Quarterly Recycling Report

2021 – Quarter 2

Onondaga County
Resource Recovery Agency

July 2021

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1.0 INTRODUCTION

This Quarterly Recycling Report has been prepared consistent with the requirements of Permit ID 7-3142-00028/00011 (Onondaga County Resource Recovery Facility [OCRRF], Solid Waste Management Permit) Section 6, Item C and Permit ID 7-3148-00048/00003 (Ley Creek Transfer Station, Solid Waste Management Permit) Section 22, Item C. Due to changes in the recently renewed OCRRF Solid Waste Management Permit (effective August 8, 2021), this is the final Quarterly Recycling Report.

It should be noted that quarterly reporting related to recycling, as described in the above cited permits, was discontinued in 2001 per verbal direction from the New York State Department of Environmental Conversation (DEC). Quarterly reporting related to recycling has been re-established by Onondaga Resource Recovery Agency (OCRRA) beginning the first quarter of 2020. This reporting has been re-established to document significant changing trends in recycling.

This report presents data on OCRRA's residential blue bin curbside recycling program only. In 2020, this program collected 34,533 tons of materials from the blue bins of 180,000 households in OCRRA's service area having a population of approximately 457,000. Additional mandatory and voluntary recycling is generated by private commercial entities, as well as public and private institutions. These additional recycling sources are tracked and tabulated by OCRRA and reported to the DEC on an annual basis and can be found here.

In addition to residential blue bin curbside recycling, OCRRA's comprehensive recycling program operates two composting sites; provides household hazardous waste (HHW) collection; provides battery collection; organizes various public recycling events (e.g., Earth Day Litter Cleanup, "Shred-o-Rama", mercury collection); and collaborates with partners to divert textiles and thin film plastics for recycling "outside the bin." The comprehensive recycling program is further reported on an annual basis as described above. The OCRRA residential blue bin curbside recycling system is comprised of:

- contracted arrangements with a private MRF operator to process and market recyclables;
- contracted agreements with public and private haulers to deliver recyclable materials for a $34 tip fee through the end of 2022. This fee will cover about half the cost to sort and market residential recyclables;
- distribution of blue bins for residential use; and
- sophisticated and widespread public education and outreach.

Of OCRRA's total recycling tonnage, the residential blue bin curbside recycling accounts for approximately 8% of 2020's total mandatory and voluntary recycling, or 23% of 2020's total mandatory/processible recycling tonnage, as reported in the *2020 Annual Report of Recyclables Recovered* (OCRRA, March 1, 2020).

OCRRA first documented recycling challenges within *Recycling 2020: Report and Recommendations* (OCRRA, January 2020). Consistent with the findings of that report, this report includes data for curbside recyclable materials that substantiates the absence of a robust economic market. In the wake of sustained low commodity values and skyrocketing recycling costs, OCRRA could no longer maintain a zero-tip fee for residential recycling. OCRRA deemed it necessary to share costs directly with haulers that deliver residential recyclables and adopted a new residential recycling tip fee of $34 per ton for 2021 and 2022. This will cover about half the cost to sort and market residential recyclables.

2.0 MONTHLY RECYLABLES TONNAGE AND VALUE BY CATEGORY

Table 1, below, provides a monthly breakdown of the recyclables recovered in residential blue bin curbside recycling by material category, including relevant economic data for each category.

Table 1 – Monthly Recyclables by Category: 2nd Quarter

Material Category	April 2021			May 2021			June 2021		
	Tonnage [1]	Market Value per ton[2]	Actual Value per ton[3]	Tonnage [1]	Market Value per ton[2]	Actual Value per ton[3]	Tonnage [1]	Market Value per ton[2]	Actual Value per ton[3]
OCC (cardboard)	503.94	$100	--	474.94	$100	--	547.16	$120	--
Mixed Paper	1,427.78	$35	--	1,345.62	$35	--	1,550.22	$55	--
Aluminum Cans	1.94	$1,340	--	1.83	$1,340	--	2.11	$1,480	--
Steel Cans	34.67	$15	--	32.67	$15	--	37.64	$15	--
HDPE Natural (#2)	11.93	$1,730	--	11.24	$1,880	--	12.95	$2,040	--
HDPE Color (#2)	26.90	$700	--	25.35	$820	--	29.21	$1,040	--
PET (#1)	75.16	$270	--	70.84	$370	--	81.61	$460	--
Glass	453.46	N/A	<-$28	427.37	N/A	<-$24	492.35	N/A	<-$25
Non-Recyclables[4]	151.15	N/A	<-$173	142.46	N/A	<-$173	164.12	N/A	<-$173
Plastics (#3-7)/Rigid Plastics	40.49	N/A	$100	38.16	N/A	$100	43.97	N/A	$100
Poly Plastics (#5)	46.04	$700	N/A	43.39	$780	--	49.99	$820	--
Average Blended Value per Ton[5]	--	**$44.54**	--	--	**$51.05**	--	--	**$70.93**	--
Actual Cost per Ton[6]		--	**-$22.71**		--	**-$16.20**		--	**$3.68**
Approximate Total Agency Costs[7]	**2,773**	**$62,980**		**2,613**	**$42,350**		**3,011**	**-$5,540.81**	

