

## How Nashville was impacted by International Recycling Markets

Recent recycling end-market trends that have been covered in the news have brought to light some of the economics associated with recycling. Recycling is a business and recyclable material like plastic bottles, aluminum cans or cardboard boxes are commodities that are bought and sold within the US and around the globe. For the past 15 years, the US has exported a large percent (30-40%) of our recyclable material to overseas markets like China.

Starting in early 2018, new more stringent quality standards were imposed by some of the foreign markets which have significantly reduced the value of some recyclable commodities. At the same time, recycling processing rates have increased as recycling processor work harder to remove contamination. Metro Nashville is committed to continuing to provide recycling collection programs for our residents and we hope the FAQ's below will help to explain the what and why of recent changes and how we all can work together to move Nashville towards zero waste!

### Recycling Market Frequently Asked Questions

#### **Did the 2018 recycling news from China impact Nashville's recycling programs?**

Yes. While none of Nashville's recyclables go directly overseas it doesn't mean Nashville wasn't impacted. When China made their change to the types of material and the contamination levels they would accept, it impacted larger recyclers, particularly along the west coast. The rules of supply and demand have caused an increase in supply (more recycling programs are competing for a smaller number of recycling market options) but less demand among recycling processing facilities.

#### **Why did this happen?**

Historically, the recyclable material shipped from US recycling programs overseas has been very contaminated. Residents place items like plastic bags, glass bottles, batteries and other items into recycling carts that make their way through the recycling process without getting removed. The recycling processors, who take our loose material, separate it and bail it for shipping removed some but not all contamination because the market didn't require 100% clean material.



#### **I've been reading about cities in other states that stopped recycling programs. Is that going to happen in Nashville?**

At this time, Metro Nashville does not believe any recycling collection programs operated by Metro Public Works will discontinue. We do believe that the cost for recycling will be higher and revenues lower than in the past. The biggest reason recycling programs are in jeopardy and have seen significant increased costs are due to contamination.

**I read in the news that recyclables just end up being landfilled. Is that true Metro Public Works recycling programs?**

No. Only contamination and contaminated materials end up going to landfills. Our last audit showed approximately 29% of our recyclable material was contaminated. This was mostly plastic bags full of recyclables. All clean recyclables are baled and shipped off to end markets by Metro’s contractor.

**Does Nashville pay to have recyclables processed or do we get paid for recycling?**

Metro pays for collection and processing of recyclables. Depending on the current market rates, Metro will get some revenue. The revenue, even in the best of times, does not offset the total cost for collection. See 5 year comparison charts below.

**Have the recent changes in the recycling market place reduced Nashville’s revenue or increased fees?**

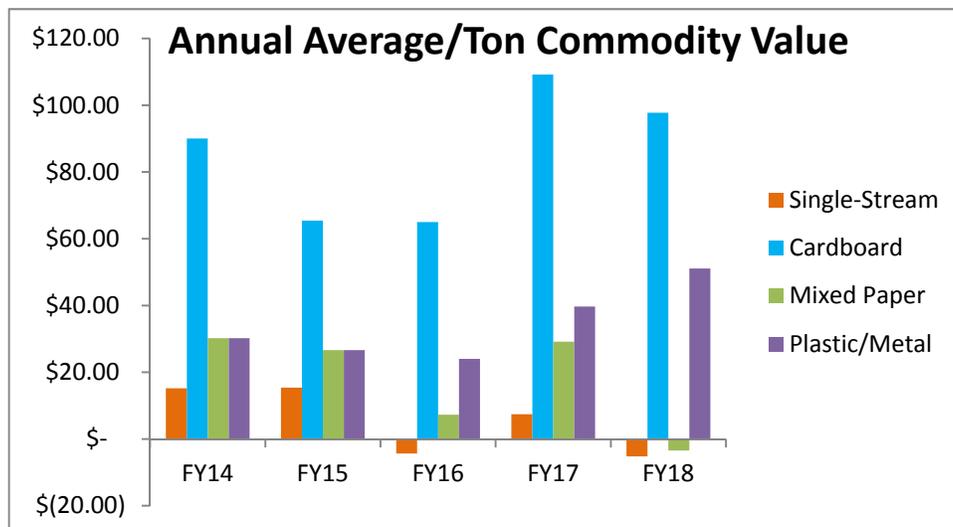
Yes. Public Works has been negotiating with our contractor and we will likely have an increase in our recycling processing fees because the recyclers have to work harder to get the contamination removed. As part of the negotiation, Metro will also receive a higher percentage of the revenue from the sale of the material.

