

Greensboro, North Carolina



PROJECT DETAILS

Certified on: July 29, 2020

Certification level: Silver

Greensboro Named 'LEED Silver City'

The City of Greensboro earned LEED Cities Silver certification for its sustainability efforts. Becoming LEED-certified helps Greensboro advance City Council's goal of becoming a leading city in resilience, sustainability and energy independence, and to meet or exceed the goals of Gov. Roy Cooper's Executive Order 80.

"This achievement recognizes the many outstanding steps Greensboro is taking to promote environmental sustainability, social equity and economic resilience, and reflects the hard work of so many individuals to compile and analyze information about Greensboro's performance and progress," said City Manager David Parrish. The certification process also identifies focus areas for future improvement.

SNAPSHOT

Country	USA
Project Area	8,5943.25 acres 347.8 sq.km
Population	294,726 (2018)
Demographics	47.9% White; 40.5% Black or African American; 11.6% Other
Leadership	Mayor Nancy B. Vaughan, Kimberly Sowell, Vicki Foust, Jeff Sovich
Key Stakeholders and Partners:	Community Sustainability Council Piedmont Triad Water Authority, Piedmont Authority for Regional Transportation Duke Energy

SUSTAINABILITY PRIORITIES

- The city of Greensboro is committed to becoming a leading city in resilience, sustainability and energy independence. Greensboro's new comprehensive plan [GS 2040](#) adopted in June 2020 expresses the community's vision for what it wants to be in 2040: the best mid-sized city in America, the greenest in southeast, equitable, diverse and inclusive, and creates a broad framework of policies for achieving that vision.
- The six key ideas to guide the city's vision encompasses various topics such as land use, housing, transportation, and the environment, and bring the components of the plan together to facilitate coordinated action across city departments and the community as a whole.

Certification Overview

The City of Greensboro achieved LEED Cities Silver certification by earning 55 points out of the possible 110 points available across nine credit categories as illustrated. Some of the most significant strategies that contributed to the certification include the city's focused approach towards integrative planning process, civic and community engagement, managing natural resources, green building policy and incentives, energy and greenhouse gas emissions management, and working proactively to promote a high quality of life for all its people.



arc Performance Score | Key Metrics

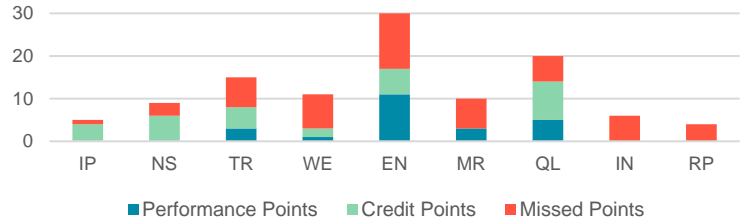
63/100 | Transportation Performance

44/100 | Water Performance

86/100 | Energy and Emissions Performance

85/100 | Waste Performance

82/100 | Quality of Life Performance



Category	Points Achieved/ Points Available
INTEGRATIVE PROCESS (IP)	4/5
NATURAL SYSTEMS AND ECOLOGY (NS)	6/9
TRANSPORTATION AND LAND USE (TR)	8/15
WATER EFFICIENCY (WE)	3/11
ENERGY AND GREENHOUSE GAS EMISSIONS (EN)	17/30
MATERIALS AND RESOURCES (MR)	3/10
QUALITY OF LIFE (QL)	14/20
INNOVATION (IN)	0/6
REGIONAL PRIORITY (RP)	0/4
TOTAL POINTS ACHIEVED	55/110

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INTEGRATIVE PROCESS

4/5

INTEGRATIVE PLANNING PROCESS

The LEED for Cities Integrative Process provided the city of Greensboro with an opportunity to identify goals and priorities for improving city sustainability performance, gather ideas for future city sustainability projects and initiatives by engaging various city stakeholders and partners.

The certification process includes a gap analysis that helped the city to identify multiple gaps that will become the focus of future efforts to improve and enhance the city's performance and establish specific, quantifiable goals.



GREEN BUILDING POLICY AND INCENTIVES

- **Building Code Incentives:** The city of Greensboro's building code offers financial incentives in the form of building fees rebate for new construction achieving green building certification as outlined in its Building Regulations.
- **Economic Development Incentives:** [The City of Greensboro's Urban Development Incentive Guidelines](#) offer city's economic development incentive benefits for the eligible projects in downtown, reinvestment areas, reinvestment corridors, corporate parks, and long-term vacant big box shells if it "has obtained a LEED designation indicating high level of sustainability in design and construction."

