

CITY OF DOVER

CITY COUNCIL - AGENDA

Meeting Type: Workshop Session
Meeting Location: City Hall, Council Chambers
Meeting Date: **Wednesday, January 31, 2024**
Meeting Time: **7:00 pm**

1. CALL TO ORDER
2. MOMENT OF SILENCE
3. PLEDGE OF ALLEGIANCE
4. ROLL CALL ATTENDANCE
5. PUBLIC FORUM

Citizens are invited to speak on the subject matter of the Workshop. Statements shall be limited to five minutes.

6. DISCUSSIONS
 - A. SOLID WASTE AND RECYCLING CURBSIDE COLLECTION SERVICES
7. ADJOURNMENT



October
2023

REPORT

Solid Waste and Recycling Collection Feasibility Study

PREPARED FOR

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Community Services Department
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Dover, NH 03820

SUBMITTED BY

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Section 1: Introduction

In spring 2023, the City of Dover (City) contracted with Kessler Consulting, Inc. (KCI) to assess current solid waste collection services and provide information to support the City with three key operational decision: 1) whether to continue contracted versus City-provided services, 2) whether to convert to toters for solid waste and/or recycling service, and 3) whether and how to continue PAYT if toters are utilized. In this report KCI provides information regarding equipment and human resource requirements, capital and operating costs, as well as a range of other issues for consideration.

The primary focus is on evaluating and providing recommendations regarding contracted versus City-provided collection. In addition, the assessment considers options to the current PAYT bag and tag trash and bin-based recycling collection, and in particular, converting to toters for recyclables or converting to toters for both solid waste and recycling while still maintaining a PAYT-based trash system.

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Section 2: Current Solid Waste Services

2.1 Residential Collection

2.1.1 Services

Dover contracts for solid waste collection services. The current five-year contract with Waste Management, Inc. (WM) runs from July 1, 2020 to June 30, 2025 and includes an option for an additional five-year term upon mutual consent of the parties. Residential collection services include:

- Weekly trash service: Residents set out trash in 15- or 30-gallon PAYT bags purchased from local retailers. WM currently utilizes a front load truck with a Curotto Can® attachment to manually collect PAYT bags.
- Weekly recyclables service: Residents set out designated recyclables in 22-gallon bins provided by the City or in bins, boxes, and paper bags supplied by the resident. Accepted recyclables include mixed paper, newspaper, magazines and cardboard; all plastic bottles, jars, jugs and tubs; glass bottles and jars; and metal food and beverage cans. Recyclables are collected single stream. WM currently utilizes a semi-automated side loader to manually collect recyclables.
- Annual fall leaf service: The service runs for six weeks during which residents set out leaves in biodegradable paper leaf bags. Due to the timing of this study, WM's method of collection could not be confirmed, although based on services in similar communities it is believed that manual rear load trucks are utilized.
- Bulky item service: Residents may set out bulky items provided that each item is tagged with PAYT sticker. Like PAYT bags, bulky item tags are available for purchase at local retail locations. WM uses a rear loading truck to collect bulky items.

Residential collection is provided on a five-day per week schedule with the City divided into five zones. Residents receive same day service for trash and recyclables. Residents are instructed to place bulky items out on their scheduled collection day and WM is required to collect them within 24 to 72 hours.

2.1.2 Service Area and Number of Customers

WM is required to provide residential services on all public roads and certain private roads designated by the City. Residents are not required to participate but can opt out and hire a private collector independently. Residents on private roads not covered by the contract generally hire a private collector and can bring recyclables to the Recycling Center. Private collectors providing residential trash service in Dover include Beacon Waste Services, Davis Trash Removal, and JJ MacKay Disposal. Additionally, Mr. Fox Composting provides food waste collection services.

The City estimates that WM serves in the range of 7,400 to 7,800 residential customers. It is estimated that 1,500 residential customers opt out and hire a private collector. An accurate customer count is currently not available, although the City is in discussions with WM to develop a methodology to undertake such a count.

2.1.3 Bag and Tag System

The residential Bag and Tag system provides an incentive for residents to reduce trash generation. It also generates revenue that the City utilizes to cover part of the cost for contracted residential trash collection. Table 1 provides summary statistics for Fiscal Year (FY) 2023. The 30-gallon bags account for 66% of sales and 77% of revenue. Estimated bag sales translate to an average of 33 gallons per customer per week.¹

Table 1: Bag and Tag System Revenue

	Fee	FY2023 Estimated		FY2024 Budget	
		Sales	Revenue	Sales	Revenue
15-gallon Bag	\$2.34 per bag	179,000	\$418,860	179,000	\$423,540
30-gallon Bag	\$3.91 per bag	352,000	\$1,376,320	352,000	\$1,384,140
Bulk Tag	\$10 per tag	9,303	\$93,030	9,300	\$93,220
Total		540,303	\$1,888,210	510,000	\$1,900,900

The City is responsible for purchasing, warehousing and distributing PAYT bags and tags. The City currently contracts with Boxes and Bags Unlimited and pays \$0.25 and \$0.34 per 15-gallon and 30-gallon bag, respectively. The contract began in 2022 for a one-year term with two one-year renewal options. The projected FY2024 bags and tags expense is \$165,000.

City staff is responsible for maintaining sufficient inventory, warehousing bags in a storage building at the Recycling Center, tracking supply requests from retailers, and delivering bags to retailers. In addition, the City manages invoicing and payments from retailers. This work requires approximately three person-days per month – one each for two field employees and one for office staff.

2.1.4 Other Contracted Collection Services

As part of its five-year contract, WM provides a range of other collection services as described in the following bullets and Table 2.

