

# 2021 DPW Annual Residential Recycling Report



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# 1 Introduction and Commentary

The City of Milwaukee first implemented recycling on a monthly basis. As household recycling volumes grew, higher frequency collections were also established, with the majority of residents receiving collection every three weeks. Due to its dedication to advancing recycling in the community, the City of Milwaukee Department of Public Works received over \$1.1 million in grant funding from The Recycling Partnership to implement every other week recycling collection spring through fall to better serve our residents. This City-wide standard service level optimizes recovery of recyclables and the efficiency of collection. We were pleased to roll out the changes in June 2021.

Every other week recycling collection is an industry standard service level and improves the collection service balance to facilitate greater recovery of resources and sustainable materials management, furthering the City’s goal of increased landfill diversion. In addition to the schedule change, the grant funds helped pay for over 18,600 new recycling carts deployed to residents previously receiving weekly recycling collection in 18-gallon bins. These 95-gallon carts collected every other week provide more than twice the recycling capacity for residents while improving the City's collection efficiency. More details about the project implementation can be found beginning on page 2.

With the unpredictability that was Covid-19 in 2021, our teams showed great resilience and flexibility, allowing for the continuation of services and programs while finding ways to bring new education, engagement, and amenities to our residents as well as more inclusive resources. In 2022, DPW looks forward to implementing its first annual recycling poster contest in partnership with Milwaukee Public Schools, the installation of new recycling equipment at our Materials Recovery Facility to continually improve processing of our residents’ curbside recycling, and continuing to pursue unique and thoughtful ways to promote waste diversion in our city.



- Samantha Longshore, Resource Recovery Program Manager, DPW Operations Division

## 2 Resource Recovery Program Results

### 2.1 Recycling Results and Achievements

Citywide in 2021, the Department of Public Works (DPW) collected just over 26,478 tons of residential recyclables, a decrease of 25 tons compared to 2020. Milwaukee residents have increased recycling tons by 19% and recycling pounds per household by 21% compared to the program’s lowest tonnage year of 2009.

2020 saw a dramatic increase in recycling tonnage collection, chiefly due to stay at home orders and more remote work as a result of COVID-19. However, in 2021, with more residents returning to commercial offices, residential recycling tonnage continued at levels very similar to those seen in 2020 with just a 0.01% decrease.

Five-year average comparisons, 2016-2020 to 2021:

- Recycling tons ▲ 4.6%
- Recycling pounds per household ▲ 0.9%



Recycling Cart Set Out for Collection

Residents’ participation in the household recycling program avoided \$1,214,433 in landfill disposal costs in 2021 and earned over \$2 million in revenue from the sale of recyclables. Commodity revenues began to increase in 2020 as COVID-19 created increased demand for raw materials with which to create packaging for food and online orders allowing for increased revenues from recyclable materials. These revenues continued to climb in 2021 and without including the cost of collection services, the City realized a savings of \$46.68 per ton of materials recycled instead of sent to a landfill.

The City’s residential landfill diversion rate was 23.39% in 2021, a decrease of 1.59% compared to 2020. Yard waste diversion tons decreased by approximately 12% with a reduction seen in brush collected through Drop Off Centers, logs collected through Drop Off Centers and Forestry, and seasonal leaf collection tons in 2021. Recycling and solid waste tons remained similar year-to-year with approximately 1% reductions in each. In June of 2021, DPW Sanitation began collecting curbside recycling once every two weeks spring through fall. The Recycling Pounds Per Household map on page 16 shows the average recycling pounds per household in each route after the June 2021 implementation of a city-wide recycling reroute.

### 2.2 Every Other Week Recycling Collection Implementation

In 2020, the City of Milwaukee Common Council approved a resolution for the Department of Public Works to accept over \$1.1 million in grant funding from The Recycling Partnership to

implement a service improvement of every other week spring through fall recycling collection and the distribution of 95-gallon recycling carts across the City beginning in 2021. The resolution was signed by Mayor Tom Barrett on April 2nd, 2020. The City of Milwaukee was selected to receive grant support because of its dedication to advancing recycling in the community and the universal, every other week recycling program citywide in 95-gallon carts ended five different schedules utilized across the City at the time. The grant from The Recycling Partnership, a nonprofit organization that works with city governments all across America to transform their recycling programs, helped fund education and outreach about the service improvement as well as pay for over 18,600 new carts deployed to residents.

### 2.2.1 Service Change and Outreach

Beginning in 2020 through service implementation in 2021, DPW Sanitation worked with The Recycling Partnership to design and distribute educational mailers to be included in new cart packets and mailed to residents in 2021 as part of the every other week recycling collection program change. These educational pieces included a “Carts are Coming” postcard to residents who would be receiving a 95-gallon cart that previously received weekly collection in bins, letters to all City residents with information on the new program, FAQs on the use of rolling carts, and best practices for cart placement, as well as a large postcard to all City residents with what should and should not be placed in recycling carts. All materials included English and Spanish translations and were distributed by early May of 2021.



Recycling Cart with Information Packet Provided to Resident



A Load of Recycling Carts Arrives for Distribution

An informational website, [Milwaukee.gov/EveryOtherWeek](https://www.milwaukee.gov/EveryOtherWeek), was created to provide downloadable copies of all educational materials as well as additional frequently asked questions about the program change. New recycling carts arrived in May and were distributed over a two-week period prior to the schedule change. The Mayor and members of the Department of Public Works hosted a press event during the cart distribution process with several media outlets present to provide more information about the distribution under way and schedule change set to take place on June 1<sup>st</sup>.

