



2015 DPW Annual Residential Recycling Report

Submitted September 2, 2016

Introduction and Commentary

For the sixth consecutive year, Milwaukee residents increased recycling pounds per household, with the rate having climbed 20.5% since the low year of 2009. In 2015 Milwaukee residents also increased their overall recovery rate and avoided landfilling 25.6% of their waste by utilizing curbside recycling services, drop off recycling at Self Help Drop Off Centers, and composting through both yard waste drop off programs and seasonal leaf collection.

The City's share of revenue from household recyclables was \$1.35 million in 2015 and has totaled \$8.5 million cumulatively over the past five years. The 2015 revenue was 21% below the 5 year average due to low commodity prices, as the average market value of the mix of curbside recyclables was 25% lower than the five-year average. Revenue share from sale of recyclables, State of Wisconsin local cost-share aid, and avoided disposal savings help offset the cost of providing household recycling collection service to around 180,000 households.

The City of Milwaukee's recent recycling partnership with Waukesha County culminated with the completion and start up of the joint Materials Recovery Facility (MRF) in March 2015. The capital project involved building and site upgrades and a retrofit of the City's recycling facility at 1401 W. Mt. Vernon Ave. The project came in within budget at just under \$16 million with cost split roughly \$9 mil for City of Milwaukee and \$7 mil for Waukesha County. State of the art, single sort processing equipment was installed in the building and is operated by private contractor ReCommunity. As planned, the facility is successfully serving the City of Milwaukee and many communities in Waukesha County and at reduced cost to our residents. The MRF is also accommodating a portion of other recycling tons from the region to fill out its capacity on a one shift operation while employing about 40 people in the Menomonee Valley.

-Rick Meyers, Sanitation Services Manager, DPW Operations Division



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MilwaukeeRecycles.com

Recycling Program Report—2015

Results and Achievements

- Citywide in 2015, DPW collected 25,191 tons of residential recyclables. This number is virtually unchanged from 2014. **Milwaukee residents have achieved a 16% increase in recycling pounds per household over the past 5 years.**
- Five-year results and comparisons from 2010-2015:
 - Recycling tons ↑13%
 - Recycling pounds per household ↑16%
- Residents’ participation in the household recycling program **avoided over \$1,084,000 in landfill disposal costs** in 2015 and **earned \$1.35 million in revenue** from the sale of recyclables. Without including the cost of collection services, the City realized a savings of over \$54 per ton of materials recycled instead of sent to a landfill.
- The City’s residential landfill diversion rate was 25.6% in 2015. This was an increase of 0.7 percentage points over 2014 and 1.4 points above the 5-year average of 24.2%. The increase was most significantly led by a 5.6% increase in yard waste and a 7.4% increase in materials recycled through the Self Help Drop Off Centers (appliances with refrigerants, lead acid batteries, scrap metal, electronics, etc.)

Aggressive Resource Recovery Programs at Self Help Drop Off Centers

- **Half of the material managed through the Self Help Drop Off Centers was diverted from landfills in 2015.** Over 207,000 trips were made by residents to DPW’s two Self-Help Drop Off Centers in 2015. The drop-off facilities allow residents to recycle, compost, or safely dispose of over a dozen material categories.

<p>Recycled</p> <ul style="list-style-type: none"> • Antifreeze • Car batteries • Motor oil and filters • Tires (up to 5 passenger tires per trip) • Appliances • Scrap Metal • Asphalt Shingles • Concrete • Electronics • Cooking oil • Shoes • Curbside recyclables 	<p>Composted</p> <ul style="list-style-type: none"> • Brush and branches • Grass clippings • Garden debris • Leaves • Logs <hr/> <p>Landfilled</p> <ul style="list-style-type: none"> • Construction and remodeling debris* • Old furniture • Garbage <p style="font-size: small;">*This material stream is routinely sent to a private Construction & Demolition debris processing facility for recovery of a large portion of it and landfill disposal of rest.</p>
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- **Over 2.5 million pounds of electronics** were collected at Self-Help Drop Off Centers in 2015, the fifth full calendar year of the *E-Cycle Wisconsin* producer responsibility program that was created through state legislation in 2009. (See graph of e-scrap recycled 2008 – 2015, page 8.) Continuing an annual rise in recent years, 2015 collections translate to about 4.2 pounds of electronics recycled per capita in the City of Milwaukee.
- Once considered merely “City dumps,” over the years DPW has diversified the Self Help Drop Off Centers to expand recycling services and to make these sites into functioning resource recovery parks.