- **Downtown Trash Receptacles:** WM provides collection of 84 trash receptacles at 48 locations in the downtown area once per week at a projected cost of \$24,040 for FY2024. The waste collected from these receptacles is transported by WM to the Turnkey Facility for disposal.
- **Various Recycling Toters:** As part of the contract WM also collects 222 recycling toters from 65 locations in the downtown area once per week at a projected cost of \$14,463 for FY2024. The recyclables collected from these 65 locations are transported by WM for processing.
- **Dumpsters at Municipal Facilities:** WM also provides collection of trash in dumpsters from Municipal Facilities as part of the five-year contract. WM provides dumpsters ranging in size from 2 to 10 cubic yards. Cost is determined by the number, size, and collection frequency of these dumpsters. The projected FY2024 cost for this service is \$88,128.

¹ $[(179,000 \times 15 \text{ gallon}) + (352,000 \times 30 \text{ gallon})] / 202 \text{ gallons per cubic yard} = 65,569 \text{ cubic yards} / 52 \text{ week} / 7,800 \text{ customers} \times 202 \text{ gallons per cubic yard} = 33 \text{ gallons per customer per week}.$

- **Dumpsters at Other Locations and Special Events:** WM also provides a 30-yard roll-off dumpster for AC pipe storage, two 30-yard roll-off dumpsters for the household hazardous waste (HHW) day, a 30-yard dumpster for the Apple Harvest Festival, a 15-yard roll-off dumpster at the Police Horse Stable and hauling and disposal of debris and grit screenings. The total annual cost for these services in FY 2024 is \$5,201.39.

Table 2: WM Other Contracted Services

Collection Service	Locations	Containers	Frequency
Downtown Trash Receptacles	48	84	Once per week
Various Recycling Toters	65	222	Once per week
Municipal Facility Dumpsters	22	22	Various
Other Location and Special Event Dumpsters	5	6	As needed

2.1.5 Recycling Center

The Recycling Center (Center) is operated by the City with contracted hauling and processing for some of the materials handled at the Center. The Recycling Center is located at 265 Mast Road and is open three days per week (Tuesday, Thursday, and Saturday) from 8:30 a.m. to 3:30 p.m. for a total of 21 hours per week. Operating hours have been reduced in recent years due to budgetary constraints. City staff estimates that 900 to 1,000 vehicles per week bring materials into the Center.

Materials accepted at the Center and management practices are summarized in the following bullets:

- **Recyclables:** Mixed Paper is collected in open roll-off containers. Cardboard is collected in both open roll-off and compacting roll-off containers. Mixed metal, glass and plastic containers are collected in open roll-off containers. WM provides the containers as well as hauling and processing services.
- **Organics:** Food waste is collected in toters supplied and serviced by Mr. Fox Compost. Leaves and grass clippings are collected in open roll-off containers and hauled by the City to McQuire Organics' Dover facility. Brush & wood waste are accumulated in an open stockpile which is periodically processed by a contracted grinding service.
- **Construction & Demolition (C&D) Debris and Bulky Waste:** Incoming vehicles are weighed and charged \$200 and \$300 per ton, respectively, for residents and contractors. Materials are collected in roll-off containers and hauled by the City to Turnkey Landfill.
- **Universal Waste and Other Materials:** Scrap metals are collected in open roll-off containers and hauled by the City to a local scrap recycler. Electronics and tires are collected in separate enclosed shipping containers. Empty propane containers are collected in an open roll-off container. Freon-containing items are collected and stockpiled. These materials are then removed by licensed handlers.
- **Other Universal Wastes:** Fluorescent bulbs, batteries, mercury-containing items, waste oil, and anti-freeze are collected in a storage building and periodically removed by licensed handlers.
- The City charges fees for electronics (\$5 to \$20 per electronic item), propane (\$5 per large

propane tank), and freon-containing items (\$20 per item).

2.1.6 Historical and Projected Tonnages

The City estimates that approximately 4,100 tons of trash, 2,600 tons of recyclables and 100 tons of leaves are collected curbside from residential accounts within the City of Dover and disposed of or processed at WM locations. The City also receives approximately 1,500 tons annually at the Recycling Center. As shown in Table 3 below, based on a projected 1% annual growth rate the current 4,100 tons of trash collected annually would increase to approximately 4,250 tons in FY2025 and 4,700 tons by FY2035. Recyclable tonnage would increase slightly by FY 2025 but approach approximately 3,000 tons by FY2035. Yard waste tonnage would remain steady just above 100 tons per year.

Table 3: Historical Tonnages and Projections Based on Population

	Actual	Estimated	Projected	Projected	Projected
Year	FY2022	FY2023	FY2025	FY2030	FY2035
Population	33,178	33,509	34,183	35,892	37,705
Tonnage					
Trash	4,122	4,163	4,247	4,459	4,684
Recycling	2,606	2,632	2,685	2,819	2,963
Yard Waste	100	101	103	108	113
Recycling Center	1,499	1,514	1,544	1,621	1,703
Total	8,327	8,410	8,579	9,007	9,464

2.1.7 Processing and Disposal

The WM contract includes recyclables processing and trash disposal services. The contract requires that both trash and recyclables be hauled to WM's Turnkey Landfill in Rochester, NH. While trash is disposed there, single stream recyclables from curbside and mixed containers from the Recycling Center are consolidated with other recyclables and transferred to a WM materials recovery facility (MRF), e.g., Billerica, Massachusetts. Unit costs for WM's processing and disposal services are summarized in Table 4.

Table 4: Per Ton Processing and Disposal Fees

	FY2022	FY2023	FY2024
Trash Disposal	\$74.00	\$77.50	\$81.00
Recyclables Processing	\$150.80	\$156.83	\$163.11
Processing Fee	\$104.00	\$108.16	\$112.49
Transportation Fee	\$46.80	\$48.67	\$50.62
Residue Fee	\$93.60	\$97.34	\$101.23
Excess Contamination Fee	\$234.00	\$243.36	\$253.09
Contamination Limit	10%	10%	10%

Section 3: Financial Profile

3.1 Cost for WM Contracted Services

The City's contract with WM covers four general categories of collection services. Collection fees are charged as a total cost per year while processing and disposal fees are based on actual tonnages and cost per ton. Unit costs and total annual costs are summarized in the following bullet points and Table 5.

