2014 DPW Annual Residential Recycling Report

Submitted 9/28/15

Introduction and Commentary

For the fifth consecutive year, Milwaukee residents increased their recycling totals through DPW's curbside collection program. While the year over year change was minor in 2014, recycling over a five-year period has increased 14% on a tonnage basis and 20% on a pounds per household basis.

The City's share of revenue from household recyclables was $1.67 million in 2014 and has totaled $8.2 million cumulatively over the past five years. Revenue, 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's recycling facility at 1401 W. Mt. Vernon Ave underwent a capital project from May 2014 through early 2015 that involved building and grounds renovation and repairs as well as replacement of the old dual stream sorting equipment. State of the art, single sort processing equipment was installed in the building in partnership with Waukesha County, and the new system began operating in March of 2015. The newly retrofitted Materials Recovery Facility (MRF) is operated by private contractor ReCommunity and serves both the City of Milwaukee and many communities in Waukesha County.

-Rick Meyers, Resource Recovery Program Manager, DPW

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Recycling Program Report—2014

Results and Achievements

- Citywide in 2014, DPW collected 25,273 tons of residential recyclables. Compared to 2013, this represented about a one percent increase in tons and about a half percent increase on a pounds per household basis. **Milwaukee residents have achieved a 20% increase in recycling pounds per household over the past 5 years**.

- Five-year results and comparisons from 2009-2014:
  - Recycling tons ↑14%
  - Recycling pounds per household ↑20%
  - During the guaranteed collection schedule season (April through November):
    - Missed collection complaints ↓ 36% (whole year ↓ 27%)
    - Recycling pick up day inquiries: ↓ 99% (whole year ↓ 97%)

- Residents' participation in the household recycling program **avoided over $1,021,000 in landfill disposal costs** in 2014 and **earned over $1.67 million in revenue** from the sale of recyclables. Overall, the City realized a savings of about $54 per ton of materials recycled instead of sent to a landfill.

- The City's residential landfill diversion rate was 24.9% in 2014. This was an increase of 1.1 percentage points over 2013 and 1.5 points above the 5-year average of 23.4%. The increase was most significantly led by a 7% year over year increase in yard waste tons.

Aggressive Resource Recovery Programs at Self Help Centers

- **Half of the material managed through the Self Help Centers was diverted from landfills in 2014**. Over 215,000 trips were made by residents to DPW's two Self-Help Centers in 2014. The drop-off facilities allow residents to recycle, compost, or safely dispose of over a dozen material categories including scrap metal, used oil, used oil filters, antifreeze, tires, residential asphalt shingles, residential carpet & padding, used cooking oil, appliances, electronics, concrete, bricks and blocks, clean fill dirt, grass clippings, and brush.

- **Over 2.4 million pounds of electronics** were collected at Self-Help Centers in 2014, the fourth 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 – 2014, page 9.) Continuing an annual rise in recent years, 2014 collections translate to about 4 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 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 2014.

Property Type	Written warnings	Citations	Fine amount
1-4 units residential	885	677	$22,595.00
5+ units residential	15	1	$109.20
Non-residential (business)	8	0	$0.00

Forty-one 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* - 2014 Campaign Update

2014 Neighborhood Campaigns – Recycling Outreach

Since the beginning of the *Recycle For Good* campaign, DPW has visited over 15,200 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 2,500 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 2014, interns had direct contact with residents at 620 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.
  - 2,387 students and 403 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.
  - Community education efforts by Keep Greater Milwaukee Beautiful also included hosting three job fairs and developing a brochure that highlighted careers in the environmental field. KGMB interviewed a wide variety of professionals in the environmental field to form the basis for career fact sheets. Two career interns were hired with the financial support of Waste Management to assist with interviews and brochure creation.

- 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 "Re-Think Recycling" and make sure they are recycling as much as possible. The feature recycling article highlighted a list of recyclable items that are commonly missed, including paper egg cartons, shampoo bottles, toilet paper cores, junk mail and more.

- 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, DPW's 2013 food waste reduction study and demonstration project in partnership with InSinkErator, composting and rainwater harvesting, leaves and brush, 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".

