

**CITY OF CLEVELAND HEIGHTS
MEMORANDUM**

To: Tanisha R. Briley, City Manager

From: Alex Mannarino, Director of Public Works
Collette Clinkscale, Assistant Director of Public Works
Joseph Kickel, Capital Projects Manager

cc: Safety and Municipal Services Committee:
Michael Unger-Chair
Cheryl Stephens-Vice Chair
Jason Stein-Member

Date: October 5, 2018

Re: *Cleveland Heights Refuse Collection-Operational Analysis*

This memorandum is written in response to the Safety and Municipal Services Committee's interest in reviewing the state of refuse collection in the City of Cleveland Heights. The following key areas will be addressed: current method of collection, challenges associated with the current collection method, and options implemented by other local agencies.

I. CURRENT METHOD OF COLLECTION

- A. Currently the City of Cleveland Heights operates its own Refuse and Recycling Division. The division is responsible for the following services:
1. Curbside Collection of Solid Waste (Refuse)
 - a. A "one-man" operator collects loose bags of refuse placed on the tree lawn by the residents.
 - b. There are five weekly routes that serve a total of 15,000 residential units including 126 apartment buildings which equate to an additional 1,094 units.
 2. Curbside Collection of Recycled Materials
 - a. A "one-man" operator collects comingled recycling placed on the tree lawn in blue or clear plastic recycling bags by the residents.
 - b. There are three weekly routes that serve a total of 15,000 residential units including 126 apartments which equates to an additional 1,094 units.
 3. Curbside Collection of Source Separated Yard Waste between the months of April through November.

- a. Yard waste is collected on the tree lawns in brown kraft paper bags or tied in two foot by four foot bundles.
 - b. The City is divided into two separate routes for yard waste collection.
 - c. Collection methods vary and may be through: a one-man operator or two to three men on a rear loaded packer
 - d. The street maintenance division assists with large yard waste and brush stops by collecting the stop with a pay loader and dump truck.
4. Bulk Refuse Collection and Dumpster Service
- a. The Division empties forty-seven dumpsters at apartment buildings and commercial districts throughout the city.
 - b. Bulk refuse is collected weekly on the same day as the regularly scheduled refuse collection.
 - c. Large stops in excess of four bulk items or forty bags of trash are charged a fee for collection.
5. Transfer Station – Landfilling
- a. The City operates its own Transfer Station facility where refuse collected on the local streets is off-loaded and then transferred into tractor-trailers where it is then hauled directly to the landfill.
6. Total estimated annual operating cost is \$3,400,000.
- a. Resident landfill fee subsidizes the cost by estimated \$2,200,000.

II. CHALLENGES ASSOCIATED WITH CURRENT COLLECTION METHOD

- A. The current method of collection has become antiquated when compared to the most current industry collection methods, and the methods utilized by neighboring communities.
- 1. The city's current collection method has the potential for the following:
 - a. Unsightliness of loose trash bags and recycling on the tree lawn.
 - b. Increased nuisance animals that are attracted to loose trash on the tree lawn.
 - c. Increased litter and debris on streets and tree lawns resulting from nuisance animals getting into loose trash bags on the tree-lawn.

- d. Presence of noxious odors and the infiltration of contaminated surface water run-off into storm sewers from water that comes into contact with loose trash, liquids, and other household waste.
 - e. Increased worker's compensation claims and consequent rate increases.
 - i. Repetitive motion from climbing in and out of a truck along with heavy lifting increases an employee's chances of an on the job injury.
 - ii. The Refuse and Recycling Division has the highest rate of worker's compensation claims in the Public Works Department not including injury related employee absence.
 - f. Aging fleet of collection vehicles.
 - i. Collection vehicles will continue to need replacement over a five to ten year cycle. We currently have an immediate need to replace 5 collection vehicles.
 - ii. Replacement refuse collection trucks average \$350,000 each.
 - iii. Replacement tractor trailers average \$150,000 each.
- B. Recycling costs are rising. Decreased demand for recycled materials and recycled goods has led to increased costs for recycling.
- 1. Low demand for recycled paper and glass, low petroleum costs, and a ban on importing plastics into China for recycling has driven the cost of recycling materials up and is leading to stockpiles of materials with little demand for them.
 - 2. Other potential recycling issues for glass, plastic, and paper include:
 - a. New packaging materials used for items like soups, juices, etc.
 - i. Where many products used to be packaged in metal containers, such as cans, they now come in foil lined pouches or boxes which are not recyclable.
 - ii. Many people think that these items are recyclable (or wish they were) and add them to their recycling. This forces the recycling centers to have to sort the trash out of the recycling which drives up cost.
 - b. Most recycling centers no longer accept or are in the process of eliminating the acceptance of recycling in clear or blue plastic bags which are viewed as a contaminant in the sorting process.
 - 3. Yard waste is another material that is becoming more difficult to recycle. The City recently bid out a contract for landfilling with an alternate add-on for the acceptance of yard waste. Four companies submitted bids, of the four, not one of the companies was interested in accepting yard waste for a fee.

