City of Madison
Sustainability Plan

CITY OF MADISON
SUSTAINABILITY

August 2024
Final Plan

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Dear readers,

This plan has been designed to facilitate online viewing.

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Executive Summary

The Madison Sustainability Plan provides a path to make our community more environmentally sustainable and resilient for current and future Madisonians. A healthy environment is essential to our wellbeing, economy, and quality of life.

Madison is Wisconsin's fastest-growing city. Sustainability must be at the heart of how we grow and adapt to ensure all Madisonians can thrive now and in the future. We must add housing, transportation, and other amenities in ways that cut carbon pollution, keep our air and water clean, and ensure our lands and waters are healthy for both people and nature.

Like many communities across the U.S. and the globe, Madison is already feeling the impacts of climate

change, legacy pollution, and new environmental challenges. Recent decades were Wisconsin's warmest and wettest on record, and we're experiencing more severe storms, flooding, and hazardous air pollution. We must responsibly manage and clean up hazardous materials, chemicals and other pollutants that could impact our water, soil, and air. These climate and environmental hazards are threat multipliers that amplify existing health, social, and economic inequities. The risks and impacts of these hazards are not equally or fairly distributed across people and communities.

This Sustainability Plan is a continuation of City of Madison's dedication and ongoing efforts to provide a healthy, safe, and thriving environment. The City's first formal sustainability plan was released in 2004, and the most recent plan was adopted in 2011. This plan builds on this legacy and the environmental sustainability and climate actions included in the many current City plans and initiatives. All plans and reports referenced in this plan are listed in Appendix B. It is the result of over three years of work led by the Sustainable Madison Committee and the City's Sustainability and Resilience Program and reflects input from City staff, local experts and partners, and the Madison community. Community engagement included an online survey, pop-up events, focus groups, a social media campaign, and meetings with community groups. More than 2,200 people shared their vision and priorities for a more sustainable Madison.

The 24 goals in this Sustainability Plan advance these priorities. They are organized into eight elements of a sustainable city. Each element includes a set of goals, actions, and metrics to help track our progress. Goals and actions were developed with four guiding values - equity, justice, education, and public health - to ensure our work to advance sustainability provides multiple benefits to our community. Appendix A shows all the goals and actions in a single table, and they are summarized on the following pages.

Elements of the Sustainability Plan

1) Quality, Affordable Housing

All members of our community deserve access to healthy, sustainable, and affordable housing. We need to build new residential buildings, convert existing buildings into residential spaces through adaptive reuse, and improve the quality of our existing housing. Quality, Affordable Housing goals aim to increase the quantity and condition of housing for all Madisonians with a focus on housing for people with low income.

2) Resilient City Design & Infrastructure

Madison's built environment – the design and spatial arrangement of our buildings, streets, parks, and green spaces – shapes our lives. The City is working to make sure our roads, stormwater systems, buildings, and other community assets are climate-friendly—meaning they both minimize climate pollution and help protect against flooding, heat waves, and poor air quality. These goals aim to help our city grow in ways that enhance the health and wellbeing of our community and our environment while improving our resilience to the impacts of climate change.

3) Renewable Energy & Decarbonization

How we produce and use energy has big impacts on our environment and our health. Transitioning to clean, renewable energy to power buildings and vehicles and reducing energy waste are critical strategies for reducing climate pollution. Renewable Energy and Decarbonization goals aim to cut greenhouse gas emissions by supporting renewable energy, efficient buildings, and clean transportation.

4) Sustainable Transportation

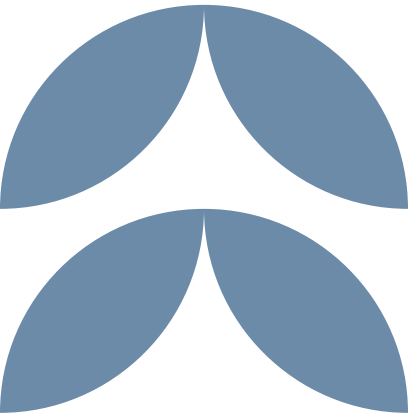
Transportation is essential to our daily lives. To meet the needs of our growing community, the City is building a sustainable transportation system while improving safety and equity. This includes growing Madison's already extensive pedestrian and bike path network and rolling out Madison Metro's new, all-electric bus rapid transit (BRT) system. Sustainable Transportation goals aim to expand access to public transit and active transportation, including walking, biking, and rolling.

5) Clean, Abundant Water

Water is a defining feature of Madison. Five lakes - Mendota, Monona, Waubesa, Kegonsa, and Wingra - shape our city and offer ample opportunities for Madisonians to enjoy the outdoors. The City strives to be a good steward of water resources, to protect and improve water quality, support water conservation, and create welcoming public spaces along the waterfront. Clean, Abundant Water goals aim to create a water system that protects community health, improves water quality, and advances climate resilience.

6) Zero Waste

Many products and materials are only used once before they end up in a landfill. A circular economy aims to change this system by keeping materials and products in use for as long as possible. The City is working with partners across our region to help grow a circular economy, support recycling, invest in business and research, and deliver programs to end food waste. The Zero Waste goal aims to build a local circular economy and reduce the amount of materials Madison sends to the landfill.



7) Healthy Ecosystems

Madison's parks, open space, and other urban green areas are essential parts of our community's fabric. They are places where people can enjoy the outdoors and where plants and animals thrive. Our urban ecosystems also provide clean air and water, air temperature regulation, carbon sequestration, noise reduction, and stormwater management. These goals aim to preserve our extensive system of natural areas, implement more sustainable methods of land management, and expand our urban tree canopy.

8) Vibrant, Green Economy

A vibrant local economy means good jobs, thriving businesses, and resilient community assets for all Madisonians. Growing Madison's green economy means increasing the number of businesses and jobs that work to improve the environment and address climate change. Vibrant, Green Economy goals aim to grow Madison's green economy by driving the market for sustainable goods and services, supporting local businesses, and developing a green workforce.

Creating this plan is only one step toward making Madison a more sustainable and resilient community. It has been crafted to include actions to cut climate pollution, prepare for and minimize the impacts of climate change, improve environmental quality, and ensure the health and wellbeing of all Madisonians. Successful implementation will require ongoing leadership, collaboration, and participation of everyone in our community. This plan is a reflection of our current priorities and available solutions. It will need to be a living document, adaptive to new technologies and data, responsive to changing circumstances, and grounded in partnership. *Our community must travel this path together.*

A Message from the Mayor

I am delighted to present the City of Madison's 2024 Sustainability Plan Update. This plan represents another step forward in ensuring that Madison remains a vibrant and sustainable place for generations to come. Over the past three years, the Sustainable Madison Committee has tirelessly guided this update, working hand in hand with city staff, local experts, and community partners. Their dedication has been invaluable in shaping a plan that reflects the aspirations and priorities of our community.

The Madison Sustainability Plan is a roadmap that charts our course toward a more environmentally sustainable and resilient city. It is built upon eight elements, each essential to our vision for a thriving future: Quality, Affordable Housing; Resilient City Design & Infrastructure; Renewable Energy and Decarbonization; Sustainable Transportation; Clean, Abundant Water; Zero Waste; Healthy Ecosystems; and a Vibrant, Green Economy.

Within these elements, the plan sets goals, prioritizes actions, and sets metrics for achievement. Together, these elements represent a vision for where the City is going and specific actions we will take to get there.

The Sustainability Plan is not meant to be a plan that sits on the shelf. Just as our community is dynamic and ever-changing, we must also adapt our planning efforts to achieve our ambitious sustainability goals, and to always ensure this plan is reflective of our priorities as a community. To that end, the City intends to keep this plan as a living document, and will keep incorporating good ideas over time.

With this plan, the work to implement its ambition begins. I look forward to working together to achieve our ambitious sustainability vision for Madison.

Mayor Satya

A Message from the SMC

To the Residents of Madison,

we increasingly are aware that the changing climate we experience almost daily is endangering us. It affects the air we breathe and the water we drink, the jobs we do, the plants and animals we depend on, how we care for our children, and our capacity to protect the lives of future generations. In response to this emerging awareness and a public demand for even better sustainability policy in Madison, we, the diverse volunteer members of the Sustainable Madison Committee (SMC), acted. Starting in 2022, members of our Sustainability Plan Update Working Group worked closely with our City's extremely capable sustainability staff to compose the first draft of this updated Sustainability Plan. The SMC then strongly supported the staff and consultants who obtained and incorporated broad public input to produce this plan.

Madison's first Sustainability Plan (2011) asked the staff to address almost every environmental challenge, regardless of staff capacity, and with little attention to achieving climate justice. In contrast, this plan update is designed to achieve our City's highest current priorities in light of staff capacity. Goals include reducing carbon emissions citywide by requiring energy efficient infrastructure in transportation and buildings—with special attention to providing affordable housing, meeting 100% of demand for City operations with renewable energy by 2030, implementing sustainable economic development plans, and reducing waste and contaminants such as PFAS. While this plan is designed to benefit all of us, it clearly addresses the needs of lower-income residents, communities of color, and future generations. It identifies specific strategies for achieving the plan's goals, and metrics to demonstrate goal accomplishment.

This plan is designed to guide our City's staff as they work to address Madison's environmental and climate justice challenges. These well-educated, hard-working and deeply committed people are on the front line in addressing these problems. We conclude by noting that we can help our City's staff achieve these goals by providing them with proactive information and support as they proceed. In short, only by working together to, among other things, achieve the goals of this plan, will we be able to meet the challenges that face all of us, and move into a healthy and vibrant future.

Kai Brito
Sustainable Madison Committee

Susan Millar
Sustainable Madison Committee

Introduction

Welcome to the City of Madison's Sustainability Plan, a roadmap to make sure Madison is a healthy and resilient place to live and work today and in the future. A healthy environment is essential to our wellbeing, economy, and quality of life.

Like many communities across the U.S. and the globe, Madison is already feeling the impacts of climate change, legacy pollution, and new environmental challenges. Recent decades were Wisconsin's warmest and wettest on record. Wisconsin's annual average temperature is 3 °F warmer than in the 1950s. It is likely to rise an additional 2-8 °F by 2050 according to climate projections from the Wisconsin Initiative on Climate Change Impacts. By 2050, the number of days over 90 °F will likely triple. This warming will cause severe storms and flooding to happen more often. In addition, wildfires in Canada and the Western U.S. are bringing hazardous air pollution to our region. We must also responsibly manage and clean up hazardous materials, chemicals, and other pollutants that could impact our water, soil, and air. These environmental challenges put our health, infrastructure, and economy at risk.

Madison is Wisconsin's fastest growing city. Our community must adapt to support a rapidly growing population and healthy economy. The 2020 U.S. Census showed Madison gained 75,000 new community members over the last decade. Another 115,000 Madisonians are expected by 2050. Welcoming these new neighbors means that our community must add housing, transportation, and other services while at the same time cutting carbon pollution, keeping our air and water clean, and ensuring our urban ecosystems are healthy for both people and nature.

Sustainability is at the heart of many City plans and initiatives. Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs. The City's first formal sustainability plan was released in 2004, and the most recent plan was adopted in 2011. This plan builds on this legacy. And, it reflects the environmental sustainability and climate actions included in many current City plans and initiatives, including the Comprehensive Plan, Parks and Open Space Plan, 100% Renewable Madison Report, Vision Zero Action Plan, and more. All plans and reports referenced in this plan are listed in Appendix B. The goals and actions in the Sustainability Plan put us on a pathway to a more sustainable, equitable, climate-resilient Madison. Creating a sustainable City requires collective action and collaboration across every City department and partnerships with Madison institutions, businesses, residents, and our neighboring communities.

This plan recognizes that climate and environmental hazards are threat multipliers that amplify existing health, social, and economic inequities. The risks and impacts of these hazards are not equally or fairly distributed across people and communities. People of color, people with disabilities and certain health conditions, and people from low-income backgrounds are disproportionately impacted by climate change. Our plan focuses on improving climate equity and environmental justice to ensure that all people have access and opportunity to benefit from initiatives to improve our environment and address climate change while not bearing an unequal burden of the impacts of environmental hazards. Through this plan, the City of Madison is not only building a more sustainable future but also a more environmentally just one.

Goals & Actions

The Sustainability Plan includes 24 goals organized into eight elements of a sustainable City:

1) **Quality, Affordable Housing**
2) **Resilient City Design & Infrastructure**
3) **Renewable Energy & Decarbonization**
4) **Sustainable Transportation**
5) **Clean, Abundant Water**
6) **Zero Waste**
7) **Healthy Ecosystems**
8) **Vibrant, Green Economy**

Goals chart our future course. They are designed to be ambitious and attainable achievements that will make Madison a more green and resilient place to live and work today and for future generations. Each goal is accompanied by a set of actions. Actions are policies, programs, or projects that, together, help accomplish a goal. As new opportunities, technologies, and circumstances arise, we may adapt and pursue additional actions in service of reaching these goals. Appendix A organizes all the goals and actions into a single table and identifies the City of Madison department that can lead implementation.

Plan Development

This updated Sustainability Plan reflects the hard work and input of the Sustainable Madison Committee, City staff, local experts and partners, and members of the Madison community. The steps below summarize the process for developing this plan.

STEP 1 - Draft Goals and Actions

The Sustainable Madison Committee was tasked with updating the Sustainability Plan and formed a working group to develop attainable and measurable goals. The working group reviewed existing plans, grant awards, studies, and progress reports from City departments and community organizations. They also gathered input from City staff and other experts and researched effective sustainability and climate policies, programs, and initiatives from other U.S. cities. Their draft goals and actions were developed with four guiding values—equity, justice, education, and public health.

