

Comprehensive Recycling and Market Analysis

2014 – 2019



Onondaga County
Resource Recovery Agency

EXECUTIVE SUMMARY

This report submitted pursuant to NYSDEC Permit Number 7-3142-00028/00002-0, Certificate to Operate the Onondaga County Resource Recovery Facility; NYSDEC Permit Number 7-3156-00047/00001-0 Permit to Construct and Operate the OCRRA Landfill; NYSDEC Permit Number 7-3148-00048/00001-0 Solid Waste Transfer Station-Ley Creek and NYSDEC Permit Number 7-3142-00036/00001-0 Solid Waste Transfer Station-Rock Cut Road. Prepared in accordance with NYCRR Part 360-1.9(f).

The solid waste management system for Onondaga County (with the exception of the Town and Village of Skaneateles) is managed by OCRRA (Onondaga County Resource Recovery Agency). OCRRA's previous Comprehensive Recycling and Market Analysis Report was submitted in 2014. The following report updates the previous report and highlights the following:

- The unprecedented financial and material market challenges facing OCRRA's award-winning recycling program in the wake of both China's campaign to severely limit acceptance of all recyclables, including fiber, plastic, and metal, as well as the impact of the COVID-19 public health crisis.
- Recommendations from a special **Recycling 2020 Report** from OCRRA's Board of Directors.
- Steady growth of OCRRA's **award-winning food waste recovery and composting program**
- Continued success of an award-winning public education campaign: "**Save the World a Little Each Day,**" emphasizing "recycle right" messaging to improve material quality and reduce contamination.
- A new, **professionally-produced educational "how-to" composting video** that illustrates both the "how" and the "why" of school cafeteria food scraps recovery compost programs.
- Continued leadership to promote **Extended Producer Responsibility** to increase material recovery and shift responsibility of solid waste management costs from municipalities and taxpayers to product manufacturers and consumers.
- The findings of a comprehensive **Waste Quantification & Classification study**, conducted in 2019, which measured the composition of both the Municipal Solid Waste and the curbside recyclables that were collected in OCRRA's service area in Onondaga County.
- Efforts to raise public awareness of how to recycle materials that are valuable outside of the curbside blue bin and/or recycling cart program, including **emphasis on recycling textile materials and film plastics.**

1. CURRENT RECYCLING PROGRAM IN ONONDAGA COUNTY

1.1 Current Recycling Program

Onondaga County currently has a population of approximately 468,000, with 185,000 occupied households. The solid waste management system is managed by the Onondaga County Resource Recovery Agency (OCRRA) on behalf of the Planning Unit, Onondaga County. OCRRA serves 33 of the 35 municipalities of Onondaga County with quality programs and sound waste solutions. OCRRA's award-winning, integrated solid waste program continues to exceed established recycling goals and

provide safe and environmentally appropriate waste management. OCRRA funds the recycling program and other operations through disposal tip fees supplemented with revenues from the sale of electricity. Since the recycling program's implementation in 1990, over 16 million tons of residential, commercial and institutional materials have been diverted to recycling in Onondaga County. The recycling program's efforts have been recognized with numerous state and national awards, including the Gold Environmental Excellence Award from the Solid Waste Association of North America for the Agency's online waste management educational series for elementary students (2016), and for the Agency's innovative food scrap recovery composting program (2017).

OCRRA has a strong recycling program due to its commitment to fund the processing and marketing of recyclables, its ability to maintain long-term contracts for services, including those with material recovery facilities, and its comprehensive and innovative public education campaign. The result is an extraordinary recycling rate for the community every year. In 2019, the total tonnage recycled through the mandatory source separation law, combined with the voluntary efforts of businesses and residents, resulted in over 468,000 tons recycled, for a recycling rate of 55%; almost twice the national average. The following are the materials currently directed for recycling in OCRRA's service area:

Table 1 – List of the Mandated Materials Collected in Onondaga County's Recycling Program

Material	Component Categories	Disposition
Paper	Newspaper	Diverted to recycling markets
	Magazines	Diverted to recycling markets
	Corrugated cardboard	Diverted to recycling markets
	Kraft paper	Diverted to recycling markets
	Gable-top containers	Diverted to recycling markets
	Paperboard	Diverted to recycling markets
	Office paper	Diverted to recycling markets
	Softcover books (added 2011)	Diverted to recycling markets
Plastic	PET (#1) bottles	Diverted to recycling markets
	HDPE (#2) bottles	Diverted to recycling markets
	PP (#5) containers (added 2010)	Diverted to recycling markets
Ferrous Metal	Food containers (Bi-metal)	Diverted to recycling markets
	Aerosols	Diverted to recycling markets
	White/enamelled	Diverted to recycling markets
	Auto parts	Diverted to recycling markets. <i>Not counted in processible recycling rate.</i>
	Other ferrous	Diverted to recycling markets
Non-Ferrous Metal	Aluminum cans	Diverted to recycling markets
	Aluminum foil	Diverted to recycling markets
	Other aluminum	Diverted to recycling markets
	Other non-ferrous	Diverted to recycling markets
Glass	Clear containers	Reused for engineering purposes
	Green containers	Reused for engineering purposes
	Brown containers	Reused for engineering purposes

OCRRA's community-wide recycling effort includes residential and commercial recycling mandates and enforcement, as well as tracking voluntary recycling in the commercial, institutional and industrial

sectors. The OCRRA program also addresses unique wastes such as household hazardous wastes, yard wastes, household batteries, fluorescent light bulbs and material specific to individual business or industrial generators.

The following table lists items designated as mandatory recyclables and the effective date of implementation:

Table 2 – List of Mandatory Recyclables in Onondaga County

OCRRA Mandated Recyclables		
Effective date	Action affecting Residential Generators	Action affecting Commercial/Institutional Generators
July 1, 1990	Glass and metal food / beverage containers Plastic bottles #1 & #2 Newspapers	High grade office paper Corrugated cardboard Blue bin items as feasible
March 1, 1992	Magazines and catalogs	
April 1, 1992	Yard waste banned from MSW	Yard waste banned from MSW
Fall, 1992		Encouraged to recycle all office paper
January 1, 1993	Aerosol cans (non-paint), gable-top milk and juice cartons and Kraft bags	All office paper mandated
July 1, 1994	Corrugated cardboard	Corrugated cardboard
July 1, 1995	Discarded mail and home office paper	Discarded mail and home office paper
July 1, 1996	Paperboard	Paperboard
April 1, 1999	Pizza boxes	
January 1, 2001	License plates	
January 1, 2006	Aseptic containers	
July 1, 2010	#5 plastics	
April 1, 2011	Softcover books	

In 2012, after 22 years, Onondaga County's Source Separation (Recycling) Law was updated to ensure that all waste generators, including residents, schools, and businesses, implement optimal recycling and waste reduction practices. The following summarizes several of the changes that went into effect January 1, 2012:

- Waste haulers are required to provide recycling services to their customers, unless waste generator make other arrangements for recycling paper, cardboard, and other materials. Waste generators are already prohibited from mixing recyclables with trash, so this is a commonsense addition to the law.
- All businesses are required to ensure recycling containers are as conveniently located as trash containers. OCRRA finds that recycling increases if it's convenient to do so, and provides a variety of materials to help businesses make it easy for their employees to recycle.

- Apartment complexes are required to have an adequate number of receptacles on site for the quantity of recyclables generated by tenants. This ensures that recyclables don't end up in the trash as tenants practice their daily recycling routine. It also leads to a cleaner, well-kept appearance.
- Waste haulers must ensure that their trash and recycling containers are properly labeled. Proper labeling is a simple but powerful tool to ensure that recyclable materials are kept out of the trash.

The law is posted online at <http://ocrra.org/wp-content/uploads/1/2015/12/recycling-law-083012.pdf>

OCRRA currently contracts with a private vendor, Recycle America, for the processing and marketing of single-stream curbside residential recyclables. In 2018, Recycle America cancelled its contract with OCRRA in the wake of unprecedented depressed recycling market conditions, particularly for mixed residential paper (newspaper, magazines, junk mail, etc), due to China no longer accepting recyclables; China previously represented approximately 50% of the worldwide demand for such materials. New one-year contracts were subsequently negotiated for the 2019 and 2020 calendar years that exponentially increased the Agency's material sorting service costs. MRF costs are further discussed in Section 3.

OCRRA also operates two compost sites within Onondaga County. These provide residents with the opportunity to recycle their yard waste and take finished compost with them to use for their gardens. In 2019, over 6,700 tons of food scraps from commercial and institutional generators were processed into a high quality, STA – Certified soil amendment. This included thousands of pounds of cafeteria food scraps separated daily by 7,000 local school children. Additional compost details are discussed in Section 1.3.

The Syracuse Post Standard reduced the printing of the daily newspaper to 3 days per week effective February 2nd 2013. Also in spring 2013, the Scotsman PennySaver ceased production, and in mid-2019, the weekly Syracuse New Times also ceased publication. With these changes, there has been a significant decrease in newsprint available to be recycled, estimated by OCRRA at over 5,000 tons annually. OCRRA's recycling team strives to offset this impact by its continuing effort to increase all recycling, including commercially generated cardboard and office paper, and recyclables generated in schools and apartment complexes.

The OCRRA recycling team includes Recycling Specialists who visit hundreds of local businesses, apartment complexes and schools annually. They offer assistance in designing recycling programs and supply businesses, apartments and schools with recycling containers and decals to raise awareness about recycling.

1.2 Recent Additions

In the period since the last CRA which was done 2014, OCRRA has made no additions to the list of mandatory recyclables. This decision was based on market research and consultations with the contracted Material Recovery Facility. OCRRA continues to do research and speak with experts regarding the addition of new recyclable items as market conditions dictate.

In light of results of previous Waste Q & C studies, OCRRA has also conducted high profile public education campaigns to collect various materials that are not feasible in the curbside collection, including textiles and film plastics; in 2018, 12 tons of unwanted clothes, shoes, bedding and other textiles were collected for reuse or recycling as part of a November collection event at a local mall, benefiting the Salvation Army and the Rescue Mission. The Agency created [an online map](#) identifying year-round textile drop off locations throughout Onondaga County.

In 2010, OCRRA added #5 plastic tubs to the list of mandatory recyclables and softcover books were added in 2011. OCRRA currently recovers ferrous metal for recycling at its Waste-to-Energy (WTE) Facility. The non-ferrous system became operational in 2008, and has recovered an average of approximately 9,507 tons of ferrous metals annually (based on the 2014-2019 reporting period) for recycling.

1.3 Food Waste Composting

The 2019 Waste Q&C Study indicated that approximately 21% of the waste stream consists of food waste; it is one of the largest components of disposed MSW, by weight. Since 2009, OCRRA has been accepting institutional, commercial and residential food waste at its Amboy Compost Site.

