2011 DPW Annual Residential Recycling Report

Submitted 5/21/12

Introduction and Commentary

2011 brought some very exciting changes in the recycling program for Milwaukee residents. In September, new materials were added to the list of acceptable items in the residential recycling program. These included plastic tubs and lids (#2,4,5), bulky #2 plastics (such as crates and buckets), pots and pans, aluminum foils and baking pans, and cartons (aseptic and gabletop). At the same time, residents could now enjoy added convenience in their homes through the new Single-Sort recycling program, as they no longer had to sort the papers from the plastic/metal/glass. The materials can now all be mixed together in the recycling carts. These changes were made because the Department of Public Works renegotiated its recyclables processing contract and began having its residential recyclables processed through a state of the art Materials Recovery Facility (MRF) owned by its private contractor, WM Recycle America. DPW discontinued processing with its old dilapidated dual stream equipment in the City's facility on Mount Vernon Avenue, as part of the system was facing impending failure and costly replacement. The sorting equipment was idled, but the building continued to provide a tipping point for the majority of DPW's recycling trucks, serving now as a recyclables transfer station instead of a processing facility. Tipped recyclables from route trucks are packed into semitrailers and hauled to the MRF located in Germantown.

The amended recycling contract not only facilitated a more robust recycling program, but it also called for the City of Milwaukee to receive a greater share of the recyclable commodity revenue. 2011 was an exceptional year for the value of recyclables. Between the higher prices and the adjusted revenue share formula, the City's $1.8 million in revenue in 2011 for household recyclables was nearly double the 2010 total. These revenues help to partially offset the cost of providing recycling service.

There was also bad news for recycling in 2011. The State of Wisconsin, facing a budget crisis, opted in mid-year to reduce cost-share funding for local recycling programs by about 40%. This resulted in about a $1.5 million loss of operating funds for the City of Milwaukee's recycling program compared to what had been allocated by the legislature in the state's adopted FY2010-2011 budget. The higher commodity revenue discussed above was a crucial component to offsetting a portion of the lost cost-share funding. When the next biennial state budget (FY2012-2013) was settled last spring, it continued the reduced funding by setting the recycling allocation at 40% below the previous budget allocation while continuing to assess the same amount of "recycling fees" on Wisconsin municipalities and businesses.

Despite the funding reduction, operating an effective recycling program continues to be a prudent strategy to control long term disposal costs and conserve regional land space. Milwaukee residents have taken advantage of service improvements over the last couple of years, as recycling pounds per household are up each of the last two years. The increases are primarily driven by performance during the guaranteed schedule months of April through November (typically every third week). In those months, recycling pounds per household were over 10% higher in 2011 than in 2009 when collection was still unscheduled and occurred

roughly once per month. We may achieve a similar increase if we move to an every other week collection program for recyclables in the future, the industry standard service level for large cart programs such as Milwaukee's.

Other exciting 2011 developments in the pages ahead include our initiation of two new drop-off programs to recycle carpet and carpet padding as well as used cooking oil. DPW continues to strive for opportunities to create value through the recovery of more resources and to drive participation through public promotion of waste reduction and recycling.

-Rick Meyers, Recycling Specialist, DPW

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Recycling Program Report—2011

Results and Achievements

- Citywide in 2011, DPW collected 22,837 tons of residential recyclables, **an increase of 2.5% over 2010 or 3.5% on a pounds per household basis**. This was the second consecutive annual increase in household recyclables, a feat previously not accomplished in Milwaukee since 1997. Strong educational efforts and program improvements have gone hand in hand to produce results.
- Higher recovery of recyclables & improved customer satisfaction continue to be led by the seasonally offered guaranteed schedule and increased collection frequency. (This began in 2010 with a schedule of every three weeks for most households from April through November.)
  - **Recycled tons from this period were 6.3% higher in 2011 and over 10% higher on a pounds per household basis** versus the same months of 2009 when collections were unscheduled and occurred roughly once per month.
  - Pickup day inquiries and complaints of missed collections decreased by 96% and 40%, respectively, versus the same months of 2009.
- In 2011, residents' participation in the household recycling program **avoided approximately $839,000 in landfill disposal costs** and **earned over $1.8 million in revenue** from the sale of recyclables. Overall, the City realized a savings of $71 per ton of materials recycled instead of sent to a landfill, nearly double the savings from 2010 of $38 per ton.
- **Conversion to a single stream, or Single-Sort, collection system was achieved in the fall of 2011.** An extensive multimedia education campaign was launched to educate residents on the new Single-Sort program and additional materials accepted for recycling (see pages 6, 9).
- DPW's various recycling outreach and promotion efforts in 2011 received statewide recognition when **DPW was awarded by the Associated Recyclers of Wisconsin (AROW) for "Outstanding Achievement in Education"** in early 2012. This award is presented to a group or individual that has excelled in environmental education, specifically related to solid waste and recycling.

