



ASSESSMENT AND REDESIGN OF RESIDENTIAL SOLIDWASTE AND RECYCLING

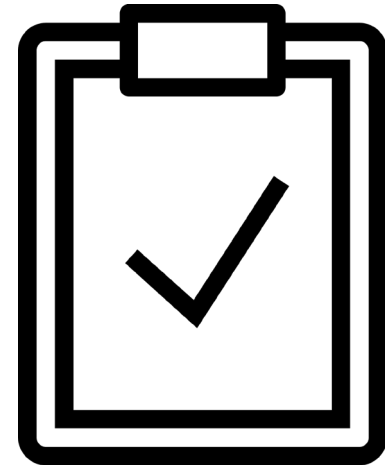
Update

November 30

AUGUST 28TH PROJECT KICK OFF

The City of Cleveland Contracted with GT Environmental to perform a comprehensive review of the Division of Waste and its various programs

- Solid Waste Collection
- Recycling
- Bulky Waste
- Commercial Waste Collection
- And review opportunity to reduce waste via Circular Economy Options

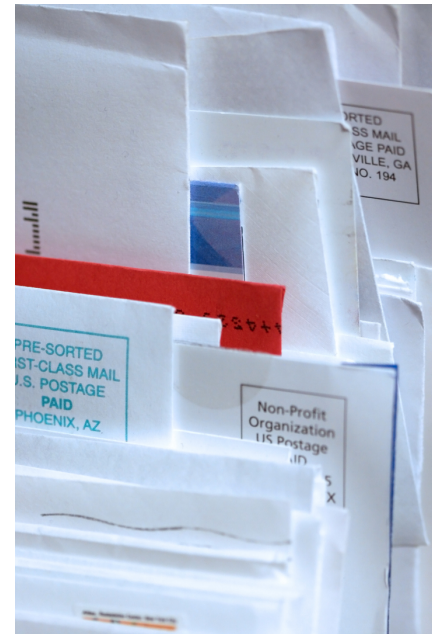


This project is to develop a roadmap to improve operations with a timeline of September to December



KEY ACTIVITIES: CURRENT PROGRAM AND SERVICES REVIEW

- Curbside trash and recycling operations
- Staffing and absenteeism
- Recycling drop-off operation
- Multi-family housing collection
- Illegal dumping and enforcement
- Education, outreach and public communication
- Equipment utilization and maintenance
- Ordinances for solid waste operations
- Data collection and tracking



KEY ACTIVITY: COLLECTION ROUTE PERFORMANCE

- Trash, recycle, and bulk route performance data
- Conducted ride-along with route supervisor to assist in data collection.
- Time studies, set-out rates, observations, weight, and mileage tracking

Residential Data Collection Form
City of Cleveland – One Form per Route: Trash / Recycling (Circle One)

Day of Week: _____ Route #: _____ % full at start: _____
 Date: _____ Vehicle #: _____ Number of Households on Route: _____
 Weather: _____ Driver Name: _____ Gallons of Fuel Used: _____
 # of Crew Members (including driver): _____

Activity	1 st Load		2 nd Load	
	Time	Mileage	Time	Mileage
Clock in:				
Pre-trip start time (inspect, paperwork, meeting, etc.):				
Leave depot:				
First stop:				
Last stop:				
Arrive at Ridge Road Transfer scale:				
Disposal Weight:				
Leave Ridge Road Transfer:				
Number of Houses with Collected Cart				
Number of Houses with NO Carts on Curb				
Number of Houses with extra/second cart				
Number of House need crew member out of truck				
Number of houses with bulk materials				
Arrive back at depot:				
Post-trip start time (refuel, inspect, paperwork, etc.):				
Clock-out:				

Miscellaneous Time:

Break:	Start Time: _____	End Time: _____
Lunch:	Start Time: _____	End Time: _____
Break:	Start Time: _____	End Time: _____
Breakdown:	Start Time: _____	End Time: _____
Breakdown:	Start Time: _____	End Time: _____

Comments or problems (weather, traffic, road problems, vehicle breakdown, etc.)

