

# ReFreshMKE

ecoCITY of MILWAUKEE

## 2018 PROGRESS REPORT





**Cover Photo:**

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Other Photos:

- Global Water Center and managers Grey Wolf Partners participate in the Better Buildings Challenge
- *Blue Skies Landscaping* crew works on ECO's Fondy Park
- Mayor Barrett announces Green Infrastructure Plan Framework at Coakley Brothers green parking lot
- Solar panels
- City Hall complex green roof
- ECO presents information at youth climate march
- Harbor View Plaza



Dear Friends,

In 2013, Milwaukee adopted a community-wide sustainability plan, *ReFresh Milwaukee* to provide a vision for community action to support the triple bottom line: **ecology**, **economy**, and what I like to call “**ecommunity**.” Its goals, strategies and targets have guided the Environmental Collaboration Office and our collaboration with other City agencies, academic institutions, and community organizations.

With a small staff, ECO has made an outsized impact on Milwaukee through effective collaboration. We’re taking a leading role in tackling the challenge of climate change. We’ve implemented the comprehensive Better Buildings Challenge program to drive energy efficiency in commercial buildings, with over 133 buildings participating. We adopted a comprehensive Green Infrastructure Plan to add functional green space to our streets, schools, redevelopment, and parking lots. We’ve developed realistic pathways to achieve our 25% renewable energy goal and are installing solar on municipal buildings and supporting residential solar projects through our Milwaukee Shines program. We’re helping Lindsay Heights and the 53206 zip code transform into an “eco-neighborhood” through our HOME GR/OWN program, with a special emphasis on equity and green job creation. In particular, the newly created Fondy Park project combines ecological services, fresh food access, community amenities, and robust community engagement.

This report covers the years 2015-2018. A lot has changed since ReFresh Milwaukee was published in 2013, and ECO is continually modifying our strategies and metrics to meet the environmental challenges of our time.

While these results are encouraging, we always know that we can continue to find new opportunities to grow our economy while restoring the environment. Facing threats from climate change and recent rollbacks of environmental protections at the State and Federal level, it is our job to continue to advance a vision for positive change locally and be an example of what it means to truly be a world-class eco-city.

Sincerely,

Erick Shambarger  
Environmental Sustainability Director, City of Milwaukee.

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*Clark Building Solar Canopy*



## INTRODUCTION

Milwaukee is striving to become a world class eco-city. As an eco-city, Milwaukee is promoting the new triple bottom line: **ecology**, **economy**, and **ecommunity**. With smart planning, Milwaukee can restore a healthy ecology while supporting the economy with new clean tech industries in water tech, renewable energy, energy efficiency, advanced manufacturing, and sustainable and healthy food products. We can also help adaptively re-use old buildings as we retrofit them with state-of-the-art equipment. All of this supports healthy neighborhoods where residents can support their family, live in peaceful communities, and work together in the common interest of sustainability.

Mayor Tom Barrett provided the vision by initiating a citywide sustainability planning process lasting 18 months that culminated in his July 2013 release of *ReFresh Milwaukee: A Vision for Community Sustainability*. The City of Milwaukee Common Council adopted *ReFresh Milwaukee* as the city's official sustainability plan and directed its immediate implementation in December 2013 (Common Council File #131035). *ReFresh Milwaukee* presents a vision and roadmap for community sustainability and aims to develop Milwaukee into a center for sustainability innovation within the next 10 years.



*ReFresh Milwaukee* sets specific goals and targets for individuals, organizations, businesses and the City to achieve in eight Priority Issue Areas (Buildings, Energy, Food Systems, Human Capital, Land and Urban Ecosystems, Mobility, Resource Recovery, and Water) and two Catalytic Projects (HOME GR/OWN and the Inner Harbor Redevelopment). Milwaukee's neighborhoods and overall quality-of-life improve as targets are met in each of these areas.



### Note about the Environmental Collaboration Office

In 2006, the City of Milwaukee and Mayor Barrett created an Office of Environmental Sustainability (OES) in response to a recommendation developed by a 70+ person advisory committee called the *Green Team*. After receiving millions of dollars in grants and successfully delivering results, OES grew and became a division within the Department of Administration. In 2016, OES was renamed the Environmental Collaboration Office (ECO) to reflect the Office's collaborative approach to making positive change in the community. The name also communicates a positive vision of economic growth, environmental restoration, and our goal of becoming a world class eco-city.

## ABOUT THIS REPORT



The **ReFresh Milwaukee 2018 Progress Report** has been developed to satisfy the Common Council's public reporting requirement and includes: scorecard charts for each Issue Area and Catalytic Project detailing overall progress made through 2018; highlights and unexpected challenges for targets; and any additional notes on implementation to date. Progress toward the ReFresh Milwaukee targets must be viewed in the context of the City's significant fiscal challenges. The State of Wisconsin has imposed severe limits on the City of Milwaukee's ability to grow revenue.

Challenges to the City's long-term financial sustainability makes it difficult to fund new sustainability initiatives. ECO has therefore had to predominantly develop new programming through grants, creative financing, or collaboration with partner organizations.

In the pages to follow, across Issue Areas and Catalytic Projects, each target is color-coded with a green, yellow, red, or gray indicator. Supporting evidence for this grading is provided in each Issue Area and Catalytic Project's table. **GREEN** indicates significant or continued progress, **YELLOW** indicates little or moderate progress, **RED** indicates no progress and **GRAY** indicates modification, re-evaluation or additional data needed for target. Of the 63 targets, 20 have been achieved/completed (noted with a green "check mark"), 22 targets are Green, 12 are Yellow, 1 is Red, and 8 are Gray. As a result, in the first year of implementation 86% of all targets are seeing moderate to significant levels, including 20 instances of a target achieved/completed.

The complete **ReFresh Milwaukee** can be visited at: [www.refreshmke.com](http://www.refreshmke.com). Additional information on City of Milwaukee sustainability programs is available at [milwaukee.gov/eco](http://milwaukee.gov/eco).








*The City is working to reduce litter and plastics pollution through neighborhood trash receptacles and community litter clean-up days through Keep Greater Milwaukee Beautiful and Big Clean MKE.*



## REPORT PROGRESS SUMMARY SCORECARD

The following table represents a weighted average of progress for each of the eight Issue Areas and the two Catalytic Projects. This weighted average does not imply that the corresponding percentage of targets have been achieved and/or completed; rather, it indicates the level of progress that is being made in the corresponding percentage of targets for each Issue Area or Catalytic Project. Complete details and color-coded progress indicators for all *ReFresh Milwaukee* goals and targets are located on the page corresponding to each Issue Area.

ISSUE AREA	TARGETS WITH PROGRESS
<i>ReFresh Milwaukee</i> Targets with Progress or Completed	86%
Buildings (p. 6)	90%
Energy (p. 8)	79%
Food Systems (p. 11)	75%
Human Capital (p. 13)	75%
Land & Urban Ecosystems (p. 15)	93%
Mobility (p. 17)	100%
Resource Recovery (p. 19)	83%
Water (p. 21)	88%
HOME GR/OWN (Catalytic Project) (p. 23)	100%
Inner Harbor Redevelopment (Catalytic Project) (p. 24)	88%

KEY TO SCORECARD PROGRESS INDICATOR BARS	
Completed or Achieved	
Significant or Continued Progress	
Little to Moderate Progress	
No Progress	
Modification, Re-evaluation or Additional Data Needed	

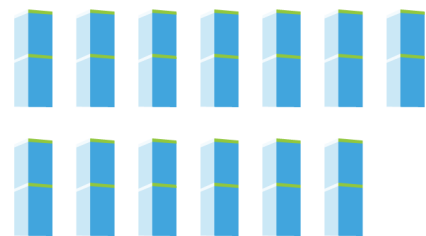


The **2014 ReFresh Milwaukee Annual Report** described how Milwaukee's deteriorating buildings are a growing concern for citizens of the city and are increasingly seen as an impediment to improving local quality of life. Since that report, Milwaukee has seen a tremendous amount of new investment in its building stock. Downtown is booming with new buildings such as Northwest Mutual Life's new headquarters, new hotel projects like the Westin Hotel, and the Fiserv Forum. This development extends out into neighborhoods. South of downtown the Third Ward and Fifth Ward/Walker's Point are seeing major new investments. Development and investment is also extending north from Schlitz Park to North Avenue, Lindsay Heights, and Bronzeville. However, many neighborhoods remain challenged with aging housing that has outdated plumbing, high energy bills, and reduced indoor environmental health.