STEP 2 - Gap Analysis

The draft goals and actions were compared to those in climate and sustainability plans recently adopted in five similar U.S. cities. This analysis helped improve draft goals and actions and identify new ones to ensure Madison remains a sustainability leader. The five cities reviewed were: Milwaukee, WI; Ann Arbor, MI; Los Angeles, CA; Austin, TX; and Richmond, Virginia. The gap analysis is available online.

STEP 3 - **Community Engagement**

We gathered input from the Madison community using multiple community engagement strategies: an online survey, pop-up events, and focus groups. A comprehensive summary of the plan's community engagement process is available online.

- **Online Survey**
  Over 1,600 people shared their vision and priorities for a more sustainable Madison in an online survey. The survey was open from October to November 2023 and was promoted using yard signs, posters, cement stickers, and a comprehensive media toolkit that was shared widely. The survey and promotional materials were available in English, Spanish, Chinese, and HMoob.

- **Pop-up Events**
  We held pop-up events at the Dane County Farmers Market and Wisconsin Science Festival with activities for people of all ages. Pop-up events are creative and temporary activities that are hosted in unique spaces for a few hours or days. Over 600 people participated in our pop-up event activities focused on teaching people about the Sustainability Plan and hearing their feedback.

- **Focus Groups**
  We held focus group conversations with seven stakeholder groups in Fall 2023. These groups included City staff, local climate and sustainability leaders, local businesses and institutions, community-based organizations, youth, and City Alders. Over 60 people attended these focus groups and provided input on sustainability and climate priorities, barriers to action, opportunities for collaboration, and how to revise the draft goals and actions to reflect their input.

  City staff also presented to and gathered input from numerous community organizations and City committees.

STEP 4 - **Final Plan**

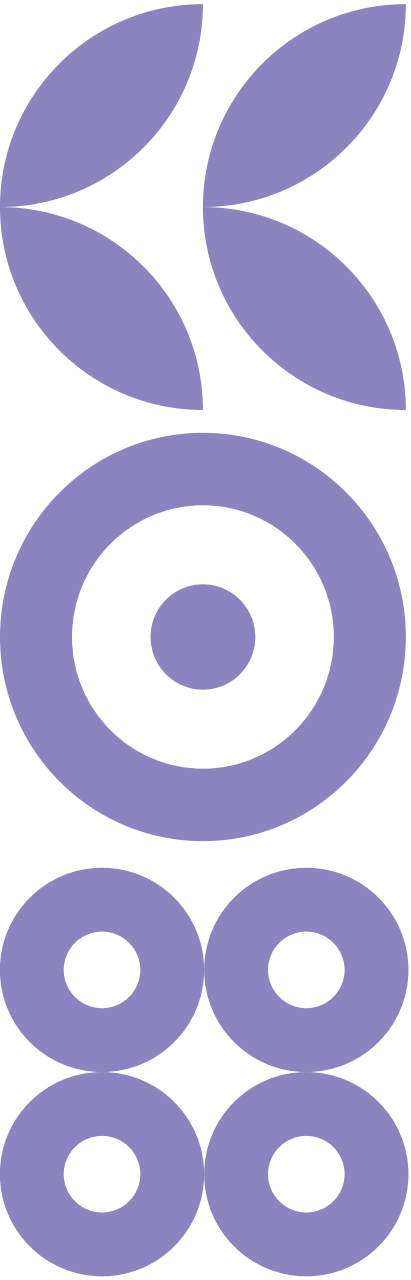
All the community input we received was collected, analyzed, and summarized to identify specific ways to improve the plan. We updated the goals and actions to reflect the Madison community's vision and priorities for a more sustainable city. The final plan was approved by the Common Council on August 6, 2024.

Quality, Affordable Housing

Madison is growing quickly. The 2020 census showed our community gained 75,000 new members over the last decade. Another 115,000 new Madisonians are expected by 2050. All of our community members should have access to a safe, secure, and affordable place to live. As Madison grows, we need to build new residential buildings, convert existing buildings into residential spaces, and improve the quality of our existing housing.

The City's Housing Forward plan aims to increase housing access and affordability. The plan includes strategies to help:

- increase the amount of housing choices for residents,
- create more affordable housing throughout the city,
- combat displacement and segregation,
- ensure seniors and others can stay in their homes,
- and end homelessness.



Many City departments are working to implement the Housing Forward plan and meet the housing needs of our growing city. The sustainability of this housing remains critical to our health, wellbeing, and environment. In 2022, 19% of greenhouse gas emissions in Madison came from residential buildings.

Energy efficiency is a key ingredient for housing affordability and quality. Energy efficiency means using less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics. This leads to lower utility bills, less climate pollution, and better indoor air quality. While everyone can benefit from lower utility bills, it is especially important for households with lower incomes. Across the U.S., low-income households spend three times more to heat and power their homes than high-income households. This is called the "energy burden." Households with a high energy burden have less flexibility to pay for other basic needs.

The City's Community Development Division (CDD) works to ensure safe, decent, and affordable housing for Madison residents. CDD provides programs to increase affordable housing options; provide help to homeowners, renters and property owners; and support people experiencing homelessness. For example, the new Rental Rehabilitation

Loan Program offers help to rental property owners that need to make repairs to their properties and implement energy efficiency upgrades. We also offer single-family home rehabilitation and weatherization assistance to income-qualified homeowners through Project Home.

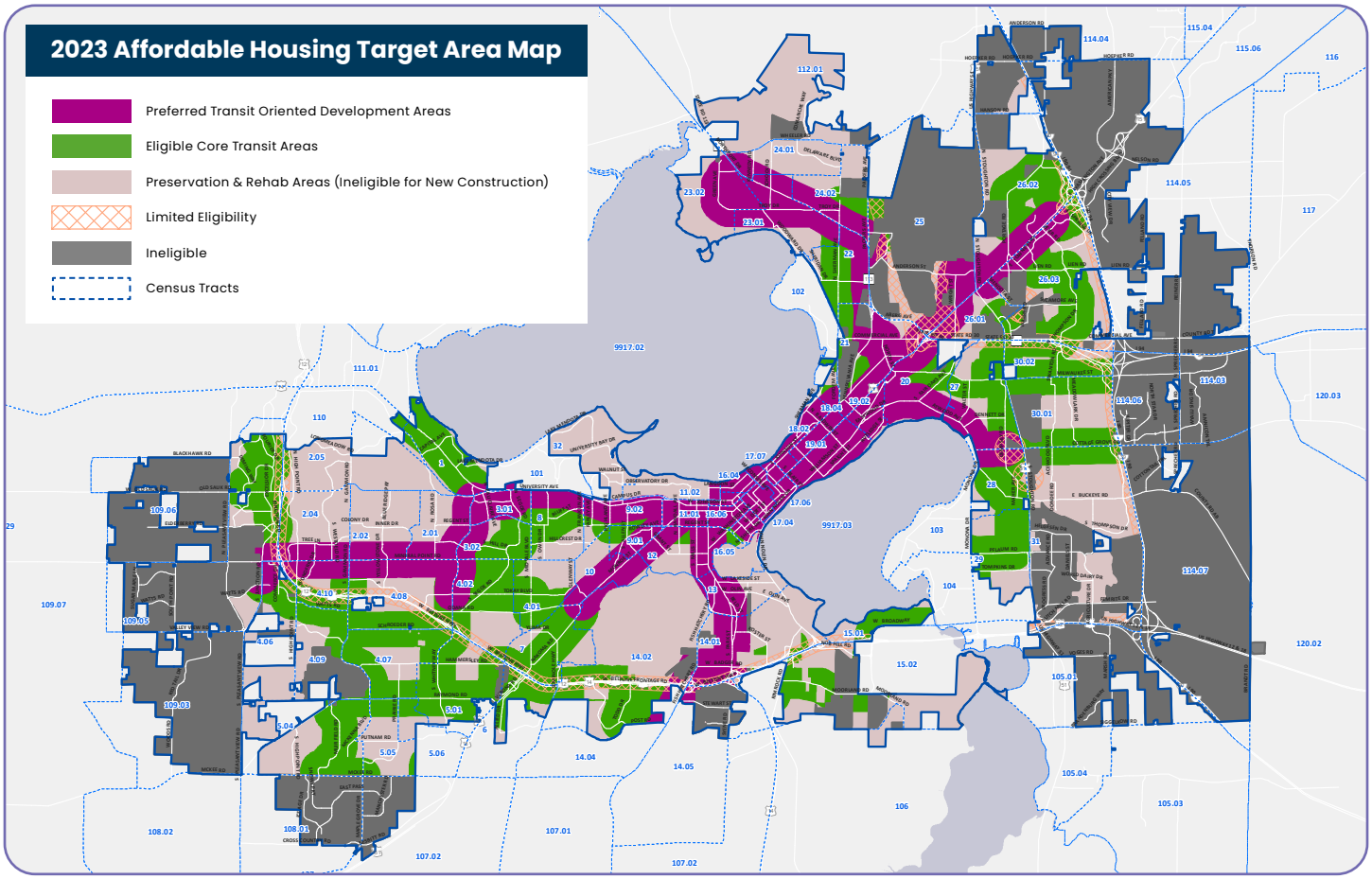
The location of housing is also important. Adding housing near public transit, multiuse paths, and in walkable areas makes it easier for Madisonians to access jobs and amenities without the need and expense of owning a car, which is good for affordability and the environment. The Neighborhoods and Housing section of the City's Comprehensive Plan details the strategies the City is pursuing to create more housing of all types. These goals and actions aim to increase the quality and quantity of housing for all Madisonians with a focus on housing for people with low income. The goals and actions in the Resilient City Design and Infrastructure section (pg. 32) also help advance Quality, Affordable Housing.

Area Median Income

Area Median Income (AMI) is the midpoint of an area's income distribution, where half of households earn more and half earn less than this dollar amount. This number is determined by the United States Department of Housing and Urban Development (HUD) and changes every year. It also changes depending on the number of people in a household. Area median income in Dane County for a family of four was $122,100 in 2023. Visit HUD's website for future AMI numbers.

Affordable Housing Fund

The City's Affordable Housing Fund provides gap financing to support projects that increase, preserve, or improve the supply of affordable rental housing for low-income households. To receive funding, projects must participate in Focus on Energy's Design Assistance Program, reduce the building's energy use by 20% below the state's energy code minimums, and include rooftop solar. The City also prioritizes helping projects that create new housing options near transit corridors and in other target areas in the Affordable Housing Target Area Map. These target areas are near transit, employment hubs, access to fresh foods, schools, and supportive services as described in the City's land banking strategy.



Quality, Affordable Housing | Goals & Actions	
GOAL 1	**Increase the availability of quality housing that is affordable to households with incomes at or below 60% of area median income by supporting new construction as well as preserving and improving existing housing, with a focus on meeting the housing needs of households with incomes at or below 30% of area median income.**
METRICS	Number of new affordable housing units permitted and receiving certificate of occupancy each year. Measure total, number inside and outside the Affordable Housing Target Areas, and in each census tract.
ACTION 1.1	Use City programs and policies to create or preserve affordable rental housing, with a priority for locations identified in the Affordable Housing Target Area Map.
ACTION 1.2	Review and update the City's Land Banking Fund Policy and practices every five years to assess and mitigate housing gentrification and displacement.
ACTION 1.3	Ensure City programs focused on expanding opportunities for affordable home ownership, including condominiums, cooperatives, and cohousing, include support for energy efficiency and green building practices.

Quality, Affordable Housing | Goals & Actions	
GOAL 2	**Create and expand City policies and programs to support energy efficiency, healthy indoor air quality, sustainable building materials, and removal of environmental toxins in new and existing housing.**
METRICS	Number of City programs Number of people served per program
ACTION 2.1	Evaluate and update the City's affordable housing policy for energy impacts, including both new construction and existing buildings, in collaboration with representatives from affordable housing development organizations, cooperatives and community land trusts, energy efficiency and green technology experts, Focus on Energy, low income residents and local utilities.
ACTION 2.2	Expand the City's Rehabilitation Programs to include energy audits and retrofits that improve energy efficiency, sustainability, and the health, safety, accessibility, and comfort of building residents.
ACTION 2.3	Improve coordination with Focus on Energy's programs that provide financial and technical assistance to homeowners, rental property owners, and tenants to increase the reach of these programs in Madison.
ACTION 2.4	Require all new affordable rental housing funded by the City through the Community Development Division to meet high building performance standards to ensure energy efficiency and minimize energy burden for residents.
ACTION 2.5	Explore feasibility of a program for identifying and eliminating lead, mold, and other indoor air pollutants in naturally occurring affordable rental housing.

Efficiency Navigator Program

The City funds the Efficiency Navigator Program to help transform existing affordable housing. The Efficiency Navigator gives free technical support and energy-saving upgrades to small- and medium-sized multifamily housing. The rent must be affordable to households at or below 80% of area median income. Energy upgrades may include insulation, air-sealing, and improved heating, ventilation, and air conditioning systems. These improvements lower utility bills for renters and make their homes more comfortable at the same time. Participating property owners agree to not charge rent over rates set by the U.S. Department of Housing and Urban Development (HUD). The Efficiency Navigator is a triple win for our community—it saves energy, reduces utility bills, and cuts carbon and air pollution. This program is run by nonprofit partners Sustain Dane and Elevate.