This service change required a City-wide rerouting process which replaced 35 existing recycling routes with varying schedules with 36 new recycling routes on 10-day collection cycles. The process took several months and required extensive coordination between Sanitation, GIS, and ITMD to ensure that new City-wide route maps, collection schedule PDFs, and collection dates were completed and made available to the public on [Milwaukee.gov/CollectionDay](https://www.milwaukee.gov/CollectionDay). Prior to the schedule change and during the first weeks under the new service, DPW Sanitation advertised

where residents could find their new schedules in paid print and online publications, as well as on social media.

### 2.2.2 Initial Results

One of the route types previously utilized by the City was weekly recycling collection in 18-gallon bins in Central recycling route 8 (CR08). Historically, CR08 has had the City’s lowest household recycling rate by weight. The 95-gallon carts collected every other week now provide more than twice the recycling capacity for residents and have drastically improved recycling pounds per household collected with almost double the amount of recyclables collected in the first six months of implementation which began in June 2021.

<b>SUMMARY (CR08 - Bin Route)</b>	<b>Q1 Summary (Jun – Aug)</b>	<b>Q2 Summary (Sep – Nov)</b>
Recycling Before LBS/HH (2020)	7.0 AVG LB/HH/MO	7.2 AVG LB/HH/MO
Recycling After LBS/HH (2021)	14.5 AVG LB/HH/MO	13.6 AVG LB/HH/MO
LBS/HH Change	7.5 LB/HH/MO	6.4 LB/HH/MO
Percent Change	107%	89%
New Tons of Recycling	226 TONS/QTR	194 TONS/QTR

In 2020 with the implementation of safer at home orders and the rise of remote work, the amount of recyclables collected jumped by 9% compared to the previous year (2019). In 2021, with more residents returning to offices, we would expect to see a leveling off of recyclables collected curbside, however the table below shows that the implementation of every other week recycling and improvement of recycling capacity at the curb allowed the program to maintain a similar rate of recycling in 2021 as it saw in 2020 with a 1% increase.

<b>SUMMARY (City-wide)</b>	<b>Q1 Summary (Jun – Aug)</b>	<b>Q2 Summary (Sep – Nov)</b>
Recycling Before LBS/HH (2020)	25.6 AVG LB/HH/MO	22.5 AVG LB/HH/MO
Recycling After LBS/HH (2021)	25.9 AVG LB/HH/MO	22.8 AVG LB/HH/MO
LBS/HH Change	0.3 LB/HH/MO	0.2 LB/HH/MO
Percent Change	1%	1%
New Tons of Recycling	98 TONS/QTR	69 TONS/QTR

Compared to 2019, residential recyclable tons increased by an average of 11% per quarter.

<b>SUMMARY (City-wide)</b>	<b>Q1 Summary (Jun – Aug)</b>	<b>Q2 Summary (Sep – Nov)</b>
Recycling Before TONS (2019)	6,510 AVG LB/HH/MO	5,717 AVG LB/HH/MO
Recycling After TONS (2021)	7,405 AVG LB/HH/MO	6,498 AVG LB/HH/MO
Percent Change	13.7%	8.9%



DPW Sanitation continues to monitor the new routes and make improvements as information from a winter recycling season also comes to a close, but the implementation of every other week recycling spring through fall collection is showing a collection service balance, while facilitating greater recovery of resources and sustainable materials management, furthering the City's goal of increased landfill diversion.

### **2.3 Can Capture Recycling Grant**

In 2021, the City of Milwaukee and Waukesha County Joint MRF was awarded \$65,000 in grant funding from The Recycling Partnership and the Can Manufacturers Institute's Aluminum Beverage Can Capture Recycling Grant Program to install an additional eddy current separator. This eddy current would be utilized on the existing system to recover additional aluminum cans. When cans are crushed or flattened before recycling, their small size inhibits their ability to be sorted properly.

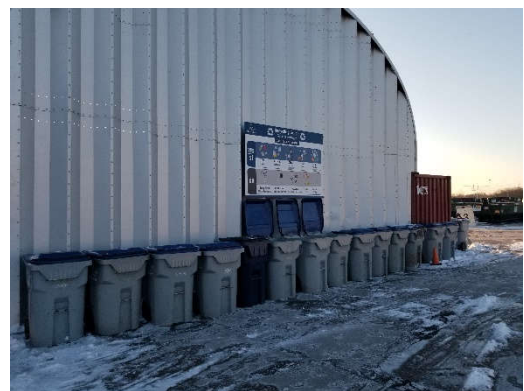


**City of Milwaukee and Waukesha County Representatives Accept Grant Check**

The project estimates an additional 408 tons of aluminum captured annually, which would result in savings of \$18,000 in facility landfill disposal fees and over \$388,100 in new commodity revenue annually, a portion of which is shared with the City based on its respective tons. The grant funds are expected to lower the project's return on investment period to under nine months. Installation is planned for 2022.

### **2.4 Drop Off Center Recovery Programs**

The two Drop Off Centers, located on Lincoln Ave. and Industrial Ave., allow residents to recycle, compost, or safely dispose of over 20 material categories and the MMSD hazardous materials program continues to be available at the Lincoln Ave site to County residents only. Annual visits to the Drop Off Centers grew by 19% in 2021, increasing from 211,569 to 251,951. This translates to over 900 visitors per day between each of the two locations. 29% of the material managed through Drop Off Centers was diverted from landfills in 2021.