## Building Sustainability Highlights

- ECO secured a \$750,000 grant for its comprehensive [Better Buildings Challenge](#) program that ran from 2016-2019. Through the program, 133 participating buildings representing over 14 million square feet of real estate received energy efficiency assessments and pledged to reduce their energy use by 20%. These assessments identified \$2,418,061 in annual savings if all projects were implemented by the building owners.
- ECO updated and adapted the Menomonee Valley Sustainable Design Guidelines as a resource for commercial buildings throughout the city, called [Eco-Design Guidelines](#).
- The Fiserv Forum was awarded LEED Silver certification from the U.S. Green Building Council. The arena includes a host of sustainable features including use of compostable food service products, energy efficiency, low flow toilets, and bird friendly windows.

The Better Buildings Challenge is helping 14 million sq. ft. of building space, equivalent to **13 U.S. Bank Buildings**, cut energy use by 20%.





- The City's [Property Assessed Clean Energy \(PACE\)](#) financing program, managed by ECO, has financed \$14.3m of energy efficiency projects, mainly lighting and energy efficiency updates, in 11 buildings (with \$1.1m annual energy savings) as of 2017 and has emerged as an important source of gap financing for developers who seek to adaptively re-use old properties. Examples include the Mackie Building, Commerce Building, Wally Schmidt Tavern, and Antiques on Pierce. Milwaukee's PACE program has been named a "[National Implementation Model](#)" by the U.S. Department of Energy and is the model for a statewide PACE program in Wisconsin.

The PACE program has financed over **\$14.3 million** in energy efficiency projects, saving commercial building owners over **\$1.1 million annually**.









*The City's PACE financing program has supported energy efficiency improvements in major downtown redevelopments like the former Laacke and Joys building and neighborhood projects like the Tandem Restaurant*

## Building Sustainability Challenges

- Many building codes, including the energy code, are established at the State level. Municipalities in Wisconsin are prohibited from passing building energy codes that are more stringent than the State of Wisconsin code.
- Many of Milwaukee's older homes have large challenges. Leaking roofs or other basic structural problems often need to be addressed before adding energy efficiency and renewable energy features. Lead in older homes' service lines, internal plumbing, and in paint has become an increasing concern for the public since the Flint, MI water crisis.

## 2018 BUILDINGS SCORECARD

GOAL	TARGET	2015 – 2018 PROGRESS	2015 – 2018 PROGRESS INDICATOR	COMMENTS
<b>Implement sustainable building practices and standards for development and major redevelopment</b>	<i>100% of new industrial buildings citywide designed and built consistent with Menomonee Valley Sustainable Design Guidelines</i>	Zurn's new headquarters in the Reed Street Yards followed guidelines		ECO developed ECO Design Guidelines for Commercial Buildings. No policy currently exists to track or incentivize this on a citywide basis.
	<i>Green Construction Code of the International Code Council® for commercial buildings adopted by 2016</i>	Municipalities cannot be more restrictive than statewide energy code. ECO has advocated for a more restrictive code at the State level		Wisconsin has on its face adopted the 2015 IECC building code. However, the State code includes a number of amendments that significantly deviate from the 2015 code. <a href="https://www.energycodes.gov/status-state-energy-code-adoption">https://www.energycodes.gov/status-state-energy-code-adoption</a>  <a href="http://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/361_366/363.pdf">http://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/361_366/363.pdf</a>
	<i>A targeted suite of new housing-start energy-efficiency and stormwater incentives developed by 2016</i>	City launched comprehensive Better Buildings Challenge targeting energy efficiency in 200 commercial buildings		The City developed a comprehensive energy efficiency program for commercial buildings (BBC), ME2 for Residential, and GI plan for storm water. Additional GI grants available in 2020.
<b>Improve the physical condition of deteriorating and blighted city, residential, and commercial buildings</b>	<i>200 City tax-foreclosed homes sold per year to qualified buyers who must rehabilitate them</i>			As of 6/30/2019, 2262 one-four family units have been sold since 2014, exceeding the 320 building per year goal.
	<i>At least 75 housing units rehabilitated, with a focus on energy-efficient measures, annually through TIN and other programs, where possible</i>			The Department of City Development continues to exceed the yearly goal: 2015: 146 properties, 169 units 2016: 134 properties, 160 units 2017: 135 properties, 147 units 2018: 90 properties, 96 units
	<i>10 buildings adaptively reused (e.g. repurposing former schools for new use or former industrial buildings for housing) by 2016</i>			Garfield School; Blommer Ice Cream Factory; Wellness Commons; Grand Avenue; Global Water Center





## 2. ENERGY



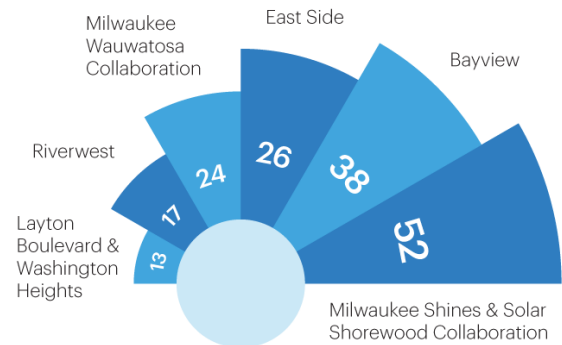
Energy, in all its forms, is a necessity for modern life in Milwaukee. Yet overusing fossil fuels to meet our energy needs contributes to global climate change. Climate change presents real threats to Wisconsin's economy, including an increased risk of extreme storms and flooding. Milwaukee is taking real action on climate change through programs that support energy efficiency and renewable energy. These actions can also create local jobs while reducing our annual energy bills. The City of Milwaukee is pursuing its 25% by 2025 renewable energy goal through an ["All of the Above"](#) solar strategy that supports both a robust and competitive rooftop solar market while exploring utility partnerships that can accelerate our local utility's transition to renewable energy.

### Energy Sustainability Highlights

- The City of Milwaukee passed a [resolution](#) in 2017 signaling its support for the Paris Climate Accord and developed a [Climate Action](#) webpage on the City's website to educate the public on impacts of climate change and document the city's efforts to reduce our carbon footprint through efforts on energy efficiency and renewable energy. Mayor Barrett also joined the U.S. Climate Mayors to show support for acting on climate change.
- Milwaukee is designated a [SolSmart Gold](#) city by the Solar Foundation for our expedited solar permits, trained inspectors, and education & outreach to the community. Milwaukee Shines worked with the Department of Neighborhood Services to dramatically reduce solar permitting fees on commercial properties.
- In 2018, ECO received a grant to develop a formal energy efficiency plan for municipal buildings and fleet. The plan is expected to be completed by the end of 2019.

- Milwaukee Shines group-buy programs have helped 170 homeowners install a total of 616 kW of solar through 2018.
- ECO signed a contract to install 1MW of solar on 6 municipal buildings through a co-ownership financing structure. The local electric utility declined the City’s request to interconnect the systems and the dispute over the denial of the interconnection requests is ongoing. The City ultimately self-financed 209 KW of solar on three City libraries that were installed in 2019.
- Mayor Barrett joined with leaders from Milwaukee County, MMSD, and MATC to request that We Energies create more renewable energy options for large customers. Through collaborative work with We Energies, the utility received Public Service Commission approval to create two new renewable energy pilot programs called *Solar Now* and the *Dedicated Renewable Energy Resource* pilot programs. The City is undertaking analysis to potentially use these programs as a pathway to achieve 25% renewable energy.

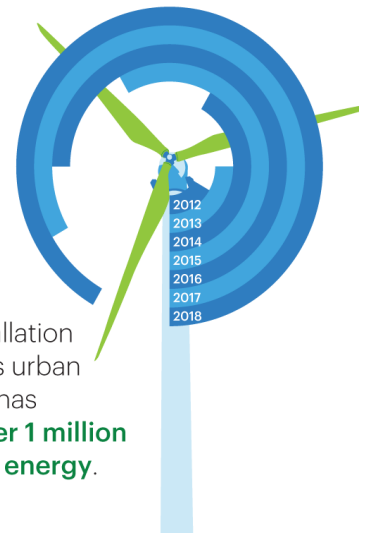
Milwaukee Shines Solar Group Buy **170** helped homeowners go solar.



Mayor Barrett and staff from ECO and Department of Neighborhood Services accept SolSmart Gold designation for improving solar permitting processes.










- ECO's ME3 program helped Jonco Industries install a 372 kW solar system. ME3 supported energy efficiency improvements at 16 other manufacturing companies since 2013 including Klement Sausages and Pak Technologies. The ME3 program has since been discontinued due to budget constraints, but UWM's [Industrial Assessment Center](#) continues to be a resource for manufacturing companies interested in reducing their energy bills.
- In October 2016, the City [passed an ordinance](#) that requires any development project receiving over \$1m in financial assistance to conduct a solar site assessment, with technical support provided by the Environmental Collaboration Office.
- Energy efficient LEDs are now standard on streetlight replacement projects.