City of Milwaukee Receives award from Associated Recyclers of Wisconsin

Aggressive Resource Recovery Programs at Self Help Centers

- **Over 1.7 million pounds of electronics** were collected at Self-Help Centers in 2011, the first full year of the *E-Cycle Wisconsin* producer responsibility program that was created through state legislation in 2009. (See graph of e-scrap recycled 2010 – 2011, page 8.)

- **New Self Help Center collection programs were implemented for residential carpet & padding and used cooking oil recycling** in the second half of 2011. Both programs support local companies. Partial year results:
  - 80 tons of carpet and carpet pad were diverted from the landfill.
  - 560 gallons of used cooking oil were recovered for use in the production of biodiesel, which the City uses to green its fleet of diesel engine vehicles.

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 state law as is maintaining and carrying out a plan to ensure compliance. Below is a summary of recycling enforcement activity by DPW in 2011.

Property Type	Written warnings	Citations	Fine amount
1-4 units residential	659	470	$12,811.60
5+ units residential	9	7	$1,266.76
Non-residential (business)	10	0	$0.00

Education, Outreach and *Recycle For Good* - 2011 Campaign Update

2011 Neighborhood Campaigns

Partnerships with environmental and community groups have provided recycling education to over ten thousand residents at the neighborhood level as a part of the *Recycle For Good* campaign. In 2011 this **grassroots outreach continued, targeting over 1,500 households** in areas of the city with the lowest recycling rates. City interns and volunteers walked door-to-door, speaking with residents about recycling, asking for commitments to increase participation, and leaving behind information.

2011 *Recycle For Good* neighborhood campaign canvassing

Community Education Initiatives

- Recycling education to schoolchildren has long been conducted in partnership with Keep Greater Milwaukee Beautiful. **1,392 students and 269 adults participated in educational programs and tours of Milwaukee's recycling facilities in 2011**.
- Thousands more students from Milwaukee Public Schools received recycling education through classroom visits by Keep Greater Milwaukee Beautiful staff through a continuing partnership that DPW helped forge between MPS, KGMB, and Waste Management of Wisconsin, Inc.

Recycle For Good – 2011 Campaign Update

The citywide *Recycle For Good* (RFG) campaign began its fourth year in the fall of 2011. Designed to increase recycling participation and raise awareness, the campaign was developed according to the results of social marketing research that included focus groups and phone surveys. The citywide promotional campaign places special emphasis on areas of lower participation.

- Continued utilization was made of radio, print, online, and outdoor advertising – recycling trucks with RFG logo and photography. Redeveloped advertisements were introduced in the fall with the unveiling of the new Single-Sort program (see next section).
- Along with traditional media, community-based outreach and social media were also utilized as a part of the campaign.
- Online Contests
  - Continuation of Jammin 98.3 online contest: the public was encouraged to pledge to improve recycling habits and in return be entered in monthly drawings to win prizes such as cinema and theater tickets and gift certificates to local stores and restaurants.
  - The 2011 fall mailer also urged residents to enter a drawing to win a compost bin by visiting MilwaukeeRecycles.com and submitting their pledge. In the months following the mailer, 676 people submitted online pledges, **an increase of 163% over the same period in 2010**. (See MilwaukeeRecycles.com web traffic chart, page 8, for impact of fall mailer.)