OCRRA employs a technically sound and effective process called an extended aerated static pile system (EASP). In this system, food waste is mixed with ground yard waste, covered with finished compost and injected periodically with air via an automated blower system. This system allows the material to maintain aerobic conditions with minimal labor and handling. In 2010, as part of a pilot project, 1,000 tons of commercial food waste were processed at OCRRA's Amboy Compost site on a minimal foot print, with minimal staffing and investment, and without regulatory violation. The EASP system enables OCRRA to process both pre- and post-consumer foods, including meats, and has become a valuable resource for the region's waste diversion and recycling efforts.

In November 2013, after significant facility upgrades, the Onondaga County Resource Recovery Agency (OCRRA) opened the largest municipal food scrap composting facility in New York State. The \$2.4 million Aerated Static Pile (ASP) compost system is designed to process over 9,000 tons of local institutional and commercial food scraps a year, and can generate over 30,000 yards of premium compost annually. Compared to a windrow approach, OCRRA's ASP system reduces the processing time by 60%, from nine months to less than 90 days for finished product.

OCRRA's Amboy compost facility processed over 18,000 tons of food scraps during the reporting period (2014-2019), all of which were turned into a soil amendment that has undergone rigorous testing according to the United States Composting Council's Seal of Testing Assurance (STA). The material is sold back to the community for use in gardens and landscapes, as well as for such green projects as "green roofs," wetland construction, and habitat restoration along the western shore of Onondaga Lake, as seen in the photo on the right.



OCRRA's food scrap compost system is helping to reduce waste and "close the loop" by recovering organic resources currently in the waste stream to generate a premium soil amendment that returns valuable nutrients to local soils. The Agency's organics recovery efforts have been previously recognized with Environmental Excellence Awards by both the New York State Department of Environmental Conservation and the US Composting Council. The program was recognized with a Solid Waste Association of North America Gold Excellence Award in 2017.

In 2014, OCRRA started bagging the 1/4" screened compost for sale in local garden stores throughout Central New York, in addition to selling the material in bulk at the compost site. Thousands of bagged OCRRA compost are now sold annually through a network of over two dozen local retailers.



More information is available on the Agency's website at: <https://ocrra.org/about-ocrra/services/food-waste-composting>

OCRRA has taken on financial risk by investing major resources into providing a large-scale food waste composting facility for the community. Such facilities can play a critical role in the wake of mandatory organics separation legislation passed by the NYS Legislature in 2019; facilities such as OCRRA's will increasingly be needed to process food waste into compost. Efforts by NY State to mandate the use of finished compost, such as for embankment stabilization and site remediation/restoration, are critically needed, and would help ensure the viability of such municipal projects by increasing demand, and nurture additional organics processing capacity in the state.

1.4 Electronics and Batteries

Onondaga County Wegmans grocery stores and Green Hills Market, in Syracuse, are year-round collection points for household batteries. OCRRA workers collect batteries from these sites each week. Residents can also drop off batteries at the Ley Creek Transfer Station. Residents do not pay any fees for battery recycling. Batteries are currently separated, due to federal regulations, into alkaline, rechargeable and button. In 2019, over 60 tons of batteries were collected, including 6,000 pounds of rechargeable batteries that were recycled at no cost through Call2Recycle[®]. Residents in the OCRRA service area are now recycling more rechargeable batteries per capita than any other large community in New York State. More information about OCRRA's battery collection program is available online at:

<http://ocrra.org/resources/household-batteries/>

Between 2002 and 2010, OCRRA collected over 4 million pounds of e-waste for recycling in Onondaga County. Due to New York State's Electronic Equipment Recycling and Recovery Act, which took effect in 2011, OCRRA steers residents toward other local, convenient electronics recycling outlets. An update to the statute is now needed in order to achieve the original legislative vision of year-long, no cost, and convenient e-waste drop-off. Please see OCRRA's recent electronics Board Resolution, attached as Appendix 3, which urges state representatives to update the New York State Electronic Equipment Recycling and Reuse Act on its 10-year anniversary in 2020.

1.5 Household Hazardous Waste

Starting in 2013, in response to residents' suggestions, OCRRA made its popular Hazardous Waste Collection Program more convenient. Instead of three Saturday events, OCRRA switched to a Monday-Friday drop-off at Environmental Products and Services of VT, Inc. This popular environmental service allows residents to safely dispose of their hazardous waste, keeping these materials out of the waste stream. Among the hazardous wastes collected are adhesives and resins; oil-based paint; paint thinner; solvents; thermometers, thermostats, and other mercury containing products, pesticides and fluorescent light bulbs. The direct costs of the program include a fee charged by the vendor that is based on the amount of Hazardous Waste brought in by the resident. The NYS DEC has committed to reimburse OCRRA 50% of program costs to help support the HHW program.

1.6 Other Programs

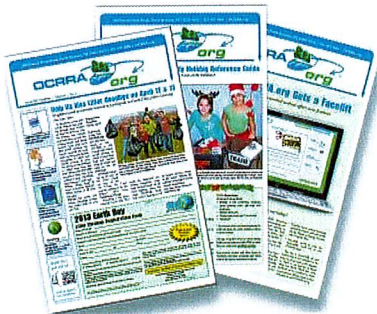
A discussion and overview of other pollution prevention, recycling and reuse programs that OCRRA maintains can be found in the Annual Recycling Reports, submitted to the NYS DEC and published online: http://www.ocrra.org/about_annual_reports.asp. Highlights of these other programs in the most recent 2019 report include:

- OCRRA’s Earth Day Litter Cleanup was held on Friday, April 24, and Saturday, April 25. More than 6,000 volunteers from 300 groups participated; 60,000+ pounds of litter were collected; more than 2.5 million pounds of litter collected since 2003; one of the largest Earth Day litter collection events in the country.
- Over 44 tons of paper from 2,416 residents were shredded and recycled as part of a July “Shred-o-Rama” event at the NYS Fairgrounds. Since the Agency started this program in 2004 to help local residents prevent identity theft, over 1.3 million pounds of confidential personal documents have been recycled.
- OCRRA partnered with Covanta to host a mercury collection event in August. Thanks to over 140 residents, 188 mercury thermometers and 112 mercury thermostats were collected; 636 grams of mercury prevented from entering the environment, which is comparable to recycling 150,000+ compact fluorescent light bulbs. Residents can recycle mercury thermometers and thermostats year-round at OCRRA’s Ley Creek Drop-Off Site and get a \$5 Home Depot Gift Card from Covanta and a replacement thermometer.

2. PUBLIC EDUCATION AND OUTREACH

OCRRA continues to invest in a high-profile effort to ensure that residents, businesses and institutions understand and follow the local law mandating source separation of recycling. Most recently, the Agency launched public education campaigns that focus on textiles, which comprise about 5% of the MSW stream, and linear low density polyethylene (LLDPE) film plastics, including retail plastic shopping bags, which make up about 2% of the trash. The latter, though representing a relatively small proportion of MSW, creates significant operational problems at the local Material Recovery Facility (MRF) when erroneously placed in curbside recycling. Film plastics require MRFs to regularly shut down processing lines in order to physically remove film plastics and plastic bags from the equipment around which it become entwined. As of March 2020, the NYSDEC’s new plastic bag legislation took effect. This new law prohibits the distribution of plastic carryout bags by certain retailers in New York State. In addition to the bag ban, consumers also remain able to recycle plastic carryout bags at certain retail, and most grocery stores.

OCRRA’s messaging is communicated to the public in a variety of ways. The community outreach efforts include:



- Feature stories in the Agency’s quarterly newsletter, printed and distributed to 75,000 households.
- Regular email blasts to 11,400 recipients, which highlight upcoming events, program changes and recycling reminders.
- Broadcast media coverage for special collection events.
- Sponsored advertisements through the Agency’s Facebook page, which reach over 10,600 followers.
- Paid advertisements on traditional and digital platforms including television, radio, billboards, etc.

In addition, OCRRA’s website (www.OCRRA.org) is a popular place for residents to access recycling information 24 hours a day. On an annual basis, the site receives

more than 600,000 page views. OCRRA also orchestrates an extensive public relations effort that includes frequent press releases that generate media coverage on the news, as well as local television and radio shows, in addition to print coverage in the area's daily and weekly papers. Annually, OCRRA's recycling team participates in numerous community events. A variety of recycling information is distributed including recycling brochures, magnets, and household hazardous waste disposal information. OCRRA staff interacts with thousands of people at these events.

OCRRA Recycling Specialists also conduct numerous presentations to a wide variety of audiences, including school-age children, business office staff, teachers, Rotary Clubs, and neighborhood groups. These presentations provide recycling information and stress the importance of environmental stewardship. OCRRA Recycling Specialists also share their expertise and lessons learned with the recycling community by presenting at annual conferences, including the New York Federation of Solid Waste Association's Recycling Conference in Lake George and the New York State Association for Reduction, Reuse, and Recycling (NYSAR³) Conference in Cooperstown.

Outreach Awards



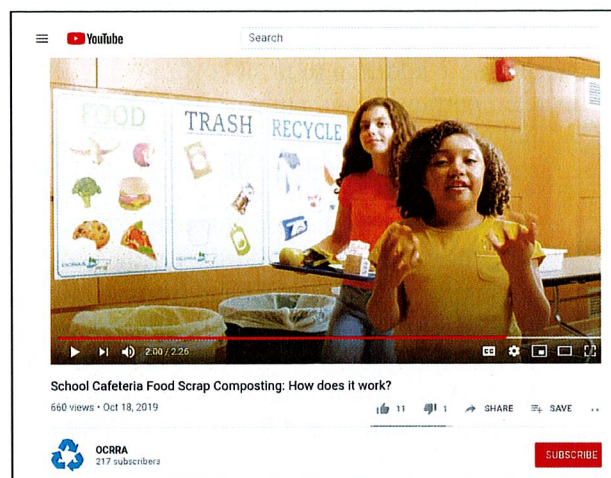
- SWANA Excellence Award, Gold - Composting (2017)
- SWANA Excellence Award, Gold -School Education Program (2016)
- GreeningUSA - Sustaining our Community Award for Earth Day Litter Cleanup Program (2016)
- Interactive Media Council - Outstanding Achievement Award for School Education Series (2015)
- Rechargeable Battery Recycling Corporation - Leader in Sustainability (2015)
- Arc of Onondaga - Robert D. McAuliffe Community Service Award for Battery Recycling Program (2013)
- Rechargeable Battery Recycling Corporation - Leader in Sustainability Award (2013)
- Constant Contact Marketing All-Star Award (2012)
- GreeningUSA Advocacy Award (2012)
- American Forestry and Paper Association Award for Community Recycling (2011)
- NYS DEC Environmental Excellence Award – Composting (2011)
- Solid Waste Association of North America (SWANA) Excellence Award, Silver – Marketing (2011)
- SWANA Excellence Award, Silver – Composting (2011)
- SWANA Excellence Award, Bronze – Integrated Solid Waste System (2011)
- Waste & Recycling News, Green City Finalist Award, Outstanding Residential Recycling (2011)

2.1 Promoting Business Recycling



For businesses, OCRRA developed the Blue Ribbon Recycler program (www.BlueRibbonRecycler.com), a business certification program that rewards companies meeting specific recycling-related criteria. This has served as incentive for business recycling, allowing them to use the recognition as a marketing tool. More than 65 businesses were honored with this certification in 2019. Periodically, one of those businesses is selected as the, "Recycler of the Year".