## Energy Sustainability Challenges

- Many cities are committing to ambitious renewable energy goals, in some cases aiming for 100% renewable energy. Cities like Vancouver, British Columbia have historically used large amounts of hydro power as their primary renewable energy resource. Cities in California benefit from progressive state policies, such as Community Choice Aggregation, that allow municipalities to directly procure large scale renewables. Wisconsin has a highly regulated utility electricity market, with investor-owned utilities providing the majority of energy infrastructure. Within this policy environment, municipalities have limited options for achieving renewable energy goals. Wisconsin has large historic investments in fossil fuel power plants and a reliance on natural gas to heat our homes and buildings. Because of these challenges, ECO seeks to first achieve the existing 25% renewable energy goal before establishing more aggressive targets.
- The City also has challenges to establishing a meaningful baseline carbon inventory in the City, such as lack of access to community wide utility energy data.

## 2018 ENERGY SCORECARD

GOAL	TARGET	2015 – 2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Improve residential and commercial energy efficiency in Milwaukee</b>	<i>The energy efficiency of 2,000 homes improved in 5 years using the Home Performance with Energy Star standards through Me<sup>2</sup>; another 10,000 homes improved with no- and low-cost energy efficiency measures</i>	13,536 HPwES		Data from Focus on Energy
	<i>The energy efficiency of 1,000 commercial or industrial businesses improved in 5 years</i>			4000+ commercial/industrial buildings received incentives from Focus on Energy since 2013. 11 approved PACE Projects totaling over \$1 million in annual energy savings. 133 Buildings participated in the Better Buildings Challenge, receiving ASHRAE Level 2 Energy Audit.
	<i>Portfolio-wide, the City's building energy use reduced 20% by 2020 (per the City's pledge to meet the Better Buildings Challenge)</i>	3%		Several buildings have increased energy use and others have failed to make progress. Management of energy use needs to be more of a priority across all departments to reach 20% goal. In 2019, ECO and MPL executed the City's first performance contract for Central Library. In addition, ECO and the Energy Reduction Team are creating a comprehensive energy plan through a state OEI grant to hit our 20% goal.
<b>Replace fossil fuel energy use with more clean renewable energy in City of Milwaukee facilities.</b>	<i>25% of the City's electricity generated using renewable resources by 2025 (per the Common Council resolution to achieve the "25x25 Goal")</i>	4.2%, including ½% from on-sight renewables and 3.7% from We Energies overall fuel mix		219 kW of solar installed on three libraries in 2019. Additional large scale renewable options are being evaluated before the end of the year. <a href="#">We Energies overall fuel mix is about 3.7%</a>
<b>Grow Milwaukee's cluster of energy efficient and clean tech companies to create local jobs and exports</b>	<i>The Smart Energy Hub formalized and an Energy Innovation Center created by December 2014</i>			<ul style="list-style-type: none"> <li>Construction of Energy Innovation Center begin by 2015</li> <li>Midwest Energy Research Consortium (M-WERC) growing</li> </ul>
<b>Increase Community resilience and customer choice by removing the regulatory and institutional barriers to distributed renewable energy projects (Items such as solar arrays and wind turbines)</b>	<i>By December 2014, an Energy Engagement website created to educate the public on clean energy issues</i>			<a href="http://Milwaukee.gov/EnergyEngagement">Milwaukee.gov/EnergyEngagement</a>
	<i>Intervention in contested cases before the Public Service Commission, including We Energies rate cases, to support Milwaukee's citizen and business interests in affordable and sustainable energy</i>			<p>The City is supporting Eagle Point Energy in their case to clarify the legality of third-party financing for solar in the State.. The City of Milwaukee also intervened on the 2015 We Energies rate case, and secured over \$800,000 in annual savings to local taxpayers through a revised street lighting tariff.</p> <p>ECO supported We Energies effort to create two new renewable energy pilot programs at the PSC.</p>



# 3. FOOD SYSTEMS



Access to fresh, healthy food has been a higher priority for cities across the USA in the last decade and Milwaukee residents are asking the City of Milwaukee to help increase options to support public health. City neighborhoods suffer when local food markets pull out, decreasing the availability of healthy, nutritious food. Lack of access to healthy foods contributes to poor health outcomes for residents in underserved areas. The City of Milwaukee has made increasing access to, and consumption of fresh, healthy, sustainable food a top priority through the implementation of several programs. Improving Milwaukee's overall food system, from growing fresh produce on repurposed vacant lots to reducing food waste, will improve the lives and health of all citizens.

## Food System Sustainability Highlights

- The City of Milwaukee has worked to increase access to fresh and healthy foods by incorporating grocery stores into its urban planning and providing financing where feasible. The City supported a new *Pete's Fruit Market* in Bronzeville, a new *Save A Lot* on Fond du Lac Avenue, and *Cermak Fresh Market* in Walker's Point.
- The City completed a [Fresh Food Access Report](#) that outlines strategies for increasing access to healthy food in Milwaukee communities.
- In 2015, the HOME GR/OWN program and partners planted 230 fruit trees inside 20 new park and orchard sites, offering free access to healthy fruits.
- In 2017, City and partners developed the 2017 Fondy Park to support and expand the retail access, programming and attractiveness of the primary farmers market in the 53206 zip code.
- City Hall offers a Community Supported Agriculture option as part of its Wellness program.
- [Cream City Farms](#) is a 1.5 acre commercial farm built from a former brownfield site. Through funding from the US Environmental Protection agency, the Redevelopment Authority of the











City of Milwaukee, ECO, Reflo, and other partners converted this site into a commercial farm with a 40,000 gallon stormwater cistern for irrigation.

- Local non-profits including Walnut Way Conservation Corporation, Victory Garden Initiative, Groundwork Milwaukee, Alice's Garden, and *We Got This Milwaukee* all support community gardens and urban agriculture and investments in Milwaukee's youth. The City of Milwaukee has supported some of these organizations in various ways, including funding solar installations and providing construction contracts through the HOME GR/OWN program.
- ECO and the Milwaukee Health Department formalized a partnership with the Milwaukee Food Council collaborate on food access challenges.
- Milwaukee's Vincent High School offers robust programming in urban agriculture and the UWM School of Freshwater Sciences offers programming in aquaculture research.
- The City, UWM and the MREA designed a "RainShed" and solar pump cart to increase water and electricity access at City community gardens, parks and farms.

## Food System Sustainability Challenges

- Urban gardening has many benefits and can provide supplemental fresh and healthy food during summer months. However, urban agriculture continues to face challenges with aggregating this food and reliably distributing it to large institutions year-round. Farming on disaggregated urban lots is also often not cost-competitive with regional rural farms, which themselves often struggle to be profitable.
- It is challenging to attract full and retain service grocery stores into lower income neighborhoods.
- Some urban agriculture organizations are beginning to shift their focus away from healthy food and toward industrial hemp and CBD oil.
- The issue of healthy food access is being addressed by multiple departments including the Health Department, Department of City Development, and ECO with limited resources.