Resilient City Design & Infrastructure

The design and location of our buildings, streets, paths, parks, green spaces, and other community assets shapes how we live and work. It also helps determine the sustainability and resilience of our city. Climate-friendly development patterns and infrastructure like roads, stormwater systems and buildings support the wellbeing of people and nature by protecting against climate hazards like flooding, heat waves, and poor air quality.

The City of Madison Comprehensive Plan is a guide to the growth and design of our city over the next 20 years. It provides strategies for how Madison can meet the needs of the 67,000 new households and 50,000 new jobs that are expected by 2050. The Land Use and Transportation section makes recommendations for facilitating growth along public transit corridors and neighborhood activity centers. Activity centers are mixed-use areas where housing, retail, jobs, green spaces, and other amenities are close together. This makes it easy to walk, bike, roll, and access transit.

Compact development constructed with access to low- and no-carbon transportation is key to reducing climate pollution from buildings and transportation while our population grows. Adding new housing options in existing Madison neighborhoods helps prevent the loss of natural areas and farmland to development in neighboring communities through urban sprawl. The City works to ensure all Madisonians can access green spaces and waterways. We also continue to support food access through market gardens and urban agriculture. These urban ecosystems do important jobs like collecting

stormwater to reduce flooding, providing habitat for pollinators and other animals, capturing and storing carbon, reducing urban heat island, and serve as spaces where people can enjoy time outdoors.

The City is also working to make sure our roads, stormwater systems, buildings, and other community assets are climate-friendly. This means that our built environment both minimizes climate pollution and helps protect against climate change impacts like flooding, heat waves, and poor air quality. The City's Traffic Engineering Division, Streets and Urban Forestry Division, and Engineering Division are working to improve our community's climate resilience. They do so by prioritizing green infrastructure like trees, rain gardens, green roofs, and native prairie plantings across the community. These natural climate solutions reduce the impacts of heavy rain and increased temperatures.

The following goals and actions aim to help our city grow in ways that enhance the health and wellbeing of our community and our environment while improving our resilience to the impacts of climate change.

Complete Green Streets

Madison is among a growing number of cities that use a Complete Green Streets (CGS) process to provide residents with sidewalks, terraces, and roadways that are safe for everyone, regardless of where they live, their age, or ability. The CGS process also includes prioritizing locations for green infrastructure to help clean stormwater where it can be most effective.

The CGS process is also good for our natural environment. By promoting walking, biking, and transit, it reduces climate and air pollution from cars and trucks. The CGS decision-making process also includes increasing tree cover, which reduces the urban heat island effect and helps capture and store carbon.

Watershed Study Program

Madison had a historic flood in August 2018. That storm was a wake-up call that our stormwater system is not ready for the rainstorms we will have in the future. The City of Madison Engineering Division launched its Watershed Study Program to identify improvements to our existing stormwater system that will help reduce flooding in each of Madison's 18 watersheds.

Resilient City Design & Infrastructure | Goals & Actions	
GOAL 3	**Provide equitable access to parkland, lakes, and other natural areas as well as sports, recreation, education, and wellness programming offered by the City and its partners.**
METRICS	Percentage of residential areas with the service area of parks Percentage of park facilities that provide equitable mobility/language access Number of parks and partner programs and Number of people served per program Trust for Public Land ParkScore Index
ACTION 3.1	Upgrade facilities, infrastructure, signage, and maps at City parks and natural areas to provide greater mobility and language access to enable enjoyment for residents of all cultures, age groups, and abilities.
ACTION 3.2	Expand parkland, natural areas, and protected shoreline through the purchase of property or easements to improve public access, in alignment with the Parks and Open Space Plan.
ACTION 3.3	Enhance City parks programs and partnerships (e.g., with schools, non-profit organizations, other governmental units, businesses, neighborhood associations) to provide public education, recreation, sports, and wellness activities that include people across cultures, age groups, and abilities.

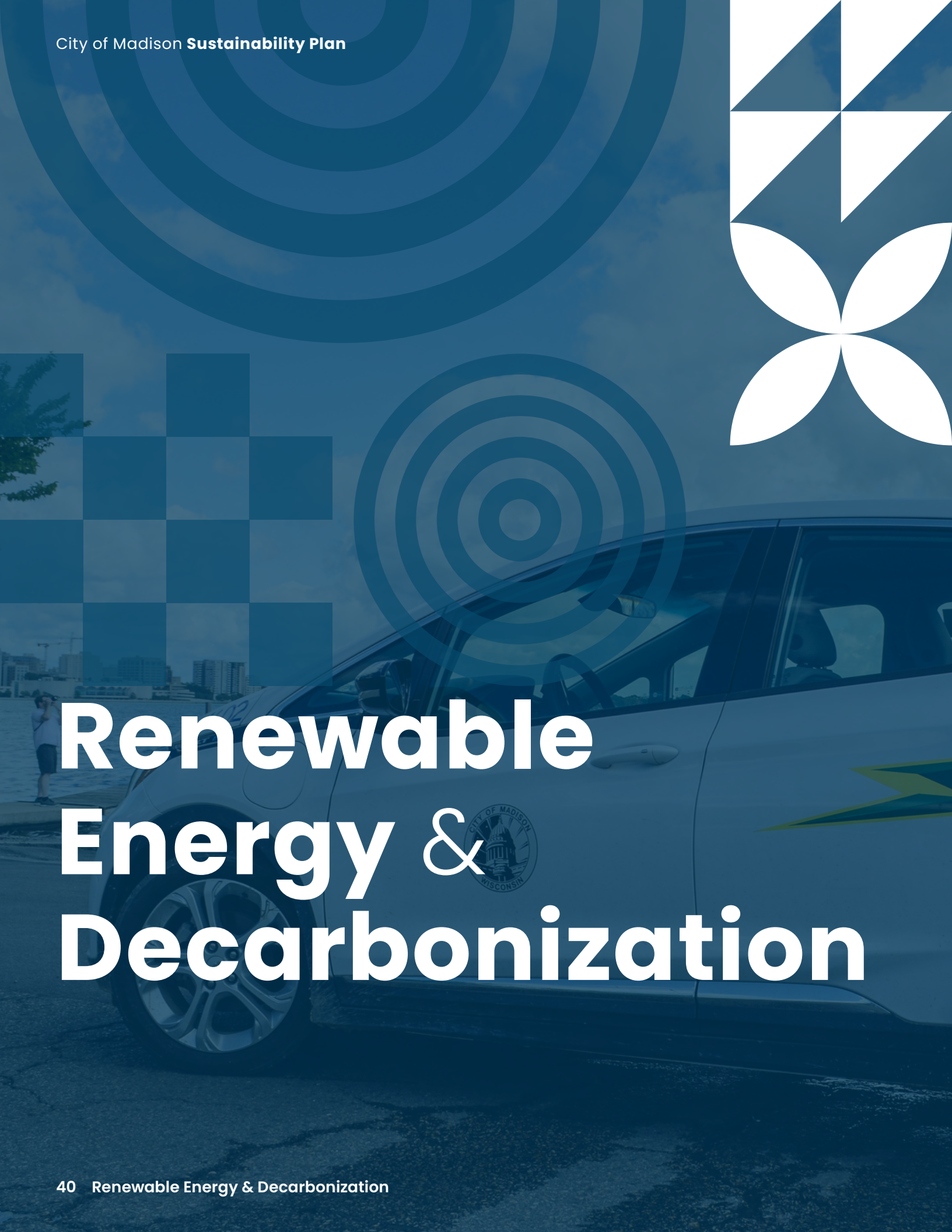
Resilient City Design & Infrastructure | Goals & Actions	
GOAL 4	**Preserve, protect, and increase access to land for urban agriculture, particularly for community members who live in rental housing.**
METRICS	Area of land in urban agriculture within the city. Measure total and in each census tract.
ACTION 4.1	Facilitate the location of community gardens and edible landscapes on city-owned land in collaboration with community organizations, including proactively planning for gardens in parks and open spaces.
ACTION 4.2	Create guidelines to inform both community and City decision-makers regarding planning and permitting for the remaining farmland in our community and ensure community members, especially renters, have access to garden space.
ACTION 4.3	Support the location and development of market garden opportunities.

Resilient City Design & Infrastructure | Goals & Actions	
GOAL 5	**Facilitate the development of dense, compact, and livable neighborhoods that support walking, biking, and transit use.**
METRICS	Area in City's zoning Number of neighborhood plans that include mixed-used activity centers
ACTION 5.1	Plan and facilitate the development of mixed-use activity centers featuring shops, services, employment, green space, and a mix of housing types as identified in the Growth Priority Areas Map in the City's Comprehensive Plan.
ACTION 5.2	Implement Transit-Oriented Development (TOD) Zoning along Bus Rapid Transit (BRT) and other high-frequency transit service corridors.
ACTION 5.3	Encourage formation of Transportation Management Associations to coordinate Transportation Demand Management (TDM) efforts on large projects.

Transit Oriented Development (TOD)

The City of Madison adopted the Transit Oriented Development (TOD) Overlay Zoning District in 2023. The new district allows taller buildings with more housing units located within a quarter mile of high-frequency transit. It encourages new construction along the future bus rapid transit (BRT) lines and places with more local transit service. This policy encourages people to take public transit, bike, walk, and roll instead of drive. It also helps create more mixed-use activity centers near public transit.

Resilient City Design & Infrastructure | Goals & Actions	
GOAL 6	**Increase resilience to climate change impacts including heat waves, storms, and flooding.**
METRICS	Percentage of area within the City resilient to extreme heat, flooding, and direct/indirect impacts of storms. Measure total and in each census tract. Area of managed natural areas (prairies, meadows, etc.) in parks, golf courses, and greenways
ACTION 6.1	Develop and implement a climate resilience plan that incorporates updated findings from the Wisconsin Institute on Climate Change Impacts 2021 Climate Assessment Report.
ACTION 6.2	Assess the location and characteristics of urban heat islands and populations sensitive to extreme heat, and collaboratively develop and implement equitable heat resilience strategies to reduce the magnitude of urban heat islands and improve community adaptive capacity to extreme heat events.
ACTION 6.3	Complete the Comprehensive Watershed Study program to determine the causes of flooding across Madison's watersheds and implement recommended projects to reduce flood risk.
ACTION 6.4	Integrate nature-based solutions, including green infrastructure and native, deep-rooted plants, into City projects to improve climate resilience and provide ecosystem services such as urban cooling, water and air quality improvements, and carbon sequestration.



Renewable Energy & Decarbonization

How we produce and use energy has big impacts on our environment. Moving away from fossil fuels (also called decarbonization) and saving energy are very important strategies for reducing climate pollution. Using clean, renewable energy like solar, geothermal, and wind energy to power buildings and vehicles is good for our climate, our health, and our economy.

In 2018, Madison adopted the ambitious goal of reaching 100% renewable energy and net zero carbon emissions for City operations by 2030 and community-wide by 2050. Net zero carbon emissions means that we are not making more climate pollution than we are able to remove from the environment. Reaching these goals must be a community-wide effort. We all have a part to play in creating a climate-friendly community for current and future generations. In 2022, Madison's two main sources of greenhouse gas emissions (GHG) were commercial and residential buildings (63.7%) and transportation (27.5%). To reduce our carbon footprint, we need to make our buildings more energy efficient; move to clean, renewable energy; and make climate-friendly choices about how we travel.

The City of Madison is working to advance renewable energy, efficient buildings, and clean transportation for City operations and support these climate-friendly transitions community-wide. In 2024, about 75% of electricity used by the City will come from renewable sources. We have installed 2 megawatts (MW) of solar at City facilities and plans to reach 10 MW total by 2030. A solar installation one megawatt in size produces enough electricity to power

about 150 Wisconsin homes. 22% of the City's electricity is supplied by Hermsdorf Solar Fields. This 8 MW utility-scale solar array was constructed through a partnership between the City of Madison, Madison Metropolitan School District, and Madison Gas and Electric (MGE) through their Renewable Energy Rider program. We also purchase Renewable Energy Credits (RECs) through the Butter Solar Project. The City's MadiSUN program helps homes, businesses, and nonprofit organizations in our community go solar too through grants and group purchasing.

MadiSUN

MadiSUN is the City of Madison's program to expand solar energy for homes, businesses, and nonprofit organizations in our community. The program gives homeowners resources and connects them with solar installers with good reputations. It also gives grants to Madison-based businesses, affordable housing providers, and community organizations to install solar power. This program is run by local nonprofit partner, RENEW Wisconsin, and has supported more than 3.5 MW of solar development since 2016.

There are a number of programs and initiatives to improve energy efficiency and reduce carbon pollution from residential and commercial buildings as well as City facilities. The City adopted the Building Energy Savings Program to improve energy efficiency in large commercial buildings through energy benchmarking and tune-ups in 2023. The City has measured and reported energy use in our buildings since 2015, and we share this information on our Energy Dashboard. We use this information to stay on top of our energy use, identify opportunities to save energy and money, and make sure energy-efficiency upgrades are working in our buildings. All new City facilities have been built to LEED Silver or higher green building standards by the U.S. Green Building Council since 2008.

The City of Madison also supports programs to improve the energy efficiency of new and existing single and multifamily homes. These include the Efficiency Navigator, Single-Family and Rental Home Rehabilitation Programs, and the Affordable Housing Fund. See the Quality, Affordable Housing section (pg. 24) for more information.