In 2013, after receiving feedback from local teachers, OCRRA started working on an innovative school video project, which was completed in 2015. This interactive, online education series makes it easier for teachers to fit into their busy schedules and includes lesson plans, white board activities and videos that all meet NYS Common Core curriculum criteria. Additionally, in 2019, OCRRA created a professionally-produced educational video highlighting how, and why, school cafeterias should implement a food scrap recovery compost program. This video, which was created in coordination with a grant from the New York State Pollution Prevention Institute, can be found on OCRRA's YouTube Channel, and has been distributed to classrooms throughout New York State: www.youtube.com/watch?v=yF9lcjR3YoY&t=15s



3. RECYCLING PROGRAM COSTS AND MATERIAL RECOVERY FACILITY (MRF)

OCRRA's recycling program provides waste haulers a zero tip fee at the MRF for residential recyclables. OCRRA also manages a transfer station that allows for the drop-off of blue bin recyclables at no cost, and serves as a drop-off point for additional materials such as scrap metal, small appliances, mercury thermostats and thermometers, fluorescent lamps and household batteries.

Perhaps the most visible item to the community distributed by OCRRA is the blue bin, a curbside recycling container. These bins are currently given to residents in OCRRA's service area at no charge. The 33 municipalities that are part of OCRRA's program house a supply of blue bins at their individual highway department facilities or town clerk's offices. This allows residents to have easy access to blue bins when needed. Between 2014 and 2019, OCRRA invested over \$700,000 to purchase new blue bins for the community. Half of this expense (50%) was provided by a grant from the NYSDEC's Environmental Protection Fund. Each year, thousands are given to residents that need a replacement bin, need additional bins to handle more recycling or are receiving a bin for the first time. OCRRA's curbside recycling program has been tremendously successful, capturing approximately 38,000 tons of material each year. A portion of this success can be attributed to residents' easy access to free recycling containers.

Direct recycling program costs (unaudited) associated with the recycling services are as follows:

Table 3 - Recycling Costs						
Program	2014	2015	2016	2017	2018	2019
Recycling Personnel	\$616,836	\$677,498	\$780,905	\$857,226	\$656,929	\$724,377
Material Recovery Facility (MRF) Fees	0	\$76,450	\$264,234	\$21,007	\$667,920	\$1,808,223
Public Education - Outside Service	\$461,005	\$461,541	\$312,692	\$367,301	\$281,911	\$436,488
Composting	\$379,731	\$357,139	\$439,545	\$293,386	\$256,507	\$292,115
Household Hazardous Waste (HHW) Collection	\$75,221	\$85,381	\$86,770	\$115,465	\$97,387	\$91,862
Blue Bin Expense	\$189,014	\$126,068	\$147,820	\$118,537	\$124,832	\$192,980
Other Recycling Programs	\$122,300	\$115,249	\$125,950	\$119,195	\$159,227	\$255,825
Total Cost	\$1,844,134	\$1,899,326	\$2,157,916	\$1,892,117	\$2,244,713	\$3,801,870

For nearly 30 years, OCRRA has contracted with a local MRF, that is owned and operated by Waste Management Recycle America, (WM-RA), to sort, bale and market the residential recycling material that is collected curbside by private haulers, municipal haulers and municipalities with private hauling

contracts; about 38,000 tons of such materials are generated annually within the OCRRA system. There is no such contract arrangement for commercial materials, which is primarily commercial cardboard and office paper. The contract has been structured such that OCRRA pays a fee to WM-RA to perform the sorting, baling, marketing and transport of the recycled materials and shares in revenues created by material sale (if any). The MRF contract is a valuable tool which allows OCRRA to formulate and maintain a uniform definition of “blue bin” recyclables. The contract also encourages stability in the local recycling program by attenuating the sometimes volatile variation in global market demand and pricing. This uniformity helps facilitate the successful education and enthusiastic cooperation of the public, and enhances the facility's ability to invest in capital improvements, which in turn improves the community's recycling infrastructure.

Depending on market conditions through the years, this contract has either cost or generated OCRRA revenue, as seen in Table 4. During the past decade, most of the demand for recycled material came from China. In 2018, China initiated their National Sword policy to drastically reduce material imports and put quality restrictions on imports of recycled material. As a result, the market prices for recycled material dropped precipitously. Payments to WM-RA went up to nearly \$670K in 2018, and in the wake of such unprecedented depressed recycling market conditions, Recycle America cancelled its contract with OCRRA in 2018. A new one-year contract was subsequently negotiated for the 2019 calendar year that exponentially increased the Agency’s material sorting service costs. In 2019, OCRRA expenses to the MRF exceeded \$1.8 million. Market prices, particularly for mixed paper, have significantly reduced the Average Blended Value (ABV) of curbside recycling commodities, such that the value no longer covers the cost of processing the recyclables. The ABV is received from the sale of processed residential recyclable commodities. The costs of processing and marketing materials is generally constant and is independent of market conditions, but increases over time due to inflation from rising labor costs and capital investments. The ABV is a useful number to track the performance of the recyclable commodity market. On an average basis across the United States, there has been a sharp decline in in the ABV from \$125 per ton at the end of 2016 to below \$40 per ton in the summer of 2019 (source: WM-RA). On a broad scale, there has been a drastic material value decline of each commodity since 2015, as illustrated in the figures below.

Figure 1 - U.S. MRF Average Blended Value (ABV) Per Ton Processed.
Source: Waste Management – Recycle America.

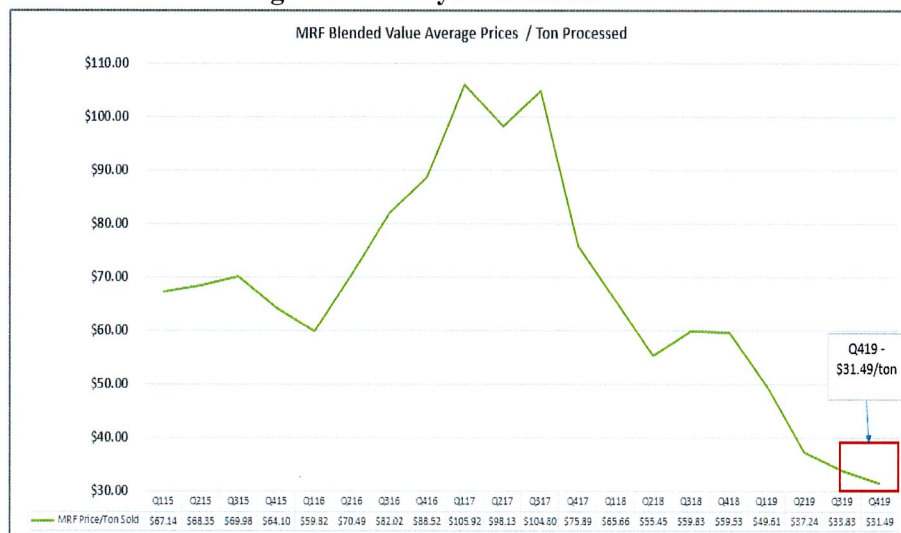
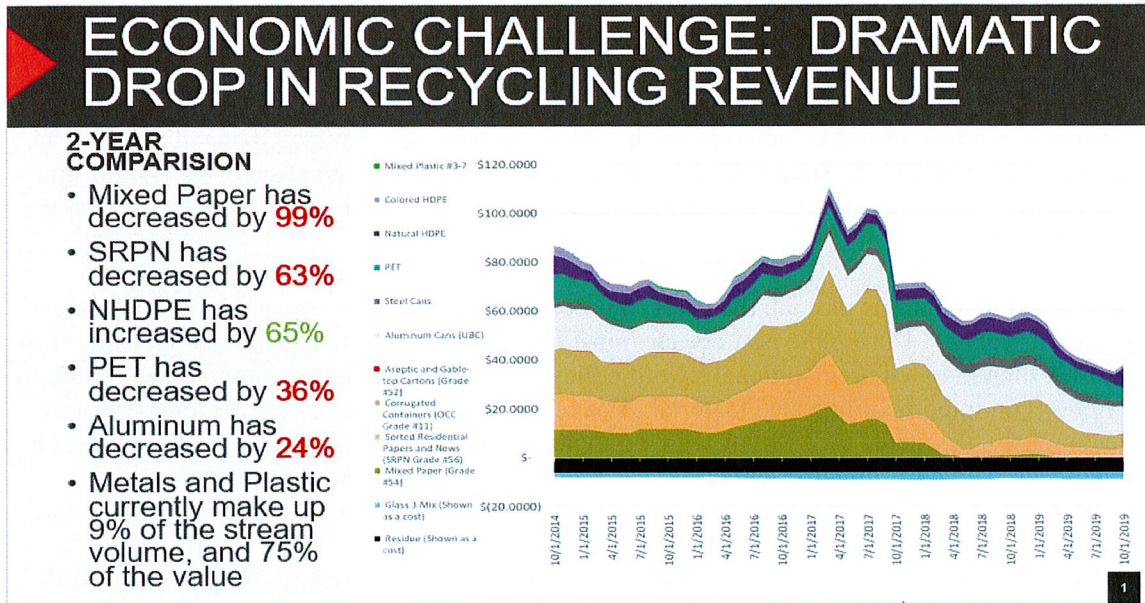


Figure 2 - Per Ton Recycling Revenue Trends by Commodity.
Source: Resource Recycling Systems (RRS).



The 2019 contract between OCRRA and WM-RA specified that the per-ton cost of sorting curbside recycling was not-to-exceed \$49 / ton. The contractual per ton not-to-exceed cost increased to \$66 / ton in 2020, which will result in projected MRF processing costs of \$2.5 million paid by OCRRA to support curbside recycling. OCRRA’s recycling costs now comprise 16.22% of the Agency expenses, excluding the WTE fixed costs. The average blended per ton value of Onondaga County curbside residential recyclables on a multi-year basis is generally declining on an aggregated basis; mixed paper and corrugated cardboard are the major driver of the average blended value calculation, as they comprise more than 50% of curbside recyclables by weight.

Table 4 Total Payments

Year	MRF to OCRRA	OCRRA to MRF
2015		\$76,450.12
2016	\$7,658.07	\$264,234.10
2017	\$144,340.79	\$21,007.19
2018	\$877.32	\$667,920
2019		\$1,813,969.69

Figures 3-10 provide the historical data for the market value for material categories.

