

Cincinnati, Ohio



PROJECT DETAILS

Certified on: November 18, 2019

Certification level: Silver

Cincinnati's path to LEED certification was driven by a goal and passion to promote sustainability, equity, and resilience throughout the city. By certifying the city, Cincinnati can be recognized as a national leader in sustainability and encourage other cities and communities to follow the same path toward a better future.

"Cincinnati has worked hard to be a sustainability leader and innovator. Our Green Cincinnati Plan, solar energy projects, and investment in public transit all reflect our commitment to building a better future. Obtaining the LEED For Cities certification provides proof that our efforts are working and guidance about where our future projects will have the most impact." Cincinnati Mayor, John Cranley

SUSTAINABILITY PRIORITIES

- Cincinnati is committed to building a sustainable, equitable, and resilient future. The city's [2018 Green Cincinnati Plan](#) presents a comprehensive set of recommendations to advance the sustainability, equity, and resilience of the city. The plan includes 80 strategies to reduce Cincinnati's carbon emissions 80% by 2050. Transition the city to 100% renewable energy for buildings by 2035. Reduce food waste by 20% by 2025 and become zero waste by 2035. Transition the City's Fleet to be 100% electric by 2035.
- Cincinnati's sustainability efforts are giving the city an economic boost, while improving quality of life for all Cincinnatians.

SNAPSHOT

Country	USA
Project Area	50,903.7 acres 206 sq.km
Population	302,606 (2018)
Demographics	50.3% White; 42.7% Black or African American; 7% Other
Leadership	Mayor John Cranley
Key Stakeholders and Partners:	Office of Environment and Sustainability Greater Cincinnati Water Works Department of Public Services

Certification Overview

The City of Cincinnati achieved LEED Cities Silver certification by earning 51 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 in managing their natural ecosystem services, enhancing resiliency and optimizing water efficiency by ensuring equitable, quality access to all and monitoring system's operational efficiency through the use of smart technology.



arc Performance Score | Key Metrics

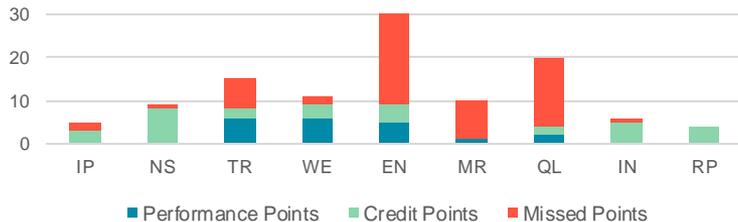
99/100 | Transportation Performance

95/100 | Water Performance

58/100 | Energy and Emissions Performance

45/100 | Waste Performance

60/100 | Quality of Life Performance



Category	Points Achieved/ Points Available
INTEGRATIVE PROCESS (IP)	3/5
NATURAL SYSTEMS AND ECOLOGY (NS)	8/9
TRANSPORTATION AND LAND USE (TR)	8/15
WATER EFFICIENCY (WE)	9/11
ENERGY AND GREENHOUSE GAS EMISSIONS (EN)	9/30
MATERIALS AND RESOURCES (MR)	1/10
QUALITY OF LIFE (QL)	4/20
INNOVATION (IN)	5/6
REGIONAL PRIORITY (RP)	4/4
TOTAL POINTS ACHIEVED	51/110

Performance + Strategies



INTEGRATIVE PROCESS

3/5

INTEGRATIVE PLANNING PROCESS

The city of Cincinnati deployed LEED for Cities Integrative Planning Process to prepare a comprehensive action plan with the vision of "Thriving Re-Urbanization". The city carried out an early analysis of the interrelationships among various city divisions and departments to prepare the pathways for improved performance. The key guiding principles to achieve the vision were identified as:



- 1) providing more transportation choices,
- 2) promoting equitable, affordable housing,
- 3) enhancing economic competitiveness,
- 4) supporting existing communities,
- 5) coordinating and leveraging federal policies and investment, and
- 6) valuing communities and neighborhoods.

TAX CREDITS FOR GREEN BUILDINGS

The city of Cincinnati offers tax abatements through its commercial and residential Community Reinvestment Area (CRA) tax abatement program for LEED or an equivalent green building rating system. The program incentivizes both the new construction and renovation that adhere to sustainable building standards or foster positive environmental impacts. The project once completed, the owner only pays property taxes on a portion of the improvement value, subject to the limits, for a period of up to 10-15 years.