- a. Contamination is a serious problem with yard waste.
- b. Our current method of collection requires that yard waste be “source separated” meaning that the person placing the yard waste for collection has properly separated it from any construction debris or landfillable refuse.
- c. Some residents include litter or other refuse or recycling materials in their yard waste bags. This contaminates the yard waste and it is then considered trash.
- d. Registered composting facilities cannot accept contaminated yard waste because they are not authorized trash facilities. The compost facilities must separate the material on site causing them to expend additional resources which can lead to increased costs. Accepting contaminated yard waste can also subject the facilities to penalties and fines, which can also lead to increased costs.

III. OPTIONS IMPLEMENTED BY OTHER COMMUNITIES

The following section describes the methods for refuse and recycling collection used in other communities. This section does not address yard waste or bulk waste collection. These activities can be reviewed in more detail at a later time.

A. MANUAL METHOD OF COLLECTION (CURRENTLY UTILIZED BY THE CITY)

- 1. Of the fifty-nine political sub-divisions in Cuyahoga County, twenty-one communities manually collect their trash through various methods including but not limited to: one-man collection, two or three man collection, and back-yard service (with a small truck or powered buggy)(See Attachment A).
 - a. Advantages of a manual method of collection include:
 - i. Continued quality and level of service
 - ii. Keep and maintain the current fleet of collection vehicles
 - b. Disadvantages of a manual method of collection include:
 - i. Unsightliness of loose trash bags and recycling on the tree lawn.
 - ii. Increased nuisance animals that are attracted to loose trash on the tree lawn.
 - iii. Increased litter and debris on streets and tree lawns resulting from nuisance animals getting into loose trash bags on the tree-lawn.
 - iv. Presence of noxious odors and the infiltration of contaminated surface water run-off into storm sewers from water that comes into contact with loose trash, liquids, and other household waste.

- v. Increased worker's compensation claims and consequent rate increases.
 - vi. Potential difficulty of collecting recycled materials in the future based on the trends identified in Section II(B)(2) above.
- 2. A manual method of collection should be accompanied by a well-organized marketing and education campaign. Since many local agencies are limited in their ability to drive consumer trends or international trade policies, the next best step is to educate recyclers on how to properly sort and place their recyclable materials.
 - a. A well-organized marketing and education campaign can promote the following:
 - i. Help to properly divert materials to where they belong (i.e. recycling, or landfilling).
 - ii. Control costs of both landfilling and recycling
 - iii. Improve the efficiency of collection operations
 - iv. Improve relations between local agencies and recycling facilities

B. AUTOMATED METHOD OF COLLECTION

- 1. Thirty-eight of the fifty-nine communities in Cuyahoga County utilize automated collection (See Attachment B). It has become the standard method of collection utilized by most communities today. An operator drives a truck from house to house (rarely leaving the cab of the vehicle) emptying 65 gallon recycling and 95 gallon refuse carts by means of an automated hydraulic arm that extends from the truck, picks up the cart, empties it into the truck, and then places the cart back on the ground.
 - a. Some advantages of automated collection are:
 - i. Improved rate of recycling with a decreased rate of refuse being diverted to the landfill. Historically most communities have seen increased recycling rates when residents are provided with the 65 gallon recycling containers (in some cases this is mandatory) which result in less recyclable materials going into the trash.
 - ii. Cleaner streets and public areas since the only trash collected are contained in large wheeled carts that have a uniform color and appearance.
 - iii. Cleaner environment resulting from noxious odors and liquids being contained in the large covered leak-proof containers.