Compliance Enforcement

Enforcement of local recycling ordinances is conducted by DPW and its Sanitation Inspectors and administered by the recycling office. These ordinances are required by Wisconsin state law as is maintaining and carrying out a plan to ensure compliance. Throughout the compliance enforcement process, education and guidance is offered to property owners to assist them in the implementation of recycling programs. Below is a summary of recycling enforcement activity by DPW in 2015.

Property Type	Written warnings	Citations	Fine amount
1-4 units residential	865	526	\$12,560.92
5+ units residential	4	8	\$0
Non-residential (business)	10	14	\$0

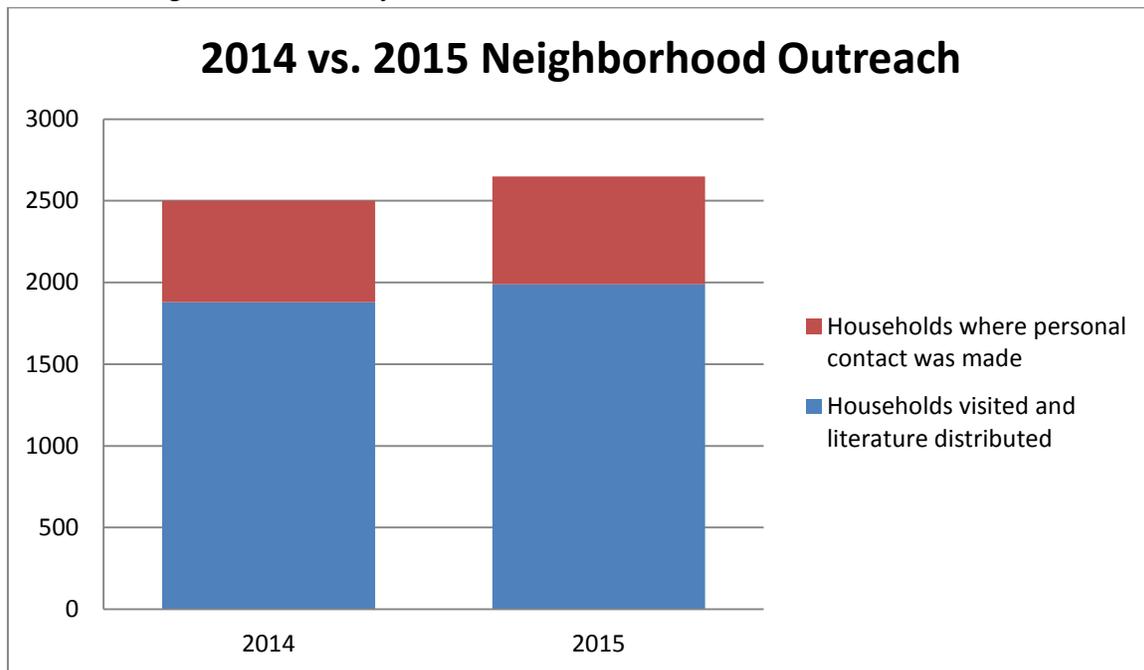
68 of the citations issued to 1-4 unit residential properties for contaminated carts were for second or subsequent offenses.

Education, Outreach and *Recycle For Good* - 2015 Campaign Update

2015 Neighborhood Campaigns – Recycling Outreach

Since the beginning of the *Recycle For Good* campaign, DPW has visited over 17,800 households in Milwaukee neighborhoods to provide recycling education directly to residents. Throughout the years, DPW has often partnered with non-profit environmental and community groups to conduct the neighborhood campaigns. In 2014, grassroots outreach continued and **targeted over 2,600 households**. The department worked with youth interns participating in the City of Milwaukee’s summer “Earn and Learn” program. Interns participating in this program were educated on the City’s recycling program and trained on outreach techniques. Interns conducted door-to-door canvassing in targeted areas of the city with the lowest recycling rates. Each year, outreach efforts are designed to reach residents using personal

contact. Rather than simply dropping off literature, interns knocked on doors and spoke with residents if they were at home. During the summer of 2015, interns had direct contact with residents at 660 households and spoke with them about recycling, provided copies of their collection schedules, asked for commitments to increase participation, and left behind information on the City’s curbside recycling program. Residents were also reminded not to place plastic bags and film in curbside recycling carts, but to take them back to participating retailers and grocers to be recycled.



