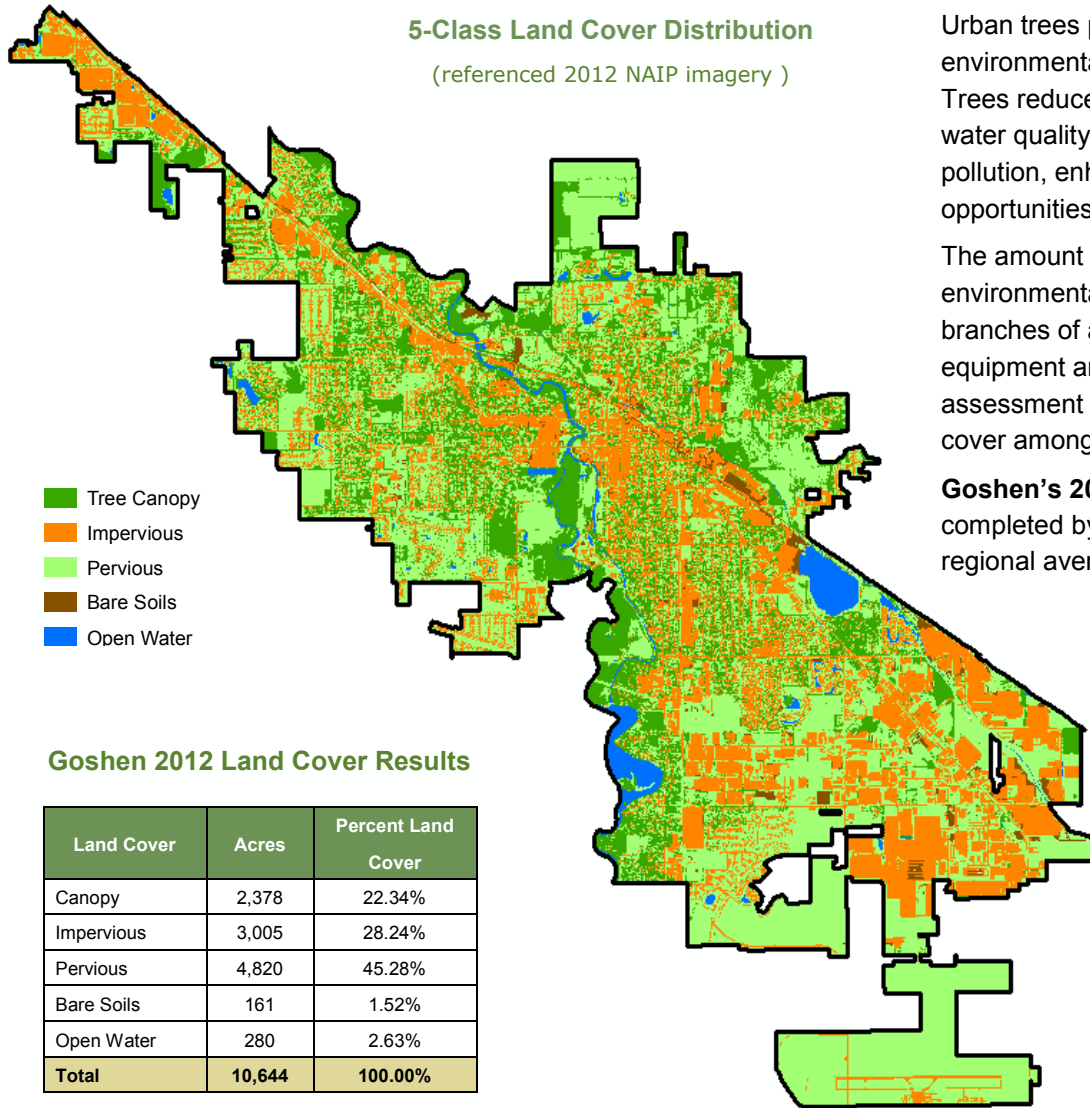


# Urban Tree Canopy Assessment Goshen, Indiana

**5-Class Land Cover Distribution**  
(referenced 2012 NAIP imagery )



**Goshen 2012 Land Cover Results**

Land Cover	Acres	Percent Land Cover
Canopy	2,378	22.34%
Impervious	3,005	28.24%
Pervious	4,820	45.28%
Bare Soils	161	1.52%
Open Water	280	2.63%
<b>Total</b>	<b>10,644</b>	<b>100.00%</b>