**Carts for Commingled Recycling at South Drop Off Center**

<p><b>Recycled</b></p> <ul style="list-style-type: none"> <li>• Antifreeze</li> <li>• Car batteries</li> <li>• Motor oil and filters</li> <li>• Tires (5 passenger tires per trip)</li> <li>• Appliances</li> <li>• Scrap Metal</li> <li>• Asphalt Shingles</li> <li>• Concrete</li> <li>• Electronics (3 TVs per trip)</li> <li>• Cooking oil</li> <li>• Shoes</li> <li>• Curbside recyclables</li> <li>• Large corrugated cardboard</li> </ul>	<p><b>Composted</b></p> <ul style="list-style-type: none"> <li>• Brush and branches</li> <li>• Grass clippings</li> <li>• Garden debris</li> <li>• Leaves</li> <li>• Logs</li> </ul>
	<p><b>Landfilled</b></p> <ul style="list-style-type: none"> <li>• Construction and remodeling debris*</li> <li>• Old furniture and mattresses</li> <li>• Garbage</li> </ul> <p><small>*This material stream is routinely sent to a private construction &amp; demolition debris processing facility for recovery of a large portion and landfill disposal of rest.</small></p>

### 2.4.1 Third Drop Off Center Study

DPW Sanitation, in coordination with DPW Buildings & Bridges, created a report studying the preliminary cost estimates and benefits of building and operating a third City Drop Off Center that would be centrally-located between the existing North and South Drop Off Centers. The following three development scenarios were analyzed:

#### Third Drop Off Center Development Options

	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Building & Site	\$ 21,208,013.00	\$ 18,990,155.00	\$ 10,847,839.00
Operations	\$ 1,420,772.00	\$ 1,420,772.00	\$ 1,756,707.00*
<b>Total</b>	<b>\$ 22,628,785.00</b>	<b>\$ 20,410,927.00</b>	<b>\$ 12,604,546.00</b>

- **Option 1: Drop Off Center, Transfer Station, and Plow and Salt Storage** - Option 1 includes the construction of a Drop Off Center, transfer station, and plow and salt storage. Efficiencies gained by including salt and plow storage on this site are outlined in the “Benefits to the City” section below. Costs to treat the site, construct the facilities, and operate for the first 12 months would cost approximately \$22,628,785.
- **Option 2: Drop Off Center and Transfer Station** - Option 2 includes a Drop Off Center and transfer station and looks most similar to the current operations at the North and South Drop Off Centers. Costs to treat the site, construct the facilities, and operate for the first 12 months would cost approximately \$20,410,927.
- **Option 3: Drop Off Center only** - Option 3 is a Drop Off Center only, without an associated transfer station. Costs to treat the site, construct the facilities, and operate for the first 12 months would cost approximately \$12,604,546.00.



\*While building and site costs are lower in Option 3, the costs of operating a Drop Off Center without an associated transfer station increases annual operational costs. Additional equipment and wage costs will be incurred for the transportation of material to off-site transfer stations. The payback period on construction of the transfer station is 19 years, at which time the transfer station would lead to cost savings for the remainder of the facilities' lifetime.

The report concluded that a centrally-located, third drop off site would bring many benefits to the City such as more efficient operations, proactive use of employee time and equipment, more competitive pricing in bids, and the positioning for greater benefits within the solid waste industry in the future.

In addition, City residents and property owners, particularly those residing in the inner-City, would see immediate benefits to their community including greater access to convenient, affordable disposal; recycling; and composting services; safer operations at all Drop Off Centers, increased job opportunity and business development, and cleaner communities for all. The investment in a drop off center with a transfer station would provide the best long-term value to the City.

## **2.5 Electronics Recycling**

1.3 million pounds of electronics were collected at Drop Off Centers in 2021, the 11<sup>th</sup> full calendar year of the E-Cycle Wisconsin producer responsibility program that was created through state legislation in 2009 (see electronics recycling graphs on pages 19 and 20 of this report). This total represents a 14.4% decrease from 2020, the 5<sup>th</sup> year of decreases after experiencing a prior decade of annual increases. This decrease likely stems from multiple factors including a 21% reduction in total TV drop offs from 2020 to 2021 and the decline of cathode ray tube (CRT) television sets brought to Drop Off Centers in place of families now seeing their first flat screen TVs, much lighter units, reaching the end of their useful life. 2021 collections translate to 2.4 pounds of electronics recycled per capita in the City of Milwaukee, a 30% reduction compared to 2020.



**Staff Prepare Electronics for Shipment to Recycler**

## **2.6 Compliance Enforcement**

The DPW recycling office conducts and administers enforcement of the local recycling ordinances. These ordinances are required by Wisconsin state law requires these ordinances as well as the maintenance of a compliance enforcement plan. Throughout the enforcement process, education and guidance is offered to property owners to assist in the implementation and

operation of recycling programs. Below is a summary of recycling enforcement activity by DPW in 2021.

<b>Property Type</b>	<b>Written warnings</b>	<b>Citations</b>	<b>Fines and Late Fees</b>
1-4 units residential	2,658	1,165	\$62,129
5+ units residential	29	10	\$2,756
Non-residential (business)	2	0	\$0

### **3 Education and Events**

#### **3.1 Presentations and Tours**

##### **3.1.1 Wisconsin Integrated Resource Management Conference Presentation**

During the 2021 Wisconsin Integrated Resource Management Conference (WIRMC), DPW Sanitation joined Waste Cap and Keep Greater Milwaukee Beautiful to present a session titled “Tackling the Vast Potential of Wisconsin's Organic Waste.” Landfilling organics is not our best use of this vital material, but no single solution exists that would solve all of our problems. Getting organic waste to its best use requires a systems approach, an understanding of market potential, activation of leadership, and buy in from citizens to scale the industry.