Community Education Initiatives

- Recycling education to schoolchildren remains a strong component of the recycling outreach program. An ongoing partnership between DPW and Keep Greater Milwaukee Beautiful continues to provide educational programming, tours, and activities each year.



- 1,925 students from 28 different schools and 790 adults participated in educational programs and tours of Milwaukee’s recycling facilities.

- A partnership that DPW helped forge between Keep Greater Milwaukee Beautiful (KGMB), Milwaukee Public Schools and Waste Management of Wisconsin Inc. continued, providing recycling education to hundreds more students through classroom visits by KGMB staff. Additional students also received educational recycling

programming during after school and summer camps provided through collaboration with KGMB and MPS.

- For the first year the Materials Recovery Facility was a participating location in Doors Open Milwaukee. Over 500 visitors learned about the City’s recycling program and toured the facility.



- DPW utilized its annual Waste Reduction and Recycling fall mailer to educate residents on the City’s Single-Sort recycling program and encourage everyone to “Recycle Right” and make sure they are recycling the correct items.



- The feature recycling article highlighted a list of reasons to reduce contamination and identified the “Dirty Dozen”, a list of items that are most problematic and common.
- The mailer also included detailed recycling guidelines and a “How Do I” section providing information on proper disposal or recycling of electronics, bulky items, brush and appliances. A detailed disposal fact sheet provided guidelines on the disposal and recycling of a wide variety of household items. Other topics included year-round garbage cart set out and winter recycling collection, information on the new Materials Recovery Facility, Project Clean & Green, plastic bag and film recycling, Self-Help Centers and household hazardous waste.
- To access DPW’s annual fall mailers, please visit www.MilwaukeeRecycles.com and go to the “Media Room” under “Learn More”.

Recycle For Good – 2015 Campaign Update

The citywide *Recycle For Good* (RFG) promotional campaign was essentially paused in 2015 due to a lack of dedicated funding. Nevertheless, its website and social media presence, limited print materials, and display booth at public events continued to raise awareness of DPW’s recycling program and promote the benefits of recycling. Since the launch of the campaign in 2008, it has focused resources both on targeted underperforming recycling areas as well as the city at large. Over the years, the RFG campaign has followed a multi-media strategy that has utilized, among other things: print, online, radio and outdoor graphics installed onto the sides of recycling trucks.

Campaign activities this past year included:

- Past installed signage promoting the campaign continued to be displayed on recycling trucks
- Social media updates

- Press releases and e-blasts highlighted various waste reduction, reuse and recycling topics:
 - Holiday waste reduction and recycling tips
 - Electronics recycling
 - Food waste reduction
 - Composting Christmas trees through the City's Self-Help Centers
- Website updates including the beginning phases of a complete website redesign