- Residential trash collection & disposal
 - Collection: The total annual cost for WM residential trash collection service for FY2024 is \$542,100.
 - Disposal: The estimated tons of trash to be disposed of during FY2024 is 4,700 tons at the current rate of \$81 per ton. The budgeted disposal cost is therefore \$380,700 for FY2024.
- Residential recyclables collection & processing
 - Collection: The WM contract cost for collection of residential recycling is \$655,668 for FY2024.
 - Processing: The net cost for recyclables processing is calculated based on the composition and the weighted average value or cost of the constituent materials. The following is a sample calculation for FY2023 assuming a blended value of \$33.70 (the value reported by WM for February 2023).
Processing Fee + Transportation Fee = \$156.83 per ton – Blended Value = \$123.36 per ton tip fee. In addition, the Excess Contamination Fee is imposed when recyclables exceed 10% contamination.
- Other collection: Other collections provided by WM include fall leaf collection, collection of downtown trash receptacles, various recycling totes, containers at Municipal Facilities and containers at other locations and events. The combined WM contract cost for these collection services is estimated at \$190,839 for FY2024.
- Recycling Center services: WM provided containers for an annual cost of \$11,801 plus \$208 per pull on an as-needed basis.

Table 5: WM Collection Service Costs – FY2024

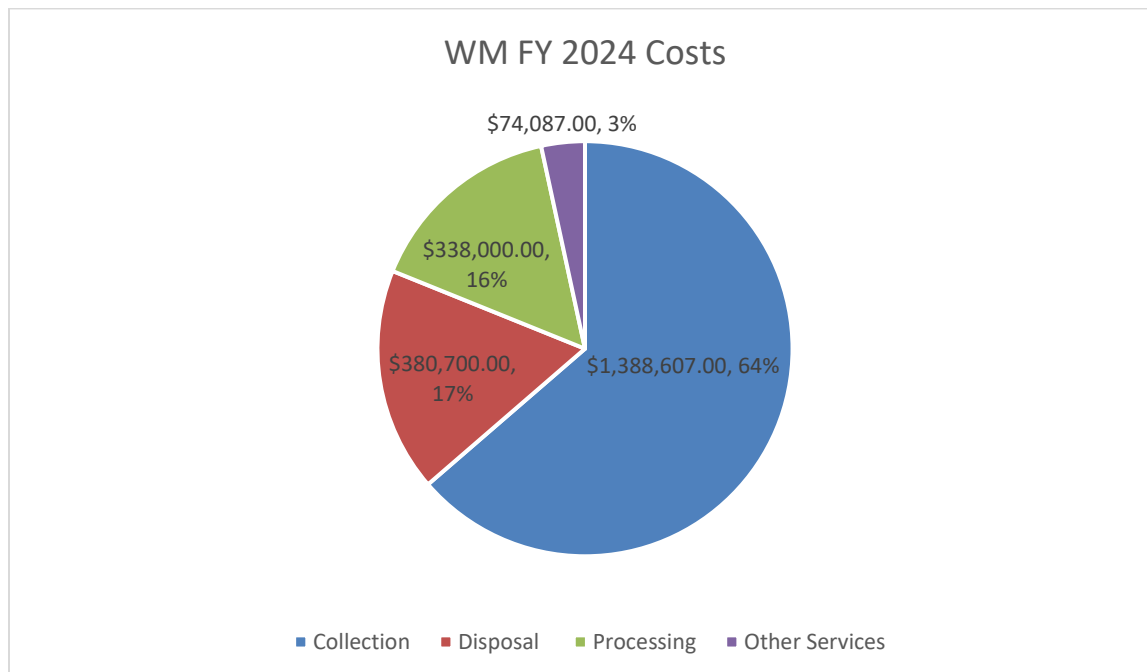
Service	FY2024 Budget
Residential Trash	
Collection	\$542,100
Disposal	\$380,700
<i>Subtotal</i>	<i>\$922,800</i>
Residential Recyclables	
Collection	\$655,668
Processing	\$338,000
<i>Subtotal</i>	<i>\$993,668</i>

Table 5: WM Collection Service Costs – FY2024 (continued)

Service	FY2024 Budget
Fall Leaf Collection	\$59,007
Other Collection Services	
Downtown Trash Receptacles	\$24,040
Various Recycling Toters	\$14,463
Containers at Municipal Facilities	\$88,128
Containers at Other Locations & Events	\$5,201
<i>Subtotal</i>	<i>\$190,839</i>
Recycling Center	
Containers & Compactors	\$11,801
Hauling & Processing	\$62,286
<i>Subtotal</i>	<i>\$74,087</i>
GPS Monitoring	\$1,639
Total	\$2,181,394

As shown in Figure 1, aggregated WM collection service fees are approximately \$1.4 million annually or 64% of WM fees.

Figure 1: WM Contract Cost Allocation



3.2 City Financials

Financials for Dover's solid waste services are housed in two funds.

- Residential Solid Waste Fund
- Recycling & Waste Management Fund

The Residential Solid Waste Fund receives revenue from the Bag and Tag system and expends most of its funds for the contracted trash collection and disposal services, a combined 74% of expenses (see Table 6). The Fund also covers expenses associated with administrative and Recycling Center personnel (16%) and the purchase of PAYT bags and tags (8%). Based on prior year trends and the proposed FY24 budget, the City may anticipate approximately \$1.9 million of revenue in FY2024, which would yield a Fund deficit of approximately \$41,000.