Figure 3 - OCC Economic Data

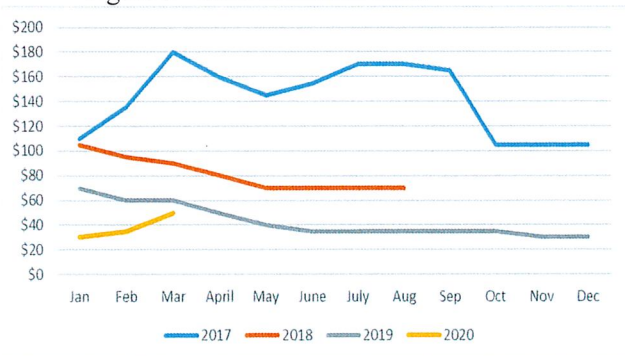


Figure 4 – Mixed Paper Economic Data

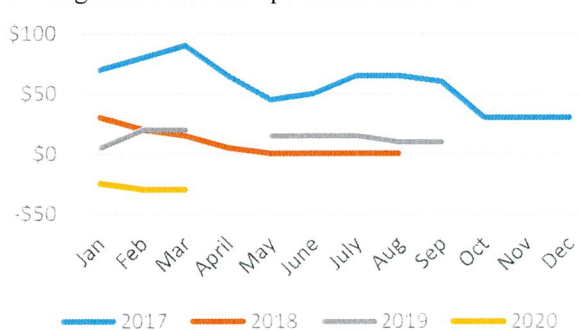


Figure 5 – Aluminum Cans Economic Data

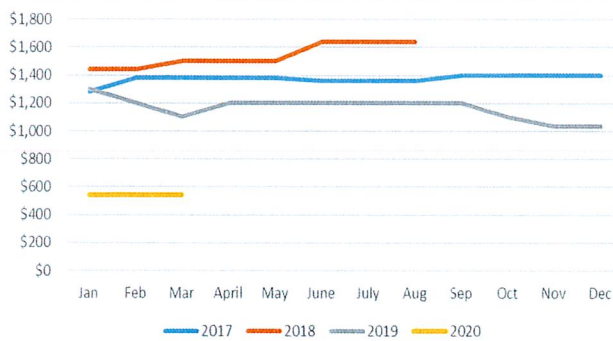


Figure 6 – Steel Cans Economic Data



Figure 7 – HDPE Natural (#2) Economic Data

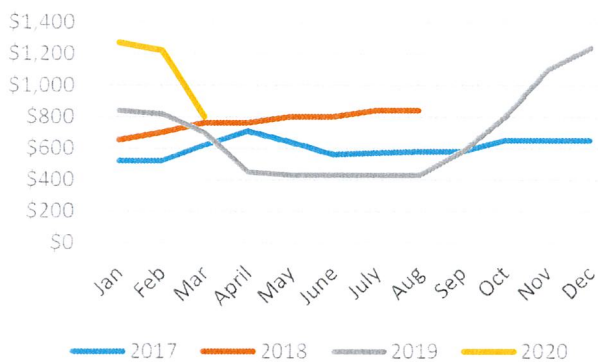


Figure 8 – HDPE Color (#2) Economic Data

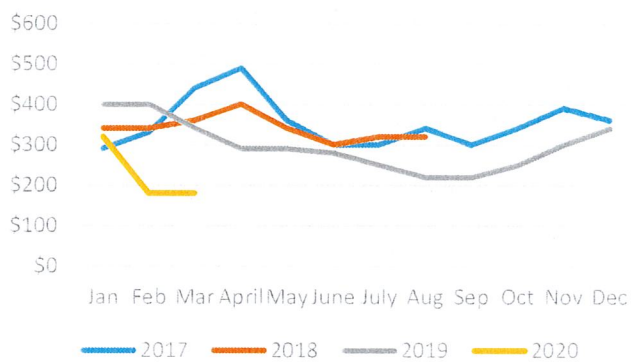


Figure 9 – PET (#1) Economic Data



Figure 10 – Mixed Plastics (#3-7) Economic Data



4. WASTE QUANTIFICATION & CHARACTERIZATION STUDY

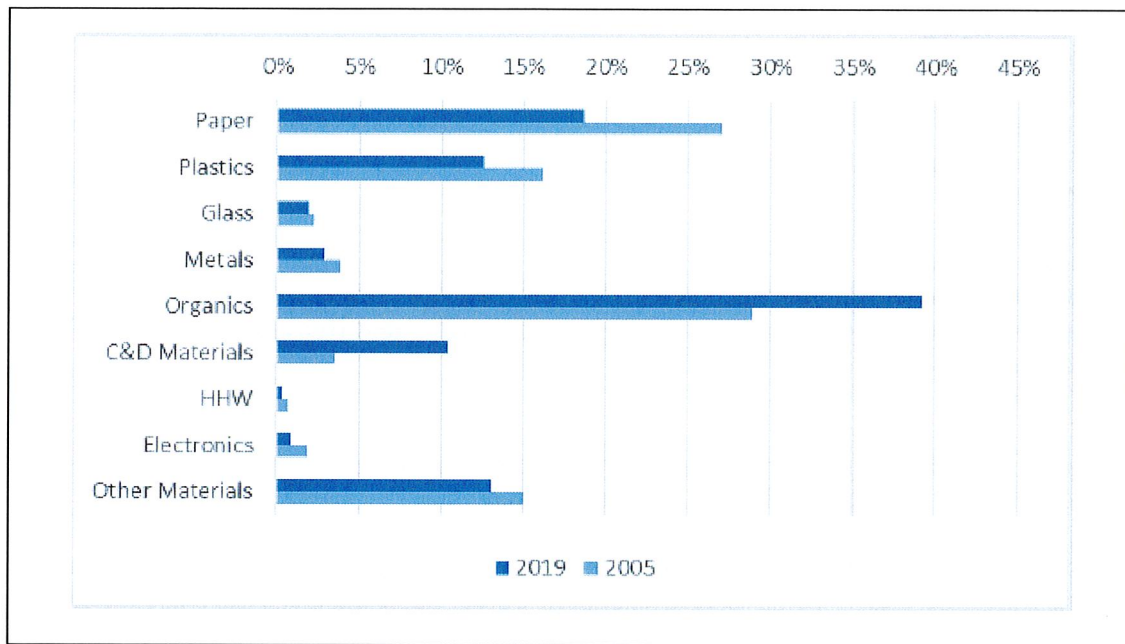
In 2019, OCRRA contracted with a nationally-known consulting firm to provide an updated county-wide Waste Quantification and Characterization (Waste Q&C) study, to analyze and quantify commercial and residential MSW, as well as residential recyclables, that are collected in the OCRRA system. Within the OCRRA system, the study focused on evaluating disposed refuse, single-stream residential recyclables and construction & demolition debris. Based on statistical criteria, both commercial and residential vehicle loads were sampled, manually sorted and weighed. The percentage by weight of each component in the sorted sample is then calculated. Previous Waste Q&C Studies were periodically performed, with the most recent previous analysis conducted in 2005.

The 2019 Waste Q&C study found that the majority of mandatory recyclable materials are being separated for recycling by both the residential and commercial/institutional sectors. Some additional notable results from the two-season, (spring and fall), 2019 waste sort indicate the following (all as expressed by weight):

- Mandatory recyclables were not observed in the 2019 MSW stream in significant quantities, and generally, the presence of paper, plastics and metal in the refuse in 2019 was less than what was observed in the previous study in 2005. Specifically, of the MSW in 2019, approximately:
 - 10.8% is potentially recyclable fiber (cardboard 5%; office paper 0.7%; newspapers 1%; mixed paper 3.6%; and magazines 0.5%); and
 - 1.5% was recyclable plastic containers; and
 - 0.7% was recyclable metal cans.
- Film plastics, (including 1% retail plastic bags) add up to nearly 9% of a typical MSW ton in Onondaga County. Since approximately 17% of the total waste stream is comprised of plastics, it is significant that just over half of that, (8.8%), consists of film plastics such as retail shopping bags, commercial film wraps and flexible packaging, which are all recyclable through the retail store film plastic take-back program.
- Fiber comprised 65.1% of the curbside recyclables. Levels of corrugated cardboard in particular have continued to increase in the recyclable stream, from 11% in 2005 to 28.3% in 2019. This has been largely attributed to an increase in cardboard used in internet sales, shipping and home delivery. While in the MSW stream, potentially recyclable fiber, (cardboard, office paper, newspaper and magazines) was 10.8%, which is an improvement from 2005, when about 14% of the total waste stream was recyclable paper.
- Newspapers comprised 1% of the total MSW, while in the residential recycling stream, newspapers made up 10.8%. This illustrates a drastic reduction from the previous study in 2005, when newspapers were 42% of the curbside recyclables. This is consistent with other recent waste composition studies in the nation, and coincides with the rise of digital media, which has led to a decline in the use of newspapers and office paper.
- Other paper (non-recyclable but compostable paper such as tissues and paper towels) and food wastes continue to comprise relatively large proportions of the residential waste stream (approximately 7.3% and 21% of disposed MSW, respectively).
- Textiles comprise about 5.2% of the waste stream.
- Electronics constituted less than 1% of disposed MSW, which is consistent with the national average.
- Over half of the glass that was found in the typical curbside recycling bin included beverage containers such as wine bottles (3.9%), liquor bottles (1.5%) and non-alcoholic beverage containers like ice tea bottles (0.8%), all of which currently do not have a NY State deposit; they are not included in the New York State Bottle Bill. If the Bottle Bill were to be expanded to include these wine and liquor bottles, as well as the other non-alcoholic glass beverage containers, it would have a significant positive impact on recycling, as bottles that have a deposit are recycled at a much higher rate than those without one. When left in the blue bin, glass is typically used for daily cover and engineering purposes in a landfill, while bottles that are recovered through the deposit Bottle Bill are remanufactured into new glass containers. The 2019 study revealed that non-deposit plastic bottles were approximately four times more common in the trash than plastic bottles with a deposit redemption and thus, the Bottle Bill is proven to be a powerful economic incentive to return and recycle containers.
- The majority of contaminants in curbside recyclables were bagged materials.

Figure 11 compares the composition of residential waste in the 2019 Q&C Study to the previous study that was done in 2005. As shown in Figure 11 below, there has been a decrease in paper and plastic in the residential solid waste stream. Organics include food waste, textiles/leather, and disposable diapers. Appendix 1 shows data from the Waste Q&C on the percentage of each commodity in the waste stream. Appendix 2 shows data on the percentage of each commodity in the residential recyclable stream.

Figure 11 - 2005 and 2019 Waste Quantification & Characterization Study Comparisons



The 2015 US EPA report on Municipal Solid Waste Generation provides some national waste and recycling data. The notables from that national report are:

- Per capita MSW generation increased from 4.45 pounds per person per day in 2014 to 4.48 pounds / person / day in 2015. In comparison, the NYS ‘Beyond Waste’ plan identifies the average New Yorker’s amount of waste to be 4.1 lbs/person/day. As a result of the recycling and waste reduction efforts of Onondaga County residents, businesses and institutions, the per capita disposal rate within the OCRRA system in 2018 is calculated to be: 3.37 lbs/person/day.
- Food Waste comprises 22% of total MSW discarded nationally. The 2019 OCRRA Waste Q&C indicates that about 21% of the local waste stream is comprised of food waste.