NEW *Recycle For Good* Single-Sort Education Campaign

In 2011 DPW converted to single stream or single-sort recycling, amending its recycling contract and rapidly adjusting its operations to accommodate the new system. Meeting a tremendous public education challenge and opportunity, DPW's existing *Recycle For Good* promotional campaign swiftly switched gears. The new campaign was carefully designed to present newly accepted materials, highlight the convenience that residents could expect under the new program, and educate them on how it works. Campaign highlights:

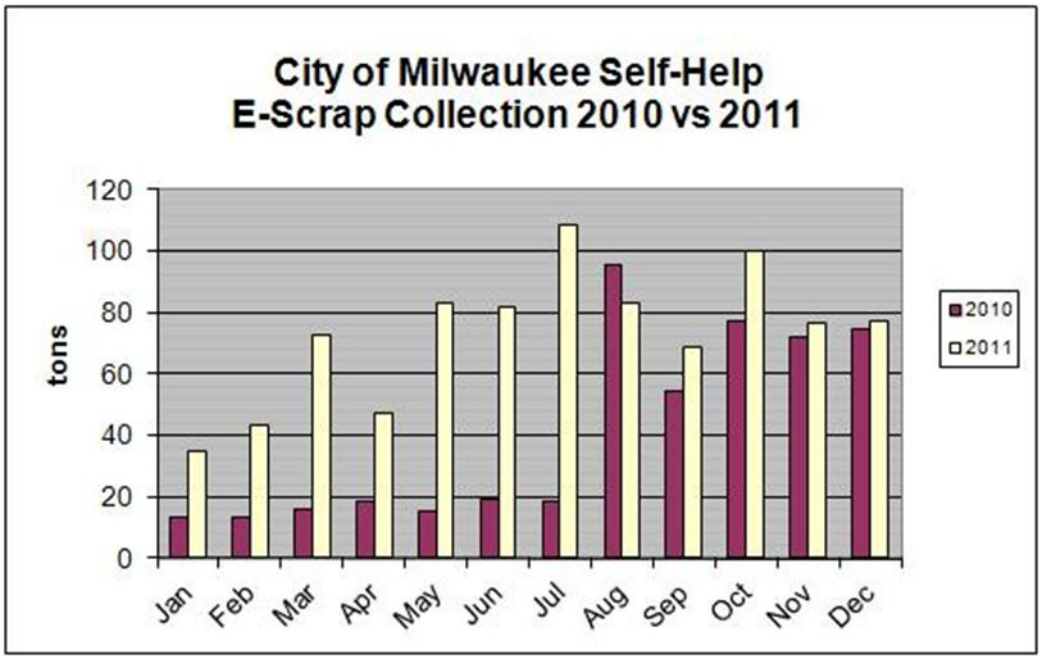
Commissioner Ghassan Korban, Recycling Specialist Rick Meyers and Mayor Tom Barrett explain the new Single-Sort recycling program.

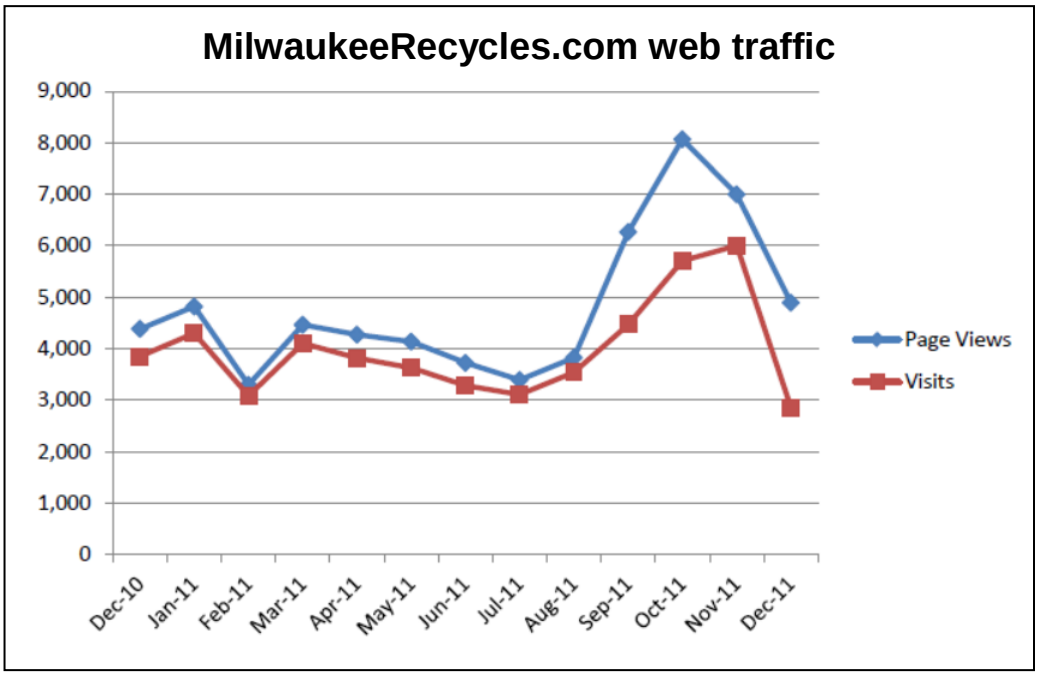
- High-profile launch event at the Milwaukee Brewers' Miller Park baseball stadium.
- Three new radio commercials; online contests; print advertisements; innovative geo-targeted online banner ads; bilingual recycling truck graphics; new recycling cart labels; press releases; an e-blast sent out to over 1,170 residents; and social media.