Urban trees play an important role in our daily lives; they provide many economic, environmental, and social benefits and significantly improve Goshen's quality of life. Trees reduce the urban heat island effect and help to cool the atmosphere, improve water quality, save energy, reduce stormwater flooding and damage, mitigate air pollution, enhance property values, provide wildlife habit, provide educational opportunities, and provide psychological and aesthetic benefits for citizens and visitors.

The amount of urban tree canopy (UTC) determines many of these economic, environmental, and social benefits. 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 UTC assessment provides an understanding of the amount and distribution of existing tree cover among other land cover types within Goshen's boundaries.

**Goshen's 2012 Canopy Cover is 22%.** By comparison to a statewide Indiana UTC, completed by the Indiana Department of Natural Resources in 2011, the north central regional average UTC was 21%.

## Goal Setting

Establishing a tree canopy goal is essential for communities seeking to improve the quality of life and create a sustainable urban forest. Knowing how much urban tree canopy is present is the first step in this goal-setting process, followed by determining the desired amount of tree canopy that could practically be established through planting site analysis.

American Forests, a recognized leader in conservation and urban forestry, has established an average canopy goal of 40 percent for metropolitan areas. The State of Indiana encourages this standard as a general guideline or target for Indiana communities to achieve.

**Goshen's Possible UTC is 54%.** Possible UTC is calculated by totaling the existing UTC with pervious and bare soil areas, excluding agricultural land, cemeteries, golf courses, utility rights-of-way, sports fields, etc.



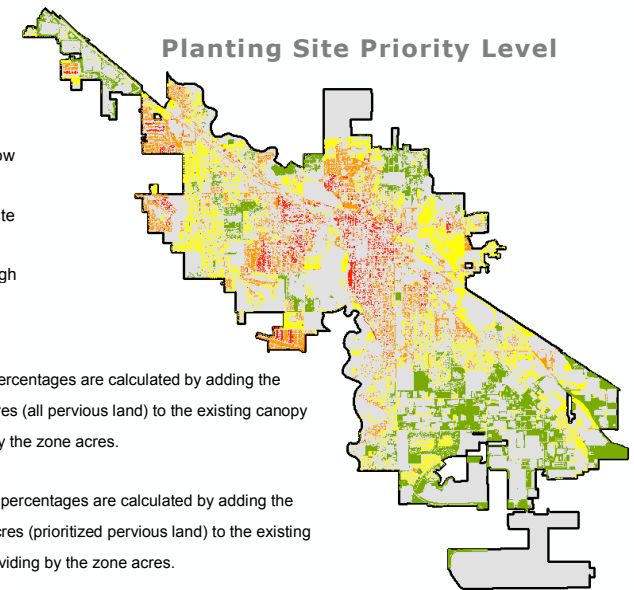
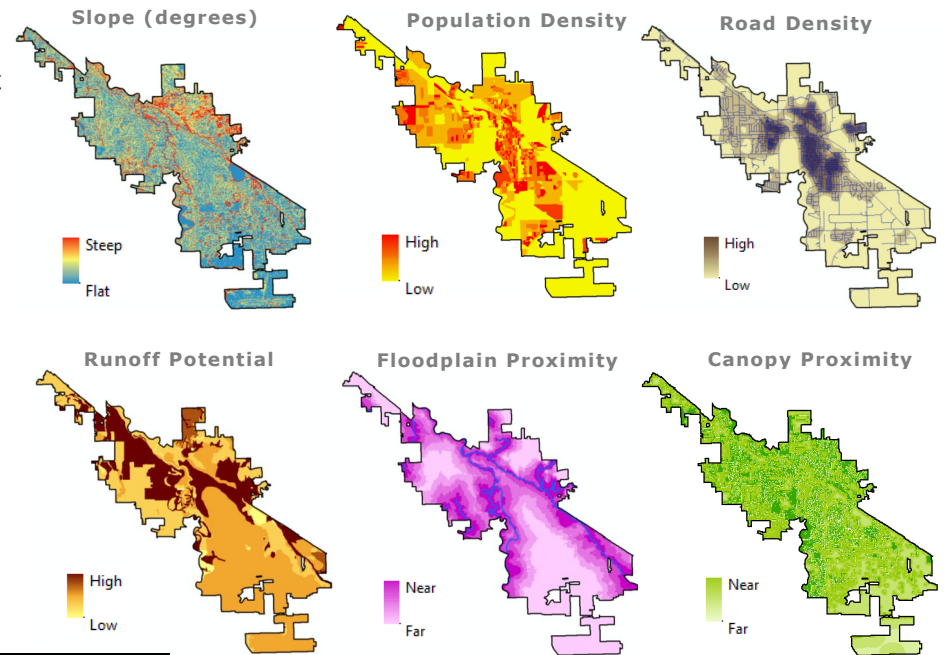
# Goshen's UTC-Based Prioritized Planting Plan