Notes:

1. Tonnage based on monthly incoming scale data and current composition percentage of each material category as agreed upon and calculated by OCRRA and the MRF Contractor as follows: OCC Cardboard 18.17%; Mixed Paper 51.48%; Aluminum Cans 0.07%; Steel Cans 1.25%; HDPE Natural (#2) 0.43%; HDPE Color (#2) 0.97%; PET (#1) 2.71%; Glass: 16.35%; Non-Recyclables: 5.45%; Rigid plastics: 1.46%; and Poly Plastics (#5): 1.66%.
2. Market value based on various sources for the 1st issue/1st full week of the month one month prior to the date shown as follows:
   a. OCC Cardboard: Fastmarkets RISI Pulp & Paper Week (PPW) for the Buffalo Region, Domestic Price OCC #11
   b. Mixed Paper: PPW for the Buffalo Region, Domestic Price # 54 Mixed Paper
   c. Aluminum Cans: www.secondarymaterialspricing.com for the domestic New York (NE USA/MARITIMES, SMP) for Aluminum Cans, sorted, baled, delivered
   d. Steel Cans: SMP for Steel Cans, sorted, densified, delivered
   e. HDPE Natural (#2): SMP for Natural HDPE, baled, picked up
   f. HDPE Color (#2): SMP for Colored HDPE, baled, picked up
   g. PET (#1): SMP for PET, baled, picked up
   h. Poly Plastics (#5): SMP for Plastics PP Post Consumer, baled, picked up)
3. Actual value based on the average price paid or charged to the processing facility during the months of delivery, less any freight or other charges paid to third parties. These values were reported by the MRF Contractor. In most cases, the actual value per ton could not be provided by the MRF contractor. In OCRRA's Quarterly Recycling Report 2020 - 1st Quarter, the MRF Contractor did provide actual value per ton for mixed paper due to the large discrepancy between market and actual values.
4. Non-recyclables include those materials that require disposal and cannot be recycled. Actual value includes cost of transportation and disposal costs.
5. Average blended value is based on average blended value as determined on current composition percentage of each material category as described in Note 1. The composition percentages are applied to market values minus any factors assumed to account for significant costs associated with moving materials to market (i.e., a factor of -$25/ton for mixed paper and -$500/ton for aluminum cans).
6. Actual cost per ton includes the average blended value plus additional costs associated with marketing and processing materials (i.e., sorting, baling, marketing and transporting) of -$67.25/ton for 2021.
7. Agency revenue is reported as a negative cost. Revenue is equivalent to one half of the blended value minus additional costs associated with marketing and processing materials ($67.25/ton).

3.0 ECONOMIC DATA

Figures 1 through 8, below, provide the historical data for the market value for material categories. It should be noted that gaps in data are shown and that market values are based on industry standard information as cited in Table 1, Note 2 with the following exceptions:

- Beginning in 2020, the market values shown on the graphs below for mixed paper is based on $25 per ton reduction to market prices per PPW for the Buffalo Region, Domestic Price #54 Mixed Paper.

- Beginning in 2020, the market values shown on the graphs below for aluminum cans is based on a $0.25 per pound ($500 per ton) reduction to market process per *www.secondarymaterialspricing.com* for the domestic New York (NE USA/MARITIMES, SMP) for Aluminum Cans, sorted, baled and delivered.

- Economic data for glass has not been prepared because glass always incurs a cost for disposal at local landfills to be used as Alternative Operating Cover (AOC). Economic data for Poly Plastics (#5) is not presented because it has not been historically tracked.