Partnership with Madison Gas and Electric

Madison Gas and Electric (MGE) is a public utility that makes natural gas and electric services available in our community. MGE has committed to reducing the carbon emissions from the electricity it delivers 80% by 2030. By 2050, they have committed to net-zero emissions for all electricity production. MGE has partnered with the City to provide renewable energy for City operations, helped in the development of our all-electric bus rapid transit (BRT) system, and shared expertise for our transition to electric vehicles. MGE has added more than 50 MW of solar energy to its energy mix, and they expect to add another 50 MW of solar by the end of 2024. In Wisconsin, 50 MW of solar produces enough power to approximately 7,500 homes. To learn more, visit MGE's Corporate Responsibility and Sustainability webpage.

To make our vehicles more climate friendly, we are working to make it easier for everyone in our community to drive an electric vehicle (EV). We are quickly switching the City's fleet of vehicles and Madison Metro's buses to models that operate on low- and no-carbon fuel sources, such as electricity and biodiesel. Currently, the City has over 100 EVs and more than 150 hybrid-electric vehicles. The Fleet Division is also using many other climate-friendly technologies, materials, and building designs to reduce our carbon footprint and serve as a model for municipal fleets around the country.

To help Madisonians make the switch to EVs too, the City is collaborating with MGE to install EV chargers in City parking facilities and to start a new pilot program to install EV chargers on electric poles in Madison neighborhoods. Making sure everyone has easy access to EV chargers is an important way to make sure all Madisonians can benefit from EVs.

The following goals and actions aim to reduce climate and air pollution from private and public buildings and vehicles. Strategies and actions in the Quality, Affordable Housing (pg. 24); Resilient City Design and Infrastructure (pg. 32); and Sustainable Transportation (pg. 50) sections will also help lower our carbon footprint and improve air quality.

Renewable Energy & Decarbonization | Goals & Actions	
GOAL 7	**Reduce GHG emissions from City facilities and buildings 55% by 2030 from 2018 baseline.**
METRICS	GHG emission from City facilities and buildings
ACTION 7.1	Establish a net-zero GHG emission buildings standard (based on carbon emissions of the energy consumed) for all new City facilities and major retrofits. The standard should be flexible to allow a combination of strategies according to the following prioritization: on-site renewable energy generation, procurement of off-site renewable energy, and purchase of Renewable Energy Credits (RECs) or carbon credits.
ACTION 7.2	Conduct deep energy retrofits of existing City facilities (starting with least efficient) with an emphasis on energy efficiency and decarbonization.

Building Energy Savings Program

The City of Madison adopted the new Building Energy Savings code in 2023 to help large commercial building owners identify opportunities to increase energy efficiency, save money, and reduce the carbon footprint of their buildings. Under the new code, non-residential commercial buildings 25,000 square feet and larger are required to benchmark energy use annually. Non-residential commercial buildings 50,000 square feet and larger are also required to complete a building tune-up every four years. Benchmarking and tune-ups save energy, reduce utility bills, provide a more comfortable space for occupants, and reduce carbon and air pollution that negatively impact public health and the environment. To learn more, visit the Building Energy Savings Program website.

Renewable Energy & Decarbonization | Goals & Actions	
GOAL 8	**Reduce GHG emissions from private facilities and buildings to achieve the City's goal of reaching net zero emissions community-wide by 2050 from a 2018 baseline.**
METRICS	GHG emissions from private facilities and buildings
ACTION 8.1	Develop a strategic pathway by 2026 for reducing GHG emissions from private facilities and buildings that sets aggressive, interim goals through 2050.
ACTION 8.2	Develop a voluntary stretch energy code to encourage energy efficiency in new buildings and facilities at such a time as allowed by state statute.
ACTION 8.3	Provide financial, structural, or process-based incentives to equitably implement energy efficiency and renewable energy measures in new and existing buildings, including connecting residents and business owners to state and federal programs.
ACTION 8.4	Partner with local organizations to educate private building owners and contractors on the value of energy efficiency in new and existing buildings, including energy cost savings, tenant satisfaction and retention, and real estate value.

Renewable Energy & Decarbonization | Goals & Actions	
GOAL 9	**Reduce GHG emissions from City vehicles and equipment 90% by 2030 from 2018 baseline.**
METRICS	GHG emissions from city vehicles and equipment
ACTION 9.1	Build the necessary electric vehicle charging infrastructure at City facilities to support electrification of the City's fleet.
ACTION 9.2	Purchase electric light- and medium-duty fleet vehicles to the greatest extent feasible by 2025.
ACTION 9.3	Transition the heavy duty-fleet to B100 (100% biodiesel), electric, or other low or no carbon fuels by 2030 to the greatest extent feasible, with funding assistance from public and private sector grants.

Renewable Energy & Decarbonization | Goals & Actions	
GOAL 10	**Reduce greenhouse gas emissions from vehicles community-wide to achieve the City's goal of reaching net zero emissions community-wide by 2050.**
METRICS	GHG emissions from vehicles community-wide
ACTION 10.1	Continue to encourage and promote the use of electrical vehicles and installation of charging infrastructure community-wide.
ACTION 10.2	Implement a 20 mph speed limit on all local streets and review all High Injury Network streets to determine appropriate speed limits as described in the Vision Zero Action Plan.
ACTION 10.3	Increase the number of EV charging stations available to the public to meet projected future needs, informed by market analysis, and ensure that charging is available in all neighborhoods.

Renewable Energy & Decarbonization | Goals & Actions	
GOAL 11	**Meet 100% of electricity demand for City operations with renewable energy by 2030.**
METRICS	Percentage of city electricity demand from renewables
ACTION 11.1	Install solar at all viable City facilities by 2030, for a total of at least 10 MW of capacity.
ACTION 11.2	Procure renewable energy produced off-site or renewable energy credits (RECs) for City operations where 100% of electricity needs cannot be met by on-site renewable energy generation.
ACTION 11.3	Invest in carbon credits or carbon sequestration projects to reach net-zero emissions for City operations by 2030.

Focus on Energy

Focus on Energy is a statewide program that offers resources and financial incentives for energy efficiency and renewable energy in Wisconsin. The goal of the program is to help residents, businesses, local governments, and nonprofits save energy and money on their utility bills. Visit Focus on Energy's website to learn more about their programs and products.

Sustainable Transportation

Transportation is essential to our daily lives, and how we choose to travel from point A to point B has a big impact on carbon emissions and our environment. A little over 25% of greenhouse gas emissions in Madison came from transportation in 2022. The City of Madison is working to eliminate carbon pollution from our transportation system and make it easy for everyone to get around town without a car.

The Land Use and Transportation section of the City's Comprehensive Plan details the strategies the City is pursuing to create a safe, efficient, and affordable regional transportation system that offers a variety of choices among transportation modes. The City's Department of Transportation is the main department responsible for building and maintaining Madison's transportation system. Thousands of new Madisonians and Dane County residents will rely on this transportation system by 2050. This expected growth could cause hundreds of thousands of new car trips, which would more than double travel times for everyone on our roads. It would also increase air and carbon pollution, and require adding two or more lanes to our main isthmus roadways.

To sustainably meet the needs of our growing community, we are working to make sure everyone has options to walk, bike, roll, and use public transit rather than drive. It is important to have low- to no-carbon transportation options for both local and regional travel through both investments in infrastructure and policies like Transportation Demand Management (TDM).

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is a set of policies and strategies to make our transportation network more efficient, reduce need for car travel, and encourage public transit and bicycle use. About two-thirds of Madison's 2019 work-related trips were by car according to the American Community Survey. TDM aims to reduce the need for car travel by incorporating walking, biking, and transit infrastructure and services into new construction projects. TDM helps Madison efficiently use its street network and meet our climate goals by reducing greenhouse gas and air pollution from transportation.

Madison Metro is investing in a new, all-electric bus rapid transit (BRT) system that will begin operating in 2024. The redesigned Metro bus network has optimized routes of regular buses to make it easier to use BRT. The BRT system will expand access to affordable, low-carbon transportation to our community, and the all-electric buses will reduce GHG emissions and air pollution. This will benefit public health and the climate. We're also working to make more and faster intercity bus and rail options available.

All-Electric BRT

Madison Metro is committed to finding new ways to decrease our transportation emissions. Metro was the first transit system in Wisconsin to introduce hybrid-electric buses in 2007. Now, Metro is focusing on introducing all-electric buses into its fleet. Their goal is to make 50% of buses zero-emission by 2035. A key part of this effort will be the new East-West BRT system which will be served by 62 all-electric buses.

We are continuing to grow Madison's already extensive pedestrian and bike path network. Madison has received numerous awards for being a bike-friendly city, earning Platinum status from the League of American Cyclists and the Wisconsin Bike Federation, and consistently ranking among best cities for biking. With more than 75 miles of bike paths and 200 miles of trails, community members and visitors can commute, run errands, explore, or just get some fresh air by bike. The City supports Madison BCycle, our local bike-sharing program, which has more than 40 stations across the City. The City was awarded gold level status from The Walk Friendly Communities program for creating a walk-friendly community. Check out the City's Bike Madison and pedestrian resource page for tips and tools to make the most of your next ride or walk.

We are working to make streets, sidewalks, and multiuse paths safer and more environmentally friendly. Traffic collisions disproportionately impact people of color, individuals with lower incomes, seniors, children, and people with disabilities. Madison's Vision Zero Action Plan creates a path to end all deaths and severe injuries caused by traffic collisions on city streets by 2035. The program uses smarter street design, education, data-driven enforcement, and community engagement to reach this goal.

The following goals and actions aim to expand access to public transit and active transportation, including walking, biking, and rolling. Goals and actions in the Resilient City Design and Infrastructure (pg. 32) and Renewable Energy and Decarbonization (pg. 40) also contribute to Sustainable Transportation.

Platinum Bike City

Madison has been designated as a Platinum-level Bicycle Friendly Community by the League of American Bicyclists every year since 2015. This award, the highest level possible, was given to Madison for its growing network of bike paths and lanes along with the City's bike friendly policies. This designation would not be possible without the activities and events supported by local community organizations. These organizations support youth bike education, offer free bike repair, organize the annual Bike Week, and hold rides and events year-round.

Sustainable Transportation | Goals & Actions	
GOAL 12	**Increase access to and use of public transit and active transportation, including walking, biking, and rolling.**
METRICS	Number of transit trips Number of bike share rides and station coverage Miles of bike and pedestrian infrastructure
ACTION 12.1	Continue to improve Metro service coverage, frequency, and travel times.
ACTION 12.2	Improve and expand bike facilities, including "All Ages and Abilities" bike infrastructure.
ACTION 12.3	Expand the availability of electric bike and bike rideshare stations into areas underserved by current services.
ACTION 12.4	Continue to improve the pedestrian network with a focus on advancing accessibility for people of all ages and abilities.
ACTION 12.5	Support education and services that remove barriers for underserved communities to use bicycle, pedestrian, and transit infrastructure, for example providing bike safety classes, free bike repairs, and bus passes.
ACTION 12.6	Increase number of low-income Metro passes available, including deeply subsidized or free youth Metro passes.
ACTION 12.7	Expand Safe Routes to School, multi-modal travel education and increase the number of students and families choosing to walk, bike, and take transit.

Sustainable Transportation | Goals & Actions

GOAL 13	**Reduce annual vehicle miles traveled (VMT) per capita by 15% community-wide from 2020 levels by 2050.**
METRICS	Average annual vehicle miles traveled per capita
ACTION 13.1	Create opportunities for multimodal trips that include public transit, for example by adding park and ride facilities, bike parking, bike sharing stations, and ride sharing options within a 1/4 mile of public transit stops.
ACTION 13.2	Work with major employers and promote Transportation Demand Management (TDM) strategies to reduce single-occupancy vehicle trips.

Clean, Abundant Water

Water is a defining feature of Madison. Five lakes—Mendota, Monona, Waubesa, Kegonsa, and Wingra—shape our city and offer ample opportunities for Madisonians to enjoy the outdoors. Across our many departments, the City of Madison works to be a good steward of water resources, to protect and improve water quality, support water conservation, and create welcoming public spaces along the waterfront.

The Green and Resilient section of the City's Comprehensive Plan details the strategies the City is pursuing to protect our water resources. Providing clean, safe drinking water is one of the City's most important jobs. The Madison Water Utility provides 24.5 million gallons of clean drinking water to our community every day. They use 22 wells, 30 reservoirs, and a network of 916 miles of pipes. The Madison Water Utility regularly tests our water for pollutants and removes contaminants.

Managing our water sustainably also means using less water wherever possible. It takes a lot of energy to move water from the wells to our faucets. Using less water conserves our water resources, saves energy, and reduces our carbon footprint. Through conservation programs like the High Efficiency Toilet Rebate and Home Water Conservation programs, Madison households are successfully reducing water waste. The average home used 75 gallons of water each day in 2002. That number fell to 50.8 gallons per day by 2019.

Managing rainfall is another key focus of the City. Rainwater that lands on our rooftops and pavement usually runs into a storm drain and then into a pond, stream, river, or lake. It picks up pollutants from streets and other surfaces along the way. Madison cleans stormwater by removing suspended solids and cleaning up leaf litter to avoid sending more nutrients, like phosphorus (which contributes to algae blooms) to our lakes.

We invest in programs like Yahara WINS to help reduce nutrient runoff into our lakes from upstream. The City's Stormwater Management team is also concerned about the amount of rainfall, which has been increasing due to climate change. Madison strives to be ahead of the curve in studying exactly what this will mean for our city and the changes required to prevent flooding and improve the resilience of our stormwater infrastructure.

The following goals and actions aim to create a water system that protects community health, improves water quality, and advances climate resilience. The goals and actions in Healthy Ecosystems (pg. 70) also help keep our water clean and abundant.