## Preferred Planting Site Selection

Preferred planting sites are selected based on results of environmental analysis that include soils, topography, road networks, floodplains, census data, and the current land cover data to locate and prioritize new tree planting areas.

**Goshen's UTC within the Preferred Planting areas is 30%.** The Preferred Planting UTC was calculated by combining the existing UTC with the pervious and bare soil planting areas found to be either High or Very High priority during the environmental assessment. These locations should be the focus of any new tree planting programs as they will provide the most benefits to the community.

The results of this project can be used by the City of Goshen to establish benchmarks against similar communities, set goals for canopy cover improvement, create plans for planting and protecting trees, and monitor threats to the urban forest. Each of the factors that affect urban tree canopy can be considered separately, or combined, to determine the reasonable allocation of technical and financial support to achieve the City's efforts to preserve and increase canopy cover in Goshen.



\*Possible Planting percentages are calculated by adding the possible planting acres (all pervious land) to the existing canopy acres and dividing by the zone acres.

\*\*Preferred Planting percentages are calculated by adding the preferred planting acres (prioritized pervious land) to the existing canopy acres and dividing by the zone acres.

Zone Class	Zone Acres	Existing Canopy		Possible Planting *		Preferred Planting **	
		Acres	Percent	Acres	Percent	Acres	Percent
Agricultural	1,428	314	21.98%	167	33.66%	47	25.24%
Central Business District	148	18	12.21%	26	29.56%	20	26.06%
General Commercial	842	107	12.70%	272	45.05%	47	18.34%
Heavy Industrial	56	8	14.13%	23	55.24%	2	17.52%
Light Industrial	2,598	282	10.87%	916	46.14%	54	12.96%
Mobile Home Residential	349	79	20.00%	171	63.50%	59	34.91%
Multi-Family Residential	650	109	16.72%	252	55.47%	58	25.66%
Neighborhood Commercial	88	20	22.19%	29	55.56%	11	35.01%
Other	5	0.4	7.62%	3	66.48%	2	34.86%
Planned Shopping Center	117	8	6.79%	24	26.96%	2	7.82%
Single-Family Residential	3,439	1,155	33.57%	1,128	66.37%	309	42.55%
Special Residential District	124	13	10.10%	44	45.04%	10	18.50%
Two-Family Residential	725	259	35.71%	279	74.23%	153	56.83%
<b>CITYWIDE</b>	<b>10,615*</b>	<b>2,371</b>	<b>22.34%</b>	<b>3,334</b>	<b>53.74%</b>	<b>774</b>	<b>29.62%</b>

\*Zoning acres do not equal overall city acres because certain areas were not included in the zoning data.



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