- iv. Improved employee productivity with less potential for serious injuries along with the potential to decrease worker's compensation claims and consequent rates.
 - v. Many communities have been able to reduce the number of collection routes both for refuse and recycling.
 - aa. The City could reduce the current refuse routes from five to four within one year.
 - bb. The City could reduce the recycling routes from three to two within one year.
 - cc. Staff reductions would be made through attrition and/or reassignment
- b. Some disadvantages of automated collection are:
- i. High upfront cost which typically requires a significant capital outlay. For Cleveland Heights to convert its operation it would require:
 - aa. The purchase of seven new automated collection trucks at an estimated cost of \$352,121 each for a total cost of \$2,464,847
 - bb. The purchase of 16,000 – 95 Gallon refuse carts at an estimated cost of \$51.92 each for a total cost of \$830,720
 - cc. The purchase of 16,000 – 65 Gallon refuse carts at an estimated cost of \$46.72 each for a total cost of \$747,520
 - dd. Total estimated cost to implement automation - \$4,043,087
 - ii. Increased rate of recycling. This would be considered an environmental advantage, but a potential economic disadvantage according to the trends listed in Section II(B)(2) above.
 - iii. Carts being left out on tree-lawns after the scheduled collection day.
2. The City recently applied for an Ohio EPA Grant in the amount of \$1.01 million. If awarded, the grant would assist with the purchase of seven new automated collection trucks.
 3. An automated method of collection should be accompanied by a well-organized marketing and education campaign. A well-organized marketing and education campaign has the potential to offer all of the advantages listed in Section III(A)(2) above.

C. PRIVATE (CONTRACTED) HAULER

1. Thirty-nine of the fifty-nine communities in Cuyahoga County utilize a private hauler for their refuse collection and/or recycling operations (See Attachment C).
 - a. Some advantages of utilizing a private hauler are:
 - i. Most haulers offer automated collection.

- ii. All operational costs (both direct and indirect to the hauler) are inclusive to their prices.
 - iii. Services can be tailored to meet the wants and needs of the community.
 - aa. Services are usually arranged through the bidding/contracting process.
 - bb. Services are usually a la carte and come with a price (e.g. emptying 150 commercial district trash cans at a price per can per day).
- b. Some disadvantages of utilizing a private hauler are:
- i. Decreased owner control over collection operations.
 - ii. Lack of flexibility on the part of the hauler to come back for late stops or special pick-ups.
 - iii. Each and every service comes with a price (i.e. special collection days, dumpsters, business district waste cans, etc.).
 - iv. Bulk refuse collection is usually limited to once a month and four items.
2. The City of Cleveland Heights owns and operates its own transfer station that has been grandfathered in to today's operating regulations. Contracting for refuse and recycling collection would likely decommission the transfer station and the City would no longer have the option to operate this facility. Given today's regulations, there are no other locations in the City that would be eligible host a transfer station.
3. A price comparison chart is available below (See Attachments D-1 through D-2).

IV. SUMMARY

In summary, the purpose of this memorandum is to offer information to assist the Safety and Municipal Services Committee with its analysis of refuse and recycling collection operations within the City of Cleveland Heights and neighboring communities. Refuse collection occurs in every community and is a vital necessity to everyday life. Automated collection, either in-house or as contracted service, is the most common method of collection, but it is not the only method of collection. Collection methods are typically tailored to meet the specific needs of the community and are not always the same from one community to the other. There are benefits and challenges to each method of collection and as it is a central quality of life issue the decision making process should include robust community education and engagement.