Did driver help on another route? Y N (Circle one)

Route #: _____ Start Time: _____ Start Mileage: _____
 Reason: _____ End Time: _____ End Mileage: _____

Timed Stops (30 consecutive time samples)

1. _____	6. _____	11. _____	16. _____	21. _____	26. _____
2. _____	7. _____	12. _____	17. _____	22. _____	27. _____
3. _____	8. _____	13. _____	18. _____	23. _____	28. _____
4. _____	9. _____	14. _____	19. _____	24. _____	29. _____
5. _____	10. _____	15. _____	20. _____	25. _____	30. _____

(START STOPWATCH: When crew member steps off truck and the vehicle stops)
 (STOP STOPWATCH: As soon as the container is emptied into the back of the truck and the vehicle begins forward movement)

Residential Data Collection Form
City of Cleveland – One Form per Route: Trash / Recycling (Circle One)

Number of Houses with Collected Cart (Use tally marks)

FIRST LOAD			SECOND LOAD		

Number of Houses with NO Cart on Curb (Use tally marks)

FIRST LOAD			SECOND LOAD		

Number of Houses which the Crew Member gets out of truck and moves the cart for the truck to lift and dump (Use tally marks)

FIRST LOAD			SECOND LOAD		

Number of Houses with Bulk Items (Use tally marks)

FIRST LOAD			SECOND LOAD		

Important Notes:

Draft



KEY ACTIVITY: BULK WASTE COLLECTION PROGRAM ANALYSIS

- Comparable surveys sent out to solicit bulk waste best management options
- Current procedures for Bulk (outside of what is in ordinance)
- Current challenges for Bulk collection
- Transfer station utilization for public (4 times a year free disposal by residents)



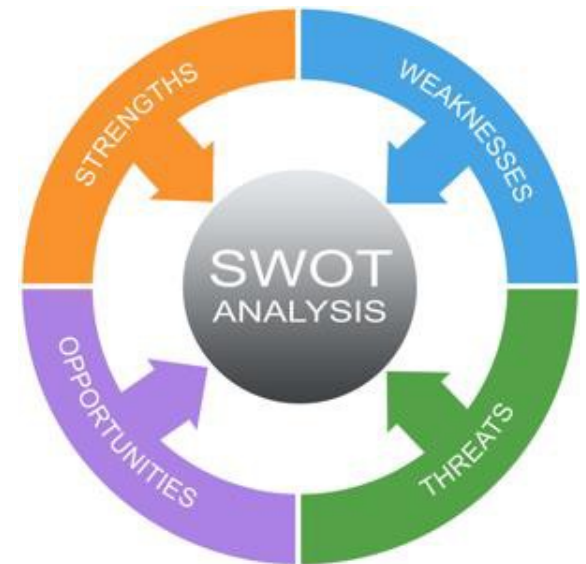
KEY ACTIVITY: AUXILIARY SERVICES REVIEW

- Commercial services
- Special collections
- Electronic waste round up, including computers
- Hazardous waste, including paint and chemical round up
- Paper shredding service
- Tires
- Organic waste reduction
- Yard waste and leaves
- Food waste



KEY ACTIVITY: STRATEGIC PLANNING SESSION

- SWOT Process
- Conducted with separate sessions with a selection of:
 - Collection crews
 - Supervisors
 - Route Forman
 - Management, Administration & Sustainability



KEY ACTIVITY: RESIDENTIAL ENGAGEMENT PROCESS

- 3 Focus groups (8-12 per group)
- Virtual focus groups occurred October 13-15th



KEY ACTIVITY: CITY COUNCIL ENGAGEMENT

- Met with council leadership to explore views of the Division of Waste
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats



KEY ACTIVITY: RECYCLE MARKET ANALYSIS AND COMMUNITY RATE STUDY


- Researched historical commodity prices in Midwest
- Researched local and regional recyclable material processors and end users
- Plan to determine how attractive Cleveland metro area may be to recyclable material processors and end users for development (Circular Economy considerations)
- Research includes nationwide cost per household



KEY ACTIVITY: COMPARABLE COMMUNITY SURVEY

Surveys sent to several communities

Akron	OH
Canton	OH
Chicago	IL
Des Moines	IA
Kansas City	MO
Lexington	KY
Minneapolis	MN
Pittsburgh	PA
St. Louis	MO
Dayton	OH
Grand Rapids	MI
Louisville	KY
Milwaukee	WI
Nashville	TN
Madison	WI
Memphis	TN

 **Municipal Solid Waste Collection Information Request**
For the City of Cleveland

Please complete the following survey using 2019 information.

