

## **OCRRA's Forecast for Recycling Generation**

OCRRA boasts one of the most successful recycling programs in the country, recycling over 60% of total waste each year. Recycling tonnages are tied closely with MSW generation, so predicting generation of recyclables into the future is based on an assumed recycling rate.

Recyclables in Onondaga County consist of both commercial and residential generators. "Commercial" recycling<sup>1</sup> is the bulk of total recycling tonnages in Onondaga County and is reported to OCRRA voluntarily; therefore it is assumed that not all data are reported and some are based on estimates. The material consists of mandatory recyclables (those mandated by local law), such as paper and cardboard, as well as non-mandatory items, such as scrap metal and composted food waste. Residential recycling (or "curbside" recycling) is measured directly at the local Material Recovery Facilities. This material consists entirely of mandatory recyclables, i.e., paper and cardboard, as well as some glass, metal and plastic containers or bottles. For the purposes of this report, Total Recycling was examined, consisting of all recyclables generated in OCRRA's service area, both commercial and residential. Then, the Curbside Recycling portion of total recycling was examined, consisting of only residential material generated from residents' households. For further discussion on OCRRA's existing program and matrix of recyclables, please refer to the 2010 Annual Recycling Report, [http://www.ocrra.org/documents/ANNRPT\\_2010\\_030411.pdf](http://www.ocrra.org/documents/ANNRPT_2010_030411.pdf).

### **ANNUAL RECYCLING TOTAL TRENDS**

Total recycling (commercial plus residential) tonnage fluctuates from year to year. However, the curbside portion of this total has remained relatively consistent from 1995 to 2010 (see following table for annual recycling totals).

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<sup>1</sup> "Commercial recycling" is based on recycling collected through commercial accounts, as opposed to curbside pick-up. Therefore, "commercial recycling" includes some residential material, such as that generated from large apartment complexes.

Year	Total Recycling Tonnage (Commercial plus curbside)	Curbside Recycling Tonnage only
1995	505,880	37,972
1996	468,952	42,310
1997	533,368	40,827
1998	576,074	39,311
1999	490,377	40,274
2000	615,063	42,758
2001	696,283	44,045
2002	681,890	42,328
2003	716,551	43,688
2004	685,633	43,380
2005	638,354	44,688
2006	651,542	42,235
2007	618,825	41,979
2008	642,585	41,446
2009	541,547	42,014
2010	536,876	38,900

Recycling tonnages generated in Onondaga County are affected by larger scale economic factors. For example, several large companies have closed in the Onondaga County area in the last few years, which contributed to a commercial recycling tonnage drop, as many of those businesses generated large quantities of recyclable materials. Much of the tonnage declines were related to ferrous metal recycling drops, which could be tied to manufacturing business closings, as well as a decline in construction projects<sup>2</sup>. Total employment was considered as an indicator of recycling tonnage decline, but while total employment has decreased each year from 2007, it does not correlate significantly with commercial recycling totals.

### IMPACTS OF WASTE REDUCTION

Several national and local material trends also tend to diminish the tonnage of material available for recycling. One factor, “thin-walling” or “lightweighting,” reduces the weight of recyclable items by decreasing the material used in products. This is apparent in many products, including PET bottles, aluminum cans and corrugated cardboard items. The trend toward lightweighting now includes the replacement of heavier rigid containers with lighter weight flexible packaging. Examples include: readily recyclable paperboard cereal boxes, plastic soap/cleaning bottles, and HDPE milk jugs being replaced with flexible bags, which are not easily recyclable and not accepted in most residential recycling programs. These trends save

<sup>2</sup> Coin, G. 2011. “Syracuse area economy: 8,000 fewer people at work, or looking, than in 2009.” Syracuse Post Standard, June 28, 2011. [http://www.syracuse.com/news/index.ssf/2011/06/syracuse\\_area\\_economy\\_8000\\_few.html](http://www.syracuse.com/news/index.ssf/2011/06/syracuse_area_economy_8000_few.html)

manufacturers on materials needed for production (through waste reduction) and transportation costs, and thereby potentially decrease the overall carbon footprint of a product. However, it is important to note that these types of product packaging (for example, see: <http://www.dialsoap.com/eco.html>) can replace a recyclable material (such as plastic bottles) with a non-recyclable material that ultimately ends up in the trash.

