These areas are roads, buildings, parking lots, and other paved surfaces that would benefit the most from additional trees and canopy cover. If designed or retrofitted, some impervious areas could support more trees and add to the overall tree canopy.

Open Water areas cover 384.11 acres or 1.4 percent of the City. Trees planted in the riparian areas help to increase water quality by partially protecting streams, wetlands, rivers, and lakes from the impact of adjacent land uses.

Urban Tree Canopy Goal Setting

South Bend has an overall canopy of 25.9 percent which is below the 40 percent urban tree canopy recommended by American Forests for cities east of the Mississippi River.

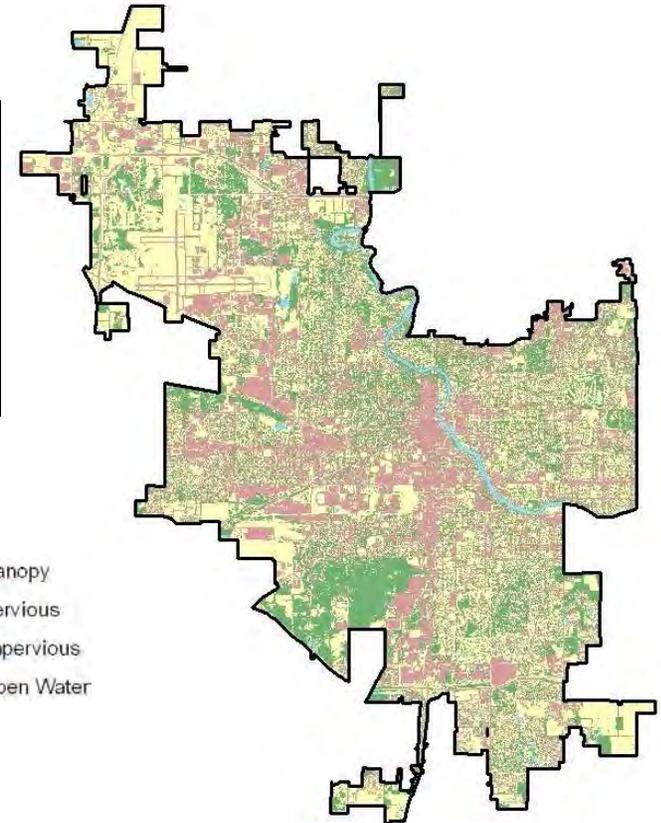
Potential tree canopy for any community can be measured by the total UTC and all other viable areas. The UTC analysis revealed that South Bend's potential canopy cover is 67.5 percent (canopy plus pervious land cover).

It is recommended that the City increase their canopy by reviewing the pervious areas closely for possible planting sites. Potential sites can be impacted by land use constraints, social and cultural preferences, and by whether or not the land is physically conducive to planting sites. Some impervious areas can also become part of the tree canopy if redesigned or retrofitted. Priority should also be placed on preserving and maintaining South Bend's existing canopy.

Canopy includes both public and private trees; therefore, emphasis should be placed on educating residents, developers, and other public groups on the benefits that trees provide South Bend.

South Bend Land Cover Results

Land Cover	Acres	Percent Land Cover
Canopy	6,896.66	25.9%
Pervious	11,078.10	41.6%
Impervious	8,281.92	31.1%
Open Water	384.11	1.4%
Total	26,640.80	100.0%



UTC Comparisons	Percent UTC
South Bend's Maximum Potential UTC (includes pervious land cover)	67.50
American Forests Recommended Goal	40.00
South Bend's Existing Average	25.90
Second Class Community Average within the Northcentral Region	25.53
Statewide Average	24.58
St. Joseph County Average	23.38
Northcentral Regional Average	20.61