- Through a press release and e-blast to nearly 2,000 recipients, DPW highlighted various holiday waste reduction, reuse and recycling topics:
  - Recycling of beverage containers, cardboard gift boxes and acceptable greeting cards and wrapping paper
  - Electronics recycling
  - Food waste reduction

- Composting Christmas trees through the City's Self-Help Centers
- Reuse of non-recyclable items like tissue paper, ribbons and bows
- Giving gifts of experience rather than packaged products
- Repurposed and reusable gift wrap ideas

Recycle For Good – 2014 Campaign Update

The citywide *Recycle For Good* (RFG) campaign, while short on funding in 2014, 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**.** (See separate report, "***Recycle for Good, Milwaukee! Campaign Overview, 2008 – 2014***" for more information on the background, development, and achievements of the RFG campaign through 2014.) In 2014, campaign resources were again dedicated to city wide education on the City's Single-Sort program, the new materials added to the program, and the various products they may become. Campaign activities this past year included:

- Limited duration on-air and online radio promotion:
  - Radio schedules on WJMR, WKKV, WKLH, WLWK, WMYX, WRIT and WTMJ.
  - Banner ads on WKLH
  - Banner ad campaign on: Goodway Network, Facebook Exchange.
  - Five 15-second bonus spots, WLWK
  - Ten-second sponsorship live reads on WKLH, WJMR, WRIT and WKKV.
  - Pledge to Recycle content on WJMR and WKLH, including banner ad and inclusion in e-blast
  - 98.3 online "Recycler of the Month" contest for which the public was encouraged to pledge to improve recycling habits in turn for the chance to win prizes such as cinema and theater tickets, and gift certificates to local stores and restaurants.
  - The *Recycle For Good* campaign radio buy garnered many value-added promotional mentions, including ten-second spots on WJMR promoting the City's recycling program and compost bin and rain barrel truckload sale, as well as an interview for Entercom's Community Affairs Program that aired on WXSS, WMYX and WSSP.

- See graphs of web traffic, 2014 vs. 2013, page 10.

2014 Compost Bin & Rain Barrel truckload sale

In 2014, DPW held its third compost bin and rain barrel truckload sale to once again promote composting and rainwater harvesting. Compost bins and rain barrels were offered at significant savings from regular retail prices. Over 250 participants attended, mostly City of Milwaukee residents, purchasing nearly 600 compost bins, rain barrels and accessories.

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.

Food Waste Reduction Study and Demonstration Project

DPW promotes the use of backyard compost bins as well as in-sink food waste disposers (in partnership with MMSD) as effective methods of reducing food and other organic waste from their households. During the summer of 2014, another waste sort was conducted as a follow up to DPW's 2013 food waste reduction study and demonstration project in partnership with InSinkErator. The 2014 waste sort allowed further analysis of waste generation habits of households that were a part of the project. The program had involved about 175 households that participated in one of two subgroups: one utilizing in-sink disposal units and the other utilizing backyard compost bins. Through the study, the efficacies of both of these strategies for reducing food waste in the city's residential waste stream were examined. The project area boundaries were roughly W. Mitchell on the north to W. Lincoln Ave on the south, and from about 20th St to 32nd St, east to west. This area belonged to a garbage route with the highest generation of waste in the City.

Final conclusions after the 2014 waste sorts:
Both backyard composting and food waste disposers reduced food waste to landfill about 25%.

Participant survey results:
While no post project surveys were conducted of the composter participants, InSinkErator reported that disposer participant surveys revealed a high level of satisfaction with the disposers and reported a variety of benefits from their use including reduced odors and trash, easier and faster kitchen clean up and reduced flies and pests.