## 2018 FOOD SYSTEM SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
Set a citywide food system policy and action agenda	<i>Clear-cut City food policies published by May 2014</i>			Urban Agriculture ordinances published in 2014
	<i>Good food purchasing guidelines for Milwaukee food service institutions developed by 2017</i>	No progress		Center for Resilient Cities, which was to conduct this report, closed its Milwaukee office
Improve institutional capacity and leadership to enhance the sustainability and resilience of Milwaukee's food system	<i>Milwaukee Food Council's role expanded by December 2014 to formally coordinate City departments, community stakeholders, the nonprofit sector, the private sector, and other major institutions</i>			ECO and the Milwaukee Health Department signed a formal Memorandum of Understanding to foster collaboration. City and MFC cooperated on 2018 & 2019 downtown CSA drop-off locations and added City Hall as CSA subscriber drive and drop-off point for 2 CSA farmers, resulting in over 40 subscribers each year. Coordination with UEC and City DER.
	<i>Food Charter, which is a statement of values and principles to guide City's food policy, developed by September 2015</i>			Focus now on increasing healthy food access on North Side. 2018/19 focus has been on creation and implementation of City healthy food access report. Internal coordination between Ald. Rainey and City MHD, DCD, ECO and Mayor's Office.
	<i>Milwaukee Public Schools, Milwaukee Area Technical College, and local universities integrated into resident education and Milwaukee food system planning</i>	No 2018 or 2019 progress		
Increase demand for, and access to, locally and/or sustainably grown healthy and nutritious food	<i>Increased community food production, processing, and distribution, as measured by an incremental 30 properties used for food production and businesses engaged in food processing and distribution by 2016, and an additional 175 properties by 2023</i>			Cream City Farms, Central Greens, Sugar Bee Farms, 19 orchards from P4P; 15 new community gardens. Focus shift in 2018 and 2019 to 1) supporting existing farmers markets and increasing customer counts and local awareness of locations and Bonus Bucks programs, 2) 2 year HG involvement in SARE MKE Compost Supply/Demand Modelling resulted in 40% increase in MKE households participating in organics recycling pilot and 2019 multi-month state and local compost awareness social media campaign.
	<i>25 new outlets for purchasing, distributing, and selling locally and sustainably grown food in City neighborhoods with documented food insecurity by 2016, and 100 more added by 2023</i>			Formal definition of healthy food outlet has not been defined. This has not been tracked and there is no baseline
	<i>Number of residents living within 10-minute walk of healthy and nutritious food source increased compared to current level, as identified in food assessment for healthy food access</i>	Food Access report for 2019 data, could not find baseline to compare to		<b>% of City Population Within Distance to Grocery Store Service Area (2019):</b> 1/2 Mile: 38% 1 mile: 79% Not within service area: 21%



## 4. HUMAN CAPITAL



Milwaukee's residents are its most important and valuable resource. Investing in education and training, creating opportunities for advancement and starting businesses, and providing means to connect citizens and jobs are vital to the economic future of the city. Milwaukee is actively engaged with increasing opportunities for its residents to learn, work, and create jobs, especially in fields related to sustainability (Energy, water, etc.). Tackling these complicated challenges contributes to building a strong economic foundation that can lead to a path of greater prosperity for all while also having a skilled workforce to ensure *ReFresh Milwaukee* goals result in tangible improvements to homes, business and other organizations.

### Human Capital Sustainability Highlights

- As the City of Milwaukee develops more green infrastructure and pocket parks, we are taking active steps to support an inclusive workforce that is reflective of the City's diversity. With a motto of "By the Neighborhood, for the neighborhood," ECO's HOME GR/OWN program and the Department of Public Works have contracted with Walnut Way's Blue Skies Landscaping, Groundwork Milwaukee, Operation Dream, and Riverworks to install and maintain pocket parks, green infrastructure, and other neighborhood beautification projects.
- In February 2018, ECO and Blue Skies Landscaping began a year-long project to increase the climate resilience and sustainability of Milwaukee's Lindsay Heights neighborhood, with funding from the [Institute for Sustainable Communities](#). These projects were significant for Blue Skies Landscaping in that they were among the first green infrastructure projects where Blue Skies served as general contractor, significantly expanding their training and capacity to take on larger projects in the future. An associated solar installer job shadowing program resulted in two area young adults being hired by a regional solar installation company.
- The Milwaukee Metropolitan Sewerage District (MMSD) is a part of the [National Green Infrastructure Certification Program \(NGICP\)](#) developed in partnership with Water Environment Federation (WEF). NGICP provides training for entry-level workers to properly construct, inspect and maintain green stormwater infrastructure.



- Milwaukee Shines and Milwaukee County hosted two solar operation and maintenance trainings so that city solar operations and staff is more knowledgeable about solar operations.
- ECO's Better Buildings Challenge program partnered with MATC to train energy management professionals and provide direct employment in commercial building energy assessments.
- Local Universities are developing robust talent for the environmental field. The University of Wisconsin Milwaukee's School of Freshwater Sciences is a global leader in producing graduates with expertise in water science and policy. Marquette University developed offers a new interdisciplinary major "Environmental Studies." And MSOE offers practical course work and projects in sustainability.
- The Harbor District's Water and Land Reuse Plan details the economic benefits of developing Milwaukee's harbor and lakeshore, including new business and job creation, housing developments, and greater trade through shipping.










*UWM School of Freshwater Science students aboard the research vessel, Neeskay.*

## Human Capital Sustainability Challenges

Developing a consistent stream of green job opportunities for Milwaukee residents remains a challenge. As the City and Milwaukee County face long term fiscal challenges, employment opportunities in traditional green jobs in Forestry and Park Maintenance have retracted. Many environmental sustainability programs are funded through sporadic and short-term grants, which makes it difficult to build in enough time to both train a cohort of workers, directly employ them through a private sector employer, and allow them to deliver the grant requirements in a timely manner.

## 2018 HUMAN CAPITAL SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Increase economic opportunity for all Milwaukeeans</b>	<i>Green Jobs pilot program created in a sustainability area identified as priority by the community</i>			-HOME GR/OWN piloted green infrastructure training partnership -Dombrowski Landscape Training Initiative -Me <sup>2</sup> Community Workforce Agreement partnered on bilingual training for energy efficiency workers -ISC Grant Walnut Way (GI/Solar Training)
	<i>Menomonee Valley Industrial Center Wage Policy, as adopted by City of Milwaukee and Redevelopment Authority of City of Milwaukee (RACM), used as a model for future RACM projects and Sustainability Plan catalytic projects, where feasible</i>	City RPP Requirement, 2984 local workers hired for City contracts in 2017. 2018 Report has not yet been released		City RPP program, Milwaukee PACE, and Harbor District Water and Land use plan require local resident work participation.
<b>Develop ladders of advancement for Milwaukee youth and Milwaukee entrepreneurs</b>	<i>Summer internship placements prioritized in areas identified as priorities in Sustainability Plan</i>	ECO partnership with Institute for Sustainable Communities to work with Walnut way to increase job creation in green infrastructure.		<a href="https://www.walnutway.org/2018/02/19/city-of-milwaukee-walnut-way-institute-for-sustainable-communities/">https://www.walnutway.org/2018/02/19/city-of-milwaukee-walnut-way-institute-for-sustainable-communities/</a>
	<i>Participation increased in City Youth Employment Programs by 10 percent per year</i>	SYIP numbers have remained steady, additional information from Employee Milwaukee's efforts is needed to get a clearer picture.		Summer Youth Internship Program Numbers: 2014: 128 2015: 105 2016: 167 2017: 143 2018: 132 2019: 131
	<i>Increased number of new minority business start-ups in Milwaukee within 10 years</i>	No tracking, measure can be deleted		-2012 data to be released in 2015 and used to establish baseline -From 2002-2007 there was 47% increase (21,318) in minority-owned businesses
<b>Promote inclusion and diversity for a sustainable economy</b>	<i>Mayor-hosted "Call to Service" breakfast campaign for local business and civic leaders</i>	City Accelerator, Capacity Building Grant Program		Greater Together may be an alternative or complement to "Call to Service" breakfast campaign
	<i>Human capital strategies aligned with City block-grant funded programs that create inclusion</i>			Community Development Block Grants (CDBG) aligning adult and youth training programs



# 5. LAND & URBAN ECOSYSTEMS



Milwaukee has many diverse and historic neighborhoods, which are the backbone of the city. Vacant lots and excessive pavement and “hardscape” reduce local quality of life, and drain resources while lowering property values. The City of Milwaukee is committed to revitalizing neighborhoods, improving access to green spaces, and protecting and restoring Milwaukee’s ecological resources. The City is building on the existing 2010 comprehensive plan and policy plan passed by the Common Council to accomplish these goals.

## Land & Urban Ecosystem Sustainability Highlights

- HOME GR /OWN’s Fondy Park opened fall 2017 after much development. The park manages stormwater using a 2,500 square foot bioswale, and rain collection pipes that divert water from the sewer system. Fondy Park won MMSD’s 2017 Green Luminary Award and the 2018 MANDI Award for Best Public Space. The park also features free public Wi-Fi, solar powered lights, and a stage for public performances.
- The North Avenue Greenscaping initiative collaborated with private and commercial owned properties to improve the appearance of North Avenue. Greenscaping work includes renovation of vacant lots, planting trees, hanging baskets, and installing planters. The initiative began in 2016 and is ongoing.
- Milwaukee has four “Eco-Industrial Districts” including the Menomonee Valley, Water Technology District, Harbor District, and 30<sup>th</sup> Street Industrial Corridor. Each district has sustainability features like green infrastructure and are designed with pedestrian connections to the surrounding neighborhoods. The Harbor District redevelopment got a boost when We Energies converted the Valley Power Plan from coal to natural gas, thus opening up a former coal storage site for redevelopment.
- As part of the City of Milwaukee’s new Green Infrastructure Plan, the City of Milwaukee partners with Milwaukee Public Schools, MMSD, and the Green Schools Consortium of Milwaukee to systematically remove asphalt on Milwaukee’s school yards and increase functional green space. Through the partnership, the City of Milwaukee pledged \$600,000 of



its allotment of Green Solutions funds to the school district to green 4-5 school yards per year and create a new Sustainability Specialist position.