Table 6: Residential Solid Waste Fund Summary

	FY2020 Actual	FY2021 Actual	FY2022 Actual	FY2023 Estimated	FY2024 Proposed	Avg %
Revenue:						
Bag and Tag Sales	\$1,163,557	\$1,552,787	\$1,658,052	\$1,616,925	\$1,900,900	99%
Other Revenue	\$14,068	\$12,500	\$12,500	\$9,600	\$9,600	1%
Total	\$1,177,625	\$1,565,287	\$1,670,552	\$1,626,525	\$1,910,500	100%
Expenses:						
Personnel	\$242,398	\$236,325	\$251,904	\$270,767	\$279,504	16%
Contracted Collection	\$371,532	\$605,325	\$633,979	\$727,972	\$724,193	38%
Contracted Disposal	\$363,399	\$684,436	\$456,943	\$680,774	\$754,700	36%
Operating Supplies	\$115,361	\$98,837	\$103,778	\$130,000	\$165,000	8%
Capital Outlay	\$65,385	\$20,484	\$5,650	\$5,650	\$5,000	1%
Other Expenses	\$18,742	\$8,751	\$6,523	\$11,340	\$22,813	1%
Total	\$1,176,818	\$1,654,158	\$1,458,776	\$1,826,503	\$1,951,210	100%
Surplus (Deficit)	\$807	(\$88,871)	\$211,775	(\$199,978)	(\$40,710)	

Notes: FY2023 estimated based on year-to-date and prior year trend.

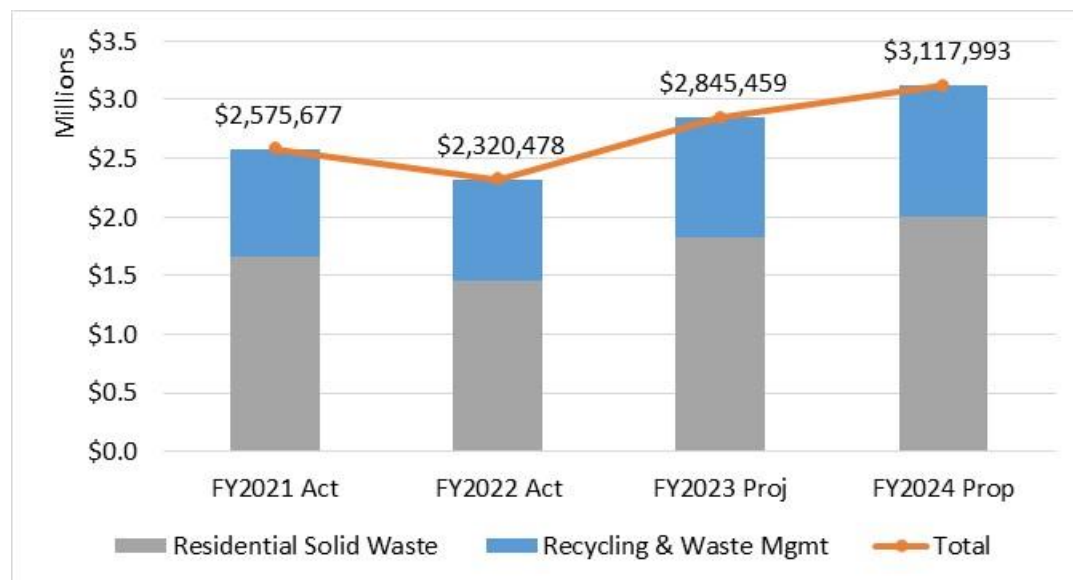
The Recycling & Waste Management Fund is financed through the General Fund with most of its expenses dedicated to the contracted recyclables collection (71%) and processing (18%) services (see Table 7).

Table 7: Recycling & Waste Management Summary

	FY2020 Actual	FY2021 Actual	FY2022 Actual	FY2023 Adopted	FY2024 Proposed	Avg %
Expenses:						
Personnel	n/a	\$43,090	\$55,023	\$43,665	\$45,910	5%
Contracted Collection	n/a	\$645,399	\$585,278	\$738,123	\$757,230	71%
Contracted Processing	n/a	\$177,457	\$174,135	\$174,317	\$169,430	18%
Supplies	n/a	\$34,513	\$34,644	\$44,002	\$48,389	4%
Capital Outlay	n/a	\$0	\$4,775	\$7,000	\$15,000	1%
Other Expenses	n/a	\$21,060	\$7,847	\$11,849	\$11,595	1%
Total		\$921,519	\$861,702	\$1,018,956	\$1,047,554	100%

As depicted in Figure 2 below, total cost for Dover's solid waste management services have risen on average 6% annually in recent years and equals approximately \$3.1 million in the proposed FY2024 budget.

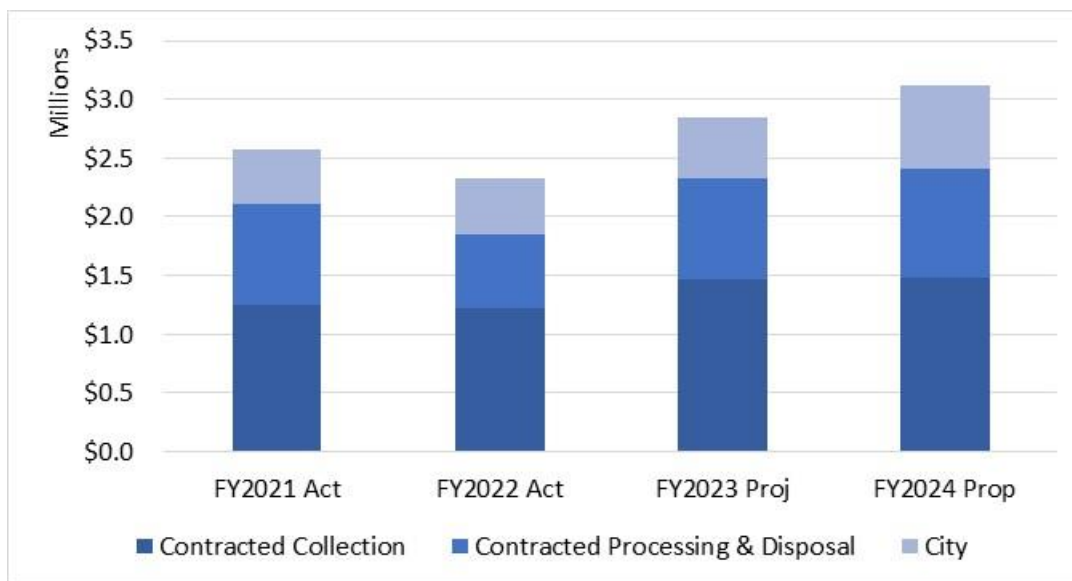
Figure 2: Total Solid Waste Expenses – FY2021 through FY2024



As noted in Tables 6 and 7 above, costs for contracted services account for the majority of expenses. In recent years, the cost for contracted collection services has increased an average 6% annually while contracted processing and disposal services has increased an average 2% annually (see Figure 3, next page).