NATURAL SYSTEMS & ECOLOGY

8/9

ACCESSIBLE GREEN SPACE

Cincinnati provides 971.68 (2019) square feet of accessible green space per resident. According to the Trust for Public Land, currently, 82% of residents are within a 10 minute walk of a park. Because of this, Cincinnati ranks #8 amongst the largest 100 cities in the United States for providing parkland and other green spaces to all areas of the city with the Trust for Public Land.



ECOSYSTEM ASSESSMENT

The city of Cincinnati followed the Natural Systems and Ecology's prerequisite and was able to identify the concerns related to its natural topography, soil, vegetation, habitat, and hydrology and its impact on the city's environment and development. For example, the topography assessment and slope risk analysis reinforced the knowledge that Cincinnati is especially vulnerable to landslides and additional development regulations are needed to avoid any potential threats or damage.

RESILIENCE PLANNING: VULNERABILITY AND CAPACITY ASSESSMENT

The city demonstrates to strengthen its resilience to the identified climate change risks, natural and man-made hazards, and extreme events through an in-depth vulnerability and capacity assessment. Cincinnati employs early warning sirens for extreme weather events such as storms and tornadoes. Cincinnati has also partnered with Rave alert to create a multilingual mass communication system that allows residents to be alerted to extreme weather, disasters, public safety concerns, road closures, etc..

Performance + Strategies



TRANSPORTATION & LAND USE

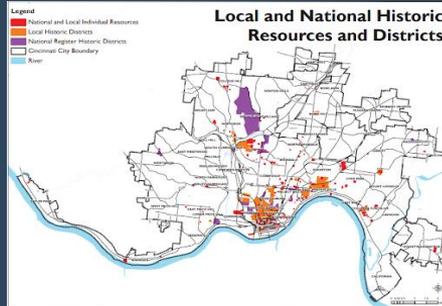
8/15

TRANSPORTATION PERFORMANCE

The city of Cincinnati demonstrated a high transportation performance score of 99/100 based on the comparatively low value of 16.25 (2018) Vehicles Miles Travelled (VMT) per person per day.

HISTORIC PRESERVATION

Cincinnati is known for its historic landmarks and districts. There are around 22 local historic districts and 28 individual local landmarks within the city boundary. Besides, Cincinnati has a plethora of properties that are listed in the National Register of Historic Places, the nation's official list of properties of preservation. Cincinnati also has eleven National Historic Landmarks (NHLs), an extraordinary number for a city its size. In 1980, Cincinnati passed a more comprehensive local legislation and established the Historic Conservation Board to recommend designation of historic structures, sites and districts to the City Planning Commission and City Council and review exterior alterations, new construction and demolitions to ensure compatible change.



WATER EFFICIENCY

9/11

WATER PERFORMANCE

The city of Cincinnati demonstrated a high water performance score of 95/100 based on the estimated daily per capita domestic water consumption value of 51 gallons (2018)

EQUITABLE & QUALITY ACCESS

[Greater Cincinnati Water Works \(GCWW\)](#) provides 100% coverage for both public water supply and sanitation services.

Both drinking water quality and treated wastewater quality demonstrate compliance with the required US Environmental Protection Agency (EPA) quality standards.



INTEGRATED WATER MANAGEMENT

The city adopts an integrated water management approach and demonstrated that the ratio of water withdrawals for human use to the total available freshwater resources was less than 0.2 for the total quantity of water supplied for human use.

SMART WATER SYSTEMS

To improve the operational efficiency of the water supply systems, reduction in water losses, and monitoring of water flow within the city, the strategies adopted include annual water audits to assess the water losses from both the water supply system infrastructure and through water consumption data from Automated Meter Reading (AMR) system. The authorities are further exploring the feasibility of Advanced Metering Infrastructure (AMI) for upgradation.

Performance + Strategies



ENERGY & GHG EMISSIONS

9/30

ENERGY PERFORMANCE

The total annual per capita scope 1 and scope 2 [greenhouse gas emissions](#) from all sectors was measured as 14.77 MtCO₂ (2015), with a performance score of 58/100. From 2006 to 2015, Cincinnati achieved a city-wide 18.4% reduction in GHG emissions meeting its goal of a 2% reduction in GHG emissions per year.