Current trends are also moving towards smaller and thinner newspapers, which make up the largest portion in OCRRA's residential recycling stream, at 42% of all curbside recyclables. In general, papers like the New York Times and the Wall Street Journal are seeing lower circulation rates, partly due to increased internet use. A recent poll found that the internet is by far the most used source of information, over television, newspapers and radio. When asked to peer into the future, an overwhelming 82% of respondents said the internet would be the main source of information in five years time, compared to 13% for television **and 0.5% for newspapers.**<sup>3</sup>

As a result, newspaper circulation is declining at a rapid rate. In 2010, the local newspaper, the Syracuse Post Standard, had a circulation of approximately 89,800 newspapers each weekday and 142,600 Sunday papers (Audit Bureau of Circulations, March 2010). This represents a circulation decrease of 21% for weekdays and 14% for Sunday from 2007. Newspaper advertising revenue has decreased due to decreased circulation, which again leads to a thinner newspaper as fewer ads are printed. Many newspapers are removing or consolidating sections to save money as well. Due to these changes, OCRRA expects to see the tonnage of newspapers in the recycling stream decrease in the future, further diminishing total recyclable tonnages.

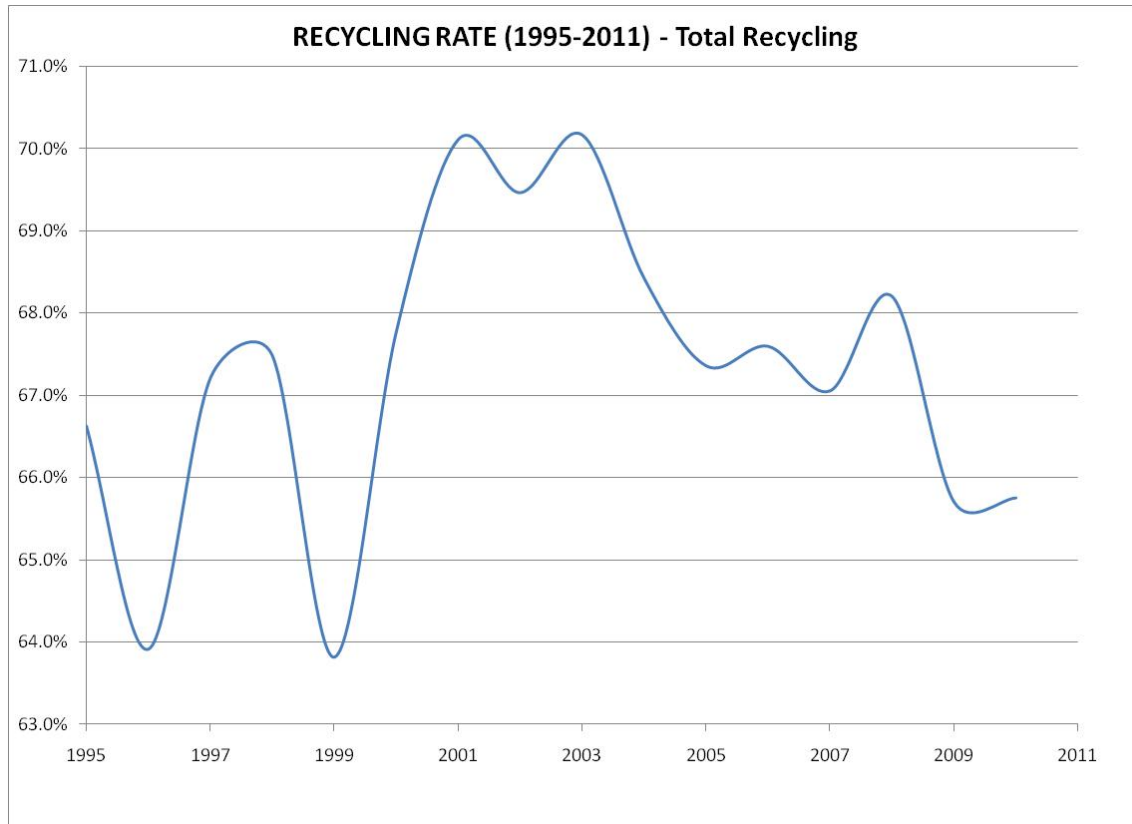