Plastic Bag and Film Recycling

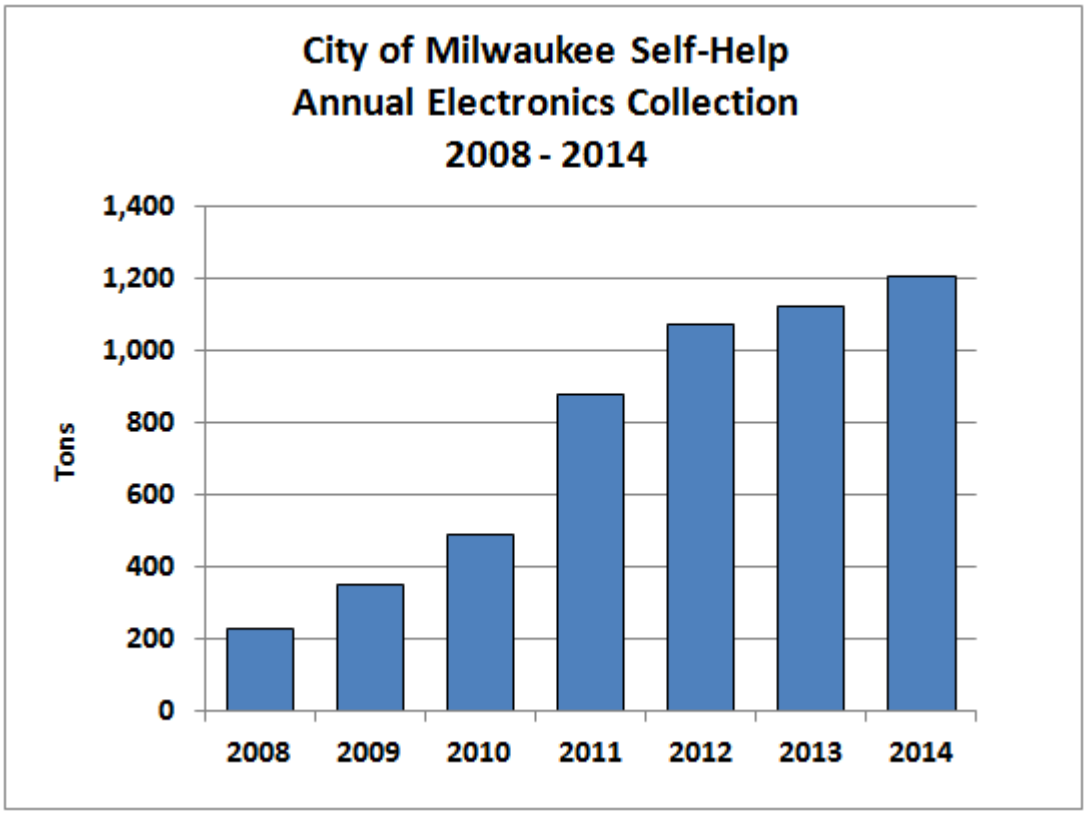
WRAP campaign banner

During the fall of 2014, planning was underway for a second plastic bag and film recycling awareness pilot campaign as a part of the Wrap Recycling Action Program (WRAP) in the City of Milwaukee. The campaign will involve ten Milwaukee area Roundy's grocery stores and aims to increase customers' participation in their plastic bag and film recycling programs. Participating stores will receive new collection containers and informational signage during the campaign period to catch customers' attention and encourage them to recycle plastic bag and wrap items beyond just grocery bags. Baseline and campaign data will be collected through the use of different colored bags which will be easily spotted and pulled for analysis.

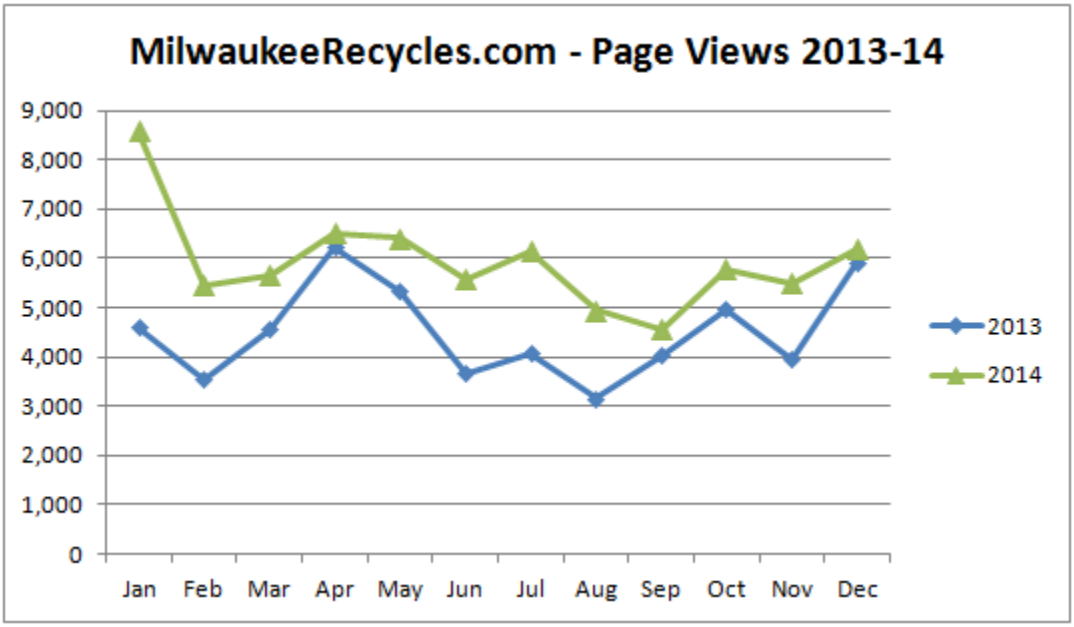
These efforts followed the City's 2013 kick-off of the WRAP campaign. In the fall of that year, a mayoral proclamation and a common council commendation were issued declaring October 2013 as "Milwaukee Plastic Film Recycling Awareness Month." The Mayor challenged Milwaukee residents to dramatically increase recycling of plastic grocery bags and more: dry-cleaning bags, newspaper bags, bread bags, produce bags, plus plastic wraps for water bottle cases, paper towels, and other plastic film. Milwaukee provided the launch of the WRAP campaign that would later expand statewide.