- The City of Milwaukee approved plans to extend the Riverwalk to the Harbor District and Menomonee Valley. These new segments of the Riverwalk will incorporate ecological design and habitat areas.








*HOME GR/OWN's Fondy Park revitalized a blighted city property into a vibrant and active destination next to the Fondy Farmer's Market in Lindsay Heights.*

## Land and Urban Ecosystem Sustainability Challenges

- While fossil fuels have received significant attention for the role they play in climate change, less attention has been paid to their role in polluting the land. Defunct gas station sites that had leaking underground storage tanks make redeveloping many vacant sites more expensive and challenging.
- From 2015-2018, the State of Wisconsin has prioritized State subsidies to transform rural and ex-urban land for redevelopment over industrial redevelopment opportunities in existing urban areas. Targeting state subsidies to existing urban areas could spur quicker redevelopment and job creation while conserving our natural eco-systems.

## 2018 LAND AND URBAN ECOSYSTEMS SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Reuse vacant and under-used land</b>	<i>1,000 vacant lots converted to benefit neighborhoods, including uses such as parks, stormwater management areas, food production, and sustainable development, by 2016</i>	2019: 81 community gardens and 11 three-year lease gardens		
	<i>30 acres of City-owned Brownfield areas redeveloped by 2016</i>			<p>36 acres of brownfields redeveloped as of 2019.</p> <p>Completed our assistance with the State and Federal governments in acquiring and remediating the 8-acre Former Milwaukee Die Casting facility (8 acres).</p> <p>Facilitated the redevelopment of a 20-acre tax-delinquent brownfield in the Corridor at 4041 N. 27th Street using the State 75.106 process (20 acres).</p> <p>Continued to remediate and prepare the Century City site, a City of Milwaukee Business Park, on the north side of the City. The development includes nearly 60 acres of developable land with 4 acres redeveloped in 2015 (4 acres).</p> <p>Remediated and sold two 2-acre sites in the Menomonee Valley Industrial Center in 2018 (4 acres).</p> <p>Secured over \$2.4MM of brownfield grant money from the USEPA in 2016, 2017, and 2018 for assessing and remediating Brownfields throughout the City.</p> <p>Ongoing work with government agencies and WE Energies on the 44-acre Former Solvay Coke site for the Komatsu redevelopment.</p> <p>Assessed 16-acre City-owned parcel at 401 E. Greenfield Avenue and will remediate in late 2019 for the Komatsu redevelopment.</p>
<b>Realign policies and codes to support ReFresh Milwaukee goals and targets</b>	<i>Implementation of the policy recommendations included in the comprehensive city-wide and area plans</i>			The following plans align with goals of ReFresh Milwaukee: Harbor District water and land use, Growing Prosperity Economic Development Plan. Food Access Plan. Comprehensive Outdoor Rec Plan. Complete Streets. Green Infrastructure Plan
<b>Protect, restore, and maintain Milwaukee's natural resources</b>	<i>Tree canopy coverage in Milwaukee doubled to 40% by 2023</i>	23%		Goal needs to be revised, this number is likely unrealistic in light of existing resources. DPW Forestry, ECO Green Lots Campaign, Greening Milwaukee, and others are all working to support this goal.
	<i>The acreage of natural areas (including riparian areas, wetlands, stream buffers, environmental corridors, and green stormwater facilities) that are restored or placed under protection increases annually by 10%</i>			<p><b>Projects Since 2014:</b></p> <p>KK River Property Acquisition with MMSD: 6 Acres</p> <p>Three Bridges Park Along Menomonee River: 22 Acres</p> <p>Century City Stormwater Pond: 3 Acres</p> <p><b>Cream City Farm: 3 Acres</b></p> <p><b>Northbank</b> of Menomonee River in MVIC: 1.5 acres</p> <p>Green Tech Station: 2 Acres</p> <p>Grand Trunk Wetland: 7.5 Acres</p> <p><b>Total: 53 Acres</b></p> <p><b>GI GIS Map (2019): 146 GI features</b></p>



				<p>46 "line features" - perv concrete, perm pavement, perm paver, bioswale, green alley.</p> <p>100 "point features" - native landscape, perm pavement, bioswale, green roof, rain garden, rainwater catchment, greenseams, constructed wetlands</p>
<p><b>Increase Milwaukeeans' connections to the city's green and recreational spaces</b></p>	<p><i>All residents live within a 10-minute walk of a park, greenway, or green or other amenity space</i></p>			<p>Complete Outdoor Recreation Plan:  <a href="https://city.milwaukee.gov/ImageLibrary/Groups/cityMe2/PDF/MilwaukeeOutdoorRecreationPlan2016-2021.pdf">https://city.milwaukee.gov/ImageLibrary/Groups/cityMe2/PDF/MilwaukeeOutdoorRecreationPlan2016-2021.pdf</a></p>
	<p><i>The Nature Explore Outdoor Classroom™ concept modeled in Milwaukee as a way to institutionalize urban ecosystem and environmental outdoor education with Milwaukee Public Schools for all youth</i></p>			<p>Milwaukee's GI Plan allocates funds annually to MPS to increase green space and develop green infrastructure on school property. Organizations like Reflow, Green School, and Milwaukee Plays are working to develop outdoor classrooms and sustainably designed play and education areas that would meet this goal.</p>





Photo credit: John December

## 6. MOBILITY



Milwaukee, like most American cities, had prioritized its transportation infrastructure over the past several decades around cars. This contributed to climate change, pollution, and difficulty for people to access many destinations by other means. Providing people with safe and enjoyable transportation options, such as walking, biking, and transit, reduces pollution and contributes to greater mobility for residents and workers in the city. The City of Milwaukee is now moving forward with expanding transit options, including the Hop – Milwaukee’s new streetcar, creating bikeways that accommodate people of all ages and abilities, promoting bike and car sharing programs, and experimenting with micro-mobility options. Investment in multiple means of transportation creates economic and health benefits while increasing the ease of mobility for everyone.

### Mobility Sustainability Highlights

- In October 2018, the City adopted a [Complete Streets](#) policy which prioritizes safe and comfortable access for people walking, biking, and using transit. The policy improves access to neighborhoods, prioritizes the safety and health of residents and visitors, supports economic growth, improves access to education and jobs, enhances urban design, encourages physical activity, and reduces negative environmental impacts throughout the city. It also established a Complete Streets Committee comprised of City department heads and community leaders charged with implementing the policy.
- In July 2019, the Common Council adopted the [Milwaukee Pedestrian Plan](#) with the goal of making the City safer, more accessible, and more enjoyable for people walking. The plan includes over 100 actions that can be taken to make Milwaukee more pedestrian-friendly.
- The City has added more than 120 centerline miles of bicycles lanes since the 2010 [Milwaukee by Bike](#) Plan adoption and 5 additional miles of trails, including the Kinnickinnic River Trail and the Beerline Trail. The City has also begun implementing a bike network for people of all ages and abilities. The first protected bike lanes were installed along Locust





Street and North Avenue over the Milwaukee River, along Kilbourn Avenue between 6th Street and Jackson Street, and on the Hawley Road viaduct. The City is also developing several bicycle boulevards (low-stress shared streets with a priority for people riding bikes) along Fratney Street and Wright Street in the Riverwest and Harambee neighborhoods and along Washington and Scott Streets in the Near South Side.

- The Milwaukee Streetcar, "[The Hop](#)" began passenger service in November, 2018. The electric powered streetcar runs a 2.1 mile route and connects the Milwaukee Intermodal Station with downtown, the Third Ward, and the lower east side, with expansion plans being developed to MLK Drive and Walker's Point.
- [Bublr Bike](#) Share offers 88 stations in the greater Milwaukee area, affordable prices, and year-round service. The City will be adding 26 additional stations in 2020. In August 2019, the City of Milwaukee, in partnership with Bublr Bikes, launched an Adaptive Bike Pilot with 17 bikes available to persons of all abilities.
- MCTS is planning a 9-mile [Bus Rapid Transit \(BRT\) route](#) connecting the Milwaukee Regional Medical Center, Downtown Milwaukee, and neighborhoods in between.
- The City of Milwaukee's Dockless Scooter Pilot Study launched in July 2019, with three dockless scooter companies providing electric scooters throughout the City. The City will be evaluating ridership, user behavior, and general feedback to determine how to best integrate dockless mobility into the City's transportation system.