- DPW overhauled its departmental and MilwaukeeRecycles.com websites to contain in-depth information on the new program.
- New materials accepted in the recycling program: aseptic and gable-top cartons, #4 and #5 plastic tubs and lids, #2 rigid plastics of any size, aluminum foil and baking pans and metal pots and pans. While data are very preliminary, initial recycling tonnages under the Single-Sort program are a few percentage points higher than the year before.
- Collaboration with the Carton Council of North America resulted in support to produce an eye-catching four-color mailer with a refrigerator magnet that was sent to all households in September. The mailer featured images of newly accepted recyclables and frequently asked questions about the new Single-Sort program.
- (See page 9 for *Recycle For Good* Single-Sort educational campaign visuals.)

Future Initiatives

- With the switch to Single-Sort recycling last fall, DPW is now investigating alternative collection vehicles and methods that may deliver improved efficiencies and better customer service. A few Automated Side Loader (ASL) vehicles, powered by compressed natural gas, are joining the sanitation fleet. These fully automated packers will be tested in select neighborhoods in an effort to increase efficiency of collections. Where suitable to operate, fully automated vehicles can service a significantly higher number of households in a day than manually loaded or semi-automated collection vehicles. A strong public educational component will be required in order to achieve proper placement of the carts by the public.
- In 2012, DPW expects to wrap up its investigation of long term recyclables processing options and make final recommendations. The investigation centers on whether to invest in new processing equipment at the City's facility on Mount Vernon Avenue or whether to continue to transfer haul recyclables for processing at a third party facility.


City of Milwaukee Self-Help
E-Scrap Collection 2010 vs 2011
tons
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2010
2011


MilwaukeeRecycles.com web traffic
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
Nov-11
Dec-11
Page Views
Visits

Recycle For Good - 2011 Single-Sort Campaign Materials

Select panels and refrigerator magnet from 2011 fall mailer. The mailer featured Single-Sort and carton recycling FAQs along with other sanitation related information. A Spanish language version of the magnet was designed and made available for viewing and download from MilwaukeeRecycles.com.

Print ad featuring information on the City's new Single-Sort recycling program and newly accepted materials ran in some of Milwaukee's most popular and far-reaching publications including The Shepherd Express, The Milwaukee Courier, and The Onion.

Banner ads featured on JSOnline.com were targeted towards web visitors from City of Milwaukee zip codes.

New recycling truck panels were designed, including bilingual versions. Newly accepted items were featured on the panels installed on 5 recycling trucks. In all, *Recycle For Good* graphics are now installed on 17 of DPW's recycling trucks.