The session addressed the energy production, agricultural restoration, and hunger reduction achieved when organics are diverted from Wisconsin's landfills, reviewed lessons learned from the City of Milwaukee’s residential organics composting pilot program and other food diversion strategies, discussed the benefits of multiple outlets for organics diversion and building robustness within each market, and highlighted programs and educational opportunities providing residents with access and motivation to begin composting.

##### **3.1.2 Student Education**

2021 saw the return of in-person recycling education for schoolchildren, a strong component of the recycling outreach program maintained by an ongoing partnership between DPW and Keep Greater Milwaukee Beautiful (KGMB). Nine schools in the City of Milwaukee participated in KGMB’s educational programs and tours of Milwaukee’s recycling facility, including 40 adults and 274 students.

##### **3.1.3 Recycle for Good Presentations**



**Recycle For Good Presentation for Rexnord Retiree Club Meeting**

In June 2021, DPW Sanitation provided their first in-person presentation since the start of the pandemic, serving as the guest speaker for the Rexnord Retiree Club meeting. The presentation aimed to help residents answer such questions as “why is wish-cycling worse than recycling

right?” and “why are recyclables easier to sort when they’re in their original shape and size?” A Q&A session with attendees followed the presentation and the newly-implemented, every other week recycling collection was also discussed.

DPW Sanitation provided a webinar in September 2021 for Plastic Free MKE, a local coalition that aims to reduce the harms that unnecessary plastics have on environmental health, public health, and social justice, and a webinar for the Jewish Museum Milwaukee in December 2021 as part of their “Scrap Yard: Innovators of Recycling” exhibit. Information about recycling markets, the detriments of wish-cycling, accepted and non-accepted materials, and recycling best practices were discussed with opportunity to answer participants’ questions.

### 3.1.4 DPW Sanitation Services Presentations

In April 2021, two members of DPW Sanitation joined the City of Milwaukee Community Development Grants Administration (CDGA) for an online meeting with the Neighborhood Strategic Planning Areas (NSP) organizers. NSP organizers assist the City by providing information to and connecting residents in their community with City programs. The presentation introduced the Section and its services, including detail about reserving weekend boxes, Drop Off Centers, street sweeping, brush collection, and Clean and Green.



Sanitation Presents for CDGA

Sanitation also provided information about the summer recycling schedule set to begin shortly after the presentation including set out best practices. Examples of the mailers being provided to residents explaining the new every other week recycling collection schedule were shown as well as the websites where residents could learn more about the program change and watch for their new schedules. The presentation concluded with recycling best practices and information from Keep Greater Milwaukee Beautiful on Clean and Green resources available for neighborhood clean-ups.



Six o’ Clock with SOC Webinar

In November 2021, DPW Sanitation attended the Facebook Live Forum, “Six o’ Clock with SOC.” Southside Organizing Center (SOC) is a neighborhood-based organization dedicated to the development and sustainability of Milwaukee’s near south side neighborhoods. The presentation provided background on DPW Sanitation including the facilities it runs and programs it performs. With the winter collection season about to begin, winter

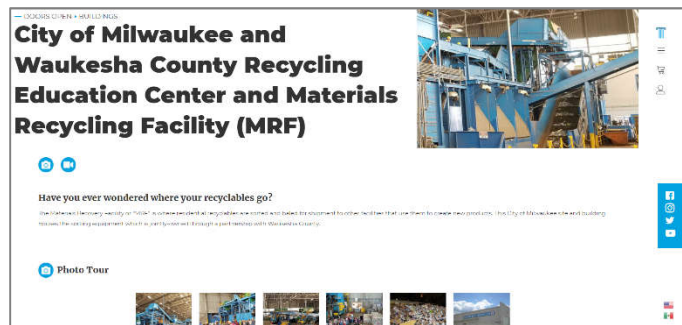
garbage and recycling set out best practices were reviewed as well as the changes in Drop Off Center operating days and times. The leaf collection rake out deadline extension was highlighted as well as the upcoming end to the brush collection schedule. Resources to ask questions or submit help tickets were provided to attendees.

### 3.1.5 Neighborhood Group Virtual Presentations

In 2021, the Department of Public Works sponsored free virtual presentations, to be hosted by Keep Greater Milwaukee Beautiful, for neighborhood organizations located in the City of Milwaukee with at least eight participants. Presentations included “Know What to Throw,” a discussion around how to recycle right in the City of Milwaukee, “Meet the MRF” which provides a virtual tour of the materials recovery facility and its processes, as well as “Basic Backyard Composting” and “Small Space Composting” for those interested in the practice with varying levels of space in which to do so.

### 3.1.6 Doors Open Milwaukee

For the seventh year, the Materials Recovery Facility (MRF) was a participating location in Doors Open Milwaukee. Due to COVID-19, Historic Milwaukee, Inc. created a virtual format for their 2020 event and the MRF participated using this virtual format again in 2021. Virtual visitors could learn more about the MRF, view photos of the



Doors Open Virtual Tour of Materials Recovery Facility

MRF exterior, sorting equipment, past tours, and the tip floor. Visitors could also watch an embedded video called “What Happens to My Recyclables: The Recycling Journey” which walks viewers through the recycling process from collection, to sorting at the MRF, recycling at mills, and the eventual restocking of shelves with products created from recycled content.