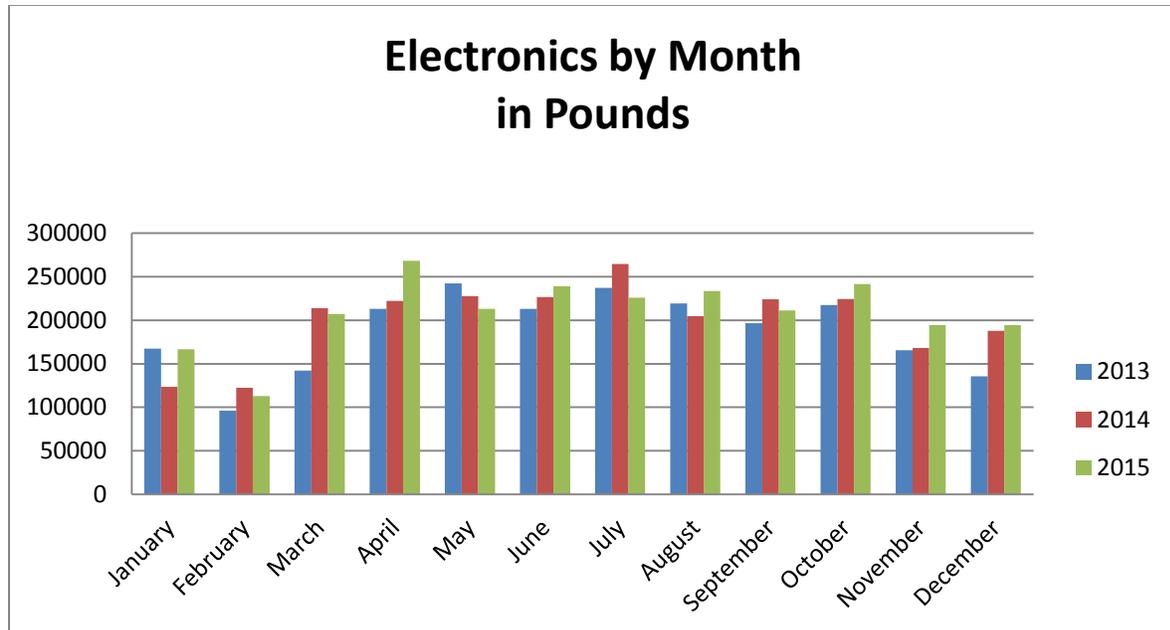
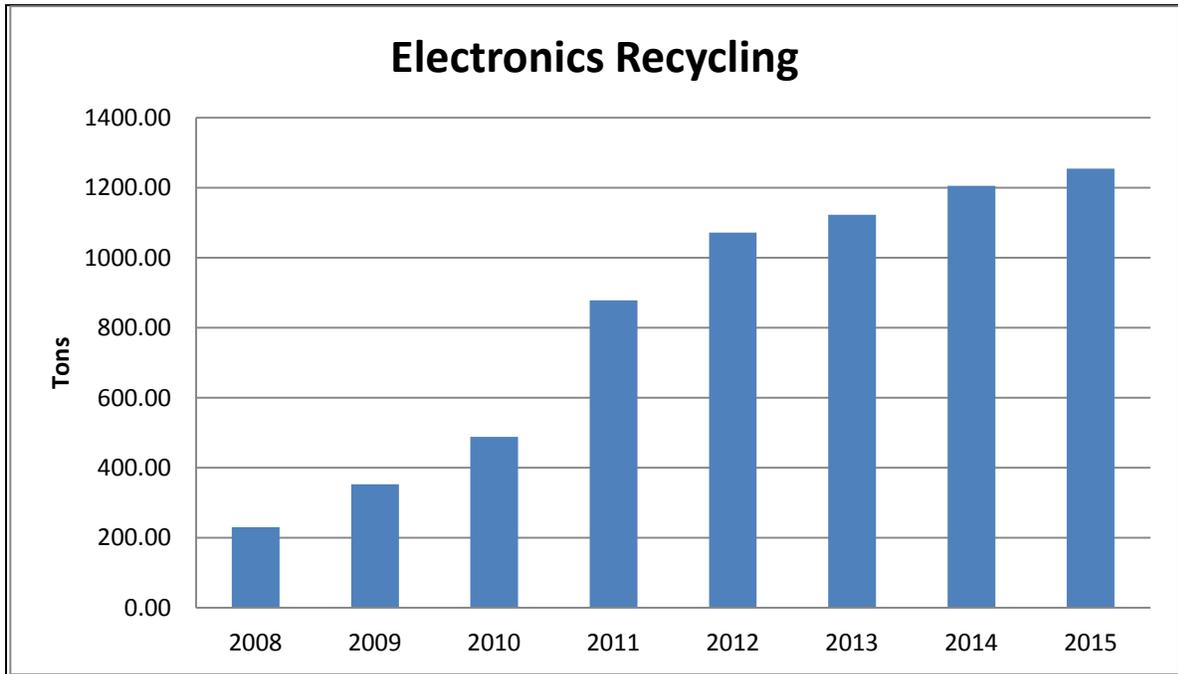
2015 Compost Bin & Rain Barrel truckload sale