Table 1
Residential Tons Collected
2010 - 2011

	2010	2011	Change Tons	Change Percent
Recycling Materials - household				
Combined Paper	12,400	12,129	-271	-2.2%
Corrugated Cardboard	1,895	2,268	373	19.7%
Aluminum Cans	214	205	-9	-4.0%
Steel Cans	676	651	-25	-3.7%
Glass Containers	5,324	5,576	253	4.7%
Plastic Containers	1,809	2,009	200	11.0%
Subtotal	22,317	22,837	520	**2.3%**
Recycling Materials - other residential*				
Appliances with Refrigerants	157	115	-42	-26.6%
Lead Acid Batteries	18	13	-5	-29.4%
Waste Tires	540	439	-101	-18.8%
Waste Oil	138	164	26	19.0%
Electronics	514	878	364	70.9%
Scrap Metal	811	558	-253	-31.2%
Miscellaneous	54	95	41	76.0%
Subtotal	2,232	2,262	30	**1.3%**
Yard Waste				
Subtotal	30,631	31,364	733	**2.4%**
Total Diverted	55,180	56,464	1,283	**2.3%**
Household Solid Waste				
Cart collection (1-4 unit HHs)	177,158	167,725	-9,433	-5.3%
Dumpster service (>4 unit HH)	19,278	18,722	-556	-2.9%
Skid loader	2,730	3,935	1,205	44.2%
Clean & Green program	1,850	1,889	39	2.1%
Miscellaneous	1,688	1,829	140	8.3%
Subtotal	202,705	194,100	-8,605	**-4.2%**
Total Residential Solid Waste	257,885	250,563	-7,321	**-2.8%**

*Does not include 6,029 T of concrete and asphalt shingles recycled in 2011 through the Self Help Centers. The State of Wisconsin does not yet include these categories as residential in annual reporting.

Table 2
Residential Program Metrics
2010 - 2011

Effectiveness Measures	2010	2011	Change
Household Material Recycling Rate*	8.7%	9.1%	0.5%
Yard Waste Recycling Rate	11.9%	12.5%	0.6%
Other Materials Recycling Rate**	0.9%	0.9%	0.0%
Total Recycling Rate	21.4%	22.5%	1.1%
Household Materials Recycling lbs. Per Household	241.09	249.42	8.32
	Percent change 2010 to 2011:		**3.5%**

Efficiency Measures - Household Recycling Only			
Residential Recycling Program Costs (reported to State)	**$ 8,174,725**	**$ 9,012,014**	**$ 837,289**
State Cost Sharing/Grant Revenue	$ 3,348,450	$ 2,164,861	$ (1,183,589)
Recyclable Commodity Sales Revenue	$ 987,860	$ 1,835,906	$ 848,046
Avoided Landfill Disposal Costs	$ 809,367	$ 839,572	$ 30,205
Subtotal of offsets	**$ 5,145,677**	**$ 4,840,339**	**$ (305,338)**
Net Costs - Residential Recycling Program	**$ 3,029,048**	**$ 4,171,675**	**$ 1,142,627**
Net Cost Per Ton - Res. Recycling Program	$ 135.73	$ 182.67	$ 46.94

*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 6,029 T of concrete and asphalt shingles recycled in 2011 through the Self Help Centers. The State of Wisconsin does not yet include these categories as residential in annual reporting.

Table 3
Recyclables Processing Financials Comparison
2010 - 2011

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

	2010	2011	Change	% Change
Commodity Sales Revenue				
Revenue/Ton (Market Value)	91.82	135.27	43.45	47.3%
City's Share (Rev/T Received from Contractor)	44.13	80.18	36.05	81.7%
Total revenue to City	**$ 987,860**	**$ 1,835,906**	$ 848,045	**85.8%**
Processing Costs				
Processing per ton rate	42.30	45.67	3.37	8.0%
Processing tons	22,386.63	22,896.24	509.61	2.3%
Processing costs	**$ 947,501**	**$ 1,045,610**	$ 98,109	10.4%
Net Revenue				
Net revenue (received)	$ 40,360	$ 783,685	$ 743,325	1841.7%
Net revenue per ton	**1.80**	**34.23**	**32.43**	**1801.7%**
Avoided Disposal Costs				
Landfill costs per ton	36.15	36.67	0.52	1.4%
Landfill costs avoided	**$ 809,367**	**$ 839,572**	**$ 30,205**	3.7%
Total Benefit				
Total Net benefit	**$ 849,727**	**$ 1,623,257**	**$ 773,530**	91.0%
Total Net benefit per ton	**$ 37.96**	**$ 70.90**	**$ 32.94**	**86.8%**

In 2011, the City of Milwaukee's **$1.6 million net benefit was nearly double that of 2010**. The net benefit figure compares total processing costs with recyclables revenue and avoided landfill disposal costs. The large increase in value to the City was due to: 1) significantly higher commodity market prices in 2011; and 2) DPW's renegotiated recyclables processing contract, which took effect in September and called for a higher revenue share.