1. Contact Information

Community Name: _____ Contact: _____
 Address: _____ Title: _____
 Email: _____ Phone: _____

2. Tonnages


	Residential	Commercial	Total
2019 Trash Tons	_____ tons	_____ tons	_____ tons
2019 Recycling Tons	_____ tons	_____ tons	_____ tons
2019 Yard Waste Tons	_____ tons	_____ tons	_____ tons
2019 Bulk Tons	_____ tons	_____ tons	_____ tons
2019 Recycle Contamination Rate (%)	_____ %	_____ %	_____ %

3. Collection Services

Which programs did your community operate in 2019?	Trash		Recycling		Yard Waste		Leaves	
	Yes	No	Yes	No	Yes	No	Yes	No
Residential Curbside Manual Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Curbside Semi-Automated Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Curbside Automated Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Side/Back Door Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Unlimited Material Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Weekly Bulk Pick-Up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Monthly Bulk Pick-Up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential On-Call Bulk Pick-Up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-family Households/Apartments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commercial Collection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Collection Programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Trash	Recycling
2019 Residential Receptacle Type(s) & Size(s)		
Is residential collection subscription or non-subscription?		
# of Residential Customers		
# of Residential Routes (total per week)		
Residential Participation/Set-out Rate (%)		
2019 Commercial Receptacle Size(s)		
# of Commercial Customers		
# of Commercial Routes (total per week)		
Collection Day(s)		
# of Sanitation Employees Dedicated to Collection		
# of Sanitation Employees per Route		
Distance from Routes to Disposal/MRF Facility (miles)		
Recycling: If Single Stream (explain materials accepted)		
Recycling: If Dual Stream (explain materials accepted & sorting required)		

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 **Municipal Solid Waste Collection Information Request**
For the City of Cleveland

4. Challenges

☐ Trouble with alleys ☐ Recycling processing facility costs
☐ Financial burden for low-income residents ☐ Recycling materials markets
☐ Acceptance of a new program ☐ Collection frequency
☐ Enforcement and costs ☐ Operational costs (staff, etc.)
☐ Monitoring and evaluation ☐ Education efforts
☐ Bulk collection ☐ Multi-family housing/Apartments
☐ Open dumping ☐ Other _____
☐ Cars in the streets ☐ Other _____

How are ordinances enforced? (fines, container rejection, etc.) _____

How are missed collections handled: _____

How are missed collection days handled (holidays/weather issues): _____

Does your city use any of the following alternative solid waste management technologies?

☐ Waste to energy (energy production) ☐ Mixed waste processing
☐ Incineration (volume reduction) ☐ Other technologies _____

5. Costs and Revenue

	Trash	Recycling
2019 Residential Charge (cost/month/household):	\$ _____	\$ _____
2019 Residential Charge (property tax on each household):	\$ _____	\$ _____
2019 Other Residential Charges (i.e. bulk, yard waste):	\$ _____	Explain: _____

Is the Sanitation Department operated as an enterprise fund? _____

If not, what other sources of revenue are relied upon (i.e. taxes, grants): _____

How do you budget for equipment replacement?

2019 Labor Costs: \$ _____

2019 Total Operating Costs (Excluding labor): \$ _____

If 2019 operating costs are atypical, explain:

2019 Cost/Ton Paid for Disposal (including fees): \$ _____

2019 Total Revenue from Sale of Recyclables: \$ _____

2019 Cost/Ton Paid for Recyclables Processing (including fees): \$ _____

Other information that may help the City of Cleveland: _____

Thank you so much!
 Please email back to ktuax@gtenvironmental.com.

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KEY ACTIVITY:– CURBSIDE PROGRAM OPTIONS

- Analysis will include but not limited to:

- Cost per household services
- Cost per ton managed
- Recycling diversion percentage
- Tons landfilled
- Tons recycled
- Participation rates



DRAFT REPORT-DECEMBER 2020

■ Report started



2020 Assessment and Redesign of Residential Solid Waste and Recycling System



Prepared by



December 31, 2020



OTHER ITEMS OF NOTE

- ORDERED \$50K WORTH OF WASTE CONTAINERS TO ADDRESS CURRENT IMMEDIATE BACKLOG OF REQUESTS
- LARGER ORDER OF \$265,000 IN PROCESS AND WILL BE DELIVERED FOR 2021





QUESTIONS?