### 3.2 2021 Compost Bin Sale

In 2021, DPW held its tenth annual compost bin sale to promote at private residences. DPW partnered with Recycling Connections, a Wisconsin-based non-profit focusing on waste reduction, recycling, and resource conservation for the event to provide a highly-rated compost bin, the Home Composter, to the public for purchase.



Residents Pick Up Compost Bin and Kitchen Pail Orders

Recommended by expert composters, the Home Composter is easy to assemble, long-lasting, made from 100% recycled materials, and is not available in stores. Each purchase of a compost bin included a Backyard Composting book. Home Composter compost bins and Kitchen Katcher stainless steel compost pails were available for \$55 and \$20 respectively (including tax) during the pre-sale event.



Rain barrels were not available during the 2021 sale due to the change in product vendor, but were still available to purchase by visiting the Milwaukee Metropolitan Sewerage District (MMSD) Headquarters lobby Monday through Friday between 8 a.m. and 4 p.m.

DPW Sanitation for the second year, utilized SignUp.com to allow residents to schedule a timeslot to pick up their orders. Prior to 2020, events allowed residents to show up at any time during set hours. Residents remained in their vehicles while DPW Sanitation, Keep Greater Milwaukee Beautiful, and Recycling Connections staff assisted with loading their orders into their vehicles. The sale resulted in 219 compost bins and 105 kitchen pails sold over 234 individual purchases. Since 2012, DPW Sanitation has sold over 2,500 compost bins to the public. In the follow up survey, 45% of respondents said they were planning to start composting for the first time and 41% heard about the sale through social media.

### 3.3 Mailers and Guides

#### 3.3.1 Recycle for Good Fall Mailer



2021 Fall Mailer Front Page

DPW’s annual Recycling and Waste Reduction fall mailer educates residents on recycling, confirms schedules for upcoming seasonal services, and provides resources for proper disposal of materials. The featured article, “Winter is Coming – What to Know About Collections,” described how garbage and recycling trucks are equipped with plows during major plowing events and that staff and equipment are used all winter long for tasks such as anti-icing bridges and roads ahead of cold nights and upcoming storms.

The article also provided residents with tips on how to set out their carts for collection, how to check their schedules to determine if they have year-round or seasonal set-out collection, how to clear carts of snow and ice, and where to sign up for winter parking alerts that helps alert residents to snow emergencies to help clear streets of vehicles to allow for efficient plowing.

Accompanying articles included “Why Not Crush My Cans – and Other Recycling Mysteries explained” which described best practices for recycling and the reasons behind them, as well as “Leaves and Brush and Grass Clippings – Oh My!” which provided tips on yard waste disposal including composting, mulching, use of Drop Off Centers, and participation in seasonal City services. Additional content included a list of City holidays, disposal options for household hazardous waste, plastic bags and film, and electronics, information on the City’s leaf and brush collection services, and an advertisement for free educational webinars hosted by Keep Greater Milwaukee Beautiful and sponsored by DPW Sanitation. Presentations available included “What to Throw,” “Meet the MRF,” “Basic Backyard Composting,” and “Small Space Composting.” DPW’s annual fall mailer is available online at [www.Milwaukee.gov/RecycleReports](http://www.Milwaukee.gov/RecycleReports).



### 3.3.2 Multilingual Resources

As part of the transition to every other week recycling spring through fall in June of 2021, several educational mailers were created and distributed. One such document was an English/Spanish flyer outlining the best practices that residents can follow for garbage and recycling cart set outs. That spring, DPW Sanitation reconnected with several members of Mujeres Con Poder, a group of latina women through Core El Centro that are leading neighborhood transformation through education, advocacy and relationship-building.



A Portion of the Bilingual Collection Checklist Mailed to All Residents in 2021

Mujeres and DPW have partnered on many initiatives in past years, including most recently, providing Spanish-language tours of the materials recovery facility. In 2022, DPW and Mujeres are partnership on recycling education through neighborhood events to engage residents. DPW also shared the new English/Spanish collection checklist and the groups discussed other resources that would benefit residents. DPW worked with the City’s translation services to create two additional English/Spanish guides to best serve the needs of neighborhood groups, the City’s garbage and recycling collection crews, as well as office staff assisting with resident questions.



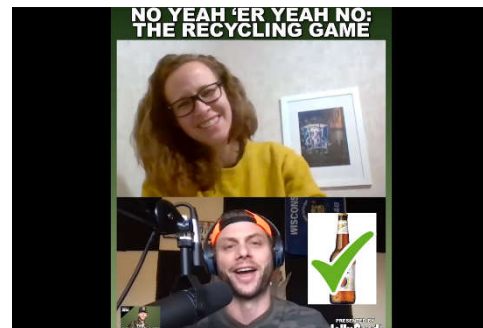
City Recycling Guide Arabic Translation

In addition to the resources above, there were requests from the community to have the City’s recycling guide, currently available in Spanish and English, translated to Hmong and Arabic. DPW Sanitation worked with a translator and all four recycling guides are now available for download at [Milwaukee.gov/RecycleGuide](https://www.milwaukee.gov/RecycleGuide).

### 3.4 Additional Outreach Strategies

#### 3.4.1 DPW Sanitation Joins Charlie Berens’ Cripescast Podcast

In December 2021, DPW’s Resource Recovery Program Manager joined Charlie Berens, host of the Manitowoc Minute, for an episode of his Cripescast Podcast. The podcast discussed the dos and don’ts of recycling in the City of Milwaukee, best practices for disposing of different materials, the impact recycling has on our environment, and some of the wildest materials seen at the MRF. The episode concluded with “No Yeah ‘er Yeah No,” a quick-fire game to settle which items are and are not recyclable in your curbside cart. A link to the podcast can be found at [Milwaukee.gov/RecycleMedia](https://www.milwaukee.gov/RecycleMedia) and video from the Podcast can be found at <https://www.facebook.com/cripescast/>.