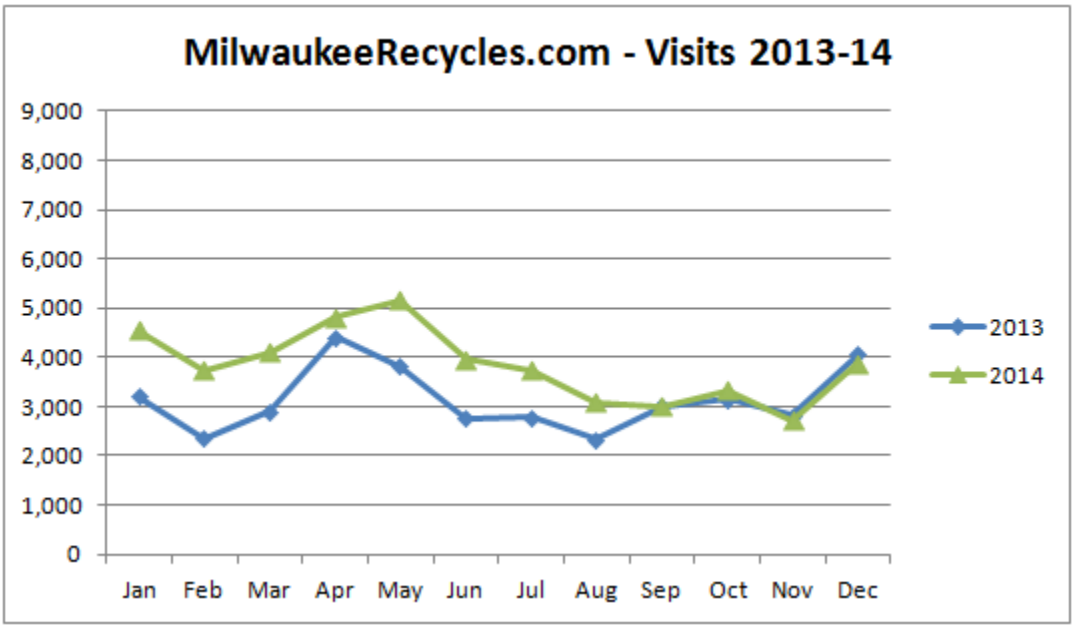
The state wide WRAP project is a public-private voluntary partnership between the Wisconsin Department of Natural Resources (DNR), the American Chemistry Council's Flexible Film Recycling Group (FFRG) and GreenBlue and the Sustainable Packaging Coalition (SPC).