5. EXTENDED PRODUCER RESPONSIBILITY

Many states, including New York, have begun passing legislation requiring manufacturers to take responsibility for the end-of-life management of their unwanted products and product packaging, which relieves local municipalities of the responsibility of recovery and proper disposal / recycling, including the associated costs. There are over 110 such EPR laws in the US. NY State's EPR laws include the following:

- Rechargeable Batteries
- Electronics
- Mercury Thermostats
- Pharmaceuticals (passed in 2018; anticipated to go into effect in 2020)
- Paint; passed in 2019 session and signed by the Governor 12/19

Bottle redemption laws are also a form of EPR, which is also known as “Product Stewardship.” In the wake of the devastating financial impact caused by China's National Sword campaign, several states, including Connecticut, Maine, Indiana, Washington and Vermont, are also now evaluating an EPR approach for all packaging and printed paper.

Currently, there are other EPR laws proposed in NY State for the following materials:

- **Product Packaging**
A9790 (Englebright)
S7718 (Kaminsky)
- **Primary Batteries**
A04105 (Englebright), same as S02610 (Metzger)
- **Solar Panels**
S00942 (O’Mara)
- **Carpet and Mattresses**
2020 Executive Budget Bill, Sub Section SS
- **Update to New York State Electronics Equipment Recycling and Reuse Act**
A10662 (Hunter)
S8480 (Kaminsky)

Under an EPR approach, material recovery is managed by product manufacturers. Program costs are paid through the purchase of the product, not through a taxing structure.

According to Scott Cassell, Chief Executive Officer of the Product Stewardship Institute, “The collapse of recycling markets following China's policy to restrict imports of recyclable materials has made it clear that communities are unfairly burdened by an inefficient and costly waste management system.”

6. RECYCLING 2020 REPORT FROM OCRRA’S BOARD OF DIRECTORS

The existence of curbside recycling programs is being threatened by extremely challenging economic times. Onondaga County is not exempt from this world-wide crisis. To best position our community, OCRRA’s Board of Directors thoroughly evaluated potential options and worked to develop a strategy for the recycling program moving forward. The work product of this committee is OCRRA’s Recycling 2020 Report; available at: www.tinyurl.com/Recycle2020Report. A summary of the report’s recommendations are outlined in both short and long term goals and are as follows:

Short-Term:

- If market conditions worsen, begin charging haulers to deliver residential recyclables (currently OCRRA subsidizes this, so there is no current fee to haulers).
- Seek permit variance from the NYSDEC to **temporarily** send recyclables to the WTE Facility, for electricity generation, when costs exceed budgeted resources.
- Explore removing glass from curbside recycling to control costs and improve quality of paper and cardboard recycling, prior to a NYS Bottle Bill expansion.

Long-Term:

- Ask the Governor to direct municipal financial relief to help cover residential material sorting costs, estimated at nearly \$60 million statewide (outside of NYC) in 2020.
- Expand the NYS Bottle Bill to include wine and liquor bottles, as well as non-alcoholic glass beverage containers, which comprise approximately 50% of the incoming glass stream at a MRF. If collected curbside, glass costs money to recycle; it contaminates other materials at the MRF

and is abrasive to sorting equipment. Expanding the NYS Bottle Bill could result in recycling more than 100,000 tons of clean glass annually.

- Establish Extended Producer Responsibility for packaging and paper, thereby shifting the end-of-life management of these materials to manufacturers and consumers, and relieving taxpayers and municipalities of the costs to sort, recycle and market these materials.

The Board further recommend that OCRRA work with economic development agencies and manufacturers to increase local demand for recycled materials. Relying more upon local markets for the processing of material would reduce our exposure to global market shifts; reduce transportation costs and emissions; and sustains local jobs, which will help stabilize recycling.

7. EVALUATION OF MATERIAL TRENDS AND IMPACTS

On the national level, there continues to be lack of federal support for recycling. Federal tax benefits favor the use of virgin material in manufacturing while there are no tax benefits to encourage the use of secondary material. There is a continued need for financial support to sustain the collection, sorting and processing of recyclables. The MRF contract currently provides a guarantee that local waste haulers pay a zero tipping fee for the residential recyclables they collect, and also that those materials will be recycled. (OCRRA is currently re-evaluating this policy in the wake of unprecedented recycling financial challenges.)

In the OCRRA service area, recycling continues to be strong although several national and local trends 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 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 manufacturers on materials needed, transportation costs and potentially decrease the overall carbon footprint of a product, but can replace a recyclable material with a non-recyclable material that ultimately ends up in the trash.

Another trend involves newspapers, which make up 10.8% of all curbside recyclables. Due to continued growth of online news options, there are fewer newspaper subscriptions and therefore fewer papers printed. Additionally, the size of newspapers are decreasing, because the loss in subscription readership leads to less pages of advertising, and as more people turn to online sites to sell items and search for jobs, there is a drop in printed classified pages as well. OCRRA’s recycling team aims to offset this impact by its continuing effort to increase all recycling, including commercially generated cardboard and office paper, and recyclables generated in schools and apartment complexes.

In the future, the trend of smaller electronic products could result in less recycling tonnage; a smart phone combines the functions of a telephone, video camera, still camera, watch, music player, alarm clock and more. This reduces the number of products in our homes and subsequently in the waste stream.

As shown in the 2019 Waste Q&C study, film plastics comprise an increasingly large percentage of the trash, at nearly 9% of the total MSW. Film plastics are currently recyclable at certain retail and most grocery stores throughout New York State. Additionally, retail film bags are currently being banned far and wide, including state-wide in New York, starting in March 2020. The new bag waste reduction law prohibits the distribution of plastic carryout bags by certain retailers in New York State, as well as continues support of consumers recycling film plastics in stores.

There is increasing political momentum for Extended Producer Responsibility legislation for product packaging as a long term strategy to buffer local municipalities from the volatility of global commodity markets. EPR requires manufacturers to assume responsibility for recovering and recycling the product packaging they introduce into the market place, and promoting upstream, engineered solutions to material recovery. Instead of budget-constrained solid waste agencies looking for recycling outlets for items that are not readily recyclable, it is more effective to encourage, promote and provide resources for source reduction and reuse options. Source reduction and reuse help save local planning units from devoting valuable resources to an expensive venture and empower businesses and residents to become more actively involved in the reduction of the community's MSW. And, according to the EPA and the NYS DEC waste hierarchies, source reduction and reuse are the most preferable options for handling solid waste. The success of these methods is difficult to measure, but further waste characterization studies will shed light on the topic.

Some states have implemented mandatory food waste composting and banned all organics from landfills. In 2019, New York passed the Food Donation and Food Scraps Recycling Law, which requires large generators of food scraps to donate excess edible food, and to recycle all remaining food scraps if they are within 25 miles of an organics recycler (composting facility, anaerobic digester, etc).

The use of carts for trash and recycling is a trend nationally and a few haulers in Onondaga County have chosen to embrace it as well. The use of carts could increase recycling, improve the quality of the recovered material, and reduce litter.

Increased use of robotics, and technology improvements at material recovery facilities, to automate and advance the efficiency of sorting, is an emerging trend as well, which will continuously improve the quality of recyclables.

The population of Onondaga County has been stable at roughly 450,000 since 1990. Despite the changes in packaging and production technology, which tend to decrease the per capita tonnage of recyclable materials available to a stable total population base, the community's ability and commitment to maintain both the tonnage and the percentage waste recycled is impressive. OCRRA continuously seeks to strengthen this commitment through education, financial and regulatory support of the local recyclable commodity market and the identification of new waste streams which can be tapped for diversion.

The decision concerning what materials to recycle involves a number of factors. They include the ease with which people can sort and prepare the items for recycling; the cost and feasibility to collect the materials at the curb and sort at the MRFs; and, most importantly, the long-term stability of the market for the sale of the material. The materials collected in OCRRA's recycling program are not simply diverted into the curbside blue bin collection; they must also be materials that are recovered by recycling and converted into new products or materials.

Below is a discussion of various materials that are not currently included in OCRRA's curbside recycling program or are included on a limited basis.

#3, #4, #6 and #7 Plastics: 0.5% of the waste stream

Plastic resins #3, #4, #6 and #7 are not currently collected for recycling in OCRRA's service area. The demand for these plastics is not currently stable in the long term and there are few processing facilities for these materials. The demand for scrap plastics is dependent on these limited facilities purchasing and using the material to manufacture new products.

There is only a small quantity of #3, #4, #6 and #7 plastics in Onondaga County’s waste stream (0.5%), according to the 2019 Waste Q&C. Collecting this relatively small amount of material would increase the cost of recycling by:

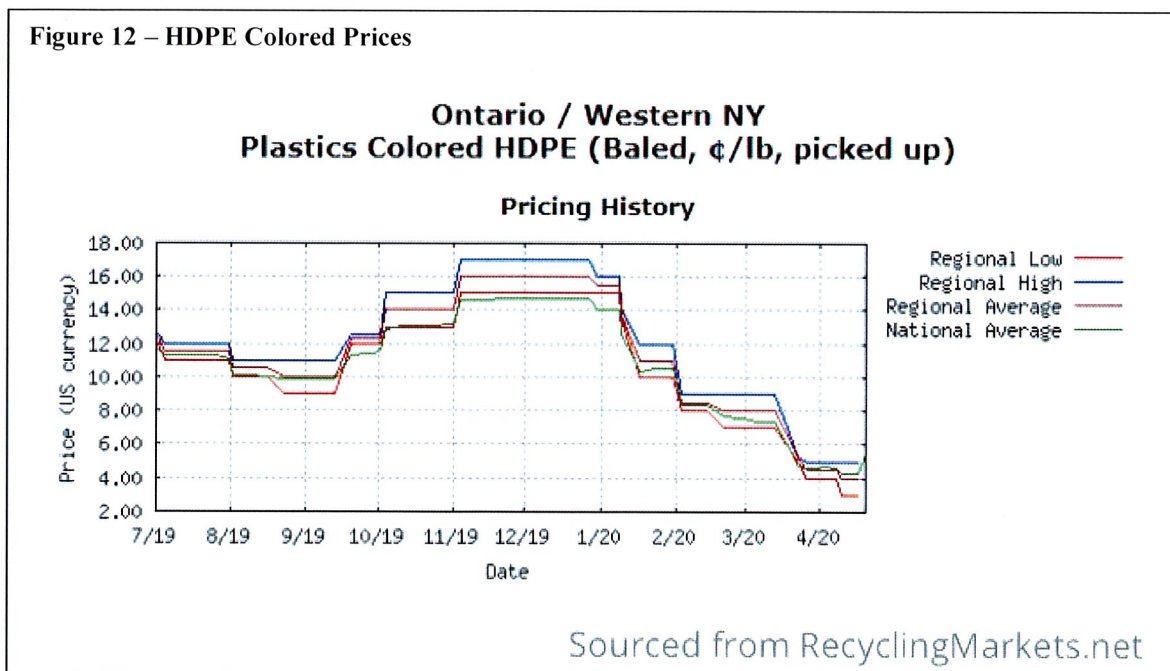
- Increasing the sorting costs to the MRFs. These plastics include many different shapes and sizes of materials; particularly #7, which is a category that includes all composite resins of varying mixtures. This would mean sorting items into potentially dozens of categories.
- Increasing storage costs. Since only truckloads of each item are shipped to a market, it could take months (or more) to collect a truckload of material for some of these plastics.