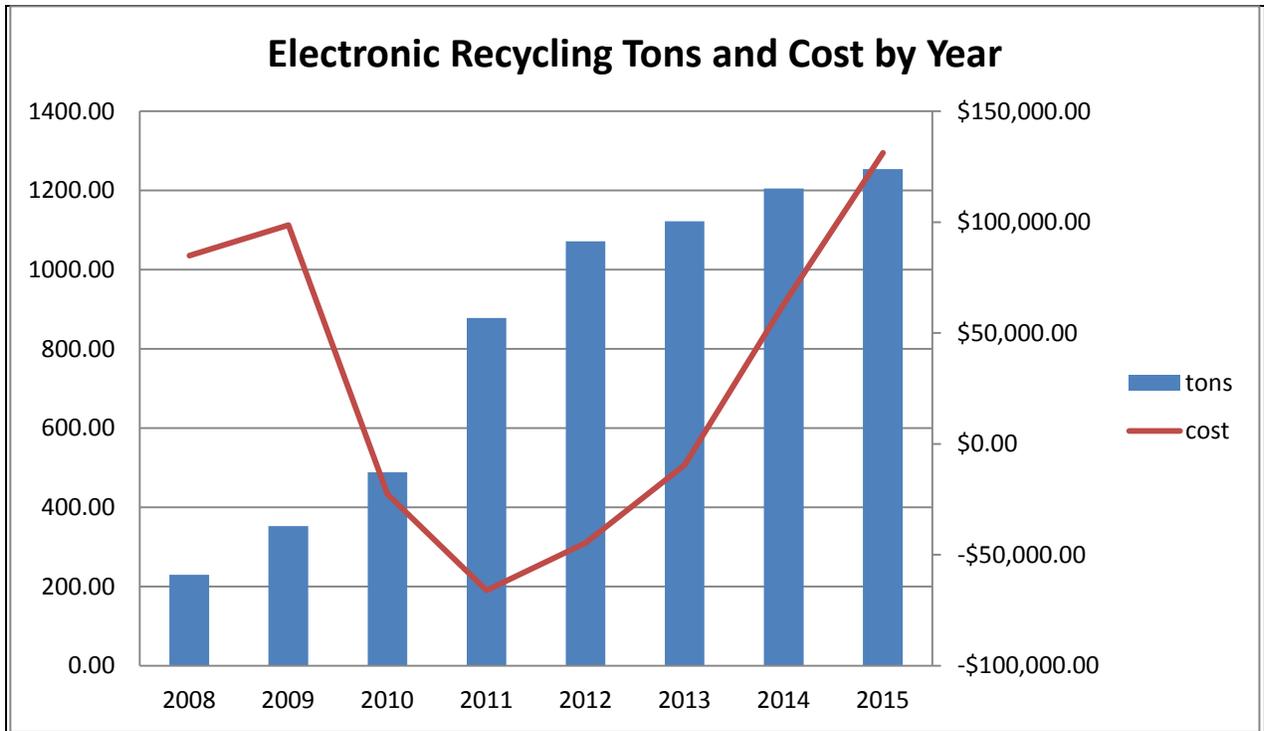
In 2015, DPW held its fourth compost bin and rain barrel truckload sale to once again promote composting and rainwater harvesting. A new location was selected for the 2015 sale. This year, the sale was located at Wilson Park in the parking lot of the Senior Center. Compost bins and rain barrels were offered at significant savings from regular retail prices. Over 589 participants attended, mostly City of Milwaukee residents, purchasing nearly 850 compost bins and rain barrels.



Ten 10-second promotional radio spots were run on WJMR to promote the event. It was also listed in WJMR's Community page and E-blast promotion.