Increases in contract services would have been greater if Dover had responded to WM's request for a special fee increase earlier in FY2023. Many local governments have been approached by their waste service providers seeking special exceptions to increase fees. Significant increases in fuel costs, slow supply chains and increased cost for trucks, and rising labor costs to retain heavy equipment operators have all contributed to significant cost increases.

Figure 3: Contracted Expenses Vs. City Expenses



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Section 4: Other Community Profiles

Other cities in southeast New Hampshire provide similar residential collection services (i.e., trash, recyclables, and fall leaves). However, methods and frequency of collection as well as the service provider vary. KCI researched and prepared profiles of four nearby cities (Durham, Portsmouth, Rochester, and Somersworth) to provide context for the assessment of collection service options for Dover.

It is important to note that direct comparisons between cities should not be made because decisions regarding the types and methods of collection services as well as the costs for services are highly dependent on local factors (e.g., community size, density, presence of private solid waste facilities, method of funding, historical practices, governance structure, perspectives of elected officials, etc.). With that in mind the following paragraphs profile solid waste services in the four cities.

4.1 Durham

Residential collection service is provided in-house by the city to approximately 1,500 homes. Residents receive weekly trash service in customer provided containers that cannot exceed 35 gallons and weekly recyclables service in customer provided bins that cannot exceed 18 to 20 gallons. Durham utilizes manual side loaders for collection of both trash and recyclables. Durham provides one curbside yard waste pick-up per year. Residents can drop off yard waste and bulk waste at the City Recycling Center throughout the year. The fees are approximately \$21.77 per month per customer and are collected annually by assessment. Durham has no PAYT system.

4.2 Portsmouth

In the absence of a response to information requests, KCI gathered the following information from public sources. Portsmouth provides all solid waste collection services in-house. Residents receive weekly trash and recycling collection in customer provided carts, cans and bins. Trash collection cannot exceed 300 gallons of capacity per week. Portsmouth utilizes manual rear loaders for collection of trash and recyclables. Yard and bulk waste can be dropped off at the city operated Recycling Center. The Portsmouth Recycling Center also accepts E-waste, C&D waste and organics. Bulk waste will be collected curbside if called in at a flat fee of \$5 plus an additional fee of \$5-\$20 based on the items at the curb.

4.3 Rochester

Rochester is the host community for the WM Turnkey Landfill. Because of that relationship with WM, Rochester receives premium services at a very low rate. All of Rochester's solid waste collection and disposal is handled by WM. WM provides Rochester's 11,300 residents with weekly collection of trash and recyclables in WM provided 64-gallon carts. WM collects yard trash curbside twice per year in paper bags or four-foot bundles using a rear loader. Bulk waste is collected once per month and includes white goods and C&D waste. Due to the host city agreement with WM the current total annual cost for collection for Rochester is \$625,319. The city does not pay processing or disposal fees. This equates to approximately \$4.61 per customer per month, which is collected by the city through an annual assessment. The city also receives an annual \$4 million host fee from WM.

4.4 Somersworth

In the absence of a response to information requests, KCI gathered the following information from public sources. WM provides all collection services for Somersworth. Residents receive weekly collection of trash in 15- or 30-gallon PAYT bags by WM in manual rear loaders. The City manages the PAYT bag distribution and charges \$1.60 per 15-gallon bag and \$2.15 per 30-gallon bag. Recycling is collected by WM every other week in customer provided containers up to 35 gallons in size. Yard waste in paper bags is collected curbside weekly by WM. Brush is collected curbside by WM four times a year or can be dropped off at the City Recycling Center by the resident. WM collects bulk waste weekly with a PAYT sticker, which costs residents \$4 per sticker for 50 pounds.

Table 8: Summary Profile of Community Residential Collection Services

	Dover NH	Durham NH	Portsmouth NH	Rochester NH	Somersworth NH
Service Provider	WM	Durham	Portsmouth	WM	WM
Households Served	7,400 (estimated)	1,500	10,100	11,300	5,250
Service Frequency	T: 1x/week R: 1x/week YW: 6 weeks/year	T: 1x/week R: 1x/week YW: 1x/year	T: 1x/week R: 1x/week YW: no service	T: 1x/week R: 1x/week YW: 2x/year	T: 1x/week R: 1x/two week YW: 4 weeks/year
Set Out Method	T: PAYT bags (15- & 30-gal) R: 22-gal City bins or customer containers	T: Customer containers R: Customer containers	T: Customer containers R: Customer containers	T: 64-gal toters R: 64-gal toters	T: PAYT bags (15- & 30-gal) R: Customer containers
Annual Tonnage	T: 4,122 tons R: 2,917 tons	T: 1,120 tons R: 410 tons	T: n/a R: n/a	T: n/a R: n/a	T: n/a R: 794 tons (2020)

Section 5: Assessment of Contracted and City-Provided Collection Services

5.1 Introduction

KCI researched and assessed infrastructural, operational, and financial aspects of City-provided versus contracted collection services. In addition, other factors were assessed with regards to implementation, administration, management, as well as other advantages, disadvantages, opportunities, and challenges.

To the extent possible, KCI utilized metrics from current City solid waste operation and budgets (e.g., number of customers, route metrics, tonnages, labor costs, and tip fees). Where necessary, KCI developed assumptions based on industry standards and research (e.g., collection vehicle capital and operating costs, totter costs, totter collection performance metrics, etc.).

5.2 Estimated Cost

The cost analysis in this section is based on current methods, i.e., trash collected in 15- and 30-gallon PAYT bags and recyclables collected in 22-gallon bins or customer-supplied containers, boxes and bags. Other service delivery options considered, namely conversion to totters, are presented in Section 6.