Yahara WINS

The Yahara Watershed Improvement Network (Yahara WINS) aims to reduce the amount of phosphorus in lakes throughout the Yahara watershed. Phosphorus is an important nutrient, but too much causes harmful algal blooms in our lakes. Led by the Madison Metropolitan Sewerage District, Yahara WINS works with many partners in the Yahara watershed to keep more phosphorus from entering our waterways. It also helps us meet the water quality standards established by the Wisconsin Department of Natural Resources (WDNR). Partners include cities, villages, towns, county agencies, wastewater treatment plants, agricultural producers, environmental groups, and others.

Wisconsin Salt Wise

We need to use salt during the winter to keep roads and other surfaces safe. However, its application comes with a heavy cost. The widespread use of salt has led to the steady salinization of our streams, rivers, and lakes in Madison and across the state. It only takes one teaspoon of salt to pollute five gallons of water to a level that is toxic for plants and animals that live in streams and lakes. It is very expensive to remove salt from water, meaning once it enters the water it is unlikely to leave.

The Madison Salt Certification Program encourages winter maintenance professionals to use the least amount of salt necessary to keep parking lots, roads, sidewalks and driveways safe. Since it began in 2017, the program has certified over 300 professionals in Dane County. See Wisconsin Salt Wise for more information.

Clean, Abundant Water | Goals & Actions	
GOAL 14	**Ensure surface and drinking waters remain clean by reducing existing sources of contamination and preventing new ones from developing.**
METRICS	Concentration of Per-and Polyfluoroalkyl Substances (PFAS), chlorides, and phosphorus in local surface and drinking water
ACTION 14.1	Reduce and eliminate the spread of PFAS contamination into surface and groundwaters in collaboration with county, state, and federal partners, eventually removing surface waters from the WDNR's Impaired Waters List for PFAS and achieving levels of PFAS below state and federal drinking, ground, and surface water standards.
ACTION 14.2	Minimize the use of chlorides (salt) as part of winter street operations and water softeners to help reduce their movement into surface and groundwater, with the goal of eventually removing Lake Wingra from the WDNR's Impaired Waters List for chlorides, preventing additional listings on the 303D list, and achieving declining levels of chlorides in our drinking water.
ACTION 14.3	Reduce urban non-point source pollution discharges to surface water and meet the City's NR151 removal requirement, for example through continuous improvement of leaf collection and street sweeping, expanding green infrastructure, and implementing other practices that reduce phosphorus and total suspended solids in urban runoff.
ACTION 14.4	Support increased stormwater management on private properties, for example by expanding the pilot grant program to help property owners install rain gardens, rain barrels, cisterns, and permeable pavement.

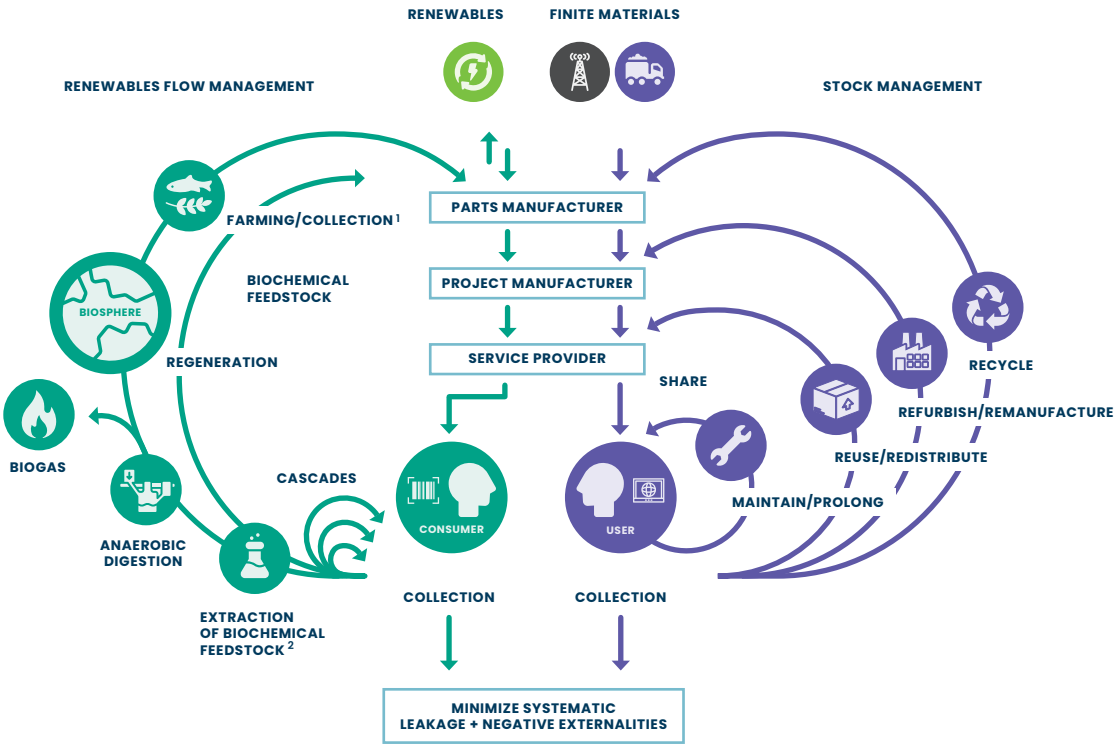
Continued ›

Clean, Abundant Water | Goals & Actions	
ACTION 14.5	Operate and maintain the City's wastewater collection system to provide adequate capacity to convey all peak flows, eliminate infiltration and inflow, and prevent sanitary sewer overflows to protect water quality, the environment, and public health.
ACTION 14.6	Continue to collaborate with Dane County and other partners to reduce regional agricultural runoff into the Yahara River watershed.
GOAL 15	**Expand water conservation efforts to reduce peak load and annual water use by 10% from 2020 levels by 2030.**
METRICS	Annual peak load and water use
ACTION 15.1	Increase water conservation by residential, commercial, and industrial users through, for example, expanded Water Utility appliance replacement programs, reduction of irrigation on residential and commercial properties, cisterns, utilization of rain and grey water in buildings, and expanding public education efforts.
ACTION 15.2	Conserve water by reducing supplemental water usage on turf and landscape areas within Olbrich Botanical Gardens, parks, and golf courses and focusing on selecting native and non-native species that can tolerate increasingly more extreme shifts in weather and climate.

Zero Waste

Many products and materials are only used once before they end up in a landfill. A circular economy aims to change this system by keeping materials and products in use, and services in use as long as possible. By recovering raw materials from products after they are used and turning them into something new, a circular economy produces zero waste.

A circular economy reduces climate pollution, protects the environment and provides economic resilience. It also supports environmental justice by reducing the negative environmental and health impacts of landfills and incinerators, which are disproportionately located near low-income communities and communities of color nationwide.



1 Hunting and fishing
2 Can take both post-harvest + post-consumer waste as input

SOURCE
Drawing based on:
Ellen MacArthur Foundation, Circular Economy Systems Diagram (2019)
Braungart & McDonough, Cradle to Cradle (C2C)

The City of Madison is working with partners across our region to help grow a circular economy. We support recycling, invest in business and research, and have programs to end food waste. The U.S. Department of Agriculture (USDA) estimates that 30 to 40% of food is wasted in the United States. The WDNR estimates that food makes up 20.5% of Wisconsin's landfills, making it the largest part of our waste stream. Food and other organic material decompose in landfills and create methane –a greenhouse gas 28 times more effective than carbon dioxide at trapping heat in the atmosphere. Check out the City's Food Scraps Recycling resource for tips and tools you can use to help reduce food waste.

Food Scraps Drop-Off

You can participate in the circular economy by dropping off your food scraps at three farmers markets throughout the farmers market season. The program is free and open to the public for all households in Madison. Visit Sustain Dane's website to learn more about what types of food can be dropped off for composting, how much food waste has been collected so far, and how you can volunteer.

Recycling is another way to keep materials out of the landfill, reduce consumption of raw materials, and help our environment. However, more than 18% of the material collected by the City of Madison Streets Division in green recycling bins was trash in 2023. Misplaced trash makes the recycling process slower and more expensive. It can also damage the recycling equipment. There are two great resources to help Madisonians make the most of our local recycling system and avoid trash accidentally ending up in recycling.

1) The City's Streets Division's Recyclopedia is a guide for recycling, composting, and responsibly managing other materials. It also has all the Streets Division rules and guidelines.

2) Sustain Dane and Latino Academy of Workforce Development, in partnership with the City, offer the Recycle Better program in both English and Spanish. The program can teach how to best use our recycling system and give you tools to teach your family, neighbors, friends, and coworkers how to improve recycling and community sustainability.

The City of Madison is also partnering with Dane County to create the Yahara Hills Sustainability Campus to help advance a circular economy for our community. The Sustainability Campus will serve as a hub for reuse, repair, and recycling businesses and support new waste management technologies. It will also be home to research on how to reduce the impact of waste on our environment.

The following goals and actions aim to build a local circular economy. This means that things get used as much as possible so that Madison sends less trash to the landfill.

Zero Waste | Goals & Actions	
GOAL 16	**Reduce the amount of waste going to landfill from the Madison community 50% by 2030 and 90% by 2040 from a 2021 baseline in partnership with Dane County.**
METRICS	Annual tonnage of waste going to the landfill broken out by type
ACTION 16.1	Develop and implement a comprehensive, community-wide Zero Waste Plan by 2026 that includes strategies for reducing all waste streams going to the landfill and regular progress reporting.
ACTION 16.2	Collaborate with Dane County on the planning, design, and implementation of the new Yahara Hills Sustainability Campus that will divert waste and create local circular economies by attracting businesses that will support reuse, repair, and recycling; by utilizing new waste management technologies; and by supporting research and education.
ACTION 16.3	Continue to collaborate with Dane County and other partners to expand access to and participation in composting and other food waste reduction initiatives to reduce food waste going to the landfill.
ACTION 16.4	Reduce, with the goal of eliminating, single-use plastics at Olbrich Botanical Garden as alternatives become available, such as using rice-hull pots for plant reproduction.

Rain Gardens

A rain garden is a planting of native shrubs, perennials, and flowers in a shallow depression or built on a natural slope. It is designed to capture rainwater that flows from roofs, driveways, patios, or lawns in order to reduce runoff and prevent flooding. The City's Engineering Division has set a goal of having 1,000 rain gardens in Madison, and provides information and grants to help Madisonians build their own rain gardens. The Stormwater Terrace Program also works with homeowners to build rain gardens in the terrace (the green space between the sidewalk and the road) when there is work being done on their street.

Healthy Ecosystems

Madison's parks, open space, and other urban green areas are important parts of our community's fabric. They are places where people can enjoy the outdoors and where plants and animals thrive. Our urban ecosystems help clean our air and water, regulate air temperature, store carbon, reduce noise, and prevent flooding. Protecting and enhancing our urban ecosystems is good for the health and wellbeing of our environment and our community.

The Green and Resilient section of the City's Comprehensive Plan details the strategies the City is pursuing to preserve our significant natural features and offers spaces for recreation and bringing residents together. The City of Madison Parks Division, Engineering Division, and Forestry section of the Streets Division work together to care for public lands in our community. The Parks Division manages over 270 parks and is responsible for over 6,000 acres of public land. 95% of Madisonians live within a 10-minute walk of a park. Madison ranks number 13 nationally in the Trust For Public Land's ParkScore rating system. This system compares the U.S.'s most populous cities' parks according to equity, access, money spent, and size. The City's Parks and Open Space Plan guides the growth, management, and programming for Madison's parks.

The Engineering Division oversees the stormwater management system. This system has more than 1,500 acres of stormwater land, mostly in the form of ponds and greenways. The main goal for the stormwater system is to efficiently carry, store, or soak up stormwater to prevent flooding. The Engineering Division works to establish native plants and pollinator habitat on both its stormwater greenways and other public lands such as bike paths and street terraces.

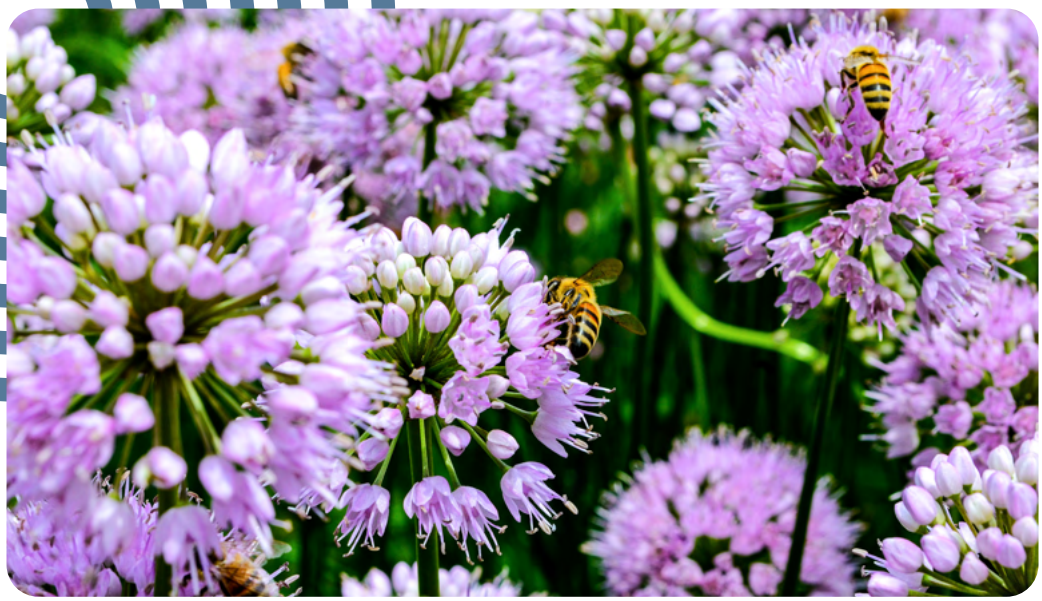
The Forestry Section of the Streets Division plants and cares for almost 100,000 trees along more than 700 miles of Madison's streets. The Urban Forestry Task Force Report sets goals and makes recommendations for planning, design, outreach, education, tree canopy coverage, operations, and public lands.