Popular Electronics Recycling Program Continued Growth

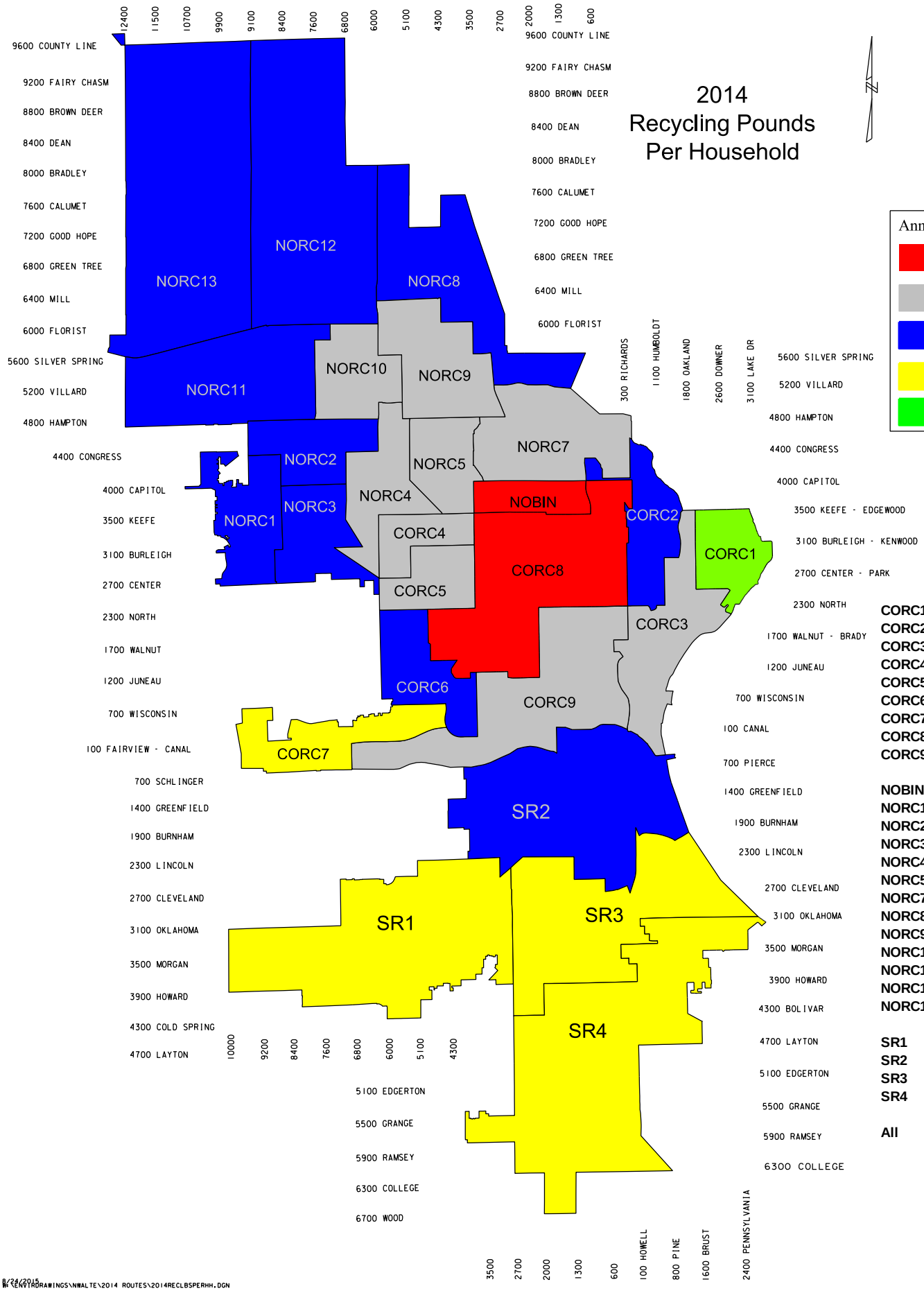


Web Analytics 2014





2014 Recycling Pounds Per Household



	Annual lbs/hh
CORC1	539
CORC2	301
CORC3	217
CORC4	238
CORC5	170
CORC6	324
CORC7	417
CORC8	51
CORC9	240
NOBIN	94
NORC1	351
NORC2	261
NORC3	319
NORC4	198
NORC5	148
NORC7	197
NORC8	276
NORC9	206
NORC10	226
NORC11	253
NORC12	241
NORC13	278
SR1	421
SR2	315
SR3	365
SR4	407
All	279

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Recycling Weights Change in lbs per Household 2010-2014