5.2.1 City-Provided Collection Operating Assumptions

KCI developed estimates for City-provided services based on providing weekly collection to approximately 7,400 residential customers. WM currently collects trash using a side loader and recyclables using a front loader equipped with a Curotto Can®. However, for the City to provide trash and recycling service with different trucks would not be efficient use of vehicles given the relatively small number of customers. Therefore, it is assumed that trash and recyclables would both be collected in a side loader, thus consolidating the fleet and needing only one type of spare truck, one inventory of spare parts, and no need to cross train drivers and mechanics on multiple vehicle types. Side loaders can also be equipped with cart tipper attachments that allow the operator to mechanically dump carts as well. KCI refers to this configuration as a semi-automated side loader (SASL) and it is the vehicle type we use as the basis for this assessment. The use of SASLs positions the City to convert to automated collection of totters for either or both services in the future (see Section 6).

Collection would be performed by a one-person crew. To attract and retain personnel, it is necessary to provide a competitive salary and benefits. Based on current market rates and the City's average benefits ratio, KCI has assumed collection personnel would be paid approximately \$43,500 salary plus 42% benefits. In addition, KCI has included the cost of a full-time maintenance mechanic at the same salary and benefits level.

Based on the pattern and density of residential development and methods of collection, KCI expects the City would require two crews each for trash and recyclables. Collection operations would require management and supervision (e.g., daily route coordination and adjustments, customer service requests, and missed pick-ups) for which KCI included cost based on a portion of collection operating costs.

For this study, KCI assumed that other contracted services (downtown trash and recyclables, municipal buildings, special events, and fall leaves) would continue to be contracted. The primary reason for this assumption is that these services are limited in scope. It is unlikely that City-operated services would be cost effective which makes the capital and human resource investment difficult to justify. In consideration of the fact that contracted non-residential services would be a smaller package of services, KCI assumed the cost would be 10% higher than currently.

5.2.2 Cost Estimates

KCI used the FY2024 proposed budget as a basis for the estimates in combination with the operating assumptions outlined above. Results are provided in Tables 9 and 10 for contracted and City-provided services, respectively. The annualized cost of City-provided service is estimated to be approximately \$278,000 less than contracted service. Significantly lower operating costs for City-provided collection more than compensate for the annualized capital cost² for collection vehicles and additional cost for collection management.

It is important to note that contracted service cost estimates are based on capital and operating cost factor only. It does not include the significant potential that contracted service providers will further escalate costs in order to disincentivize manual collection (see Section 5.3).

Table 9: Estimated Cost Based on Contracted Residential Services – FY2024

	Trash	Recycling	Total
Capital Cost			
Collection Vehicles	\$0	\$0	\$0
Total	\$0	\$0	\$0
Annualized Capex	\$0	\$0	\$0
Operating Cost			
Collection Labor	\$0	\$0	\$0
Collection O&M	\$0	\$0	\$0
Bag & Tag Inventory	\$165,000	\$0	\$165,000
Collection Contracts	\$724,200	\$683,100	\$1,407,300
Recycling Center Contracts	\$0	\$243,500	\$243,500
Processing & Disposal	\$754,700	\$0	\$754,700
City G&A & O&M	\$363,300	\$184,200	\$547,500
Total	\$2,007,200	\$1,110,800	\$3,118,000
Additional G&A			
Collection Mgmt	\$0	\$0	\$0
Total	\$0	\$0	\$0
Total Annual Cost	\$2,007,200	\$1,110,800	\$3,118,000
Cost/Household/Month	\$22.60	\$12.50	\$35.10

² Annualized capital costs for collection vehicles are based on seven years and 5% cost of financing.

Table 10: Estimated Cost Based on City-Provided Residential Services – FY2024

	Trash	Recycling	Total
Capital Cost			
Collection Vehicles	\$830,400	\$830,400	\$1,660,800
Total	\$830,400	\$830,400	\$1,660,800
Annualized Capex	\$143,500	\$143,500	\$287,000
Operating Cost			
Collection Labor	\$246,800	\$123,400	\$370,200
Collection O&M	\$88,800	\$92,200	\$181,000
Bag & Tag Inventory	\$165,000	\$0	\$165,000
Collection Contracts	\$182,100	\$27,500	\$209,600
Recycling Center Contracts	\$0	\$250,900	\$250,900
Processing & Disposal	\$754,700	\$0	\$754,700
City G&A & O&M	\$381,800	\$202,700	\$584,500
Total	\$1,819,200	\$696,700	\$2,515,900
Additional G&A			
Collection Mgmt	\$18,500	\$18,500	\$37,000
Total	\$18,500	\$18,500	\$37,000
Total Annual Cost	\$1,981,200	\$858,700	\$2,839,900
Cost/Household/Month	\$22.10	\$9.40	\$31.50

5.3 Trends in Costs for Contracted Services

Both publicly and privately operated collection services have incurred substantial cost increases in the past few years. Pay scales have needed to rise in order to attract and retain staff. Raw material and supply chain disruptions have contributed to increased fuel costs, vehicle purchase and spare part costs and lead times, and overall high inflation rates have impacted costs across the board.

Recent collection service procurements in which KCI has been involved have all seen dramatically higher costs. Requests, like WM's in FY2023, for special increases are not uncommon. In addition to industry-wide factors, two others are particularly relevant for Dover. Smaller communities are seeing less interest from the private service providers as reflected in fewer bids being submitted. And more importantly, private firms strongly prefer automated toter-based services versus manual collection such as provided in Dover. In fact, in recent discussions with City staff, WM stated that in any discussions or offers for future collection service it would actively seek to discontinue the current manual services and transition to automated services.

Based on the combined impact of these trends and intentions, the City can anticipate that in the next few years contracted residential services will very likely need to 1) transition to automated collection and 2) be significantly more expensive than currently.