No Yeah ‘Er Yeah No: The Recycling Game

### 3.4.2 E-notify and Press Releases

Press releases and e-notifies are distributed to make residents aware of service and program updates, as well as to highlight various waste reduction, reuse, and recycling topics. Included below are some of the e-notifies sent to the Milwaukee Recycles distribution list:

- Make 2021 the Year You Resolve to Recycle Right and Reduce Waste
- This Valentine’s Day: Ways to Show the Love and Reduce Waste
- Your Recycling Adds Up: Why Recycling Every Bottle and Can Just Makes Sense
- 12 Fun Recycling Facts and City Stats to Share This Earth Day
- Don’t Waste Away Summer – 17 Tips to Enjoy a Greener Season
- 13 Tips for a Greener Back to School Experience
- Plastic Bags and Film – Reduce, Reuse, Return
- Thinking Green on Halloween
- 7 Tips for a More Sustainable Holiday Meal
- Can I Recycle That Curbside? Holiday Edition



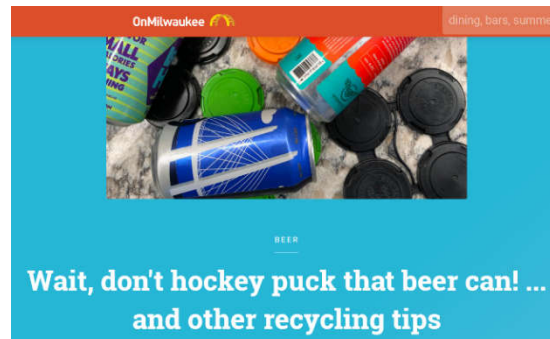
E-Notify to Help Recycle Right on Halloween

### 3.4.3 Milwaukee Recycles Website, Social Media, and Online Publications

In 2021, MilwaukeeRecycles.com continued to see increased traffic with the homepage alone receiving 58,147 unique page views, an increase of 21% compared to 2020. Other top pages of interest included the every other week recycling subpage explaining the new spring through fall recycling schedule and effort, the recycling directory page which provides guidance on how to safely dispose of unique items, and the curbside recycling guide page.

Followers of the @MKERecycles Twitter page increased by 41% in 2021, with annual post impressions decreasing by 13% to a total of 160.2k, while profile page visits increased by 442% to over 6,700 visits. The @MilwaukeeRecycles Facebook page had 2,331 followers at the end of 2021, an increase of 38% compared to 2020.

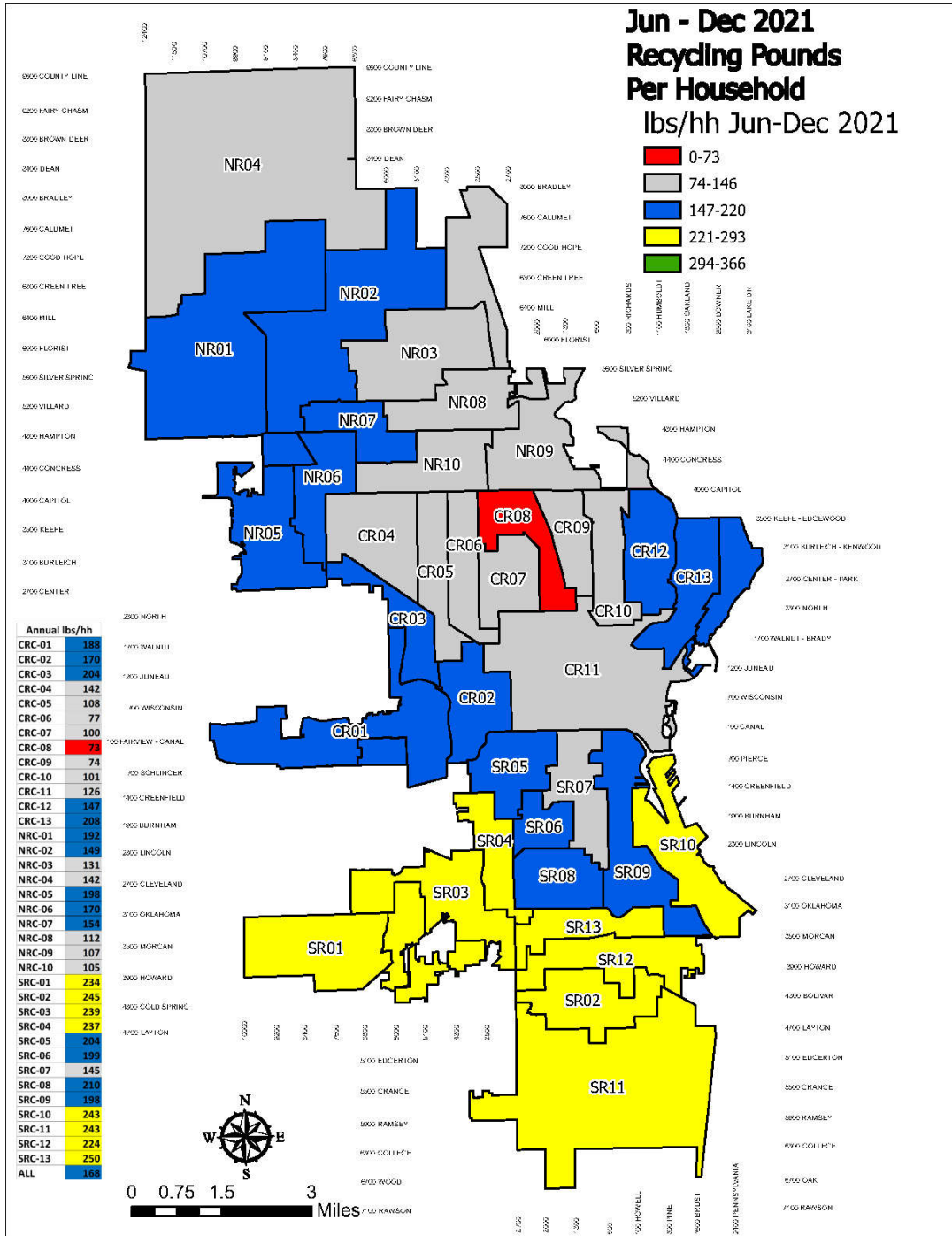
Posts include education and tips on how to reduce, reuse, recycle, and compost, helpful resources, service reminders, and special event advertising. The highest reaching post on @MKERecycles’ Twitter page in 2021 highlighted an OnMilwaukee article titled “Wait, don’t hockey puck that beer can! ...and other recycling tips” in which OnMilwaukee senior editor and writer, Bobby Tanzilo, spoke with DPW Sanitation about how to recycle right.