**Are there other markets for recyclables besides China?**

Yes. There are US and other foreign markets. The good news is that we will probably see, over the long-term, more focus on developing local markets for recyclable material. Another interesting insight was the recent expansion of Chinese owned paper mills being built in the US. Nine Dragons, one of the largest paper manufacturers in the world, is expanding their 4 US mills and recently acquired two other mills in Maine and West Virginia. Within 2 years they will have added 1.4M tons of paper and container production to their capacity.

**If we are getting paid, what is the unit price being paid for various types of material?**

Recyclable materials are commodities which fluctuate regularly. Prices for the different materials change at least monthly so we don’t have a set amount per commodity.



**How does Public Works waste collection program compare in cost to recycling collection?**  
Both programs are a net cost to the city with recycling being a more cost effective program.

Cost Comparison	FY14	FY15	FY16	FY17	FY18
Curbside Recycling Cost/Ton	\$ 98.87	\$ 91.30	\$ 99.37	\$ 97.46	\$ 107.01
Curbside Trash Cost/Ton	\$ 129.10	\$ 129.67	\$ 128.73	\$ 130.75	\$ 132.00



**What does Nashville and Metro Public Works need to do?**

There are always markets for clean recyclables. The problem for Nashville is that we need to focus on reducing the contamination in our recycling which will make it easier to process and market the materials. Contamination is the biggest problem facing Public Works and recycling programs across the US. Public Works has started auditing routes and placing “oops” tags on carts that are found with contamination. The biggest contaminants we have seen are plastic bags and plastic bags full of recyclables. Public Works is also using social media to try and get the word out to residents on what can’t go in recycling containers and will be getting some grant funding in the coming months to help communicate to what can and cannot be recycled to Nashville residents.

**What can I do to help?**

Do not place plastic bags or plastic bags full of recyclables in your cart or at the recycling drop-off sites. Plastic bags are the number one

contaminant in Nashville. We also see recycling containers with household garbage, lawn furniture, yard waste, garden hoses and clothes. If you aren’t sure if something can be recycled, DO NOT put it in your recycling container. You can also call the HUB at 615-862-5000 or visit [nashville.gov/recycle](http://nashville.gov/recycle) to see if it can be recycled. You can also visit the local recycling processing facility to see what happens to your recyclables and learn how to reduce, reuse and recycle. Registration is required: <https://www.nashville.gov/Public-Works/Community-Education.aspx>.

**What can I put in my curbside recycling cart?**

Clean paper, cardboard, plastic bottles and containers, aluminum and metal cans. All items should be free of liquid or food waste. Materials with grease, oil or stuff you cannot clean out and completely empty should be placed in the trash. Some good examples of items you should not recycle are greasy pizza boxes, plastic bottles that aren’t completely empty and washed out (pump and squeeze containers that have lotion, ketchup and similar items are good examples. If you can’t get the entire residue out, don’t put them in your cart) and metal food cans with food residue.



**5 Year Curbside Recycling Comparison**  
Metro Government of Nashville & Davidson County  
Department of Public Works  
Curbside Recycling

	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>
<b>EXPENSES &amp; TRANSFERS:</b>					
<b>Salaries:</b>					
Regular Pay	\$ (383,291.14)	\$ (296,559.52)	\$ (256,819.49)	\$ (269,084.07)	\$ (297,314.23)
Overtime	\$ (38,758.77)	\$ (31,926.65)	\$ (45,574.86)	\$ (51,987.38)	\$ (68,097.24)
All Other Salary Codes	\$ (59,994.49)	\$ (83,271.00)	\$ (60,936.73)	\$ (47,440.41)	\$ (139,857.79)
<b>Total Salaries</b>	\$ (482,044.40)	\$ (411,757.17)	\$ (363,331.08)	\$ (368,511.86)	\$ (505,269.26)
<b>Fringes</b>	\$ (201,953.30)	\$ (186,296.12)	\$ (156,962.28)	\$ (157,741.87)	\$ (176,770.91)
<b>Other Expenses:</b>					
Utilities	\$ -	\$ -	\$ -	\$ -	\$ (671.12)
Professional & Purchased Services	\$ (92,271.91)	\$ (86,265.72)	\$ (60,595.84)	\$ (83,131.72)	\$ (85,531.33)
Communications	\$ (8,400.00)	\$ (8,400.00)	\$ (7,200.00)	\$ (8,400.00)	\$ (23,806.25)
Repairs & Maintenance Services	\$ (183,334.69)	\$ (186,352.18)	\$ (207,112.38)	\$ (216,282.84)	\$ (73,523.32)
Internal Service Fees	\$ (277,000.00)	\$ (277,000.00)	\$ (277,000.00)	\$ (277,000.00)	\$ (277,000.00)
All Other Expenses	\$ (119,750.63)	\$ (103,017.61)	\$ (91,726.18)	\$ (97,418.84)	\$ (119,994.04)
<b>TOTAL EXPENSES</b>	\$ (1,364,754.93)	\$ (1,259,088.80)	\$ (1,163,927.76)	\$ (1,208,487.13)	\$ (1,262,566.23)
<b>REVENUES &amp; TRANSFERS:</b>					
<b>Charges, Commissions &amp; Fees</b>	\$ 193,396.14	\$ 195,806.92	\$ 7,247.72	\$ 64,129.25	\$ 32,229.46
<b>TOTAL REVENUE</b>	\$ 193,396.14	\$ 195,806.92	\$ 7,247.72	\$ 64,129.25	\$ 32,229.46
<b>Net Gain/(Cost)</b>	\$ (1,171,358.79)	\$ (1,063,281.88)	\$ (1,156,680.04)	\$ (1,144,357.88)	\$ (1,230,336.77)
Curbside Recycling Tons	11,847.23	11,645.61	11,640.10	11,741.28	11,496.89
<b>Cost/Ton</b>	\$ (98.87)	\$ (91.30)	\$ (99.37)	\$ (97.46)	\$ (107.01)