CITY OWNED BUILDING ENERGY MANAGEMENT

The data for all city electricity and gas accounts is organized and monitored using "Utility Manager Pro" – a nationally recognized [utility accounting](#) software.



NATURAL SYSTEMS AND ECOLOGY

6/9

NATURAL RESOURCE ACREAGE

The city of Greensboro documented a total of over 634 million square feet of natural resource land within city limits which translates to around 2153.34 square feet (2018) of natural resource area per person. Natural resource area within city limits comprises 16.88% of Greensboro's total jurisdictional area.

RESILIENCE PLANNING

The [Guilford County Multi-Jurisdictional Hazard Mitigation Plan](#) (HMP) and Guilford County Hazard Identification and Risk Assessment (HIRA) have been adopted by the city of Greensboro to identify and evaluate all types of hazards and their associated risks according to a "Priority Risk Index" (PRI) based on 5 criteria: probability/frequency of occurrence, severity of impact, spatial extent of impact, typical warning time, and duration of impact. According to the Priority Risk Index, the top two natural hazards are identified as winter storms and flooding, while the top two man-made/ intentional hazards are identified as civil disturbances and terrorism.

The Guilford County Hazard Mitigation Plan includes an assessment of the capability of the jurisdictions within the county to implement hazard mitigation activities. Greensboro demonstrates to have the most extensive array of planning and regulatory tools in place such as Emergency Operation Plan, Continuity of Operations Plan etc. And, some of the mitigation actions that apply to the top two natural and man-made hazards included: to revise the Flood Damage Prevention Ordinance on as needed basis; Offer additional training to law enforcement officers regarding civil disturbances and provide necessary equipment to officers.



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TRANSPORTATION AND LAND USE

8/15

TRANSPORTATION PERFORMANCE

The city of Greensboro demonstrated a transportation performance score of 63/100 based on the measured value of 24.35 (2018) Vehicles Miles Travelled (VMT) per person per day.



ACCESS TO QUALITY TRANSIT

The city of Greensboro's two intermodal transit stations: [J. Douglas Galvon Depot](#), and the Coble Transportation Center demonstrates high quality of intermodal connectivity by providing connectivity to more than three modes of transportation such as passenger rail, city bus, regional bus, Greyhound, bicycling, walking, and taxi/ridesharing services and providing other facilities such as vehicle parking, bicycle storage, designated passenger drop-off areas and airport connectivity etc. The Coble Transportation Center also provides two charging stations for electric vehicles.

SMART MOBILITY AND TRANSPORTATION POLICY

The City of Greensboro has adopted the following smart strategies to promote efficient transportation systems:

- **Passenger Information Systems (PIS):** the real-time bus tracking app and online platform: [TransLoc](#).
- **Global Positioning System** on Greensboro Transit Agency (GTA) Buses: to provide real-time location information for all GTA's bus fleet, enabling route adherence verification, safety monitoring, and data integration with the TransLoc PIS.
- **Citywide Modern Traffic Signal System:** the signal system uses IP/Ethernet communications over fiber optic cable, and a greatly enhanced network of closed-circuit television cameras to reduce delays due at traffic signals.



WATER EFFICIENCY

3/11

WATER PERFORMANCE

The city of Greensboro achieved a water performance score of 44/100 based on the estimated daily per capita domestic water consumption value of 85.60 gallons (2018).



EQUITABLE & QUALITY ACCESS

The city of Greensboro's public water distribution system and central sewer collection system covers approximately 99.2% and 99.5%, respectively of the buildings within the City's municipal boundary. Less than 1% of all buildings have private well and/or septic systems. These private systems are inspected and permitted through the Guilford County Health Department, Division of Environmental Health. Both drinking water quality and treated wastewater quality demonstrate compliance with the required quality standards as mandated by US Environmental Protection Agency (EPA).

INTEGRATED WATER MANAGEMENT

The city of Greensboro demonstrates an integrated water management approach by assessing the total quantity of water available for use through various resources; the water demand by various sectors and use types; and measured water supplied in the past one year through various sources (freshwater, reclaimed water, desalinated water).

WATER AUDITS

The city of Greensboro Water Resources Department completed a system wide water loss audit in 2019 to assess the efficiency of the water distribution system and the department's water accounting practices through development of a leakage management plan.

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ENERGY AND GREENHOUSE GAS EMISSIONS 17/30

ENERGY PERFORMANCE

The city of Greensboro achieved the Energy Performance score of 86/100 based on the total annual per capita scope 1 and scope 2 greenhouse gas emissions from all sectors measured as 11.86 tons CO₂ (2016).