OnMilwaukee Article Featuring Recycling Tips From DPW Sanitation

## **4 Additional References**

# 4.1 Recycling Pounds Per Household - Every Other Week Collection Implementation



\*Pounds per household ranges adjusted to accommodate for fewer than 12 months under new every other week schedule.

## 4.2 Table 1: Residential Tons Collected

	<u>2020</u>	<u>2021</u>	<u>Change</u>	
			<u>Tons</u>	<u>Percent</u>
<b>Recycling Materials - household</b>				
Combined Paper	11,530	9,689	-1,841	-16.0%
Corrugated Cardboard	5,353	5,495	143	2.7%
Aluminum Cans	442	440	-2	-0.4%
Steel Cans	604	490	-114	-18.9%
Scrap Metal	263	342	79	29.9%
Glass Containers	4,891	6,958	2,067	42.2%
Plastic Containers	3,024	2,602	-421	-13.9%
<b>Subtotal</b>	<b>26,107</b>	<b>26,016</b>	<b>-91</b>	<b>-0.3%</b>
<b>Recycling Materials - other residential*</b>				
Appliances with Refrigerants	181	168	-14	-7.5%
Lead Acid Batteries	29	17	-12	-41.6%
Waste Tires	701	602	-99	-14.1%
Waste Oil	152	190	39	25.4%
Electronics	996	694	-301	-30.3%
Scrap Metal	1235	1,050	-185	-15.0%
Miscellaneous	35	37	2	6.7%
<b>Subtotal</b>	<b>3,329</b>	<b>2,758</b>	<b>-571</b>	<b>-17.1%</b>
<b>Yard Waste &amp; Organics</b>				
<b>Subtotal</b>	<b>33,033</b>	<b>28,918</b>	<b>-4,115</b>	<b>-12.5%</b>
<b>Total Diverted</b>	<b>62,468</b>	<b>57,692</b>	<b>-4,776</b>	<b>-7.6%</b>
<b>Household Solid Waste</b>				
Cart collection (1-4 unit HHs)	174,825	174,822	-3	0.0%
Dumpster service (>4 unit HH)	6,178	6,050	-127	-2.1%
Skid loader	5,418	4,747	-670	-12.4%
Clean & Green program	0	1,453	1,453	#DIV/0!
Miscellaneous	2,139	1,873	-266	-12.4%
<b>Subtotal</b>	<b>188,559</b>	<b>188,945</b>	<b>386</b>	<b>0.2%</b>
<b>Total Residential Solid Waste</b>	<b>251,027</b>	<b>246,637</b>	<b>-4,390</b>	<b>-1.7%</b>

\*Does not include 1,725 tons of concrete and 763 tons of asphalt shingles recycled in 2021 through the Drop Off Centers. The State of Wisconsin does not include these categories as residential in annual reporting.



### 4.3 Table 2: Residential Program Metrics

	<u>2020</u>	<u>2021</u>	<u>Change</u>
<b>Effectiveness Measures</b>			
Household Material Recycling Rate*	10.4%	10.5%	0.1%
Yard Waste Recycling Rate	13.2%	11.7%	-1.4%
Other Materials Recycling Rate**	1.3%	1.1%	-0.2%
Total Recycling Rate	24.9%	23.4%	-1.5%
Household Materials Recycling lbs. Per Household	279.19	278.22	-0.97
	<i>Percent change 2020 to 2021:</i>		<b>-0.3%</b>

#### **Efficiency Measures - Household Recycling Only**

Residential Recycling Program Costs (State rpt. method)	<b>\$ 10,866,068</b>	<b>\$ 11,274,127</b>	<b>\$ 408,059</b>
State Cost Sharing/Grant Revenue	\$ 2,310,455	\$ 2,321,264	\$ 10,809
Recyclable Commodity Sales Revenue	\$ 1,024,906	\$ 2,087,442	\$ 1,062,535
Avoided Landfill Disposal Costs	\$ 1,189,447	\$ 1,214,433	\$ 24,986
<b>Subtotal of offsets</b>	<b>\$ 4,524,809</b>	<b>\$ 5,623,139</b>	<b>\$ 1,098,330</b>
<b>Net Costs - Residential Recycling Program</b>	<b>\$ 6,341,259</b>	<b>\$ 5,650,988</b>	<b>\$ (690,271)</b>
<b>Net Cost Per Ton - Res. Recycling Program</b>	<b>\$ 242.90</b>	<b>\$ 217.21</b>	<b>\$ (25.69)</b>

\*The Comptroller's Office method of computing Household Solid Waste Tons includes garbage tons from the City's >4 unit multi-family dwelling customers, a sector not serviced by the City with recycling collection. Since the City does not have recycling tonnage figures for these customers serviced with recycling by the private sector, the resulting recycling rate is artificially low.