ATTACHMENT A
Communities Utilizing Methods other than Automated Collection

Community	# of Units	Refuse	Recycling
Brecksville	5,400	MUNICIPAL	MUNICIPAL
Broadview Heights	7,100	PRIVATE	PRIVATE
Cleveland Heights	16,120	MUNICIPAL	MUNICIPAL
Cuyahoga Heights	280	MUNICIPAL	MUNICIPAL
East Cleveland	5319	PRIVATE	PRIVATE
Gates Mills	960	PRIVATE	PRIVATE
Highland Hills	n/a	MUNICIPAL	MUNICIPAL
Linndale	75	PRIVATE	PRIVATE
Maple Heights	9,600	PRIVATE	n/a
Middleburg Heights	5,658	PRIVATE	PRIVATE
North Randall	465	MUNICIPAL	MUNICIPAL
North Royalton	9,700	PRIVATE	PRIVATE
Oakwood	1,630	PRIVATE	PRIVATE
Pepper Pike	2,337	MUNICIPAL	MUNICIPAL
Richmond Heights	3,360	PRIVATE	MUNICIPAL
Rocky River	10,166	MUNICIPAL	MUNICIPAL
Shaker Heights	10,500	MUNICIPAL	MUNICIPAL
Strongsville	18,673	PRIVATE	PRIVATE
University Heights	5248	MUNICIPAL	MUNICIPAL
Valley View	804	MUNICIPAL	MUNICIPAL
Warrensville Heights	2,974	PRIVATE	PRIVATE
Westlake	11,000	PRIVATE	PRIVATE
Woodmere	134	MUNICIPAL	MUNICIPAL

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Brecksville	5,400	MUNICIPAL	MUNICIPAL
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Linndale	75	PRIVATE	PRIVATE
Maple Heights	9,600	PRIVATE	n/a
Middleburg Heights	5,658	PRIVATE	PRIVATE
North Randall	465	MUNICIPAL	MUNICIPAL
North Royalton	9,700	PRIVATE	PRIVATE
Oakwood	1,630	PRIVATE	PRIVATE
Pepper Pike	2,337	MUNICIPAL	MUNICIPAL

Richmond Heights	3,360	PRIVATE	MUNICIPAL
Rocky River	10,166	MUNICIPAL	MUNICIPAL
Shaker Heights	10,500	MUNICIPAL	MUNICIPAL
Strongsville	18,673	PRIVATE	PRIVATE
University Heights	5248	MUNICIPAL	MUNICIPAL
Valley View	804	MUNICIPAL	MUNICIPAL
Warrensville Heights	2,974	PRIVATE	PRIVATE
Westlake	11,000	PRIVATE	PRIVATE
Woodmere	134	MUNICIPAL	MUNICIPAL

ATTACHMENT B
Communities Utilizing Automated Collection

Community	# of Units	Refuse	Recycling
Bay Village	6,442	PRIVATE	PRIVATE
Beachwood	2,970	MUNICIPAL	MUNICIPAL
Bedford	4,761	PRIVATE	PRIVATE
Bedford Heights	2,755	PRIVATE	PRIVATE
Bentleyville	299	PRIVATE	PRIVATE
Berea	5,870	PRIVATE	PRIVATE
Bratenahl	765	PRIVATE	PRIVATE
Brook Park	7,500	MUNICIPAL	MUNICIPAL
Brooklyn	4,000	MUNICIPAL	MUNICIPAL
Brooklyn Heights	617		PRIVATE
Chagrin Falls Township	42	PRIVATE	PRIVATE
Chagrin Falls Village	1,681	PRIVATE	PRIVATE
Cleveland	140,000	MUNICIPAL	MUNICIPAL
Euclid	17,500	PRIVATE	PRIVATE
Fairview Park	6,300	PRIVATE	PRIVATE
Garfield Heights	10,500	PRIVATE	PRIVATE
Glenwillow	297	PRIVATE	PRIVATE
Highland Heights	3,421	PRIVATE	PRIVATE
Hunting Valley	275	PRIVATE	PRIVATE
Independence	2,960	MUNICIPAL	MUNICIPAL
Lakewood	22,172	MUNICIPAL	MUNICIPAL
Lyndhurst	6,400	MUNICIPAL	MUNICIPAL
Mayfield Village	1,200	PRIVATE	PRIVATE
Mayfield Heights	5,120	PRIVATE	PRIVATE
Moreland Hills	1435		MUNICIPAL
Newburgh Heights	950	PRIVATE	PRIVATE
North Olmsted	10,854	PRIVATE	PRIVATE
Olmsted Falls	2,868	PRIVATE	PRIVATE
Olmsted Township	5,571	PRIVATE	PRIVATE
Orange	1,260	PRIVATE	PRIVATE
Parma	30,000	PRIVATE	PRIVATE
Parma Heights	6140	PRIVATE	PRIVATE
Seven Hills	5,270	PRIVATE	PRIVATE
Solon	7,400	MUNICIPAL	MUNICIPAL
South Euclid	8,700	PRIVATE	PRIVATE
Walton Hills	960	PRIVATE	PRIVATE
Warrensville Heights	2,974	PRIVATE	PRIVATE