## Mobility Sustainability Challenges

- The single-occupant automobile remains a predominant form of transportation in the Milwaukee metropolitan area. Relatively low commute times across the metropolitan area reduce the demand for public investments in transit and other means of transportation.
- The Milwaukee County Transit system also faces persistent fiscal challenges that create pressure to reduce services.
- The State of Wisconsin's transportation budgets are also heavily skewed toward road construction in support of automobile travel. State economic development subsidies for manufacturing in exurban areas reduces connections between employers and workers.

## 2018 MOBILITY SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
Expand Milwaukee's mass transit system	<i>New, expanded, and improved access to public transit services</i>			<p>East/ West BRT approved. MCTS undergoing overhaul for updated routes and more frequent service in 2020.</p> <p>More frequent service supplemented by multimodal options to connect last mile; includes bikes, scooters, and other pedestrian options.</p> <p>AMTRAK Hiawatha Service expanding with increased ridership in recent years. AMTRAK creating new bus service from Milwaukee to Green Bay.</p> <p>City of Milwaukee supporting SEWRPC Vision 2050 and MCTS Next projects:  <a href="http://www.sewrpc.org/SEWRPC/VISION_2050/2050RegLandUseTransplan.htm">http://www.sewrpc.org/SEWRPC/VISION_2050/2050RegLandUseTransplan.htm</a></p>
	<i>Approved Milwaukee Streetcar plan implemented on schedule (by 2016)*</i>			<p>The Milwaukee Streetcar (The Hop) M-Line was completed and entered into revenue service in November 2018. Construction is progressing for the L-Line and is anticipated to enter into service in 2020.</p> <p>In December 2018, the City approved the Equitable Growth Through Transit Oriented Development Plan supporting future expansion of the Milwaukee Streetcar to the Historic King Drive/Bronzeville area and the Walker's Point/Harbor District area.</p> <p>The City is also planning future streetcar extension to the Fiserv Forum and developing a transit plaza at Wisconsin Ave &amp; Vel R. Phillips Dr.</p>
Integrate current and new transit services with other elements of Milwaukee's transportation system	<i>Improved transit accommodations on 100% of city paving projects that have, or are planned to have, transit routes</i>			<p>The City continues to collaborate with MCTS on all reconstruction and repaving projects to ensure that access to bus stops is maintained during construction and that impacts to bus operations is minimized and mitigated.</p> <p>The City continues to make progress toward updating pedestrian curb ramps to be compliant with the Americans with Disabilities Act (ADA) per the City's settlement agreement with the Department of Justice. These updates often improve access to transit facilities for persons of all abilities.</p>
	<i>Completion of a multi-modal integration project by 2016</i>			<p>In 2017, a Multimodal Unit was created within DPW to coordinate multimodal efforts and assist in developing and implementing various projects and policies related to walking, biking, using transit, and new mobility options.</p> <p>In October 2018, the City adopted a Complete Streets policy which prioritizes safe and comfortable access for people walking, biking, and using transit during all phases of a project from planning and design through construction. Complete Streets are streets for people of all ages, abilities, and modes of travel. The policy improve access to neighborhoods, prioritize the safety and health of residents and visitors, support economic growth, improve access to education and jobs, enhance urban design, encourage physical activity, and reduce negative environmental impacts throughout the city. It also established a Complete Streets Committee comprised of City department heads and community leaders charged with implementing the policy.</p> <p>In 2019 the City launched a dockless scooter pilot study to observe, solicit feedback on, and evaluate the effectiveness of dockless scooters in Milwaukee. The goals of the pilot study are to increase transportation options, expand access to transit, and evaluate the impacts scooters have on the public right of way. The City will provide a final report on the pilot study and recommend next steps to Common Council at the conclusion of the study.</p>



<p><b>Improve pedestrian and biking infrastructure as critical, healthy components of Milwaukee's transportation system</b></p>	<p><i>125 miles of additional bicycle network (or 70% of proposed new facilities in the City's 2010 Master Bicycle Plan) implemented</i></p>			<p>Since the 2010 Milwaukee by Bike plan was adopted, the City has added more than 120 centerline miles of bike lanes and 5 miles of City trails.</p> <p>The City has also started implementing a bike network for people of all ages and abilities. The first protected bike lanes were installed along Locust Street and North Avenue over the Milwaukee River and along Kilbourn Avenue between 6th Street and Jackson Street. The City is also developing several bicycle boulevards (low-stress shared streets with a priority for people riding bikes) along Fratney Street and Wright Street in the Riverwest and Harambee neighborhoods and along Washington and Scott Streets in the Near South Side.</p> <p>The City has also partnered with Bublr Bikes to expand the public bike share system. As of August 2019, the system includes 88 stations with 57 located within the City of Milwaukee. In August 2019, the City and Bublr also launched an Adaptive Bike Pilot which integrated 17 adaptive cycles into the Bublr system to expand access for persons of all abilities. The City is currently planning an expansion of 26 additional bike share stations as part of a federally-funded project. These stations are anticipated for Summer 2020.</p> <p>In July 2019, the Common Council adopted the Milwaukee Pedestrian Plan with the goal of making the City safer, more accessible, and more enjoyable for people walking. The plan includes over 100 actions that can be taken to make Milwaukee more pedestrian-friendly.</p>
	<p><i>25% of "Safe Route to School" plans developed by 2020</i></p>			<p>The City is developing a strategic plan for a citywide Safe Routes to School (SRTS) program. The purpose of the plan is to coordinate SRTS efforts across agencies and organizations under a city- and school district-wide program. The plan will identify policies, programs, and initiatives of Milwaukee Public Schools and various City of Milwaukee departments including DPW and MPD that could be modified to improve conditions for walking and biking to school. The plan will also include over 20 individual school travel plans with recommendations to improve conditions for walking and biking at specific school locations. The entire project is anticipated to be completed in Fall 2019.</p> <p>The City has also been awarded Federal TAP funding to implement Safe Routes to School infrastructure improvements at 10 schools throughout the City. Planning and design work initiated in 2019, with construction anticipated for 2021.</p>



Milwaukee's Materials Recovery Facility



Sending materials to landfill results in lost resources that retain economic and functional value and increases the need for raw materials. The City of Milwaukee is committed to reducing landfill waste by utilizing and promoting many waste reduction strategies, such as reduce, reuse, and recycle. In 2015, the City of Milwaukee and Waukesha County partnered to jointly own and fund a new Materials Recovery Facility (MRF) in the Menomonee Valley to process single-stream recyclables. The City of Milwaukee has continued to work with Waukesha County and other third-parties to create consistent messaging and education for waste reduction and recycling efforts. As the City works to sustain its existing recycling efforts, the community is working to find new solutions for pollution from single-use plastics litter.

### Resource Recovery Sustainability Highlights

- From 2015 – 2018, over 101,000 tons of City of Milwaukee residential recyclables have been collected and processed through the single-stream MRF.
- The City continues to provide robust resource recovery opportunities for residents through its Drop Off Centers. 37% of the material managed through Drop Off Centers were diverted from landfills in 2018, including 2.5 million pounds of electronics collected and recycled as part of the E-Cycle Wisconsin producer responsibility program.
- In 2016, the City of Milwaukee began an organics collection pilot program in two neighborhoods: Bay View and the neighborhoods collectively referred to as the East Side. In February 2018, the Department of Public Works issued an [Organics Collection Study Final Report](#). Since inception, the program maintained its initial subscriber base of 500 households and began expanding this number in 2019. Additionally, the Department of Public Works promotes organics diversion by hosting an annual sale to provide compost bins at discounted

Over 101k tons of residential recyclables were collected from 2015 – 2018.



prices and through education on multiple food and yard waste diversion strategies outside of participation in the organics collection pilot program.

- The Department of Public Works partners with Keep Greater Milwaukee Beautiful (KGMB) to provide educational programming and recycling facility tours for Milwaukee children and adults. The outreach continues to grow and in 2018, 1,824 students from 33 different schools in the City of Milwaukee attended these classes, a 69% increase from the number of students in the previous year. To continue expanding access to recycling education, DPW partnered with Core/ El Centro to provide Spanish-language tours for adults beginning in 2018.







1,800+ students and 170 adults attended educational programs in 2018.