\*Does not include 1,725 tons of concrete and 763 tons of asphalt shingles recycled in 2021 through the Drop Off Centers. The State of Wisconsin does not include these categories as residential in annual reporting.



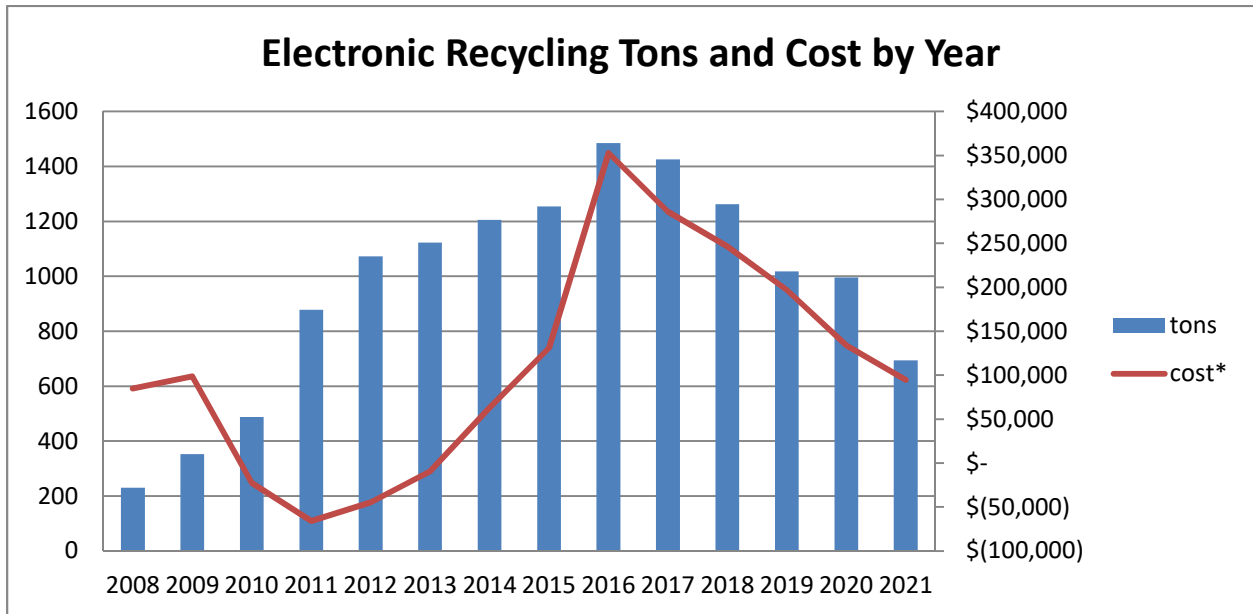
#### 4.4 Table 3: Recyclables Processing Financials

This table relates to processing of residential recyclables after collection.  
It does not include collection costs or recycling grant revenues.

	<u>2020</u>	<u>2021</u>	Change	% Change
<b>Commodity Sales Revenue</b>				
Revenue/Ton (Market Value)	\$ 66.62	\$ 125.59	\$ 58.97	88.5%
City's Share (Rev/T Received from Contractor)	38.62	\$ 78.86	\$ 40.24	104.2%
<b>Total revenue to City</b>	<b>\$ 1,024,906</b>	<b>\$ 2,087,442</b>	<b>\$ 1,062,535</b>	<b>103.7%</b>
<b>Processing Costs</b>				
Processing per ton rate	\$ 50.18	\$ 49.26	\$ (0.91)	-1.8%
Processing tons	26,106.64	26,015.88	-90.76	-0.3%
Processing costs	\$ 1,498,523	\$ 1,567,042	\$ 68,518	4.6%
<b>Net Revenue</b>				
Net revenue (received after processing)	\$ (473,617)	\$ 520,400	\$ 994,017	-209.9%
<b>Net revenue per ton</b>	<b>\$ (18.14)</b>	<b>\$ 20.00</b>	<b>\$ 38.14</b>	<b>-210.3%</b>
<b>Avoided Disposal Costs</b>				
Landfill costs per ton	\$ 45.56	\$ 46.68	\$ 1.12	2.5%
Landfill costs avoided	\$ 1,189,447	\$ 1,214,433	\$ 24,986	2.1%
<b>Total Benefit</b>				
Total Net benefit	\$ 715,830	\$ 1,734,833	\$ 1,019,003	142.4%
<b>Total Net benefit per ton</b>	<b>\$ 27.42</b>	<b>\$ 66.68</b>	<b>\$ 39.26</b>	<b>143.2%</b>

The net benefit figure compares total processing costs with recyclables revenue and avoided landfill disposal costs. In 2021, net benefits increased due to higher market values for recycled materials.

**4.5 Table 4: Electronics Recycling – Tons & Cost Per Year**



\*Negative numbers indicate revenues generated

**4.6 Table 5: Electronics Recycling – Pounds Per Month**