ATTACHMENT C
Communities Utilizing Private Hauler

Community	# of Units	Refuse	Recycling
Bay Village	6,442	PRIVATE	PRIVATE
Bedford	4,761	PRIVATE	PRIVATE
Bedford Heights	2,755	PRIVATE	PRIVATE
Bentleyville	299	PRIVATE	PRIVATE
Berea	5,870	PRIVATE	PRIVATE
Bratenahl	765	PRIVATE	PRIVATE
Broadview Heights	7100	PRIVATE	PRIVATE
Brooklyn Heights	617	PRIVATE	PRIVATE
Chagrin Falls Township	42	PRIVATE	PRIVATE
Chagrin Falls Village	1,681	PRIVATE	PRIVATE
East Cleveland	5,319	PRIVATE	PRIVATE
Euclid	17,500	PRIVATE	PRIVATE
Fairview Park	6,300	PRIVATE	PRIVATE
Garfield Heights	10,500	PRIVATE	PRIVATE
Gates Mills	960	PRIVATE	PRIVATE
Glenwillow	297	PRIVATE	PRIVATE
Highland Heights	3,421	PRIVATE	PRIVATE
Hunting Valley	275	PRIVATE	PRIVATE
Linndale	75	PRIVATE	PRIVATE
Maple Heights	9,600	PRIVATE	n/a
Mayfield Village	1,200	PRIVATE	PRIVATE
Mayfield Heights	5,120	PRIVATE	PRIVATE
Middleburg Heights	5,658	PRIVATE	PRIVATE
Newburgh Heights	950	PRIVATE	PRIVATE
North Olmsted	10,854	PRIVATE	PRIVATE
North Royalton	9,700	PRIVATE	PRIVATE
Oakwood	1,630	PRIVATE	PRIVATE
Olmsted Falls	2,868	PRIVATE	PRIVATE
Olmsted Township	5,571	PRIVATE	PRIVATE
Orange	1,260	PRIVATE	PRIVATE
Parma	30,000	PRIVATE	PRIVATE
Parma Heights	6140	PRIVATE	PRIVATE
Richmond Heights	3360	PRIVATE	
Seven Hills	5,270	PRIVATE	PRIVATE
South Euclid	8,700	PRIVATE	PRIVATE
Strongsville	18,673	PRIVATE	PRIVATE
Walton Hills	960	PRIVATE	PRIVATE
Warrensville Heights	2,974	PRIVATE	PRIVATE
Westlake	11,000	PRIVATE	PRIVATE

ATTACHMENT D-1
PRIVATE HAULER COST ANALYSIS

Communities with 6000 residential units or more							
Estimate 0.93 tons per residential unit per year							
Yard Waste and Recycling is included with price per unit/year							
Community	Number of Units	Rate per unit/year for collection	Estimated Number of Tons per year	Rate per ton for Disposal	Total Rate per unit/year	Resident Fee-charge back/assessment	Total Rate per unit/year after Resident fees
Bay Village	6,250	\$183.12	5,812.50	\$0.00	\$183.12	\$48.00	\$135.12
Cleveland Heights* (current costs)	16,122		14,993.46		\$210.79	\$138.00	\$72.79
Euclid	16,463	\$104.04	15,310.59	\$41.67	\$142.79	\$108.00	\$34.79
Fairview Park	7,856	\$123.00	7,306.08	\$35.77	\$156.27	\$120.00	\$36.27
Garfield Heights	10,500	\$107.76	9,765.00	\$42.91	\$147.67	\$0.00	\$147.67
North Olmsted	10,480	\$148.56	9,746.40		\$148.56	\$0.00	\$148.56
Parma	29,317	\$109.20	27,264.81	\$35.20	\$141.94	\$138.00	\$3.94
Parma Heights	6,140	\$128.40	5,710.20	\$36.52	\$162.36	\$0.00	\$162.36
Westlake	11,000	\$168.96	10,230.00		\$168.96	\$0.00	\$168.96

*Current costs for Cleveland Heights based on 2015 Full Cost analysis. Figures updated using an inflation factor.

ATTACHMENT D-2
PRIVATE HAULER COST ANALYSIS (CONTINUED)