## PROJECTIONS

Despite economic fluctuations and the fluctuations in the tonnage of recyclables, the rate of Total Recycling (commercial and residential recycling vs. all waste<sup>4</sup>) has remained relatively stable since 2000, between 67% and 70% until 2008. 2009 and 2010 showed a decrease to 66%. While lower than previous years, 66% is still relatively consistent with the normal rate. These two years also had a decrease in MSW, showing a total system decrease; this is assumed to be related to the downturn in the national economy. The recycling rate decline can be partially attributed to a few major company closings in Onondaga County, some of which were large generators of recyclable material. The historical rates for **Total Recycling** are displayed in the chart below.

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<sup>3</sup> Reuters: <http://www.reuters.com/article/2009/06/17/us-media-internet-life-idUSTRE55G4XA20090617>

<sup>4</sup> Total recycling rate was calculated as total recycling tonnage, minus treatment sludge, divided by total waste (total recycling plus municipal solid waste). These rates may be different than those reported in OCRRA's Annual Recycling Reports, as sludge is included in recycling totals and construction and demolition materials are included in trash totals in those reports.



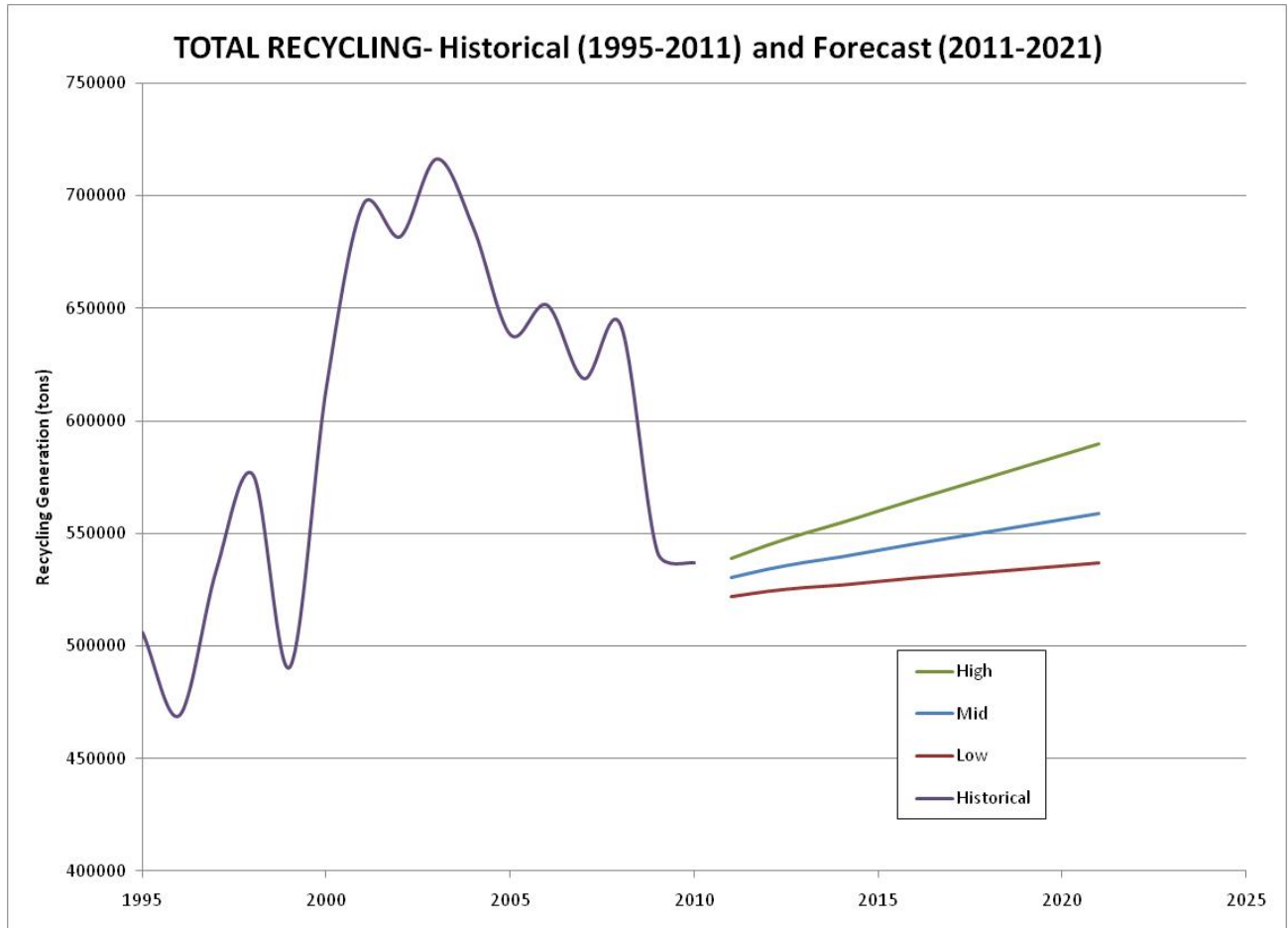
Forecasted Total Recycling tonnages are based on OCRRA’s forecasted MSW generation. MSW generation estimates are based on population growth and estimated per capita MSW generation rates. Population data (historical and forecast) is from Moody’s Analytical ([www.economy.com](http://www.economy.com)). It indicates very slow population growth (averaging about 0.15% per year) for Onondaga County over the next decade.