## Resource Recovery Sustainability Challenges

- In 2017, China implemented the “National Sword” policy which set strict contamination standards and restricted imports of recyclable materials. While Milwaukee remains committed to its robust recycling program, relying chiefly on domestic mills, market prices for recyclables have declined. Revenue from recyclables is expected to decrease in 2019.
- The Department of Public Works provides recycling collection for 1-4 unit households in the City of Milwaukee. Commercial facilities such as businesses and 5+ residential units are required by state law and Milwaukee ordinance to secure recycling services for their properties. However, as the Wisconsin Department of Natural Resources Responsible Unit (RU) for the City of Milwaukee, the Department of Public Works continues to receive reports of non-compliance at commercial properties and is responsible for oversight and enforcement.
- The Department of Public Works, through the Special Event Permit Office, offers complimentary recycling services to local events and festivals occurring in the City of Milwaukee. Large events such as Summerfest which do not utilize City services could provide more robust recycling collection and consider composting for increased diversion.
- In 2015, the State of Wisconsin passed a law prohibiting municipalities from banning or regulating plastic bags and other “auxiliary containers” such as single-use plastic containers. Single use plastic containers and bags remain a common contaminant in the recycling stream and source of litter in Milwaukee’s streets and waterways.



## 2018 RESOURCE RECOVERY SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Reduce residential and commercial waste sent to landfills</b>	<i>The City's 40% waste reduction goal achieved by 2020</i>	25.7% residential landfill diversion rate in 2018.		To encourage recycling participation and increase materials recovery, DPW is proposing implementation of an every other week recycling schedule city-wide. The majority of residents are currently on an every third week recycling collection schedule.
	<i>Food waste diversion and composting program established</i>	380+ tons of organics diverted from landfill through pilot program (Nov. 2016 – 2018)		DPW sold 900+ compost bins from 2015-2018 during truckload sales to provide discounted prices to residents and promote at-home composting.  DPW seeks to expand access to organics collection city-wide.
<b>Develop City policies and education to promote waste as a resource, laying the groundwork for future resource recovery efforts</b>	<i>A City-led, regional by-product synergy program, which targets manufacturing and is focused on industrial waste "resources", established by December 2015</i>			No longer a metric
	<i>Existing state requirements for commercial recycling actively enforced by providing ongoing assistance and education to businesses and guidance on implementation of recycling programs</i>			DPW provides owner and landlord resources for download at <a href="http://MilwaukeeRecycles.com">MilwaukeeRecycles.com</a> .  DPW staff attends DNS landlord training to provide education on recycling law/ ordinance and resources available.



# 8. WATER

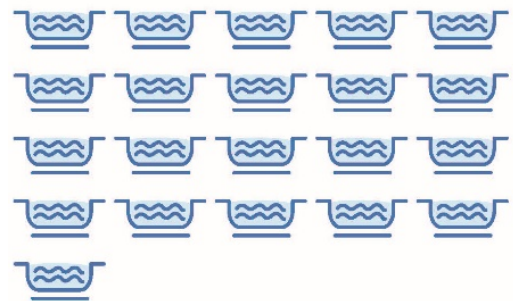


Milwaukee is a coastal city on the Great Lakes, the world’s largest reserve of surface freshwater resources. Protecting and conserving these waters is a priority for the City of Milwaukee, as is continuing to ensure recreational access for residents. Milwaukee’s commitment to reducing pollution entering waterways, restoring shorelines, protecting and conserving drinking water sources, and decreasing the risk of surface flooding due to stormwater runoff will enhance the quality of life for local residents and create economic opportunities as Milwaukee truly evolves into a water-centric city on America’s Fresh Coast.

## Water Sustainability Highlights

- ECO launched the [Water Centric City](#) (WCC) initiative in 2017 to showcase Milwaukee’s leadership in managing natural water resource assets in a sustainable and resilient way. WCC is founded on seven principles of what it means to be a Water Centric City. It provides an umbrella to showcase Milwaukee’s collaborative efforts on water across a range of organizations.
- The City adopted a comprehensive [Green Infrastructure Plan](#) and [ordinance](#) updates. The City now requires green infrastructure on all large developments and redevelopments; created a new partnership with Milwaukee Public Schools to support greening of parking lots; routinely adds bioswales to street reconstruction projects; and will provide grants to commercial building owners to remove asphalt and add green infrastructure.

ECO’s green infrastructure keeps **22 million gallons** of rainwater out of Lake Michigan annually equivalent to **33 olympic sized swimming pools.**











- The issue of lead service lines on private property has become an increasing public concern since the Flint, MI water crisis. Although Milwaukee has been in compliance with federal regulations to control lead in drinking water since 1996, Milwaukee has created a [new program to support the replacement of lead service lines](#) on private property and is replacing hundreds of lead service lines per year since 2017.
- Water Week 2017 was a collaborative event with the City of Milwaukee and multiple water organizations in Milwaukee to recognize the public, private, and non-profit efforts in the city.
- A Rainwater Harvesting Guide for Milwaukee residents and property owners was created with collaboration between ECO and the UW-Milwaukee School of Freshwater Sciences.
- The City of Milwaukee banned coal tar sealants commonly used to seal parking lots. This stops runoff of harmful chemicals like PAHs.
- The Milwaukee Metropolitan Sewerage District developed a regional [Resilience Plan](#).
- The City of Milwaukee is partnering with the federal, state, and local governments, private businesses, and with other Non-Governmental Organizations to delist the Milwaukee Estuary Area of Concern (AOC). With the implementation of projects such as the Grand Trunk Wetland and other fish and wildlife habitat projects, the timeline for delisting the AOC is 2025.

## Water Sustainability Challenges

- Climate change increases the risk of extreme storms, which places increased risk of flooding. It also increases the risk of basement back-ups or combined sewer overflows.
- Milwaukee's rivers cross watersheds and municipal boundaries. Cleaning up the rivers requires a multi-jurisdictional approach.
- Because of the Flint water crisis, the public is increasingly focused on lead service lines and plumbing on private property. Because the public system and private network of water distribution are connected, the public is looking for government solutions. The City is taking this challenge on based on the best available science, but the scale of the issue is large relative to available funding.
- Microplastics, PFAs, and other emerging pollutants in the water supply must be monitored and treated if they exceed unsafe levels.
- Public communication on the state of river water quality and efforts to restore the river could be improved across agencies.



## 2018 WATER SCORECARD

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Reduce stormwater runoff and clear water entering the sewer system</b>	<i>Baseline measures of impervious surface and green infrastructure established on a citywide basis by June 2014</i>			<a href="https://city.milwaukee.gov/ImageLibrary/Groups/cityGreenTeam/Stormwater/GIBIFINALREPORT.pdf">https://city.milwaukee.gov/ImageLibrary/Groups/cityGreenTeam/Stormwater/GIBIFINALREPORT.pdf</a>
	<i>A City green infrastructure policy plan created by December 2014</i>	Plan adopted in June 2019		<a href="https://city.milwaukee.gov/ImageLibrary/WCC/Images/GreenLots/FINALGIPLAN--reduced_2.pdf">https://city.milwaukee.gov/ImageLibrary/WCC/Images/GreenLots/FINALGIPLAN--reduced_2.pdf</a>
	<i>A regional climate change resiliency plan that uses the best available atmospheric science developed, via City collaboration with partners, by 2015</i>			MMSD Regional Resiliency Plan
	<i>Volume of stormwater runoff captured through green infrastructure increased by 10% annually</i>			Tracking needs to be improved. Projects have been completed but verification not in place. GI plan and grants should increase volume in coming years. GI MAP (GIS)
<b>Achieve swimmable and fishable waters in Milwaukee watersheds and the near shore of Lake Michigan</b>	<i>Total Maximum Daily Load (TMDL) studies developed, with City assistance, for the Kinnickinnic, Menomonee, and Milwaukee River watersheds and the Milwaukee Harbor estuary</i>			Developed for Milwaukee River water shed. Under development for other watersheds. <a href="https://dnr.wi.gov/topic/TMDLs/Milwaukee/">https://dnr.wi.gov/topic/TMDLs/Milwaukee/</a>
	<i>All riparian corridors on all waterways and in the estuary preserved and expanded as redevelopment occurs, balancing both the built and natural environments</i>			No official ordinance or zoning change on KK or MN rivers as of 2019.  As part of their long-term plan for the KK watershed, MMSD has purchasing 6 acres of KK riparian area, removed concrete lining from the river, and will develop natural space between 6th & 16th street. This project is multi-stage and includes additional areas through 2025.
<b>Establish Milwaukee as America's Water-Centric City</b>	<i>Water-centric strategies used on both public and private projects across residential, business, and commercial applications to substantially increase water conservation and energy saved citywide</i>			
<b>Prevent new Aquatic Invasive Species (AIS) from entering Lake Michigan and Milwaukee area waterways</b>	<i>Plan of action adopted by 2018, in coordination with Great Lakes cities, states, federal and international governments, to prevent new AIS from entering Lake Michigan and local waterways</i>			Some progress through GLSL Cities resolution on invasive species.