At present, the demand in the markets for #3, #6 and #7 plastics is essentially non-existent. And, according to the MRF in OCRRA’s service area, the revenue generated by the added plastics would most likely not offset the costs of the additional labor needed. These issues, along with increased storage and collection costs, do not make this a viable market for OCRRA to enter at this time. However, changing technology may alter the situation in the future. For example, the market and MRF conditions became viable enough to add #5 plastics to the list of recyclables in 2010. OCRRA continually tracks market economics and technological possibilities for recycling all types of plastics.

While recycling is not a feasible option for these plastics, OCRRA encourages residents, businesses and institutions to examine ways in which they can use less of this material by eliminating it altogether, reusing it or finding a recyclable alternative.

HDPE (#2) Plastics: 1% of the waste stream

After years of healthy pricing, HDPE plastics are now seeing record lows (see graph below) as the price for oil-based feedstocks have fallen dramatically, and there is a proliferation of gas-based feed stocks. Virgin plastic resin pricing is expected to remain low as factories are opening in the next couple of years that will produce higher amounts of virgin polyethylene and polypropylene. This will likely result in



municipalities seeing continued reduced prices for post-consumer plastic.

Extended Producer Responsibility (**EPR**) would remove local governments from the market risks associated with such volatile pricing. Two packaging EPR bills were introduced earlier this year in the NYS Legislature by the chairmen of the Senate and Assembly Environmental Conservation Committees, respectively.

LDPE and LLDPE Film Plastics: 8.8% of the waste stream

LDPE and LLDPE plastics are present in substantial amounts in Onondaga County's waste stream, particularly as film wrap and plastic bags. As with other materials, OCRRA encourages the reduction and reuse of the plastic bags by making the community aware of alternatives (reusable bags for sale at many grocery stores) and ways they can reuse existing plastic bags. The intent is to minimize the amount of bags that need disposal, as they often end up in the waste stream or as litter.

Plastic bags and films are potentially recyclable; however these plastics pose problems that hinder them from being included in OCRRA's residential recycling program. First, film plastics create unique challenges for MRFs. They come in a variety of shapes and sizes: shrink wrap, bags or bulkier items such as trays. Separation of these assorted materials could significantly increase the amount of man-hours spent at a MRF and lead to greatly increased labor costs. In addition, plastic bags mixed with other recyclables cause problems with sorting machinery, which cost time and money to remedy. Second, markets for the majority of LDPE materials are for plastic film wrap, which is required to be uniform, clean, dry and uncontaminated. This is difficult to achieve in any sort of residential collection, as these films are coming from multiple sources and have many opportunities to become contaminated with food or other unwanted materials.

For these reasons, it is more effective for large companies to set up their own recovery systems for uniform plastic films. For example, Wal-Mart has implemented a system of baling its plastic shrink wrap within its cardboard and backhauling the bales to processors. This allows for efficiency, as the uniform and clean shrink wrap goes from the packages straight to the processors.

In March of 2020, the NYS DEC's Bag Waste Reduction Law became effective. This law prohibits the distribution of plastic carryout bags by certain retailers in New York State. Previous 2009 legislation is still in effect as well, requiring all retail stores within New York State that are 10,000 square feet or more in size and that provide plastics bags to customers to establish and maintain a plastic bag recycling program. Each of these laws were established to ensure a reduction in the amount of retail film plastic bags available, as well as convenient recycling locations for consumers to drop off their existing used plastic bags. By requiring stores to report data on weight and end market, the NYS DEC has the ability to ensure that the bags collected are actually being recycled. OCRRA frequently promotes this plastic bag take-back program to the public. It is beneficial to the OCRRA system, as it aims to keep plastic bags out of the trash and the curbside blue bins, where they ultimately create problems with MRF sorting machinery.

Textiles: 5.2% of the waste stream

Textiles, comprising 5.2% of Onondaga County's waste stream, do have viable markets for reuse and recycling. There are ample opportunities for textile reuse in Onondaga County; OCRRA strongly encourages residents to donate these items. Two major charities, the Rescue Mission and the Salvation Army, along with other smaller charitable donation centers, collect old clothes and textiles at drop-off locations throughout Onondaga County. These locations not only collect re-sellable clothing items, but old textiles that will be sent for recycling into rags. OCRRA informs the public of these donation centers via its public education campaign and helps support the mission of these charities by providing a credit towards their trash fees based on the amount of donations they collect.

Reuse does divert a significant amount of textiles from the waste stream; in 2019, more than 970 tons were collected by donation centers in the OCRRA service area. Curbside recycling of textiles is not practical for various reasons, such as the need to keep material clean and dry; a nearly impossible feat in Upstate New York weather. Curbside is also not a viable option because textiles cannot be sorted out safely at the MRF; they would wind up around the sorting equipment and could cause a fire. OCRRA continues to pursue reuse as the most viable option for residents' used textiles.

The U.S. EPA estimates that textile waste occupies nearly 5% of all landfill space. While the EPA estimates that the textile recycling industry recycles approximately 3.8 billion pounds of post-consumer textile waste (PCTW) each year, this only accounts for approximately 15% of all PCTW, leaving 85% in our landfills. The average US citizen throws away 70 pounds of clothing and other textiles annually. Because of this OCRRA is part of a statewide push with NYSAR3 (New York State Association for Reduction, Reuse and Recycling) to promote textile recycling and help increase it with public education.

Food Waste: 21% of the waste stream

The 2019 Waste Q&C Study indicated that 21% of the waste stream consists of food waste. The prevalence of food waste in the aggregate waste stream increased significantly from the previous study that was completed in 2005, raising from 14.6% in 2005 to 21% in 2019.

Because food waste constitutes such a large portion of the MSW in Onondaga County and is a material that can be readily composted, OCRRA instituted a commercial food waste composting pilot program in 2009. OCRRA employs a technically sound and effective process, called an extended aerated static pile system (EASP), where the food waste is mixed with ground yard waste, covered with finished compost and injected periodically with oxygen via an air blower system. This system allows the material to maintain aerobic conditions with minimal labor and handling. The project has met great success and continues to grow. In 2019, OCRRA's state of the art food and yard waste Amboy Compost Facility



OCRRA.org
Sponsored · Paid for by Onondaga County Resource Recovery Agency

Textiles, including clothing, can be recycled - but they DON'T belong in your recycling bin. See how donating clean, dry used clothes, shoes, curtains, bedding, towels and other textiles can help save the world a little each day.



OCRRA.ORG
WANTED: Textiles
Donate and Reduce Waste

Linda Lagoe, Kate Merrick and 3 others · 1 Share

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processed over 6,000 tons of total food scraps, on a minimal foot print, with minimal staffing and without regulatory violation. Included in this total are regular deliveries of food waste from Syracuse University's Food Services Department and several local organizations. The EASP system enables OCRRA to process both pre- and post-consumer foods, and has become a valuable resource for the region's waste diversion and recycling efforts.

In addition to promoting commercial food waste composting, OCRRA encourages residential backyard composting and provides informational resources, via the OCRRA website.

Electronics: 0.7% of the waste stream

While electronics constituted a relatively small percentage of the waste stream (0.7%) in the 2019 Waste Q&C, the EPA states that the generation of this material is consistently increasing nationwide. If predicted trends occur, this percentage could significantly increase in the coming years.

Reuse and donation of electronics is encouraged; OCRRA asks residents to check with donation centers for their ability to resell certain items first. However, electronics' function quickly becomes obsolete as new products emerge and many donation centers have strict criteria when accepting items like TVs and computers. Therefore, reuse is not always a viable option, particularly for older items.

Since OCRRA's e-waste recycling program's inception in 2002, nearly four million pounds of e-waste has been collected for recycling in Onondaga County. Due to New York State's Extended Producer Responsibility law, which took effect in April 2011 and puts the financial burden for end of life costs onto the manufacturers, OCRRA steers residents toward local electronics recycling outlets and has the information listed on the OCRRA website, www.OCRRA.org. This legislation is a welcome change, transferring the financial burden to recycle e-waste from local governments to manufacturers – which in turn will encourage manufacturers to design products that are easier to recycle. As of June 2014 there have been some challenges in regards to the E-waste law but the law has significantly increased the amount of e-waste being recycling across the state. Some modifications will need to be made to ensure the laws success. Please see Appendix 3, OCRRA Board Resolution urging NYS legislature to update the New York State Electronic Equipment Recycling and Reuse Act on its 10-year anniversary in 2020.

CONCLUSION

OCRRA's recycling program continues to evolve each year as the waste stream changes, as markets fluctuate and as new technology emerges. In order to stay ahead of the game, OCRRA continually evaluates materials to determine the most environmentally sound and economically feasible method of keeping items out of the trash. In many cases recycling is the best method, as items are easily separated and marketed, as is the case with PET bottles, corrugated cardboard, etc. In some cases, reuse is found to be the ideal choice, such as with textiles. Finally, source reduction may be a focus, as some items may be difficult and expensive to recycle with limited markets, as is the case with polystyrene.

By undertaking continual program evaluation, OCRRA made positive program changes from 2014 to 2019. Recent examples of program additions and expansions include:

- The upgrades of OCRRA's Amboy Compost Site for commercial and institutional food waste composting, with the goal of annually composting 20 million pounds of commercial and institutional food scraps in coming years.
- A compost bagging and battery sorting collaboration with Arc of Onondaga. Arc assists individuals with developmental disabilities to achieve their fullest potential. Thousands of bags of USCC STA-certified compost are sold through a network of 30+ lawn and garden retail outlets each year, helping to replenish valuable nutrients to local soils.

- The continuation in year-round Household Hazardous Waste Collection, which is more convenient for residents and removes hazardous chemicals from the waste stream.
- An annual mercury collection event in which residents can drop off old mercury-containing thermometers and thermostats in exchange for a \$5 Home Depot Gift Card and a replacement thermometer. Those devices are then properly disposed of, preventing harmful mercury from entering the environment.
- An annual paper shredding and recycling event in which residents can shred and recycle confidential documents in order to protect their personal information and keep valuable paper out of the trash. During the reporting period of 2014 to 2019, over 360 tons of personal confidential documents were shredded and recycled.
- The creation of a series of professionally-produced educational videos, Common Core Curriculum-aligned classroom activities, and interactive digital games that can be conveniently accessed online in classrooms and at home throughout New York State.
- Continued statewide leadership in supporting Extended Producer Responsibility, which helps examine and advance legislation targeting mercury thermostats, paint, unwanted pharmaceuticals, and other difficult to manage waste materials.
- The operation of a non-ferrous metal recycling system at OCRRA's Waste-to-Energy Facility, allowing the recycling of thousands of tons of non-ferrous metal annually.