Figure 1 - OCC Economic Data

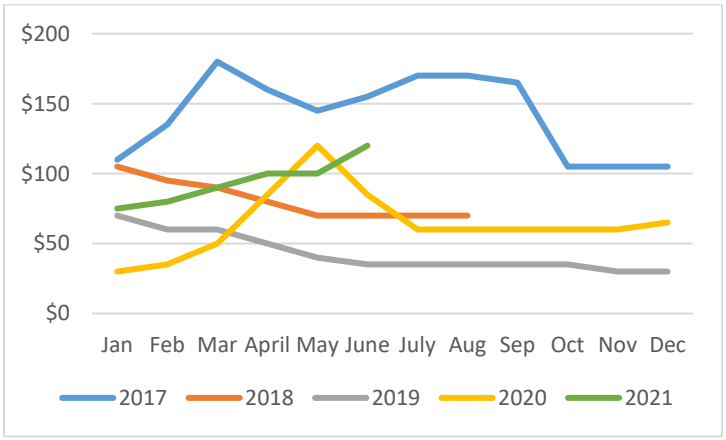


Figure 2 – Mixed Paper Economic Data

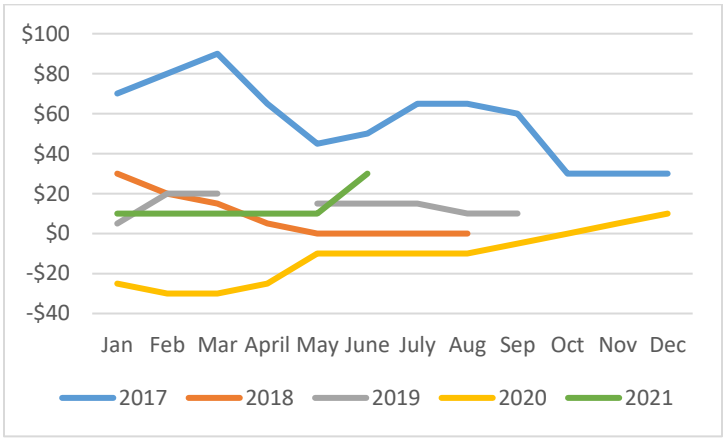


Figure 3 – Aluminum Cans Economic Data

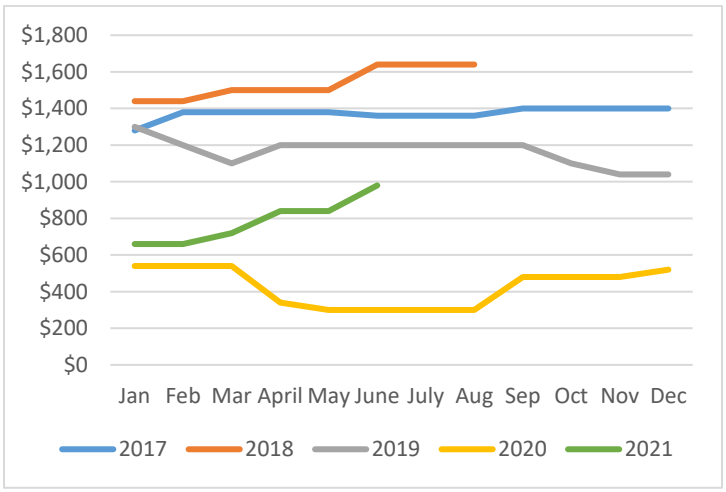


Figure 4 – Steel Cans Economic Data

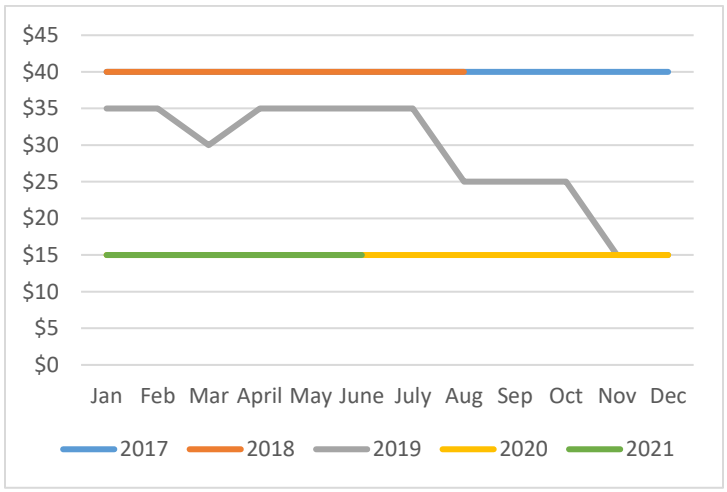


Figure 5 – HDPE Natural (#2) Economic Data

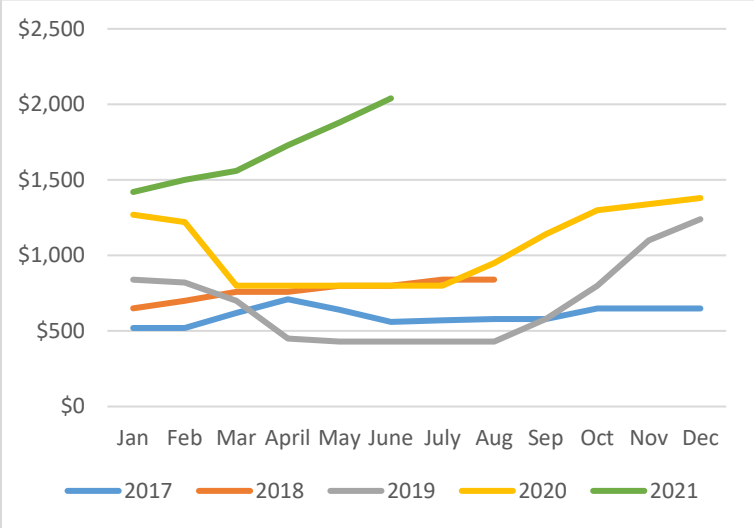


Figure 6 – HDPE Color (#2) Economic Data

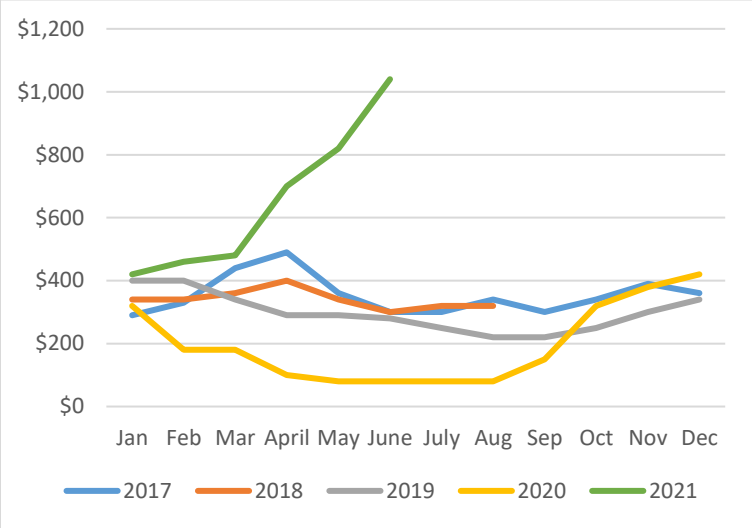


Figure 7 – PET (#1) Economic Data

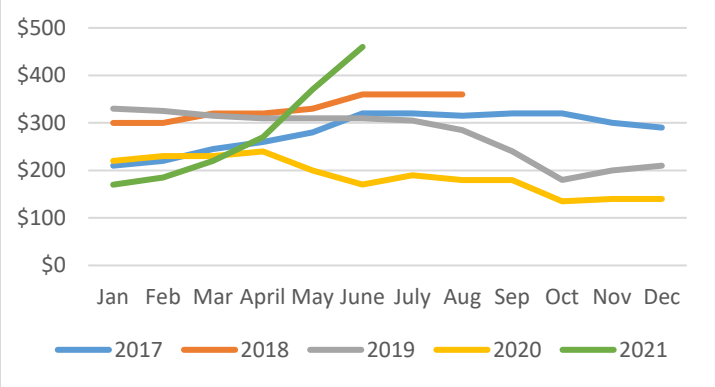
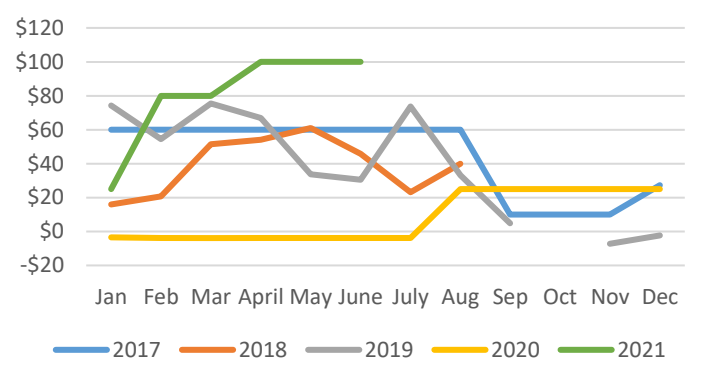


Figure 8 – Mixed Plastics (#3-7)/Rigid Plastics Economic Data



Appendix A to this report demonstrates that there is no economic market for certain material categories of recyclables as defined in Municipal Law 120-aa. This Law states "For purposes of this section, the term "economic markets" refers to instances in which the full avoided costs of proper collection, transportation and disposal of source separated materials are equal to or greater than the cost of collection, transportation and sale of said material less the amount received from the sale of said material."