# CATALYTIC PROJECTS



Milwaukee currently has two projects which demonstrate overlapping sustainability goals set forth in *ReFresh Milwaukee*: HOME GR/OWN and the Inner Harbor Redevelopment. There are significant opportunities to implement sustainable strategies in each project that will have large-scale effects throughout the city and demonstrate tangible sustainability improvements to residents.

## HOME GR/OWN

The City of Milwaukee’s [HOME GR/OWN](#) initiative seeks to increase access and demand for local, healthy food. One of its main tactics is converting City-owned vacant lots into new uses that promote healthy food access and neighborhood-based place-making. HOME GR/OWN also aims to incorporate green infrastructure practices in its projects to reduce stormwater runoff and capture rainwater to reuse for watering plants. Over the last three years, the program has shifted its emphasis from food production to urban beautification. HOME GR/OWN has won numerous awards for both urban design and its collaborative approach for engaging neighborhood residents and entrepreneurs in its projects. In 2019, the program will convert its 100<sup>th</sup> vacant lot.

HOME GR/OWN has converted **99 vacant lots** into parks, orchards, farms, gardens, and green space.



In 2015, HOME GR/OWN received a [Partners for Places](#) grant from the Funders’ Network for Smart Growth and Livable Communities. Through that project, HOME GR/OWN built six new pocket parks, fourteen new orchard parks, and planted two hundred and thirty fruit trees in partnership with a local urban agriculture organization, Growing Power. Through generous local funding from the Greater Milwaukee Foundation, Zilber Family Foundation, Northwestern Mutual Life Foundation, Fund for Lake Michigan, and the Brico Fund, these and other parks have been enhanced to add nature and community amenities to historically disadvantaged areas of Milwaukee. This includes a strong emphasis on the Lindsay Heights Neighborhood in the 53206 zip code and the Amani neighborhood among others. In addition to building new spaces, HOME GR/OWN has supported site activation through an annual October pumpkin giveaway and yoga instruction in the parks.

In 2017 and 2018, HOME GR/OWN’s signature project was the new [Fondy Park](#) next to the Fondy Farmers Market. Through community collaboration and input, this beautiful site now features





green infrastructure, an urban prairie, public Wi-Fi, locally made furniture with chess tables, and a performance stage. This project won a Green Luminary award from the Milwaukee Metropolitan Sewerage District.

In 2018, the Common Council allocated funding to HOME GR/OWN to support [neighborhood beautification in Milwaukee’s commercial corridors](#). HOME GR/OWN has used that funding to maintain existing parks, support litter reduction efforts including placement of new trash cans and neighborhood clean-up trailer in partnership with Keep Greater Milwaukee Beautiful, neighborhood signage, and a new “Green Lots” grant program to add trees and landscaping to commercial parking lot edges. HOME GR/OWN’s collective impact in the Lindsay Heights Neighborhood was enough for ECO to name Lindsay Heights Milwaukee’s first eco-neighborhood, with an associated [tour map](#). HOME GR/OWN is currently planning renovations for Victory over Violence Park.

HOME GR/OWN also supports collaborative community efforts around urban agriculture. HOME GR/OWN has employed crews from Blue Skies Landscaping and Ground Work Milwaukee to build and maintain parks. The City also makes vacant land available to Ground Work Milwaukee and other organizations for urban gardens.

Visit [Milwaukee.gov/homegrownmilwaukee.com](http://Milwaukee.gov/homegrownmilwaukee.com) for dozens of photos and updates on this successful program.

**2018 HOME GR/OWN SCORECARD**

GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
<b>Increase access to and demand for healthy foods in a targeted low-income Milwaukee neighborhood</b>	<i>5 foreclosed structures re-used for residential or commercial end-use that support local food supply chain by July 2014</i>			Cream City Farms
	<i>10 vacant lots converted to food-based uses by 2015</i>			Pocket parks and orchards. Wellness commons
	<i>5 new corner stores serving fresh food and produce by 2015</i>			Food report
	<i>Necessary City ordinances/zoning/permitting changes passed by July 2014 that remove obstacles to developing new real estate disposition strategies, repurposing residential properties to non-residential uses, expanding urban agricultural uses on vacant lots, and establishing micro-business ventures in the local food supply chain</i>			



## Inner Harbor Redevelopment

The Inner Harbor consists of 970 acres of formerly industrial property and vacant land that is the historical Gateway to Milwaukee. The Milwaukee Estuary which encompasses the Inner Harbor is recognized as an Area of Concern by the U.S. Environmental Protection Agency, and contains many physically and environmentally degraded sites (i.e., brownfields). The City of Milwaukee is now working to transform this area into an Eco-Industrial District and model for urban redevelopment that incorporates environmental sustainability into its long-term planning.







With the support of ECO and the guidance of the ReFresh plan, the [Harbor District Initiative](#) was formed with a mission to achieve a world-class revitalization of Milwaukee's harbor. The Harbor District, Inc. released a [Water and Land Use Plan](#) in 2018 that focuses on Milwaukee's opportunities as a freshwater hub and outlines opportunities for development.

- The planning process for the Water and Land Use Plan included extensive public input from over 2,000 community members on questions about jobs, waterfront access, bike lanes and public space.
- Harbor District, Inc. worked with property owners, elected officials, and the Department of City Development to form a BID in the area to engage property owners and maintain improvements over time.
- Harbor View Plaza is a new \$1.5 million waterfront public park with a kayak dock, water feature, and shipping container play structure. The concept is the result of the *Take Me to the River* public design competition and connects the Near South Side to the waterways of the inner harbor.
- The Harbor District developed [Habitat Hotels](#), underwater dockwall habitat retrofits that serve as "pit stops" for fish as they move around the Inner Harbor between Lake Michigan and Milwaukee's three rivers. The project engaged with faculty and students from the UW-Milwaukee School of Freshwater Sciences and Bradley Technical High School.
- Michels Corporation and Komatsu Mining have announced major new job creating developments in the Harbor District.



1 Harbor View Plaza. Photo credit: Lee Matz

- The Common Council approved a Riverwalk Overlay Zone for the entire western shore of the Harbor District and Kinnickinnic River. The Department of City Development and Harbor District, Inc. are partnering to complete Design Standards for the Riverwalk and work towards construction of several larger sections in the near future.

2018 INNER HARBOR REDEVELOPMENT SCORECARD				
GOAL	TARGET	2015-2018 PROGRESS	PROGRESS INDICATOR	COMMENTS
Revitalize the ecology of the Milwaukee Inner Harbor	10 acres of protected and revitalized shoreline habitat in design or completed in the study area by 2015			Grand Trunk Wetland Project - 6 Acres  Komatsu Redevelopment at Solvay Coke which includes cleaning up and restructuring of shoreline on southern end. This is not measured in acreage.
	Net-zero energy performance in the study area by 2023			<a href="https://drive.google.com/file/d/1tBhHNLqzUtAb0Ljq2lrkYNZRHCEyoCC7/view">https://drive.google.com/file/d/1tBhHNLqzUtAb0Ljq2lrkYNZRHCEyoCC7/view</a>
	Net-zero stormwater runoff in the study area by 2023			<a href="https://drive.google.com/file/d/1tBhHNLqzUtAboLjq2lrkYNZRHCEyoCC7/view">https://drive.google.com/file/d/1tBhHNLqzUtAboLjq2lrkYNZRHCEyoCC7/view</a>
Revitalize the economy and development of the Milwaukee Inner Harbor	Completion of the University of Wisconsin-Milwaukee (UWM) School of Freshwater Sciences building by 2014			
	100 acres of Brownfields remediated in the study area by 2023			<b>Total Planned or in Process: 77 acres</b>  City is supporting Komatsu's development of the Solvay Coke EPA Superfund Alternative site, which will encompass approx. 60 acres and is to be completed by 2022.  Michels Corp development of 6-acre site on KK river.  MKE Urban Stalls will be completed by 2020 and redevelop 4 acres of brownfield.  Freshwater Plaza Redevelopment - 8 acres.
	22 jobs per acre of total redeveloped land in the study area created by 2023			Redevelopment is still planned or underway so there is not a good measure of this yet. This metric will likely need to be revisited throughout the process.

## ACKNOWLEDGMENTS

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For additional information about *ReFresh Milwaukee*, please visit [ReFreshMKE.com](http://ReFreshMKE.com).