ENERGY-EFFICIENT STREET LIGHTING

About 80% of the street lighting in the city of Greensboro leased through Duke Energy demonstrate compliance with the efficiency related requirements of "ANSI/IESNA RP 8-14 Roadway Lighting". All these lamps also have a minimum Luminous efficacy of 100 lumens per watt.

Beginning in 2017, Greensboro Department of Transportation (GDOT) collaborated with Duke Energy on an initiative to replace existing metal halide, mercury vapor, and high pressure sodium vapor fixtures in Greensboro's streetlamps with modern energy efficient LED fixtures. To date, 4,039 (15.2%) out of 26,602 fixtures have been replaced in this continuing project. Floodlights for public area lighting are not permitted within the city limits as per the city statute.

GRID HARMONIZATION

The electric utility, Duke Energy constructs, owns, and operates the electricity supply infrastructure throughout Greensboro and, subject to approval by the North Carolina Utility Commission establishes electricity rates, rate structures, and programs. Duke Energy has established an electricity load management program that includes "[dynamic pricing](#)" rate schedules available to three classes of customers: Residential, commercial and Industrial to shift loads to times that cause less stress for the electrical grid.



MATERIALS AND RESOURCES 3/10

WASTE PERFORMANCE

The city of Greensboro demonstrated a waste performance score of 85/100 based on the total estimated value of 0.305 tons (2018) of Municipal Solid Waste (MSW) generation per person per year and waste diversion rate of 17.4% from the landfill.

SOLID WASTE MANAGEMENT

A combination of Guilford County regulations and City of Greensboro ordinances ensure 100% coverage of all types of buildings by municipal solid waste service or by a private independent solid waste hauler.

Greensboro's [residential solid waste service](#) includes curb side collection of the following four segregated categories:

- Yard waste and lawn clippings;
- Co-mingled recyclables, including: paper, cardboard, aluminium & steel cans, and plastic bottles;
- Household refuse; and
- Bulk items, including: furniture, mattresses, swing sets, lawn equipment drained of gas and oil, bicycles, bedframes, box springs, rolled carpet, toilets, doors, appliances etc.

For [non-residential customers](#) includes collection of the following segregated categories:

- Co-mingled recyclables, including: paper, cardboard, aluminium & steel cans, plastic bottles, (and glass beverage containers, for establishments holding a permit to serve alcoholic beverages on premises)
- Non-hazardous business and industrial refuse.

Co-mingled recyclables are segregated at Greensboro's Recovery Facility (MRF) at 706 Patton Avenue. An amendment to Greensboro's Sustainability Action Plan was adopted in May, 2020 based on USGBC guidance related to food waste into Policy 7–Waste Reduction and Recycling.



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QUALITY OF LIFE

14/20

QUALITY OF LIFE PERFORMANCE

The city of Greensboro achieved the quality of life performance score of 82/100 by tracking and measuring the key indicators of education, equitability, prosperity, health & safety related to elevating the living standards of all:

- 90.0% (2018) of population with High school degree
- 38.10% (2018) of population with Bachelor's degree
- 30.10% (2018) Median Gross Rent
- 0.48 Gini Coefficient
- \$47,043 (2018) Median Household Income
- 6.80% (2018) Unemployment Rate
- Median Air Quality Index: 1 (2018)
- 0.0073 (2018) Violent Crime Rate per capita per year



DIVERSITY IN APPOINTMENTS TO CITY BOARDS AND COMMISSIONS

The city of Greensboro ensures diversity and inclusion in appointments to its city boards and commission. The City's code of ordinances addresses the formation of appointed boards and commission on an equitable and proportionate basis taking into consideration gender, race and residence on a geographical basis.

CIVIL AND HUMAN RIGHTS

The city of Greensboro promotes a discrimination free quality of life for all by the adoption of several resolutions and policies. The City of Greensboro's Personnel Policy Manual contains sections intended to promote a discrimination-free workplace, specifically regarding affirmative action, harassment and reasonable accommodation.

More Information

Interested in more details about Greensboro's LEED certification results? Follow the link below for a Dropbox folder containing the 270+ files Greensboro submitted to the US Green Building Council demonstrating the city's commitment to promoting a sustainable community and continuous improvement.

<https://www.dropbox.com/sh/itfhvphjf70nm1z/ABIXPb2hyaM6ACwzvrub4p2a?dl=0>