5.4 Considerations for City-Provided Versus Contracted Services

5.4.1 Planning and Implementation

If the decision is made to bring collection operations in-house multiple steps would need to be planned and executed prior to the start of service. The City would need to commit resources and undertake a number of specific activities to initiate residential collection services. It will need to design collection routes for both trash and recycling collection. Human Resources will have to create job descriptions and determine the proper pay grade to ensure internal equity with other City employees while also ensuring competitive pay that will attract and retain drivers, especially in light of current national shortage of CDL drivers. It must also be noted that supply chain issues have lengthened lead times for manufacturing and delivery of collection trucks with it being likely to take a year or more for delivery of new vehicles. In addition to the operational aspects of start-up, the City will need to develop and implement public outreach and education. Public engagement is critical to the success of any collection transition. The public needs to be engaged early in the process and provided with answers to any questions they bring forward. Ongoing outreach and education are also very important throughout the transition and ongoing operation of City-provided services.

A primary factor that will determine an implementation schedule will be procurement of collection vehicles. The option exists to either lease or purchase collection vehicles. Leasing typically can secure vehicles more quickly than purchasing. It generally takes six to 12 months to obtain lease vehicles (although actual timing is supply-chain dependent). Leasing also makes it more financially viable to utilize vehicles for fewer years than their typical life expectancy. For example, if the City were to switch to toter-based services after a few years, leasing could make it easier to switch from SASL trucks to automated side loader (ASL) trucks (see Section 6). Assuming procedures are not atypical for local government, the City should be able to mobilize equipment and staff as well as complete other planning and implementation activities within one year (lease) or two years (purchase) once a decision is made.

5.4.2 Contracting for Services Other Than Residential Trash and Recyclables

The City-operated residential collection scenario assumes that non-residential services would continue to be provided by a private contractor. Based on discussions with City staff and review of the local waste services sector, a pool of local and regional waste services providers exists who would be potential bidders able to provide the more limited scope of services (i.e., downtown trash and recycling container, dumpster, and roll-off services). These services do not need to be bundled with residential collection in order to be handled by a private contractor.

5.4.3 Recycling Outreach and Education

Apps leverage recycling program outreach and education (O&E) efforts and support day to day operations. These apps typically list what can be placed in the recycling cart and what items should not be placed in the recycling cart but should be disposed of. As an example, the Recycle Coach app can be tailored to each community's solid waste and recycling programs so specific information is provided to residents. The app provides general information such as collection schedules and allows residents to sign up for collection day reminders to set carts at the curb. Apps can assist day to day operations with

functions that allow residents to report missed pick-ups, damaged carts, and bulk waste pick-up requests. Apps can also be used for other City functions if the City desires, such as reporting water leaks or potholes.

5.4.4 Need for Accurate Residential Customer Count

The City's contract with WM includes provisions for the two parties to develop an accurate count of residential customers. An accurate list and count of customers will be important if the City decides to switch to in-house service. It will also be of benefit if the City continues with contracted service. While it is not uncommon for communities in the region to procure services based on a total cost rather than a unit cost (e.g., cost per household), as is done in Dover, it means that the City does not have a true measure of how much service it is receiving and the true cost per customer. In the case of contracted services, the City can ensure that costs are correctly calibrated to actual services provided, while in the case of City-provided services, the City can better manage collection operations.

5.4.5 Other Considerations: City-Provided Services

First, it is important to note that Community Services is already "in the business" with regard to staffing, operations, maintenance and repair, and facilities to support critical community functions. While expanding into trash and recycling collections would be significant, the Department has much of the necessary assets and expertise in-house.

A primary advantage of City-provided services is greater control of quality of service and the ability to directly respond to customer issues without having to go through a contractor. In addition, the decision-making process is local, which allows the City to alter or refine services without the need to renegotiate contracts. Examples include providing additional services to handicapped customers or providing service for a new local event. Another important advantage is that City operations can have much lower rates of staff turnover, which means drivers and supervisors know the routes, customers, and community and become frontline representatives of the City.

Disadvantages of City-provided services include the need to purchase and replace high-cost collection equipment and toters. The City also has the responsibility to repair and maintain collection vehicles and toters, which need replacement of wheels, lids and bodies, which can be damaged during the collection process. While services can be outsourced, KCI generally recommends keeping it in-house because third party service providers are not dedicated solely to the City fleet. It is also important to note that the City must deal with managing staffing shortages, vacation, leave, driver discipline, workers compensation claims, and other duties.

5.4.6 Other Considerations: Contracted Service

The primary benefit if the City decides to continue contracted residential service is that it maintains the status quo and does not require commitment of City resources for implementation and operations. This is particularly true if the City renegotiates or extends the current agreement with WM. More effort would be required if it issues a bid or a Request for Proposals (RFP) and a new hauler is selected. The City would be responsible for coordinating the transition from WM to the new hauler. Other advantages of contracted services include reduced public capital expenditure since the City would not procure trucks or toters. The City has less involvement in the solid waste service and most functions are handled by the contractor. Private companies often have more incentive to innovate and adopt new

technologies which can benefit customers.

One of the primary disadvantages of contracted services is the City not having direct control over the quality of service and responsiveness to customer issues. These need to be managed according to contractual terms, which require contract monitoring, enforcement, and liquidated damages, which can lead to contract disputes. Dependent on the contract terms and conditions, customer issues are beyond the City's ability to control. Contract management can be a time-consuming issue to deal with if the contractor performs poorly. The City loses a certain amount of control and can be limited by the terms of the contract. Some haulers are driven by a short-term profit driven focus, which leads to poor service for the customer. Even with the most well written contract there is a loss of transparency and accountability when compared to an in-house operation. Haulers may use temporary drivers who are not familiar with the community and routes leading to increased customer complaints. The disadvantages also include the fact that if changes are desired the contract may need to be renegotiated or amended.

5.5 Processing, Transfer and Disposal Options

Based on the limited number of facilities in the Dover area the WM Turnkey Facility appears to be the most viable tipping point for recyclables and trash. Recyclables received at Turnkey are consolidated and transferred by WM to its North Billerica, MA MRF (approximately 65 miles). The EcoMaine MRF in Portland, ME is closer to Dover (approximately 45 miles) but it is not part of the WM system. The Turnkey Landfill is the only landfill to which trash can be delivered without needing to be handled through a transfer station at additional expense.