Public lands are only part of the picture. The majority of Madison's landscape is owned and cared for by individuals, businesses, and other public entities like the University of Wisconsin and Dane County. Therefore, protecting, restoring, and managing our urban ecosystems is a community effort. Olbrich Botanical Garden, City libraries, and the Engineering Division provide education and resources, like the Seed Library, to help grow and sustain native ecosystems, vegetation, and pollinator habitat on private lands, which benefits our whole community.

The following goals and actions aim to preserve our system of natural areas, use more sustainable methods of land management, and expand our urban tree canopy.

Greenways and Prairie Plantings

The City of Madison Stormwater Utility is responsible for designing, building, operating and maintaining the City's stormwater system. One part of this system is greenways. A greenway is a corridor of protected open space that is maintained for stormwater management. Greenways are planted with native seeds to provide habitat for pollinators and other animals, improve water quality, and minimize the potential for flooding.



Air Quality Monitoring Project

The City of Madison is leading a new collaborative project to install a citywide network of air quality sensors to help understand air pollution in our community. These sensors will measure particulate matter pollution—tiny pieces of dust, dirt, and other materials in the air that can cause heart and breathing problems. These sensors will provide real-time air quality information and help inform new strategies to reduce pollution and protect community health.

Healthy Ecosystems | Goals & Actions	
GOAL 17	**Preserve and restore urban natural areas, with a focus on providing equitable access for residents.**
METRICS	Area of natural areas protected and restored Number of plants and pounds of seed distributed Number of outreach events, classes, tours held and Number of attendees
ACTION 17.1	Prioritize preservation and restoration of urban natural areas in City planning, zoning, and management policies and practices.
ACTION 17.2	Jointly plan for preservation of open spaces and woodlands with neighboring communities, Dane County, and regional planning bodies.
ACTION 17.3	Link parks, greenways, multi-use paths and open spaces to enhance environmental corridors and expand trail recreation, physical activity, and nature study opportunities.
ACTION 17.4	Secure resources, including financial and volunteer, to complete and implement habitat management plans for Conservation Parks, natural areas within parks, and greenways.
ACTION 17.5	Prioritize native habitat on new stormwater facilities and other City property where possible to provide essential wetland habitat, water quality, and infiltration services.

Continued ›

Healthy Ecosystems | Goals & Actions	
ACTION 17.6	Adjust management practices within City parklands, golf courses and greenways to support and promote species diversity and ecosystem services.
ACTION 17.7	Increase access to native plants, pollinator-friendly plants and curated plant collections through garden sales at Olbrich Botanical Gardens and donations of pollinator plants to residents through collaboration with Little Libraries throughout the City of Madison.
ACTION 17.8	Increase outreach activities and events for residents to learn about environmentally impactful land management practices that can be utilized on private property and gardens.
GOAL 18	**Implement Integrated Pest Management practices to minimize pesticide use for all City activities and City-owned properties.**
METRICS	Metrics to be defined after IPM Task Force Report complete
ACTION 18.1	Finalize, adopt, and implement recommendations from Madison's Integrated Pest Management Task Force for all City activities.

Healthy Ecosystems | Goals & Actions	
GOAL 19	**Equitably expand urban tree canopy coverage from 23% in 2024 to 40% by 2080.**
METRICS	Percentage of urban tree canopy coverage
ACTION 19.1	Prioritize and implement recommendations from the Urban Forestry Task Force Report in collaboration with neighborhood groups, with particular attention paid to improving canopy coverage on private property in neighborhoods currently lacking canopy cover.
ACTION 19.2	Produce a biennial report tracking progress on the Urban Forestry Task Force recommendations, evaluating their success and prioritizing next steps.

Vibrant, Green Economy

A vibrant local economy means good jobs, thriving businesses, and resilient community assets for all Madisonians. Advancing sustainability and climate action presents tremendous opportunities for economic growth, job creation, and prosperity. Growing Madison's green economy means increasing the ability of both public entities like the City of Madison and private businesses to provide and use goods, services, and practices that reduce our impact on the environment and grow our resilience to climate change.

Work in the green economy could include moving to clean energy, innovating to make less waste and pollution, supporting healthy ecosystems, and building climate-friendly transportation and other infrastructure. As one of the largest public entities in the region, the City of Madison uses its purchasing power to drive demand for sustainable products and services. The City is intentional in the ways it spends its money. It buys environmentally-friendly products and services in our community to increase their availability and provides an example that other public entities and businesses can follow. For example, the City is among the first in the state to allow the use of low-carbon concrete in construction of public sidewalks, curbs, and gutters. Switching to this new, climate-friendly material helps us reduce the amount of carbon our construction generates while also helping grow the market for an innovative, more sustainable product.

The City also supports green jobs and business development in several ways. The City's Engineering, Forestry, and Parks Divisions support training opportunities for green jobs through internship programs, like the GreenPower Program, and partnerships with local workforce development organizations like Operation Fresh Start.

The City's Office of Business Resources helps businesses open and grow within Madison. Resources for businesses include financial and technical assistance programs, help navigating permitting processes, and assistance finding the right-sized space. The Office of Business resources' Building Improvement Grant provides funding to help businesses cover the cost of renovating the interior and exterior of retail spaces, including sustainability upgrades.

The following goals and actions focus on growing Madison's green economy by driving the market for sustainable goods and services, supporting local businesses, and developing green jobs.

GreenPower Program

The City of Madison is supporting the next generation of solar panel installers and electricians through its GreenPower Program. The program prepares people for jobs in the solar energy and electrical industries while also increasing the City's generation of renewable energy and decreasing its carbon footprint. The City hires trainees to work alongside Engineering Division Electricians every year. They install solar systems and make energy efficiency upgrades at City facilities. Over the course of the program, the trainees receive classroom and hands-on experience installing equipment. Between 2016 and 2024, 48 solar installations were completed by GreenPower trainees. 1.6 MW is enough energy to power approximately 240 homes.

Vibrant, Green Economy | Goals & Actions	
GOAL 20	**Leverage City purchasing power to support products and services that reduce the City's impact on the environment and support a circular economy.**
METRICS	New standards and practices developed
ACTION 20.1	Develop and implement new green contracting, procurement, and purchasing standards and practices.
GOAL 21	**Support environmentally-sustainable private business growth, operations, and practices.**
METRICS	Number of City and partner programs Number of people served per program
ACTION 21.1	Continue to support local organizations that help businesses adopt environmentally-sustainable and climate-resilient business practices, especially Minority- and Women-Owned Businesses.
ACTION 21.2	Integrate sustainability and climate resilience information and resources into existing City programs that support local businesses.

Vibrant, Green Economy | Goals & Actions	
GOAL 22	**Leverage City financing tools and structural incentives to advance environmentally-sustainable and climate-resilient buildings, business development, and investments in the community.**
METRICS	Number of projects impacted and dollars leveraged
ACTION 22.1	Research creation of a Green Zone(s) within the City, where the City will prioritize investments to accomplish a set of sustainability, climate, or environmental justice priorities defined in collaboration with the community.
ACTION 22.2	Use Tax Increment Financing (TIF) to incentivize climate-friendly development projects that include net zero buildings and natural climate solutions.
GOAL 23	**Work with partners to attract and support the development of new businesses focused on green and climate-friendly services or products, especially Minority- and Women-Owned Businesses.**
METRICS	Number of City and partner programs Number of people served per program
ACTION 23.1	Provide support and services to grow businesses, help develop new market channels, improve access to affordable production spaces, and enhance retail and sales opportunities.
ACTION 23.2	Support and encourage minority business ownership in trades and industries that focus on green and climate-friendly services and products.

Vibrant, Green Economy | Goals & Actions	
GOAL 24	**Develop a green workforce and create equitable access to green jobs with a living wage.**
METRICS	Number of City and partner programs Number of people served per program
ACTION 24.1	Support training opportunities and apprenticeships in the trades and other in-demand careers related to renewable energy, energy efficiency, building retrofits, climate change adaptation, natural habitat management and restoration, and other sustainability-oriented careers.
ACTION 24.2	Continue to partner with local educational institutions and employment-focused organizations to connect individuals with green job opportunities.
ACTION 24.3	Partner with private industry, local business organizations, local trade unions, and other relevant entities to create and grow a green jobs pipeline within the community.
ACTION 24.4	Design and implement collaborative work-study programs at Olbrich Botanical Gardens for high school students, along with internships and professional certification programs in horticulture, landscape maintenance, construction and natural resource management, ecology, and habitat restoration.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Next Steps

Creating this plan is only a first step toward making Madison a more sustainable and resilient community. We can only achieve these goals through authentic and inclusive partnerships among the City, local businesses, community organizations, and individual Madisonians. The leadership and contributions of elected officials and volunteers serving on committees and commissions to guide policy and decisions will be essential.

Measurements will help us track progress toward achieving the 24 goals in the Sustainability Plan. Specific metrics have been assigned to each of the plan's goals. These metrics are included in each chapter and can also be found in Appendix A. Progress on each of the plan's goals will be monitored and reported according to the following schedule:

- Every year: Relevant City departments will provide a qualitative memo detailing progress made over the past year towards the goals and actions relevant to their department.
- Every 4-5 Years: The Sustainability and Resilience Program will provide an overall report on progress toward the plan's 24 goals.

Additionally, the City will conduct a greenhouse gas inventory every four years to track progress toward greenhouse gas reduction targets.

Success will require collective awareness and ongoing participation of everyone in our community. We will need ongoing analysis to ensure that costs, feasibility, timeline, and equity considerations are met. Flexibility will also be required. This plan is a reflection of our current priorities, and the ability to adapt to new technologies, data, and strategies will keep this document relevant. At the end of the day, this plan is only a framework and snapshot in time. To be successful, this will need to be a living document, responsive to changing realities and grounded in partnerships and collaboration.

Acknowledgments

This update of the Sustainability Plan was made possible by the dedication and hard work of the Sustainable Madison Committee and numerous City staff, elected officials, and community partners. This initiative was led by the City's Sustainability & Resilience Team.

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Glossary

Affordable Housing Fund: a City of Madison program that gives loans and grants to for-profit and non-profit housing developers to build new, affordable rental housing.

Area Median Income (AMI): the midpoint of an area's income distribution, where half of households earn more and half earn less than this dollar amount.

Benchmarking: refers to the annual measurement and tracking of a building's energy usage.

Biodiesel: a cleaner burning fuel that can be made from a long list of vegetable and animal oils and which will run in any diesel engine. It's safe, biodegradable, and produces less air pollutants than petroleum-based diesel.

Bus Rapid Transit (BRT): a high-capacity bus system with features that are similar to a light rail system, such as frequent service, dedicated bus lanes, off-board fare collection, with fewer stops, and traffic signal priority.

Carbon Footprint: the amount of greenhouse gases (and especially carbon dioxide) something or someone emits or puts out in the environment. In most cases, we measure carbon footprint for the year—which is the total emissions for a business or household in a year.

Circular Economy: a vision of the economy where products are used and reused as much as possible so that there's no waste and no negative environmental impacts. To learn more, check out these resources from the Ellen MacArthur Foundation.

Climate Equity: ensures that all people have access and opportunity to benefit from climate solutions, while not bearing an unequal burden of the impacts of climate change.

Comprehensive Plan: a written city plan that describes the long-term growth framework for a city. It makes broad policy recommendations and urban development strategies.

Decarbonization: switching from fossil fuel energy sources such as coal, natural gas, and oil that produce carbon and other greenhouse gases to carbon-free and renewable energy sources such as solar, wind, geothermal, and hydropower.

Emissions: something released into the open. For example, gases put out into the environment.

Energy Burden: the percentage of a household's income spent on home energy bills.

Energy Efficiency: means using less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics.

Environmental Justice: means all people have access and opportunity to benefit from initiatives to improve our environment while not bearing an unequal burden of the impacts of environmental hazards. It means fair treatment and meaningful involvement of all people in all aspects of environmental laws, regulations, and policies.

Fossil Fuels: fossil fuels formed deep underground from the decomposed remains of plants and animals millions of years ago. When burned, the carbon and other greenhouse gases stored in fossil fuels are released into the atmosphere. Coal, oil, and natural gas are fossil fuels.

Geothermal Energy: a natural resource of heat energy from within Earth that can be captured and harnessed for cooking, bathing, space heating, electrical power generation, and other uses.

Greenhouse Gas (GHG): any gas that, in the atmosphere, absorbs heat radiating off of the Earth's surface and reflects that heat back to the Earth. Greenhouse gases—like carbon dioxide and methane—act as a "greenhouse" trapping heat in the Earth's atmosphere.

Green Roof: a roof covered with soil (or other growing materials) and vegetation that retains then evaporates water.