As our policies and program objectives continue to evolve, it is imperative to focus on growing recycling outside of the blue bin. Specifically, OCRRA urges implementation of:

1. **Expansion of the NYS Returnable Container Act to include Wine and Liquor bottles.** Glass that is put in a curbside recycling container and processed at a material recovery facility is most likely being used for daily cover and engineering purposes at a landfill while glass that is returned for its 5 cent deposit is used for container glass once again. OCRRA studied the waste and recycling stream in detail in 2019. OCRRA found over 50% of the glass in a recycle bin are wine and liquor bottles. Using NYS deposit law to capture wine and liquor bottles for actual recycling has incredible environmental benefits while offering substantial municipal relief. Please see OCRRA Board Resolution (Appendix 4) urging NYS legislature to expand the container act to include glass wine and spirit bottles, as well as non-alcoholic beverage containers.
2. **Ensure Recycling, Waste, and Material Managers are integrated in the implementation of the Climate Leadership and Community Protection Act.** OCRRA's recycling program alone avoided over 800,000 CO₂e in 2019, added with the emissions avoided by using our Waste-to-Energy Facility, the OCRRA system collectively avoided well over 1 million tons of greenhouse gas emissions. OCRRA urges NYSDERDA and NYSDEC to ensure broad representation from the recycling, waste, and material management sector be included in the conversation about the Climate Leadership and Community Protection Act, as the choices we make impact our collective carbon footprint dramatically.
3. **Enact Extended Producer Responsibility for Product Packaging.** No longer can municipalities shoulder the burden of product manufacturers externalizing the cost for end-of-life management for their products. Environmental Conservation Committee Chairmen Senator Kaminsky and Assemblyman Englebright have both sponsored EPR legislation for product packaging. OCRRA strongly encourages the NYSDEC to support EPR as the optimal strategy to create a resilient New York State recycling system.

4. **Build Recycling Resiliency.** The world of recycling has changed due to forces completely out of the County or State's control. Our collective response needs to be focused on how to build recycling resiliency by ensuring the right materials are in the curbside bin; focusing on supporting local end markets for recovered materials; producing the highest quality of recycled material and providing resources to facilitate modern recycling sorting, such financial support for optical scanning and robotic capital investments. Many of the changes that communities are grappling with may be uncomfortable, but strong and bold leadership is necessary to ensure the long-term integrity and viability of recycling across New York State while preserving the state's strategic disposal capacity.

Onondaga County's commitment to recycling and waste reduction is a tremendous success. To sustain these programs while recycling markets are so challenged, OCRRA and our fellow planning units across the state rely on NYSDEC's leadership to promote responsive and responsible recycling resilience in our communities.

Appendix 1. 2019 WASTE Q&C: Summary of Municipal Solid Waste Composition

Table A-1 2019 Detailed MSW Composition

Material Category	Adjusted Percent	Conf. Int (+/-)	Est. Annual Tons	Material Category	Adjusted Percent	Conf. Int (+/-)	Est. Annual Tons
Paper	20.9%	1.7%	60,123	Electronics	0.7%	0.6%	2,060
Newspaper	1.0%	0.5%	3,011	Televisions, Other Monitors, and CRTs	0.2%	0.2%	531
Magazines & Catalogs	0.5%	0.1%	1,359	All Other Electronics	0.5%	0.2%	1,529
OCC/Kraft Paper (Uncoated)	5.0%	0.8%	14,373	Organics	35.4%	2.3%	101,876
Compostable Paper	7.3%	0.8%	21,128	Food Waste	21.0%	2.2%	60,379
Aseptic Boxes & Gable Top Cartons	0.1%	0.0%	412	Textiles & Leather	5.2%	0.8%	14,953
Mixed Recyclable Paper (Low Grade)	3.6%	0.5%	10,265	Rubber Products	0.9%	0.2%	2,675
Office Paper (High Grade)	0.7%	0.2%	2,141	Disp. Diapers & Sanitary Prod.	3.3%	0.5%	9,617
Other Non-Recyclable Paper	2.6%	0.5%	7,435	Yard Waste	1.0%	0.4%	2,942
Plastics	17.2%	2.2%	49,479	Remainder/Composite Organics	3.9%	0.7%	11,311
PET (#1) Bottles Bev. - NY State Deposit	0.3%	0.1%	849	Metals	3.1%	0.6%	8,822
PET (#1) Bottles Bev. - Non-NYS Deposit	0.4%	0.1%	1,286	Steel Cans & Lids	0.4%	0.1%	1,078
PET (#1) Bottles Non-Bev. - Non-NYS Deposit	0.1%	0.0%	385	Aerosol Cans	0.1%	0.0%	329
PET (#1) Non-bottle Containers	0.2%	0.0%	695	Other Ferrous Metals	1.6%	0.4%	4,617
HDPE (#2) Natural Bottles	0.3%	0.0%	738	Al Bev. Cans (NYS Deposit)	0.1%	0.0%	374
HDPE (#2) Colored Bottles	0.3%	0.0%	932	Al Bev. Cans (Non-NYS Deposit)	0.1%	0.0%	232
HDPE (#2) Non-Bottle Containers	0.4%	0.4%	1,169	Al Non-Beverage Containers	0.0%	0.0%	111
Rigid Plastic Cont. #3, #4, #6, and #7	0.5%	0.1%	1,455	Aluminum Foil & Trays	0.3%	0.1%	737
#5 Dairy Tubs	0.1%	0.0%	242	Other Non-Ferrous Metals	0.5%	0.1%	1,344
#5 Other Containers	0.7%	0.1%	1,928	C&D Materials	9.1%	1.9%	26,137
Expanded Polystyrene "Styrofoam"	0.8%	0.3%	2,361	Wood - Treated/Painted/Stained	2.4%	0.7%	6,923
Retail Film Bags	0.8%	0.1%	2,373	Wood - Untreated/Clean	1.6%	0.5%	4,680
Consumer/Commercial Film	2.6%	1.0%	7,396	Drywall/Gypsum Board	0.3%	0.2%	933
All Other Film	5.3%	0.6%	15,161	Asphalt Roofing	0.4%	0.3%	1,186
Flexible Packaging and Pouches	0.1%	0.0%	327	Asphalt Paving, Brick, Concrete, & Rock	0.6%	0.4%	1,606
Durable/Bulky Rigid Plastics	1.9%	0.6%	5,609	Carpet & Carpet Padding	1.6%	0.7%	4,537
Remainder/Composite Plastic	2.3%	0.5%	6,573	Remainder/Composite C&D	2.2%	0.6%	6,271
Glass	2.4%	0.7%	7,037	HHW	0.8%	0.6%	2,368
Glass Beverage Containers - NY State Deposit	0.2%	0.0%	448	Household Hazardous Waste or HHW	0.2%	0.1%	491
All Other Glass Bev. Cont. - Non Deposit	0.2%	0.0%	687	Batteries (All Types)	0.0%	0.0%	102
All Other Glass Food Containers & Jars	0.3%	0.1%	721	Medically-Related Waste	0.6%	0.3%	1,776
Wine Bottles	0.3%	0.1%	906	Other Materials	10.5%	1.8%	30,227
Spirit (Liquor) Bottles	0.3%	0.1%	921	Dirt & Fines	6.2%	0.7%	17,790
Ceramic Containers & Clay Pots	0.2%	0.1%	645	Bulky Materials	4.0%	1.2%	11,431
Remainder/Composite Glass	0.9%	0.4%	2,709	Other Mat'ls Not Elsewhere Classified	0.3%	0.1%	1,006
				Grand Total	100%		288,130
				No. of Samples	100		

Appendix 2. 2019 WASTE Q&C: Summary of Residential Recyclables Composition

Table A-7 Detailed Aggregate Recycling Composition

Material Category	Mean Percent	Conf. Int (+/-)	Est. Annual Tons	Material Category	Mean Percent	Conf. Int (+/-)	Est. Annual Tons
Paper	65.1%	2.3%	25,442	Electronics	0.1%	0.3%	55
Newspaper	10.8%	1.3%	4,223	Televisions, Other Monitors, and CRTs	0.0%	0.0%	0
Newspapers in Sleeves	0.4%	0.2%	166	All Other Electronics	0.1%	0.1%	55
Magazines & Catalogs	4.7%	0.6%	1,843	Organics	2.6%	0.4%	1,000
OCC/Kraft Paper (Uncoated)	28.3%	3.0%	11,048	Food Waste	1.8%	0.3%	710
Compostable Paper	1.0%	0.1%	380	Textiles & Leather	0.3%	0.1%	116
Aseptic Boxes & Gable Top Cartons	0.4%	0.0%	171	Rubber Products	0.1%	0.0%	25
Mixed Recyclable Paper (Low Grade)	15.8%	1.4%	6,180	Disp. Diapers & Sanitary Prod.	0.1%	0.0%	45
Office Paper (High Grade)	2.3%	0.8%	880	Yard Waste	0.0%	0.0%	2
Other Non-Recyclable Paper	1.4%	0.2%	549	Remainder/Composite Organics	0.3%	0.0%	101
Plastics	12.3%	1.0%	4,806	Metals	3.9%	0.4%	1,543
PET (#1) Bottles Bev. - NY State Deposit	0.4%	0.0%	153	Steel Cans & Lids	2.4%	0.3%	955
PET (#1) Bottles Bev. - Non-NYS Deposit	1.9%	0.2%	731	Aerosol Cans	0.2%	0.0%	68
PET (#1) Bottles Non-Bev. - Non-NYS Deposit	0.9%	0.1%	347	Other Ferrous Metals	0.6%	0.2%	218
PET (#1) Non-bottle Containers	0.8%	0.1%	324	Al Bev. Cans (NYS Deposit)	0.2%	0.0%	79
HDPE (#2) Natural Bottles	1.1%	0.1%	442	Al Bev. Cans (Non-NYS Deposit)	0.1%	0.0%	37
HDPE (#2) Colored Bottles	1.9%	0.2%	746	Al Non-Beverage Containers	0.1%	0.0%	57
HDPE (#2) Non-Bottle Containers	0.2%	0.1%	70	Aluminum Foil & Trays	0.1%	0.0%	32
Rigid Plastic Cont. #3, #4, #6, and #7	0.3%	0.1%	124	Other Non-Ferrous Metals	0.2%	0.1%	97
#5 Dairy Tubs	0.2%	0.0%	68	C&D Materials	0.3%	0.2%	108
#5 Other Containers	0.6%	0.1%	225	Wood - Treated/Painted/Stained	0.1%	0.1%	44
Expanded Polystyrene "Styrofoam"	0.1%	0.0%	56	Wood - Untreated/Clean	0.0%	0.0%	7
Retail Film Bags	0.2%	0.0%	90	Drywall/Gypsum Board	0.0%	0.0%	4
Consumer/Commercial Film	0.1%	0.0%	42	Asphalt Roofing	0.0%	0.0%	0
All Other Film	0.8%	0.1%	296	Asphalt Paving, Brick, Concrete, & Rock	0.0%	0.0%	2
Flexible Packaging and Pouches	0.0%	0.0%	4	Carpet & Carpet Padding	0.0%	0.0%	1
Durable/Bulky Rigid Plastics	1.4%	0.4%	547	Remainder/Composite C&D	0.1%	0.1%	50
Remainder/Composite Plastic	1.4%	0.3%	539	HHW	0.0%	0.1%	17
Glass	11.2%	1.1%	4,369	Household Hazardous Waste or HHW	0.0%	0.0%	10
Glass Beverage Containers - NY State Deposit	0.8%	0.1%	326	Batteries (All Types)	0.0%	0.0%	4
All Other Glass Bev. Cont. - Non Deposit	0.8%	0.1%	319	Medically-Related Waste	0.0%	0.0%	4
All Other Glass Food Containers & Jars	2.4%	0.3%	945	Other Materials	4.5%	1.2%	1,757
Wine Bottles	3.9%	0.5%	1,535	Dirt & Fines	4.0%	0.7%	1,569
Spirit (Liquor) Bottles	1.5%	0.2%	578	Bulky Materials	0.0%	0.0%	0
Ceramic Containers & Clay Pots	0.1%	0.0%	58	Other Mat'ls Not Elsewhere Classified	0.1%	0.0%	56
Remainder/Composite Glass	1.6%	0.3%	607	Tanglers	0.3%	0.1%	131
				Bagged Material	N/A	N/A	N/A
				Grand Total	100%		39,096
				No. of Samples	94		