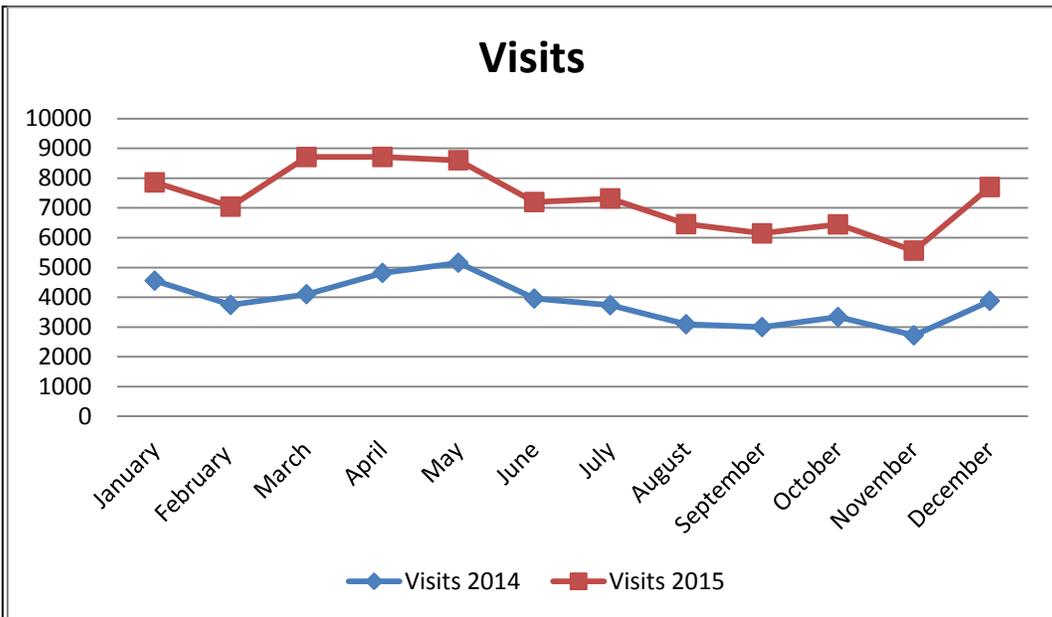
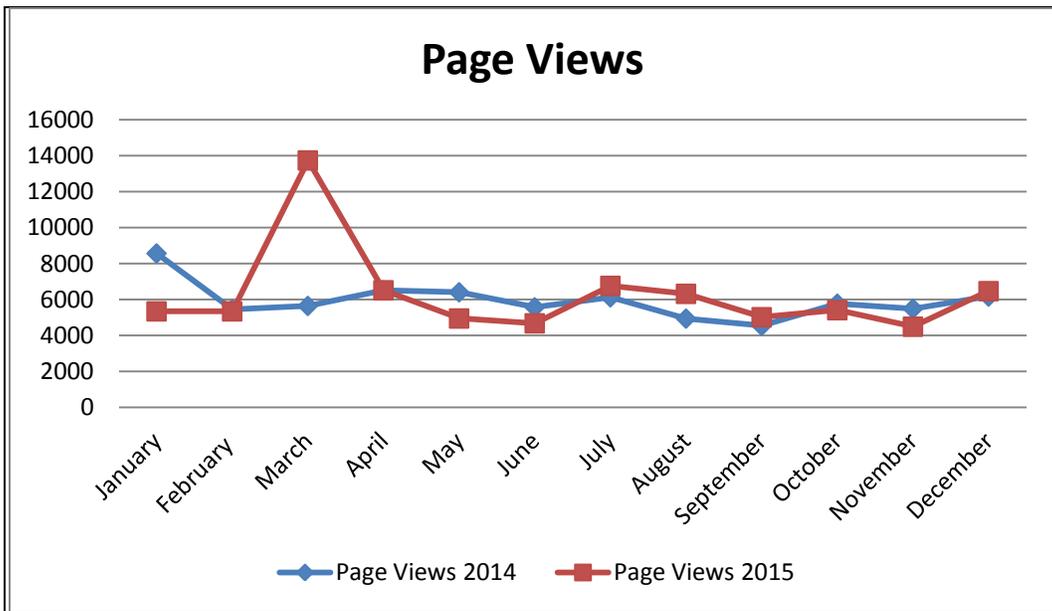
Popular Electronics Recycling Program Continued Growth