Due to several packaging, consumer and economic trends, OCRRA envisions recycling tonnages (total recycling as well as curbside) in Onondaga County increasing slowly with predicted increases in MSW. This forecast is strictly related to recycling tonnage generated through the existing matrix of recycled materials and local program. It is not a reflection of recycling changes which might be associated with the addition, deletion, or modification of the current matrix of recyclable materials.<sup>5</sup> The outlook for **Total Recycling** (commercial plus residential) for Onondaga County over the next ten years is based on a predicted recycling percentage of the low, high, and average projections for MSW. Since total recycling rates have remained relatively steady over the last ten years, this forecast predicts a level recycling rate over the next decade. The assumption that rates will not fluctuate substantially in the next decade was also found to be the opinion of many other recycling coordinators: According to a nationwide

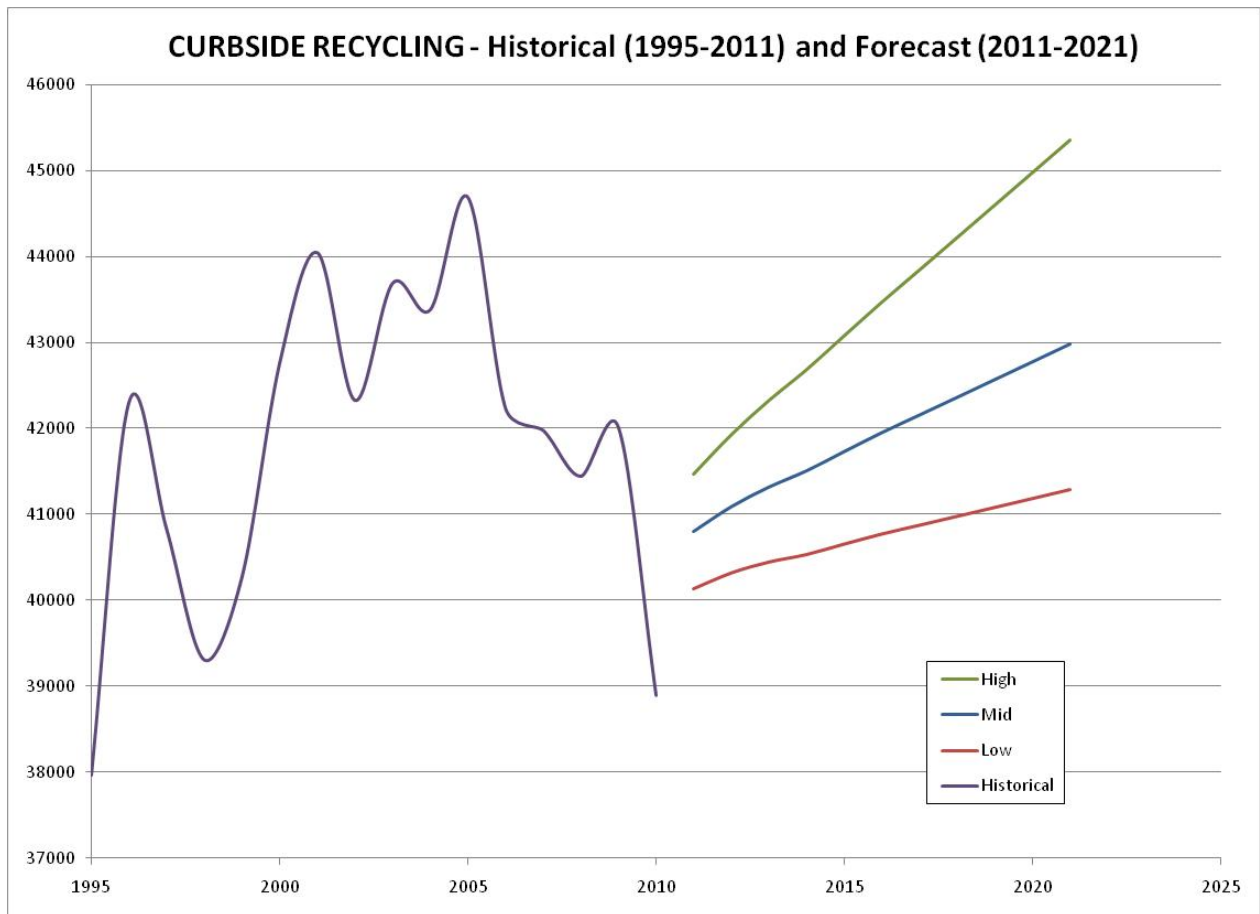
<sup>5</sup> Please refer to OCRRA’s June 2011 Comprehensive Recycling and Market Analysis for additional details on the existing program. [http://www.ocrra.org/documents/CRA\\_2011\\_070811.pdf](http://www.ocrra.org/documents/CRA_2011_070811.pdf)