**5 Year Curbside Trash Collection Comparison**  
Metro Government of Nashville & Davidson County  
Department of Public Works  
Curbside Trash Collection

	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>
<b>EXPENSES &amp; TRANSFERS:</b>					
<b>Salaries:</b>					
Regular Pay	\$ (473,939.48)	\$ (473,689.18)	\$ (488,471.99)	\$ (592,657.51)	\$ (605,728.12)
Overtime	\$ (36,168.95)	\$ (44,195.79)	\$ (45,661.99)	\$ (80,342.89)	\$ (92,145.65)
All Other Salary Codes	\$ (114,282.87)	\$ (123,940.16)	\$ (115,235.50)	\$ (84,569.33)	\$ (129,601.76)
<b>Total Salaries</b>	\$ (624,391.30)	\$ (641,825.13)	\$ (649,369.48)	\$ (757,569.73)	\$ (827,475.53)
<b>Fringes</b>	\$ (333,491.00)	\$ (341,189.99)	\$ (318,778.59)	\$ (373,648.94)	\$ (380,517.72)
<b>Other Expenses:</b>					
Professional & Purchased Services	\$ (11,795,241.62)	\$ (12,181,411.55)	\$ (12,631,816.68)	\$ (13,038,742.91)	\$ (12,987,285.95)
Communications	\$ (10,200.00)	\$ (9,600.00)	\$ (9,600.00)	\$ (9,620.00)	\$ (14,400.00)
Repairs & Maintenance Services	\$ (190,886.74)	\$ (247,388.87)	\$ (253,848.56)	\$ (265,951.15)	\$ (90,826.19)
Internal Service Fees	\$ (140,872.00)	\$ (140,872.00)	\$ (140,872.00)	\$ (140,872.00)	\$ (140,872.00)
All Other Expenses	\$ (656,261.23)	\$ (450,466.10)	\$ (428,998.50)	\$ (194,196.30)	\$ (590,115.81)
<b>TOTAL EXPENSES</b>	\$ (13,751,343.89)	\$ (14,012,753.64)	\$ (14,433,283.81)	\$ (14,780,601.03)	\$ (15,031,493.20)
<b>REVENUES &amp; TRANSFERS:</b>					
<b>Charges, Commissions &amp; Fees</b>	\$ 45,016.80	\$ 48,509.76	\$ 48,985.58	\$ 56,257.15	\$ 66,843.84
<b>TOTAL REVENUE</b>	\$ 45,016.80	\$ 48,509.76	\$ 48,985.58	\$ 56,257.15	\$ 66,843.84
<b>Net Gain/(Cost)</b>	\$ (13,706,327.09)	\$ (13,964,243.88)	\$ (14,384,298.23)	\$ (14,724,343.88)	\$ (14,964,649.36)
Curbside Trash Tons	106,171.83	107,693.76	111,740.61	112,613.03	113,372.50
<b>Cost/Ton</b>	\$ <b>(129.10)</b>	\$ <b>(129.67)</b>	\$ <b>(128.73)</b>	\$ <b>(130.75)</b>	\$ <b>(132.00)</b>