LEED: is an acronym for "Leadership in Energy and Environmental Design." It is a certification system administered by the United States Green Building Council (USGBC) for buildings that use environmentally friendly materials and building techniques to improve things like energy efficiency and air quality. Buildings get points for the number and quality of environmentally friendly features. There are four levels of LEED based on the number of points earned: certified, silver, gold, and platinum.

Legacy Pollution: hazardous materials, chemicals and other pollutants that impact water, soil, or air after their original use or the process that created them has finished.

Low- to No-Carbon Transportation Options: ways to travel with few or zero carbon emissions. This includes walking, biking, and electric and alternative-fuel vehicles.

Multimodal Transportation Network: a transportation system that supports the movement of all people and goods whether they choose to walk, bike, roll, use transit or drive.

Nutrient Runoff: nutrient pollution entering water from runoff, groundwater, or the air. Common nutrients include nitrogen or phosphorus. These can cause algae growth and impact water quality.

ParkScore: a national comparison of park systems across the 100 most populous cities in the United States released by the Trust for Public Land every year.

Rain Gardens: energy generated by fuel sources that restore themselves over a short period of time and do not run out, such as wind, solar, geothermal, and hydropower. Renewable energy produces no greenhouse gas emissions or air pollution.

Renewable Energy: energy coming from a source that does not run out. For example, solar energy or wind power.

Renewable Energy Credits (RECs): a tradable, contractual instrument that represents one Megawatt-hour of renewable energy generation on the electricity grid. RECs are a way to match existing electricity use with renewable electricity.

Resilience (or Climate Resilience): the ability of an individual, household, population group or system to anticipate, absorb, and recover from impacts of climate change and stresses without compromising (and potentially enhancing) long-term prospects.

Salinization: the process by which water-soluble salts build up in the soil and water.

State Energy Code: Wisconsin State laws that set minimum requirements for energy-efficient design and construction for new and renovated buildings.

Stormwater Greenways: protected open space used for stormwater management.

Sustainability: means meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Tax Increment Financing (TIF): a government tool that helps pay for public infrastructure, promote development opportunities, and expand the tax base.

Transit Oriented Development (TOD): a pattern of development where homes, jobs, and other places people need to go are close together so people can walk, bike, roll, or use a high-quality transit system. TOD makes it easy for people to get to where they need to go without a car.

Transportation Demand Management (TDM): a program where businesses and local or regional governments help people learn about, encourage, and make it easier to use transportation options rather than driving.

Tune-Ups: checking and adjusting building energy systems, like lighting and heating, ventilation, and air conditioning controls to save energy and improve building performance.

Urban Heat Island Effect: occurs when urban areas are warmer than suburban or rural areas because pavement, buildings, and other surfaces absorb and hold on to heat longer than open green spaces.

Urban Tree Canopy: the layer of mature trees that grow within cities and neighborhoods that offer many benefits to people.

Urban Ecosystem: all the living and nonliving organisms that make up the landscape of an urban environment. For example: plants, animals, insects, water, and more.

Weatherization: a type of home energy upgrade which includes sealing and insulating the building envelope. This helps buildings stay cool in the summer and warm in the winter.

Vehicle Miles Traveled (VMT): a measurement for the total miles traveled by all vehicles in a geographic region over a given time.

Appendices

Quality, Affordable Housing			
GOAL 1	**Increase the availability of quality housing that is affordable to households with incomes at or below 60% of area median income by supporting new construction as well as preserving and improving existing housing, with a focus on meeting the housing needs of households with incomes at or below 30% of area median income.**		
ACTION 1.1	Use City programs and policies to create or preserve affordable rental housing, with a priority for locations identified in the Affordable Housing Target Area Map.	**METRICS** • Number of new affordable housing units permitted and receiving certificate of occupancy each year. • Measure total, number inside and outside the Affordable Housing Target Areas, and in each census tract.	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development
ACTION 1.2	Review and update the City's Land Banking Fund Policy and practices every five years to assess and mitigate housing gentrification and displacement.		
ACTION 1.3	Ensure City programs focused on expanding opportunities for affordable home ownership, including condominiums, cooperatives, and cohousing, include support for energy efficiency and green building practices.		
GOAL 2	**Create and expand City policies and programs to support energy efficiency, healthy indoor air quality, sustainable building materials, and removal of environmental toxins in new and existing housing.**		
ACTION 2.1	Evaluate and update City's affordable housing policy for energy impacts, including both new construction and existing buildings, in collaboration with representatives from affordable housing development organizations, cooperatives and community land trusts, energy efficiency and green technology experts, Focus on Energy, low income residents and local utilities.	**METRICS** • Number of City programs • Number of people served per program	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development • Mayor's Office
ACTION 2.2	Expand the City's Rehabilitation Programs to include energy audits and retrofits that improve energy efficiency, sustainability, and the health, safety, accessibility, and comfort of building residents.		
ACTION 2.3	Improve coordination with Focus on Energy's programs that provide financial and technical assistance to homeowners, rental property owners, and tenants to increase the reach of these programs in Madison.		
ACTION 2.4	Require all new affordable rental housing funded by the City through the Community Development Division to meet high building performance standards to ensure energy efficiency and minimize energy burden for residents.		
ACTION 2.5	Explore feasibility of a program for identifying and eliminating lead, mold, and other indoor air pollutants in naturally occurring affordable rental housing.		

Goals & Actions Table | Appendix A

Resilient City Design & Infrastructure

GOAL 3	**Provide equitable access to parkland, lakes, and other natural areas as well as sports, recreation, education, and wellness programming offered by the City and its partners.**		
ACTION 3.1	Upgrade facilities, infrastructure, signage, and maps at City parks and natural areas to provide greater mobility and language access to enable enjoyment for residents of all cultures, age groups, and abilities.	**METRICS** • Percentage of residential areas with the service area of parks • Percentage of park facilities that provide equitable mobility/language access • Number of parks and partner programs and Number of people served per program • Trust for Public Land ParkScore Index	**LEAD CITY DEPT** • Parks Division • Department of Planning • Community & Economic Development • Olbrich Botanical Gardens
ACTION 3.2	Expand parkland, natural areas, and protected shoreline through the purchase of property or easements to improve public access, in alignment with the Parks and Open Space Plan.		
ACTION 3.3	Enhance City parks programs and partnerships (e.g., with schools, non-profit organizations, other governmental units, businesses, neighborhood associations) to provide public education, recreation, sports, and wellness activities that include people across cultures, age groups, and abilities.		
GOAL 4	**Preserve, protect, and increase access to land for urban agriculture, particularly for community members who live in rental housing.**		
ACTION 4.1	Facilitate the location of community gardens and edible landscapes on city-owned land in collaboration with community organizations, including proactively planning for gardens in parks and open spaces.	**METRICS** • Area of land in urban agriculture within the city. Measure total and in each census tract.	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development • Parks Division
ACTION 4.2	Create guidelines to inform both community and City decision-makers regarding planning and permitting for the remaining farmland in our community and ensure community members, especially renters, have access to garden space.		
ACTION 4.3	Support the location and development of market garden opportunities.		

Resilient City Design & Infrastructure

GOAL 5	**Facilitate the development of dense, compact, and livable neighborhoods that support walking, biking, and transit use.**		
ACTION 5.1	Plan and facilitate the development of mixed-use activity centers featuring shops, services, employment, green space, and a mix of housing types as identified in the Growth Priority Areas Map in the City's Comprehensive Plan.	**METRICS** • Area in City's zoning • Number of neighborhood plans that include mixed-used activity centers	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development • Department of Transportation
ACTION 5.2	Implement Transit-Oriented Development (TOD) Zoning along Bus Rapid Transit (BRT) and other high-frequency transit service corridors.		
ACTION 5.3	Encourage formation of Transportation Management Associations to coordinate Transportation Demand Management (TDM) efforts on large projects.		
GOAL 6	**Increase resilience to climate change impacts including heat waves, storms, and flooding.**		
ACTION 6.1	Develop and implement a climate resilience plan that incorporates updated findings from the Wisconsin Institute on Climate Change Impacts 2021 Climate Assessment Report.	**METRICS** • Percentage of area within the City resilient to extreme heat, flooding, and direct/indirect impacts of storms. Measure total and in each census tract. • Area of managed natural areas (prairies, meadows, etc.) in parks, golf courses, and greenways	**LEAD CITY DEPT** • Mayor's Office • Engineering Division • Parks Division • Department of Transportation
ACTION 6.2	Assess the location and characteristics of urban heat islands and populations sensitive to extreme heat, and collaboratively develop and implement equitable heat resilience strategies to reduce the magnitude of urban heat islands and improve community adaptive capacity to extreme heat events.		
ACTION 6.3	Complete the Comprehensive Watershed Study program to determine the causes of flooding across Madison's watersheds and implement recommended projects to reduce flood risk.		
ACTION 6.4	Integrate nature-based solutions, including green infrastructure and native, deep-rooted plants, into City projects to improve climate resilience and provide ecosystem services such as urban cooling, water and air quality improvements, and carbon sequestration.		

Goals & Actions Table | Appendix A

Renewable Energy & Decarbonization

GOAL 7	**Reduce GHG emissions from City facilities and buildings 55% by 2030 from 2018 baseline.**		
ACTION 7.1	Establish a net-zero GHG emission buildings standard (based on carbon emissions of the energy consumed) for all new City facilities and major retrofits. The standard should be flexible to allow a combination of strategies according to the following prioritization: on-site renewable energy generation, procurement of off-site renewable energy, and purchase of Renewable Energy Credits (RECs) or carbon credits.	**METRICS** • GHG emission from City facilities and buildings	**LEAD CITY DEPT** • Engineering Division • Mayor's Office
ACTION 7.2	Conduct deep energy retrofits of existing City facilities (starting with least efficient) with an emphasis on energy efficiency and decarbonization.		
GOAL 8	**Reduce GHG emissions from private facilities and buildings to achieve the City's goal of reaching net zero emissions community-wide by 2050 from a 2018 baseline.**		
ACTION 8.1	Develop a strategic pathway by 2026 for reducing GHG emissions from private facilities and buildings that sets aggressive, interim goals through 2050.	**METRICS** • GHG emissions from private facilities and buildings	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development • Mayor's Office
ACTION 8.2	Develop a voluntary stretch energy code to encourage energy efficiency in new buildings and facilities at such a time as allowed by state statute.		
ACTION 8.3	Provide financial, structural, or process-based incentives to equitably implement energy efficiency and renewable energy measures in new and existing buildings, including connecting residents and business owners to state and federal programs.		
ACTION 8.4	Partner with local organizations to educate private building owners and contractors on the value of energy efficiency in new and existing buildings, including energy cost savings, tenant satisfaction and retention, and real estate value.		

Renewable Energy & Decarbonization

GOAL 9	**Reduce GHG emissions from City vehicles and equipment 90% by 2030 from 2018 baseline.**		
ACTION 9.1	Build the necessary electric vehicle charging infrastructure at City facilities to support electrification of the City's fleet.	**METRICS** • GHG emissions from city vehicles and equipment	**LEAD CITY DEPT** • Fleet Division • Water Utility • Department of Transportation • Parks Division
ACTION 9.2	Purchase electric light- and medium-duty fleet vehicles to the greatest extent feasible by 2025.		
ACTION 9.3	Transition the heavy duty-fleet to B100 (100% biodiesel), electric, or other low or no carbon fuels by 2030 to the greatest extent feasible, with funding assistance from public and private sector grants.		
GOAL 10	**Reduce greenhouse gas emissions from vehicles community-wide to achieve the City's goal of reaching net zero emissions community-wide by 2050.**		
ACTION 10.1	Continue to encourage and promote the use of electrical vehicles and installation of charging infrastructure community-wide.	**METRICS** • GHG emissions from vehicles community-wide	**LEAD CITY DEPT** • Department of Transportation • Mayor's Office
ACTION 10.2	Implement a 20 mph speed limit on all local streets and review all High Injury Network streets to determine appropriate speed limits as described in the Vision Zero Action Plan.		
ACTION 10.3	Increase the number of EV charging stations available to the public to meet projected future needs, informed by market analysis, and ensure that charging is available in all neighborhoods.		
GOAL 11	**Meet 100% of electricity demand for City operations with renewable energy by 2030.**		
ACTION 11.1	Install solar at all viable City facilities by 2030, for a total of at least 10 MW of capacity.	**METRICS** • Percentage of city electricity demand from renewables	**LEAD CITY DEPT** • Department of Transportation • Mayor's Office
ACTION 11.2	Procure renewable energy produced off-site or renewable energy credits (RECs) for City operations where 100% of electricity needs cannot be met by on-site renewable energy generation.		
ACTION 11.3	Invest in carbon credits or carbon sequestration projects to reach net-zero emissions for City operations by 2030.		