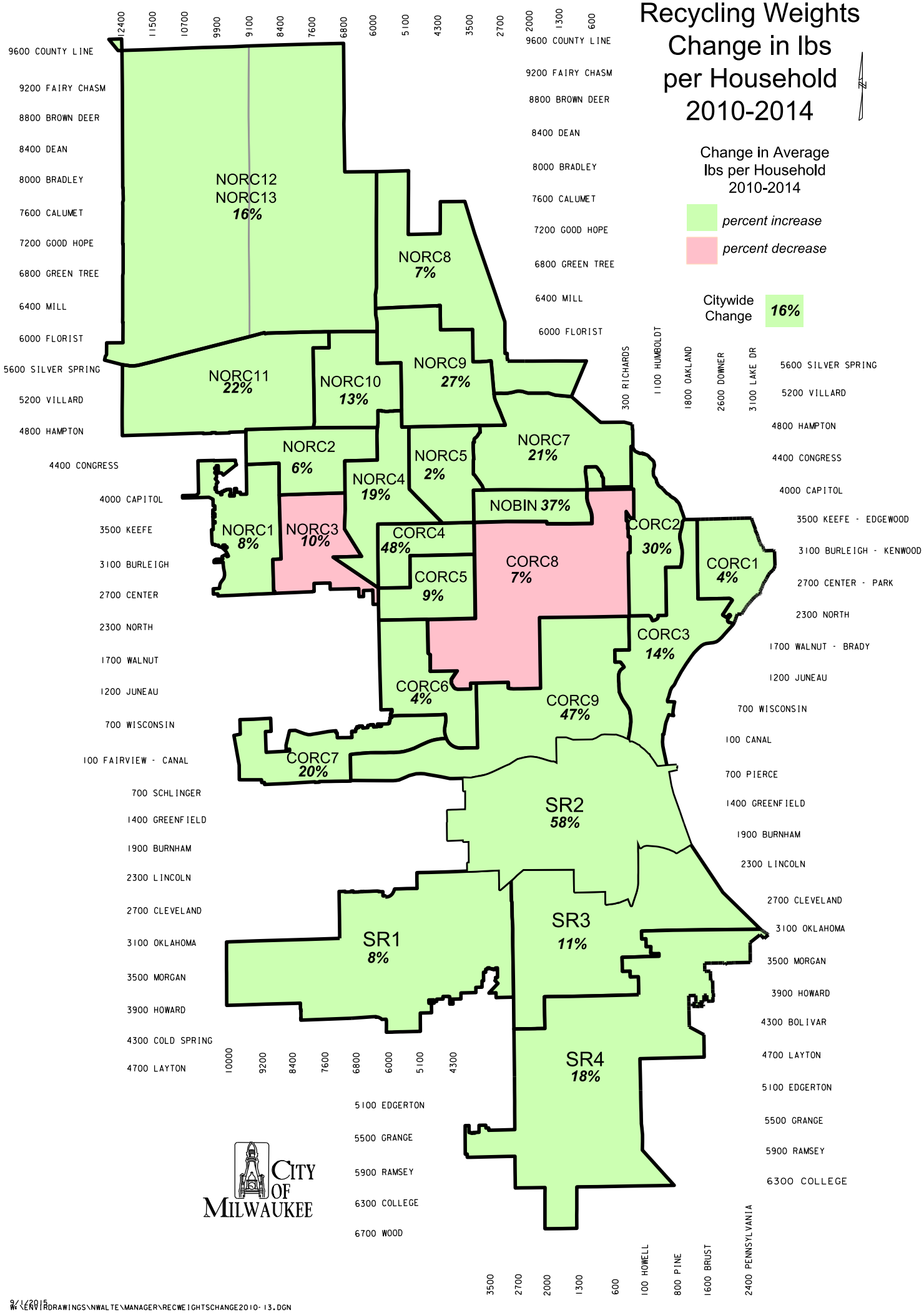

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Table 1
Residential Tons Collected
2013 - 2014