*Negative numbers indicate revenues generated

Web Analytics 2015



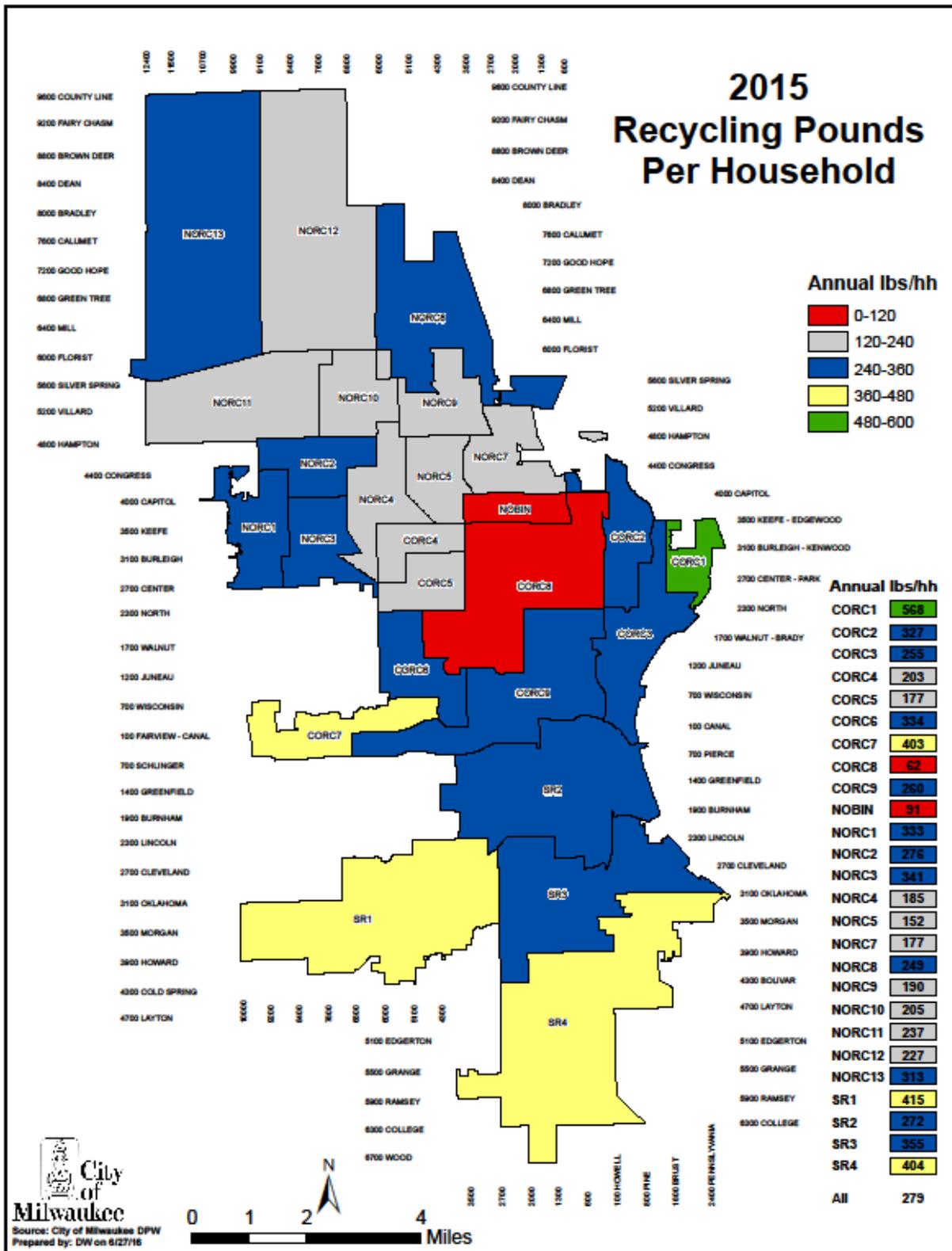


Table 1
Residential Tons Collected
2014 - 2015

	<u>2014</u>	<u>2015</u>	<u>Change</u>	
			<u>Tons</u>	<u>Percent</u>
Recycling Materials - household				
Combined Paper	13,059	11,868	-1,191	-9.1%
Corrugated Cardboard	2,084	3,448	1,364	65.5%
Aluminum Cans	252	239	-13	-5.1%
Steel Cans	670	815	144	21.6%
Glass Containers	7,155	6,068	-1,086	-15.2%
Plastic Containers	2,054	2,753	700	34.1%
Subtotal	25,273	25,191	-82	-0.3%
Recycling Materials - other residential*				
Appliances with Refrigerants	98	136	38	38.9%
Lead Acid Batteries	3.1	5.0	1.9	60.3%
Waste Tires	748	691	-58	-7.7%
Waste Oil	139	122	-17	-11.9%
Electronics	1,205	1,254	49	4.1%
Scrap Metal	650	850	201	30.9%
Miscellaneous	40	38	-2	-5.3%
Subtotal	2,883	3,096	213	7.4%
Yard Waste				
Subtotal	32,232	34,045	1,813	5.6%
Total Diverted	60,388	62,332	1,944	3.2%
Household Solid Waste				
Cart collection (1-4 unit HHs)	158,241	158,235	-6	0.0%
Dumpster service (>4 unit HH)	16,630	15,741	-889	-5.3%
Skid loader	3,161	3,453	292	9.2%
Clean & Green program	1,772	1,329	-443	-25.0%
Miscellaneous	2,049	2,303	254	12.4%
Subtotal	181,853	181,062	-792	-0.4%
Total Residential Solid Waste	242,241	243,394	1,153	0.5%