survey of recycling coordinators, more than half of respondents predict the national recycling rate of commercial and residential materials will stay the same or decline by 2020 (Resource Recycling, Dec 2010).

OCRRA predicts that the **Total Recycling rate** will stabilize at 65% remain there during the next decade. The corresponding tonnages, based on projected high, mid, and low MSW tonnages, are displayed in the chart below.



The **Curbside Recycling tonnage** is predicted to remain at a static fraction of all waste through 2021. This takes into account projected growth in population, a slight economic recovery and the continued trend of direct shipment of internet purchases (often in cardboard boxes) to the home which could positively affect recycling rates, as well as material trends such as thinwalling, the substitution of flexible packaging for heavier rigid containers, and the decrease of newspaper use, which could negatively affect recycling rates. The forecasted tonnages for curbside recycling are based on forecasted high, mid, and low tonnages for both MSW and Total Recycling and are displayed in the following chart.



The tables below provide annual estimates for total recycling and curbside generation in the OCRRA system, based on predicted MSW generation rates. Given the uncertainty with respect to economic recovery, this reflects OCRRA’s best prediction of recycling generation for the next decade.

Recycling Generation (All Recycling, tons)			
	LOW	MID	HIGH
<b>2011</b>	521,700	530,400	539,100
<b>2012</b>	524,100	534,100	545,000
<b>2013</b>	525,800	537,100	550,200
<b>2014</b>	526,900	539,600	554,900
<b>2015</b>	528,500	542,500	560,000
<b>2016</b>	530,000	545,400	565,100
<b>2017</b>	531,400	548,000	569,900
<b>2018</b>	532,700	550,700	574,800
<b>2019</b>	534,100	553,400	579,700
<b>2020</b>	535,400	556,100	584,600
<b>2021</b>	536,800	558,700	589,500

<b>Curbside Generation (tons)</b>			
	<b>LOW</b>	<b>MID</b>	<b>HIGH</b>
<b>2011</b>	40,100	40,800	41,500
<b>2012</b>	40,300	41,100	41,900
<b>2013</b>	40,400	41,300	42,300
<b>2014</b>	40,500	41,500	42,700
<b>2015</b>	40,700	41,700	43,100
<b>2016</b>	40,800	42,000	43,500
<b>2017</b>	40,900	42,200	43,800
<b>2018</b>	41,000	42,400	44,200
<b>2019</b>	41,100	42,600	44,600
<b>2020</b>	41,200	42,800	45,000
<b>2021</b>	41,300	43,000	45,300