POWER ACCESS, RELIABILITY & RESILIENCY

The City of Cincinnati provides 100% coverage of buildings with electricity service. The city uses three reliability metrics to monitor performance:

- SAIDI (System Average Interruption Duration Index): computed as the sum of customer minutes of interruption / total number of customers served
- SAIFI (System Average Interruption Frequency Index): computed as the sum of customers interrupted / total number of customers served
- CAIDI (Customer Average Interruption Duration Index): computed as the sum of customer minutes of interruption / sum of customers interrupted

To ensure power resiliency during extreme weather conditions or overloads during extreme heat events, the city uses 'smart-grid' technology that allows the grid to make intelligent decisions and keep power reliable for residents. Transformers are being retrofitted to prevent interference such as animals and lightning strikes. In addition to mitigating risks from natural interference like weather and animals, cyber security enhancements are made to protect against hackers, as well as physical security that will prevent vandalism.



MATERIALS & RESOURCES

1/10

WASTE PERFORMANCE

The city of Cincinnati demonstrated a low waste performance score of 45/100 based on the total estimated value of 0.943 tons (2018) of Municipal Solid Waste (MSW) generation per person per year and waste diversion rate of 22.5% from the landfill.



SOLID WASTE MANAGEMENT

The city ensures 100% coverage of all buildings with segregated waste collection services in partnership with the department of public services and various other private local waste management contractors.

WASTE REDUCTION STRATEGIES

In order to improve the waste performance score and reduce waste generation, the commercial waste franchise fee was increased for the fiscal year 2019. A waste audit is also being conducted to understand the changing composition of the waste stream and identify the actions needed to improve the waste performance of the city.

In the [Green Cincinnati Plan](#), three waste-related goals were identified:

- 1) zero waste by 2035,
- 2) decrease residential tonnage to landfill by 20% by 2023, and
- 3) increase participation in city curbside recycling programs by 2023 (5% in residential and 20% in commercial).

Performance + Strategies



QUALITY OF LIFE

4/20

QUALITY OF LIFE PERFORMANCE

The city of Cincinnati achieved the quality of life performance score of 60/100 by tracking and measuring the key indicators of education, equity, prosperity, health & safety related to elevating the living standards of all people in the city.

Education:

- 86.8% (2017) of population with High school degree
- 35.8% of population with Bachelor's degree
- 28.4% (2017) Median Gross Rent
- 0.5341 Gini Coefficient
- \$38,938 (2017) Median Household Income
- 5.9% (2017) Unemployment Rate
- Median Air Quality Index: 52 (2017)
- 0.009 (2017) Violent Crime Rate per capita per year



TREND IMPROVEMENTS

Reflecting upon the effectiveness of key indicators, Cincinnati demonstrated an annual improving trend in the area of education: the percentage of population with high school degree increased from 83.6% in 2010 to 86.8% in 2017.

ENVIRONMENTAL EQUITY

Additionally, the [Green Cincinnati Plan](#) focuses on issues of environmental equity and environmental justice. The effort identifies challenges concerning environmental, economic, and social disparities in the city for the identified priority areas. For instance, the Environmental Justice program aims to identify communities that are disproportionately burdened by pollution (and hazardous wastes) and acts to reduce or eliminate those burdens.



INNOVATION

5/6

INNOVATIVE PERFORMANCE

The city of Cincinnati demonstrated innovative performance by achieving the following strategies:

- Green Cincinnati Fund to finance sustainable initiatives.
- Reduce food waste by 20% by 2025 by being a priority city for 'Save the food campaign' under [Greater Cincinnati Food Waste Action Plan](#)'s implementation.
- [Residential Electricity and Gas Aggregation Program](#) to provide all residents with a financially and environmentally feasible electric and gas supply.
- [Early Childhood Education Program](#) to ensure that all residents are provided with equal opportunity to send their children to an affordable and quality preschool.



REGIONAL PRIORITY

4/4

The city of Cincinnati achieved a significant, measurable environmental performance for a regional priority using the following strategies:

- [Smart Sewer Systems](#) that allow stormwater mixed with sewage to be diverted to other areas of the sewer system and avoid overflows into local rivers and streams.
- Local, sustainable food and urban agriculture to mitigate the adverse impact of climate on food access.
- Equitable Public Transportation Sharing System to provide affordable, safe transportation options for low-income communities.
- [Open data portal](#) for transparent policy implementation and city improvement.