Goals & Actions Table | Appendix A

Sustainable Transportation

GOAL 12	**Increase access to and use of public transit and active transportation, including walking, biking, and rolling.**		
ACTION 12.1	Continue to improve Metro service coverage, frequency, and travel times.	**METRICS** • Number of transit trips • Number of BCycle rides and station coverage • Miles of bike and pedestrian infrastructure	**LEAD CITY DEPT** • Department of Transportation
ACTION 12.2	Improve and expand bike facilities, including "All Ages and Abilities" bike infrastructure.		
ACTION 12.3	Expand the availability of electric bike and bike rideshare stations into areas underserved by current services.		
ACTION 12.4	Continue to improve the pedestrian network with a focus on advancing accessibility for people of all ages and abilities.		
ACTION 12.5	Support education and services that remove barriers for underserved communities to use bicycle, pedestrian, and transit infrastructure, for example providing bike safety classes, free bike repairs, and bus passes.		
ACTION 12.6	Increase number of low-income Metro passes available, including deeply subsidized or free youth Metro passes.		
ACTION 12.7	Expand Safe Routes to School, multi-modal travel education and increase the number of students and families choosing to walk, bike, and take transit.		
GOAL 13	**Reduce annual vehicle miles traveled (VMT) per capita by 15% community-wide from 2020 levels by 2050.**		
ACTION 13.1	Create opportunities for multimodal trips that include public transit, for example by adding park and ride facilities, bike parking, bike sharing stations, and ride sharing options within a 1/4 mile of public transit stops.	**METRICS** • Average annual vehicle miles traveled per capita	**LEAD CITY DEPT** • Department of Transportation • Department of Planning • Community & Economic Development
ACTION 13.2	Work with major employers and promote Transportation Demand Management (TDM) strategies to reduce single-occupancy vehicle trips.		

Clean, Abundant Water

GOAL 14	**Ensure surface and drinking waters remain clean by reducing existing sources of contamination and preventing new ones from developing.**		
ACTION 14.1	Reduce and eliminate the spread of PFAS contamination into surface and groundwaters in collaboration with county, state, and federal partners, eventually removing surface waters from the WDNR's Impaired Waters List for PFAS and achieving levels of PFAS below state and federal drinking, ground, and surface water standards.	**METRICS** • Concentration of Per-and Polyfluoroalkyl Substances (PFAS), chlorides, and phosphorus in local surface and drinking water	**LEAD CITY DEPT** • Mayor's Office • Water Utility • Engineering Division • Streets and Recycling Division
ACTION 14.2	Minimize the use of chlorides (salt) as part of winter street operations and water softeners to help reduce their movement into surface and groundwater, with the goal of eventually removing Lake Wingra from the WDNR's Impaired Waters List for chlorides, preventing additional listings on the 303D list, and achieving declining levels of chlorides in our drinking water.		
ACTION 14.3	Reduce urban non-point source pollution discharges to surface water and meet the City's NR151 removal requirement, for example through continuous improvement of leaf collection and street sweeping, expanding green infrastructure, and implementing other practices that reduce phosphorus and total suspended solids in urban runoff.		
ACTION 14.4	Support increased stormwater management on private properties, for example by expanding the pilot grant program to help property owners install rain gardens, rain barrels, cisterns, and permeable pavement.		
ACTION 14.5	Operate and maintain the City's wastewater collection system to provide adequate capacity to convey all peak flows, eliminate infiltration and inflow, and prevent sanitary sewer overflows to protect water quality, the environment, and public health.		
ACTION 14.6	Continue to collaborate with Dane County and other partners to reduce regional agricultural runoff into the Yahara River watershed.		
GOAL 15	**Expand water conservation efforts to reduce peak load and annual water use by 10% from 2020 levels by 2030.**		
ACTION 15.1	Increase water conservation by residential, commercial, and industrial users through, for example, expanded Water Utility appliance replacement programs, reduction of irrigation on residential and commercial properties, cisterns, utilization of rain and grey water in buildings, and expanding public education efforts.	**METRICS** • Annual peak load and water use	**LEAD CITY DEPT** • Water Utility • Parks Division • Olbrich Botanical Gardens
ACTION 15.2	Conserve water by reducing supplemental water usage on turf and landscape areas within Olbrich Botanical Gardens, parks, and golf courses and focusing on selecting native and non-native species that can tolerate increasingly more extreme shifts in weather and climate.		

Goals & Actions Table | Appendix A

Zero Waste

GOAL 16	**Reduce the amount of waste going to landfill from the Madison community 50% by 2030 and 90% by 2040 from a 2021 baseline in partnership with Dane County.**		
ACTION 16.1	Develop and implement a comprehensive, community-wide Zero Waste Plan by 2026 that includes strategies for reducing all waste streams going to the landfill and regular progress reporting.	**METRICS** • Annual tonnage of waste going to the landfill broken out by type	**LEAD CITY DEPT** • Streets and Recycling Division • Mayor's Office • Olbrich Botanical Gardens
ACTION 16.2	Collaborate with Dane County on the planning, design, and implementation of the new Yahara Hills Sustainability Campus that will divert waste and create local circular economies by attracting businesses that will support reuse, repair, and recycling; by utilizing new waste management technologies; and by supporting research and education.		
ACTION 16.3	Continue to collaborate with Dane County and other partners to expand access to and participation in composting and other food waste reduction initiatives to reduce food waste going to the landfill.		
ACTION 16.4	Reduce, with the goal of eliminating, single-use plastics at Olbrich Botanical Garden as alternatives become available, such as using rice-hull pots for plant reproduction.		

Healthy Ecosystems

GOAL 17	Preserve and restore urban natural areas, with a focus on providing equitable access for residents.		
ACTION 17.1	Prioritize preservation and restoration of urban natural areas in City planning, zoning, and management policies and practices.	**METRICS** • Area of natural areas protected and restored • Number of plants and pounds of seed distributed • Number of outreach events, classes, tours held and Number of attendees	**LEAD CITY DEPT** • Parks Division • Department of Planning • Community & Economic Development • Olbrich Botanical Gardens • Engineering Division
ACTION 17.2	Jointly plan for preservation of open spaces and woodlands with neighboring communities, Dane County, and regional planning bodies.		
ACTION 17.3	Link parks, greenways, multi-use paths and open spaces to enhance environmental corridors and expand trail recreation, physical activity, and nature study opportunities.		
ACTION 17.4	Secure resources, including financial and volunteer, to complete and implement habitat management plans for Conservation Parks, natural areas within parks, and greenways.		
ACTION 17.5	Prioritize native habitat on new stormwater facilities and other City property where possible to provide essential wetland habitat, water quality, and infiltration services.		
ACTION 17.6	Adjust management practices within City parklands, golf courses and greenways to support and promote species diversity and ecosystem services.		
ACTION 17.7	Increase access to native plants, pollinator-friendly plants and curated plant collections through garden sales at Olbrich Botanical Gardens and donations of pollinator plants to residents through collaboration with Little Libraries throughout the City of Madison.		
ACTION 17.8	Increase outreach activities and events for residents to learn about environmentally impactful land management practices that can be utilized on private property and gardens.		

Goals & Actions Table | Appendix A

Healthy Ecosystems

GOAL 18	**Implement Integrated Pest Management practices to minimize pesticide use for all City activities and City-owned properties.**		
ACTION 18.1	Finalize, adopt, and implement recommendations from Madison's Integrated Pest Management Task Force for all City activities.	**METRICS** • Metrics to be defined after IPM Task Force Report complete	**LEAD CITY DEPT** • Parks Division
GOAL 19	**Equitably expand urban tree canopy coverage from 23% in 2024 to 40% by 2080.**		
ACTION 19.1	Prioritize and implement recommendations from the Urban Forestry Task Force Report in collaboration with neighborhood groups, with particular attention paid to improving canopy coverage on private property in neighborhoods currently lacking canopy cover.	**METRICS** • Percentage of urban tree canopy coverage	**LEAD CITY DEPT** • Streets and Recycling Division • Department of Planning • Community & Economic Development
ACTION 19.2	Produce a biennial report tracking progress on the Urban Forestry Task Force recommendations, evaluating their success and prioritizing next steps.		

Vibrant, Green Economy			
GOAL 20	**Leverage City purchasing power to support products and services that reduce the City's impact on the environment and support a circular economy.**		
ACTION 20.1	Develop and implement new green contracting, procurement, and purchasing standards and practices.	**METRICS** • New standards and practices developed	**LEAD CITY DEPT** • Finance Department
GOAL 21	**Support environmentally-sustainable private business growth, operations, and practices.**		
ACTION 21.1	Continue to support local organizations that help businesses adopt environmentally-sustainable and climate-resilient business practices, especially Minority- and Women-Owned Businesses.	**METRICS** • Number of City and partner programs and • Number of people served per program	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development
ACTION 21.2	Integrate sustainability and climate resilience information and resources into existing City programs that support local businesses.		
GOAL 22	**Leverage City financing tools and structural incentives to advance environmentally-sustainable and climate-resilient buildings, business development, and investments in the community.**		
ACTION 22.1	Research creation of a Green Zone(s) within the City, where the City will prioritize investments to accomplish a set of sustainability, climate, or environmental justice priorities defined in collaboration with the community.	**METRICS** • Number of projects impacted and dollars leveraged	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development
ACTION 22.2	Use Tax Increment Financing (TIF) to incentivize climate-friendly development projects that include net zero buildings and natural climate solutions.		

Goals & Actions Table | Appendix A

Vibrant, Green Economy

GOAL 23	**Work with partners to attract and support the development of new businesses focused on green and climate-friendly services or products, especially Minority- and Women-Owned Businesses.**		
ACTION 23.1	Provide support and services to grow businesses, help develop new market channels, improve access to affordable production spaces, and enhance retail and sales opportunities.	**METRICS** • Number of City and partner programs • Number of people served per program	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development
ACTION 23.2	Support and encourage minority business ownership in trades and industries that focus on green and climate-friendly services and products.		
GOAL 24	**Develop a green workforce and create equitable access to green jobs with a living wage.**		
ACTION 24.1	Support training opportunities and apprenticeships in the trades and other in-demand careers related to renewable energy, energy efficiency, building retrofits, climate change adaptation, natural habitat management and restoration, and other sustainability-oriented careers.	**METRICS** • Number of City and partner programs and • Number of people served per program	**LEAD CITY DEPT** • Department of Planning • Community & Economic Development • Engineering Division • Parks Division • Olbrich Botanical Gardens
ACTION 24.2	Continue to partner with local educational institutions and employment-focused organizations to connect individuals with green job opportunities.		
ACTION 24.3	Partner with private industry, local business organizations, local trade unions, and other relevant entities to create and grow a green jobs pipeline within the community.		
ACTION 24.4	Design and implement collaborative work-study programs at Olbrich Botanical Gardens for high school students, along with internships and professional certification programs in horticulture, landscape maintenance, construction and natural resource management, ecology, and habitat restoration.		

Aligned Plans & Initiatives | Appendix B

Comprehensive Plan. The Comprehensive Plan establishes the long-term growth framework for the City, with broad policy recommendations and urban development strategies. Visit the Department of Planning's website to read the plan and the latest progress updates.

2018 -2023 Park and Open Space Plan. This plan serves as a long-range guide for decision-making related to park policies, acquisition and development of parkland and facilities serving, as well as programs to serve the Madison community. The Park and Open Space Plan is updated every five years to stay current with changing recreational trends, demographics, and park needs, as well as to reflect the integration with the planning efforts of complementary City boards, agencies, county, and statewide efforts. Visit the Parks Division website to read the plan and the latest progress updates.

100% Renewable Madison Report. Completed in 2018, the 100% Renewable Madison report provides a science-based plan for reaching our energy goals for City operations and guidance for supporting renewable energy community-wide. It was based on this analysis that the City set the goal of reaching 100% renewable energy and net zero emissions for City operations by 2030 and community-wide by 2050 by following the strategies outlined in Scenario 3 of the report.

Vision Zero Action Plan. Vision Zero is a data-driven strategy intended to eliminate traffic deaths and severe injuries on all roadways, bikeways and sidewalks. The City of Madison Vision Zero initiative strives to improve safety for everyone moving about the city, whether walking, biking, driving and riding transit. Visit the Department of Transportation website to read the plan and the latest progress updates.

2020 Dane County Climate Action Plan. In 2020, Dane County published their Climate Action Plan. This plan is the County's equivalent to this update and has significant overlap. Their plan provides a science-based pathway to cut countywide emissions in half by 2030, putting Dane County on a path to carbon neutrality by 2050. Visit the County's Climate Action Plan website for more information.

Aligned Plans & Initiatives | Appendix B

Housing Forward. Housing Forward is the Mayor's near-term plan for an "all-of-the-above" approach to increasing housing access and affordability. As Madison grows, it's critical that it remains inviting and accessible to everybody, and that everybody has the opportunity to buy, rent or remain in a home that meets their needs. To make that possible, we need to build much more housing, including much more affordable housing. We also need to increase access to homeownership and make it easier for folks on a fixed income to stay in their homes. We also must help people experiencing homelessness find shelter and get back into housing. Visit the Mayor's Office website for more information.

Metro Forward. Metro Forward is the Mayor's initiative to make sure that Metro transit provides access to opportunity and excellent service, by redesigning our transit network and adding Bus Rapid Transit (BRT), a high-quality electric bus-based transit system that delivers fast, comfortable and cost-effective service with a high-level of capacity. Visit the Mayor's Office website for more information.

Climate Forward. Climate Forward is the Mayor's initiative to make Madison a more climate-friendly and climate-resilient City. We are investing in renewable energy, rapidly switching streetlights to LED lights, converting our fleet to electric vehicles, supporting green infrastructure for stormwater management and so much more. Visit the Mayor's Office website for more information.

Urban Forestry Task Force Report. Urban forests are dynamic and our relationship and commitment to it must be long term and ever evolving.

With that in mind, the Urban Forestry Task Force produced a report in 2020 that covers many topics from the composition of Madison's urban canopy, to the importance of trees to our city, to how trees connect with equity issues. The report outlines goals and recommendations for Madison to achieve a diverse, resilient, and thriving urban canopy that will benefit us all.


Safe · Community · WALKING to School · High Five · Safe
REGENT
STOP

CITY OF MADISON
SUSTAINABILITY