4.0 FACILITIES USED

OCRRA contracts with the only material recycling facility (MRF) in Onondaga County that is owned and operated by Waste Management-Recycle America (WM-RA). WM-RA is responsible for processing and marketing recyclable materials delivered by public and private haulers from the residential blue bin curbside recycling program. OCRRA financially supports sorting, baling, marketing and transporting materials collected by residential blue bin curbside recycling.

In 2018, China's National Sword Policy significantly impacted recycling markets. As shown in Table 3, WM-RA utilizes various markets for material categories.

Table 2 – MRF Markets[1]

Material Category	Market
OCC (cardboard)	Domestic (northeast)
Mixed Paper	Domestic (varies)
Aluminum Cans	Domestic (Georgia, Alabama & Kentucky)
Steel Cans	Domestic (varies)
HDPE Natural (#2)	Domestic (southeast)
HDPE Color (#2)	
PET (#1)	
Plastics (#3-7)/Rigid Plastics	
Poly Plastics (#5)	
Glass	Reuse as Alternative Operating Cover at local landfills
Non-Recyclables	Reuse as fuel at OCRRF

Notes:
1. MRF markets per S. Stephens (MRF Manager) e-mail 7/9/21

5.0 QUARTERLY RECYCLING FOCUS

Quality—Recycle Right

Enhanced quality is critical to ensuring reliable marketability in an oversupplied domestic system. The DEC recognized this reality with an enforcement discretion allowing increased residue to be disposed by MRF operators as an effort to enhance quality and a coordinated public education effort. Focusing on delivering targeted desirable high quality recovered material (such as cardboard and fiber to the local cardboard box manufacturer) is the most sustainable recycling solution. Commingled curbside recyclables has the potential to contaminate reliable and abundant recoverable fiber supplies. In the second quarter of 2021, OCRRA continued its support of DEC's Recycle Right campaign through a combination of television media appearances, paid digital advertisements, influencer blog posts and public outreach via printed newsletter, email blast and social media posts.

Recycle Outside the Bin

As reported in the prior Quarterly Recycling Reports, capturing material upstream, at source separated locations, leads to successful high quality and reliable recycling in good and bad economic times. OCRRA continues to encourage residents to recycle textiles and thin film plastics at drop-off locations in the community. OCRRA continues to work with local hardware stores to provide no cost fluorescent lamp drop off services for residents.

New York State's Returnable Container Act is incredibly successful in reducing litter and ensuring recycling of the glass, plastic and metal containers with a deposit. Glass is a known contaminant in a commingled recycling bin and is best captured for higher re-use through an expanded Returnable Container Act. OCRRA strongly supports the State's leadership in extending a deposit for wine and liquor bottles, which comprise approximately half of the glass material in a residential blue bin as reported in the 2019 Waste Characterization Study (MSW Consultants, April 30, 2020). The Onondaga County Legislature; the Common Council of the City of Syracuse and the Towns of Van Buren and Camillus have enacted resolutions calling on New York State to expand the bottle bill to include wine and liquor bottles. In late May, OCRRA launched a pilot project with local redemption centers to determine to what extent residents are willing to drop off wine, liquor and other beverage glass to ensure that glass was being used to make new glass. Glass recovered from the curbside recycling program is placed in a landfill for use as operating cover.

OCRRA continues its strong advocacy for Extended Producer Responsibility (EPR) for packaging and printed paper (PPP). EPR legislation advanced by the Senate Environmental Conservation Committee would require brand owners and producers of printed paper to generate a consistent stream of high-profile public education on a variety of media platforms to educate consumers about recycling right. The Legislation did not reach the floor of the Senate or Assembly this session. OCRRA is hopeful that PPP EPR will be priority legislation to advance necessary recovery of materials, reduce waste, and promote further organics diversion efforts. Support is needed for investments in depackaging technologies for food waste. EPR policies have proven to yield increased recovery of recyclable material and reduced contamination. For example, British Columbia's EPR system is achieving recovery rates of over 75%.