*Does not include 5,258 T of concrete and asphalt shingles recycled in 2015 through the Self Help Centers. The State of Wisconsin does not include these categories as residential in annual reporting.

Table 2
Residential Program Metrics
2014 - 2015

	<u>2014</u>	<u>2015</u>	<u>Change</u>
Effectiveness Measures			
Household Material Recycling Rate*	10.4%	10.4%	-0.1%
Yard Waste Recycling Rate	13.3%	14.0%	0.7%
Other Materials Recycling Rate**	1.2%	1.3%	0.1%
Total Recycling Rate	24.9%	25.6%	0.7%
Household Materials Recycling lbs. Per Household	279.00	279.92	0.93
	<i>Percent change 2014 to 2015:</i>		0.3%

Efficiency Measures - Household Recycling Only

Residential Recycling Program Costs (State rpt. method)	\$10,775,955	\$10,793,866	\$ 17,911
State Cost Sharing/Grant Revenue	\$ 2,322,775	\$ 2,322,494	\$ (281)
Recyclable Commodity Sales Revenue	\$ 1,671,427	\$ 1,348,980	\$ (322,447)
Avoided Landfill Disposal Costs	\$ 1,021,387	\$ 1,084,253	\$ 62,866
Subtotal of offsets	\$ 5,015,589	\$ 4,755,727	\$ (259,863)
Net Costs - Residential Recycling Program	\$ 5,760,366	\$ 6,038,139	\$ 277,774
Net Cost Per Ton - Res. Recycling Program	\$ 227.92	\$ 239.69	\$ 11.77

*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 5,258 T of concrete and asphalt shingles recycled in 2015 through the Self Help Centers. The State of Wisconsin does not include these categories as residential, Municipal Solid Waste, in annual reporting.

Table 3
Recyclables Processing Financials Comparison
2014 - 2015

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

	<u>2014</u>	<u>2015</u>	Change	% Change
Commodity Sales Revenue				
Revenue/Ton (Market Value)	\$ 81.79	\$ 70.59	\$ (11.20)	-13.7%
City's Share (Rev/T Received from Contractor)	\$ 65.43	\$ 56.47	\$ (8.96)	-13.7%
Total revenue to City	\$ 1,671,427	\$ 1,348,980	\$ (322,447)	-19.3%
Processing Costs				
Processing per ton rate	\$ 52.22	\$ 42.04	\$ (10.18)	-19.5%
Processing tons	25,297.61	25,215.19	-82.42	-0.3%
Processing costs	\$ 1,320,952	\$ 1,060,032	\$ (260,921)	-19.8%
Net Revenue				
Net revenue (received)	\$ 350,475	\$ 288,948	\$ (61,527)	-17.6%
Net revenue per ton	\$ 13.85	\$ 11.46	\$ (2.39)	-17.3%
Avoided Disposal Costs				
Landfill costs per ton	\$ 40.37	\$ 43.00	\$ 2.63	6.5%
Landfill costs avoided	\$ 1,021,387	\$ 1,084,253	\$ 62,866	6.2%
Total Benefit				
Total Net benefit	\$ 1,371,862	\$ 1,373,201	\$ 1,339	0.1%
Total Net benefit per ton	\$ 54.23	\$ 54.46	\$ 0.23	0.4%

The net benefit figure compares total processing costs with recyclables revenue and avoided landfill disposal costs. In 2015, revenue declined due to depressed commodity prices.