**RESOLUTION URGING STATE REPRESENTATIVES TO UPDATE THE
NEW YORK STATE ELECTRONIC EQUIPMENT RECYCLING AND
REUSE ACT ON ITS 10-YEAR ANNIVERSARY IN 2020**

WHEREAS, the main reasons for the adoption of the New York State Electronic Equipment Recycling and Reuse Act (Act) in 2010 were to assist local governments with managing the fast-growing electronics waste stream by relying on electronics manufacturers to fund a recycling infrastructure and relieve municipalities from the recycling and end-of-life management costs; and

WHEREAS, the Act has succeeded in significantly increasing electronics recovery and recycling in the State, but the collection infrastructure is unstable, and the Onondaga County Resource Recovery Agency (OCRRA), as well as local governments throughout New York State, are facing mounting costs in the absence of consistent manufacturer funding and limited markets for cathode ray tubes (CRTs); and

WHEREAS, such costs come at a time when OCRRA and local governments across the state are facing truly unprecedented financial pressures due to impacts of both the Coronavirus, as well as severely depressed recycling material markets due to China's National Sword policy; and

WHEREAS, the Act requires electronics manufacturers to fund e-scrap recycling programs that are effective, continuous and reasonably convenient to all consumers across the state at no cost; and

WHEREAS, manufacturers have not fulfilled their obligation to provide such convenient, year-round, no-cost drop off to residents in Onondaga County, and throughout New York State, and have further failed to manage, publicize, and adequately fund the program, leaving residents with insufficient opportunities to conveniently and properly dispose of their unwanted electronics; and

WHEREAS, as a result, OCRRA and municipalities across the state too often continue to bear the burden of organizing the recovery, as well as providing public education about the program and paying the cost to recycle the materials; and

WHEREAS, residents in Onondaga County and beyond are often faced with the frustration of waiting for sporadic collection events which do not meet the manufacturers' requirements to provide year-round, convenient collection, as envisioned by the Act, and

WHEREAS, the consequence, specifically following the January 2015 CRT Disposal Ban, is significant as an increasing quantity of unwanted electronics are illegally dumped, and a growing number of local municipal solid waste systems are faced with bearing more of the financial responsibility for continued e-scrap collection in their communities; and

WHEREAS, once manufacturers have met their performance standard (goal), which in a number of cases is achieved midway through the year, they no longer provide financial support to continue their collection programs, thus shifting management costs to cash-strapped local governments; and

WHEREAS, this has resulted in many local governments across the state having grappled with the burden to fund or cease e-scrap collection; and

WHEREAS, the New York Product Stewardship Council has recommended that the so-called "mail back" provision be removed from the statute as it undermines the requirement that manufacturers provide convenient drop-off for residents, and that mailing back heavy items, including old TV sets, is unreasonable and burdensome to residents, and has further recommended that the statute clarify that manufacturers are required to provide year-round, consistent financial support for collection sites included in their plans, regardless of whether their annual performance target has been met; and

WHEREAS, the state's major professional solid waste and recycling associations, including the New York State Association for Reduction, Reuse, and Recycling (NYSAR3), the Solid Waste Association of North America - NY Chapter (SWANA-NY), the New York State Association for Solid Waste Management (NYSASWM), the New York Product Stewardship Council (NYPSC) and the Federation of New York Solid Waste Associations, all endorse that the Convenience Standard (i.e. drop off requirements) of the existing electronics recovery statute be amended so that it is based on the existing language as recently adopted by the state legislature for the Paint Stewardship Law, specifically, that:

- Manufacturers shall provide geographic modeling to determine the number and distribution of sites for collection of Covered Electronic Equipment (CEE) on the following criteria (i) at least ninety percent of New York residents shall have a collection site within a fifteen mile radius; and (ii) one additional site will be established for every fifty thousand residents of an urbanized area (as defined by the United States Census Bureau*).

And that the above referenced professional associations further recommend that:

- For all counties with populations between 65,000 and 300,000 people, in no event shall there be less than 3 (three) permanent collection locations.
- For counties with populations of less than 65,000 people, manufacturers shall conduct no less than 4 (four) quarterly collection events on an annual basis.

RESOLUTION URGING STATE REPRESENTATIVES TO UPDATE THE NEW YORK STATE ELECTRONIC EQUIPMENT RECYCLING AND REUSE ACT ON ITS 10-YEAR ANNIVERSARY IN 2020

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- Any county or solid waste authority may, at its discretion, establish a permanent collection site for CEE, and any materials so collected shall be accepted by manufacturers, or their agents, at no cost to the municipality or solid waste authority, including reasonable costs for necessary supplies and materials to properly prepare the collected CEE for transport; now therefore be it

RESOLVED, that the Onondaga County Resource Recovery Agency does hereby call upon Governor Cuomo, the New York State Assembly, and the New York State Senate to build toward the long-term goals of creating a more stable and comprehensive, manufacturer-implemented electronics recycling infrastructure by updating the New York State Electronic Equipment Recycling and Reuse Act on its 10-year anniversary in 2020, by adopting the above referenced changes to the Act's Convenience Standard and clarifying electronic equipment manufacturers' requirements to provide year-round, no-cost collection of electronics for residents, and thereby also helping alleviate the immediate extreme financial pressures faced by local governments; and be it further

FURTHER RESOLVED, that OCRRA's Board Secretary shall forward a copy of this Resolution to Governor Cuomo, the Environmental Conservation Committee Chairman, Senator Todd Kaminsky, and Assemblyman Steven Englebright, and local State legislative representatives. This Resolution shall take effect immediately.

Resolution Adopted Date: May 13, 2020

Vote: Ayes: 8 Nays: 0 Abstentions: 0

Signed: [Signature]

* The United States Census Bureau defines an Urbanized Area as a continuously built-up area with a population of 50,000 or more. It comprises one or more places—central place(s)—and the adjacent densely settled surrounding area—urban fringe—consisting of other places and non-place territory.

**RESOLUTION URGING NEW YORK STATE LEGISLATURE TO
INCREASE RECYCLING AND
REDUCE MUNICIPAL WASTE MANAGEMENT COSTS
BY EXPANDING THE NYS RETURNABLE CONTAINER ACT**

WHEREAS, the Onondaga County Resource Recovery Agency operates a nationally recognized, award winning recycling program for Onondaga County residents with a goal to reduce solid waste and recycle as much of the waste stream as possible in order to benefit the environment, and preserve the state's disposal capacity, and

WHEREAS, empty wine, spirit and beverage glass containers comprise an estimated 300,000 tons of curbside recyclables statewide, and

WHEREAS, such empty glass bottles are not economically viable to recycle as part of curbside recycling programs throughout New York State because the bottles break and become contaminated with paper, plastic, and other non-glass materials at local recycling recovery and sorting facilities, and

WHEREAS, there are no economically viable markets to recycle this contaminated, broken glass material into new glass bottles, and, therefore, the unwanted glass becomes a significant financial burden to New York State's local communities to sort, transport, and properly dispose of, which totals millions of dollars statewide, and

WHEREAS, such broken glass ends up contaminating other recyclable materials such as paper and corrugated cardboard at local material recovery facilities, thereby diminishing the value and marketability of recovered paper products, and

WHEREAS, significant environmental benefits would be realized, including the avoidance of one ton of carbon dioxide for every six tons of container glass recycled if breaking and contaminating this glass could be prevented; and

WHEREAS, if this glass could be recovered for recycling it could be endlessly reprocessed into new glass containers with no loss in quality or purity, and

WHEREAS, the New York State Returnable Container Act, also known as the Bottle Bill, has proven to be the most effective method for the recovery and recycling of various glass beverage containers, including glass beer and soda bottles, and

WHEREAS, glass beverage containers with a deposit, such as beer and soda, have an economically viable market because they are source separated, and

WHEREAS, several other states recognize the environmental and economic benefits of including wine, spirit, and other glass beverage containers in their respective Bottle Bill systems, including California, Hawaii, Iowa, Maine, and Vermont, and

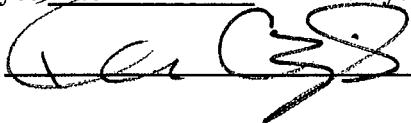
WHEREAS, this Agency believes that expansion of the New York State Returnable Container Act to include wine, liquor and other glass beverage bottles will dramatically increase recycling of these other glass containers, create new recycling jobs for clean, uncontaminated glass, and reduce municipal costs to manage these materials as part of municipal curbside recycling collection programs, and

WHEREAS, the Agency is committed to the New York State solid waste management hierarchy which emphasizes waste reduction, reuse and recycling first, all of which would be served by expanding the bottle deposit system to include these additional glass containers thereby creating more recycling of these containers and fewer trashed, now therefore be it

RESOLVED, that the Onondaga County Resource Recovery Agency does hereby strongly urge the New York State Legislature to expand the Bottle Bill as outlined above to include wine, liquor and other glass drink containers as a means to increase recycling, create new recycling jobs, as well as reduce the significant financial burden such containers place on local municipalities as part of curbside recycling collection program. This Resolution shall be distributed to the appropriate state elected officials and shall take effect immediately.

Resolution Adopted Date: November 14, 2018

Vote: Ayes 10 Nays 0 Abstentions 0

Signed:  _____