Compost

OCRRA's compost is made from locally provided food and yard waste. OCRRA previously (before Covid-19 related closures) received food waste from local university dining halls and school cafeterias. Covid-19 shutdowns have put a temporary stop to almost all of this incoming food waste material and as a result, OCRRA had to make a change in the composition of its compost, relying on a mix that is more heavily wood and yard waste. OCRRA still meets and exceeds all U.S. Composting Council standards for its compost materials. With this change the Agency will have sufficient quantities of quality compost to meet the anticipated demands of commercial and residential users, but will not have the ability to expand these markets until post pandemic food waste levels are restored and recovered.

OCRRA applauds the Department for publishing its list of Designated Food Scrap Generators on June 1, 2021. OCRRA's capacity to accept food scraps was previously based on 2019's pre-pandemic incoming food waste. Since OCRRA's incoming food waste has decreased throughout 2020 and 2021, we have requested to be added to the list of the Department's facilities that are able to accept and recycle food scraps.

6.0 CONCLUSION

The key take-away messages from the second quarter of the year are:

- Shifting glass beverage bottles into the bottle bill glass recycling stream yields higher value recycling and would be further enhanced with an expanded bottle bill.
- Commodity values for Poly Plastics (#5) have continued to increase. Historically, these plastics were included in bales of mixed plastics (i.e., Plastics (#3-7)/Rigid Plastics). Due to the higher commodity value, they became an independent material category last quarter and are reported as such during this quarter also.
- In 2021, OCRRA began assessing a recycling fee for residential recycling to help cover the escalating costs from devalued commodity markets. OCRRA paid approximately $390,600 in the first half of 2021 to support residential recycling at the Agency's contracted MRF.
- Domestic recycling provides critical feedstock for the supply chain. Winter storm disruptions in Texas affected the supply of plastic generated by petrochemical companies in that region, temporarily raising values for various polymers due to the shortage of material available in the marketplace. Immediate and sustained investment in MRF technologies to reduce contamination and improve processing capability is critical.
- Extended Producer Responsibility, especially for packaging and printed paper, is urgently needed to ensure materials are properly managed from production design to end of life, as municipalities subsidizing externalized costs of product manufactures is no longer sustainable.

Due to changes in the recently renewed OCRRF Solid Waste Management Permit (effective August 8, 2021), this is the final Quarterly Recycling Report. Recycling information will continue to be reported to the DEC via annual recycling reports and biennial Local Solid Waste Management Plan updates.

APPENDIX A-1: ECONOMIC ANALYSIS OF CURBSIDE GLASS

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APPENDIX A-1: ECONOMIC ANALYSIS OF CURBSIDE GLASS

Purpose: Provide an analysis of the economic market of curbside collection of glass, in accordance with General Municipal Law Sec. 120-AA(2), which states in part "For purposes of this section, the term "economic markets" refers to instances in which the full avoided costs of proper collection, transportation and disposal of source separated materials are equal to or greater than the cost of collection, transportation and sale of said material less the amount received from the sale of said material."

Variable definitions: Where A^t = proper collection with municipal solid waste, B^t = transportation with municipal solid waste, and C^t = disposal with municipal solid waste, A^c = cost of collection with residential recyclables curbside, B^c = transportation with residential recyclables curbside, C^c = cost to sell material (includes MRF processing), D^c = amount received from sale of materials (market price of recovered material, as reported by the MRF). The variables do not include any potential revenue generated from tipping fees.

Equation: The economic markets equation is expressed as: $A^t + B^t + C^t > A^c+B^c+C^c-D^c$; when this equation is true for a given material, then an economic market does not exist for said material.

2nd and 3rd Quarter Economic Markets for Glass:

A^t & A^c = For the purposes of this analysis, collection at curbside with municipal solid waste is assumed equal to collection with curbside recyclables. Therefore, A^t and A^c are assumed to be equal.

B^t & B^c = For the purposes of this analysis, transport with municipal solid waste to OCRRF is assumed equal to transport with curbside recyclables and transport to local MRF. Therefore, B^t and B^c are assumed to be equal.

C^t = OCRRA's cost of disposal at the OCRRF

C^c = MRF Contractor Processing Cost

D^c = Amount received from sale, or additional cost to sell, as reported by the MRF

Variable	April	May	June
C^t	-$88.01	-$88.12	-$88.89
C^c	-$67.25	-$67.25	-$67.25
D^c	-$28.77	-$24.75	-$25.19
Difference	-$8.01	-$3.88	-$3.55
Economic Market?	**No**	**No**	**No**