	2013	2014	Change Tons	Change Percent
Recycling Materials - household				
Combined Paper	12,746	13,059	313	2.5%
Corrugated Cardboard	2,340	2,084	-257	-11.0%
Aluminum Cans	231	252	21	9.1%
Steel Cans	748	670	-78	-10.4%
Glass Containers	6,795	7,155	359	5.3%
Plastic Containers	2,191	2,054	-137	-6.3%
Subtotal	25,052	25,273	221	**0.9%**
Recycling Materials - other residential*				
Appliances with Refrigerants	92	98	5	5.9%
Lead Acid Batteries	1.4	3.1	1.7	123.0%
Waste Tires	665	748	83	12.5%
Waste Oil	141	139	-3	-1.9%
Electronics	1,120	1,205	85	7.6%
Scrap Metal	598	650	51	8.5%
Miscellaneous	122	40	-81	-66.9%
Subtotal	2,741	2,883	142	**5.2%**
Yard Waste				
Subtotal	30,070	32,232	2,163	**7.2%**
Total Diverted	57,862	60,388	2,526	**4.4%**
Household Solid Waste				
Cart collection (1-4 unit HHs)	160,988	158,241	-2,747	-1.7%
Dumpster service (>4 unit HH)	17,086	16,630	-456	-2.7%
Skid loader	2,959	3,161	202	6.8%
Clean & Green program	1,915	1,772	-143	-7.5%
Miscellaneous	2,371	2,049	-322	-13.6%
Subtotal	185,319	181,853	-3,466	**-1.9%**
Total Residential Solid Waste	243,181	242,241	-940	**-0.4%**

***Does not include 6,056 T of concrete and asphalt shingles recycled in 2014 through the Self Help Centers. The State of Wisconsin does not include these categories as residential in annual reporting.

Table 2
Residential Program Metrics
2013 - 2014

Effectiveness Measures	2013	2014	Change
Household Material Recycling Rate*	10.3%	10.4%	0.1%
Yard Waste Recycling Rate	12.4%	13.3%	0.9%
Other Materials Recycling Rate**	1.1%	1.2%	0.1%
Total Recycling Rate	23.8%	24.9%	1.1%
Household Materials Recycling lbs. Per Household	277.90	279.00	1.10
	Percent change 2013 to 2014:		**0.4%**

Efficiency Measures - Household Recycling Only			
Residential Recycling Program Costs (State rpt. method)	**$9,187,019**	**$ 10,775,955**	**$ 1,588,936**
State Cost Sharing/Grant Revenue	$2,325,945	$ 2,322,775	$ (3,170)
Recyclable Commodity Sales Revenue	$1,774,648	$ 1,671,427	$ (103,221)
Avoided Landfill Disposal Costs	$ 939,772	$ 1,021,387	$ 81,616
Subtotal of offsets	**$5,040,365**	**$ 5,015,589**	**$ (24,775)**
Net Costs - Residential Recycling Program	**$4,146,654**	**$ 5,760,366**	**$ 1,613,711**
Net Cost Per Ton - Res. Recycling Program	$ 165.52	$ 227.92	$ 62.40

*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 6,056 T of concrete and asphalt shingles recycled in 2014 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
2013 - 2014

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

	2013	2014	Change	% Change
Commodity Sales Revenue				
Revenue/Ton (Market Value)	$ 87.59	$ 81.79	$ (5.80)	-6.6%
City's Share (Rev/T Received from Contractor)	$ 70.07	$ 65.43	$ (4.64)	-6.6%
Total revenue to City	**$ 1,774,648**	**$ 1,671,427**	$ (103,221)	**-5.8%**
Processing Costs				
Processing per ton rate	$ 51.29	$ 52.22	$ 0.93	1.8%
Processing tons	25,089.21	25,297.61	208.40	0.8%
Processing costs	**$ 1,286,812**	**$ 1,320,952**	$ 34,140	2.7%
Net Revenue				
Net revenue (received)	$ 487,836	$ 350,475	$ (137,361)	-28.2%
Net revenue per ton	**$ 19.44**	**$ 13.85**	**$ (5.59)**	**-28.8%**
Avoided Disposal Costs				
Landfill costs per ton	$ 37.46	$ 40.37	$ 2.91	7.8%
Landfill costs avoided	**$ 939,772**	**$ 1,021,387**	**$ 81,616**	8.7%
Total Benefit				
Total Net benefit	**$ 1,427,608**	**$ 1,371,862**	**$ (55,745)**	-3.9%
Total Net benefit per ton	**$ 56.90**	**$ 54.23**	**$ (2.67)**	**-4.7%**

The net benefit figure compares total processing costs with recyclables revenue and avoided landfill disposal costs. In 2014, revenue declined due to falling commodity prices as well as a changing recyclable stream composition reflecting a growing proportion by weight of glass, a low value material.