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Section 6: Assessment of Toter-Based City-Provided Collection Options

6.1 Introduction

KCI researched and assessed the infrastructural, operational, and financial aspects of switching to toter-based services from the current PAYT bag and tag and recycling bin system. KCI also assessed factors related to implementation, administration, management, as well as other advantages, disadvantages, opportunities, and challenges. Toter-based collection is generally acknowledged as the most efficient and cost-effective method. Toters are utilized by many communities and well-suited for PAYT services wherein customers are offered a range of toter sizes (e.g., 32-, 48-, 64-, or 96-gallon) and charged variable fees based on size. Fees can be set to incentivize waste reduction by making large toters more expensive on a relative basis (i.e., higher cost per gallon) than small toters.

Two service options were considered:

- PAYT variable-sized toters for trash and single-sized toters for recyclables
- PAYT bags for trash and toters for recyclables

The assessment does not consider using trash toters to collect PAYT bags due to inability to effectively monitor compliance (see Section 6.3 for further discussion).

6.2 Estimated Cost

The cost analysis is focused on residential trash and recycling collection. Like the analysis in Section 5, it is assumed that other contacted services (downtown trash and recyclables, municipal buildings, special events, and fall leaves) would continue to be contracted.

6.2.1 Toter-Based Collection Assumptions

KCI utilized the same operational and financial metrics as the analysis presented in Section 5 apart from using an automated side loader (ASL) versus a SASL. ASLs collected toters using a hydraulic lifting arm on the side of the vehicle. ASLs and toters mean the driver can remain inside the vehicle. Combined with the fact that the hydraulic arm does the lifting, there is much lower potential for worker injuries. Automated toter collection is also faster than the City's current manual collection of PAYT trash bags and recyclables.

KCI expects the City would require approximately 1.5 crews each for trash and recyclables collection. For the first scenario (trash and recycling toters), it may be possible to run a split route (i.e., a crew that collects trash part of the day then recyclables). However, it would be operationally challenging to do so given the need to travel off-route to unload between route segments. Therefore, KCI estimated costs based on two crews each for trash and recyclables. Based on this, if the City pursued either of the toter-based scenarios, it can expect to have additional staff resources that could be dedicated to other activities such as supporting Recycling Center hauling operations.

6.2.2 Cost Estimates

Results are provided in Table 11 for City-provided services utilizing toters for both trash and recyclables and Table 12 for utilizing toters only for recyclables (trash continuing to be collected in PAYT bags). City-provided service using toters for both is estimated to be less than the current contracted service by approximately \$194,200. Toters for recycling only would reduce costs approximately \$200,300 when compared to the current WM contract.

Table 11: Estimated Cost Based on Toter-Based Trash and Recycling Services

	Trash	Recycling	Total
Capital Cost			
Collection Vehicles	\$900,000	\$900,000	\$1,800,000
Toters	\$396,800	\$420,100	\$816,900
Total	\$1,296,800	\$1,320,100	\$2,616,900
Annualized Capex	\$224,100	\$228,100	\$452,200
Operating Cost			
Collection Labor	\$246,800	\$123,400	\$370,200
Collection O&M	\$85,400	\$85,400	\$170,800
Bag & Tag Inventory	\$5,000	\$0	\$5,000
Collection Contracts	\$182,100	\$27,500	\$209,600
Recycling Center Contracts	\$0	\$250,900	\$250,900
Processing & Disposal	\$754,700	\$0	\$754,700
City G&A & O&M	\$426,200	\$202,700	\$628,900
Total	\$1,700,200	\$689,900	\$2,390,100
Additional G&A			
Collection Management	\$18,500	\$18,500	\$37,000
Utility Billing	\$44,500	\$0	\$44,500
Total	\$63,000	\$18,500	\$81,500
Total Annual Cost	\$1,987,300	\$936,500	\$2,923,800
Cost/Household/Month	\$21.60	\$10.30	\$31.90

Table 12: Estimated Cost Based on PAYT Bag Trash and Toter-Based Recycling Services

	Trash	Recycling	Total
Capital Cost			
Collection Vehicles	\$830,400	\$900,000	\$1,730,400
Toters	\$0	\$420,100	\$420,100
Total	\$830,400	\$1,320,100	\$2,150,500
Annualized Capex	\$143,500	\$228,100	\$371,600
Operating Cost			
Collection Labor	\$246,800	\$123,400	\$370,200
Collection O&M	\$88,800	\$85,400	\$174,200
Bag & Tag Inventory	\$165,000	\$0	\$165,000
Collection Contracts	\$182,100	\$27,500	\$209,600
Recycling Center Contracts	\$0	\$250,900	\$250,900
Processing & Disposal	\$754,700	\$0	\$754,700
City G&A & O&M	\$381,800	\$202,700	\$584,500
Total	\$1,819,200	\$689,900	\$2,509,100
Additional G&A			
Collection Management	\$18,500	\$18,500	\$37,000
Utility Billing	\$0	\$0	\$0
Total	\$18,500	\$18,500	\$37,000
Total Annual Cost	\$1,981,200	\$936,500	\$2,917,700
Cost/Household/Month	\$22.10	\$10.30	\$32.40

6.3 Considerations for Toter-Based Collection

6.3.1 PAYT with Variable-Sized Toters

PAYT trash service based on variable-sized toters and either semi-automated or fully automated collection vehicles is widely practiced. Customers are given the option to subscribe for a toter size based on their needs. This allows customers who generate less waste to opt for a smaller toter at a lower rate. Toter based systems do require the purchase and distribution of toters and development of a customer database. Toters can be equipped with Radio Frequency Identification (RFID) tags and assigned to specific customers / addresses when the cart is delivered. When combined with readers mounted on collection vehicles, RFID tags can be used for billing, service verification, and participation studies to give collection program managers detailed collection data. Toters do require maintenance of lids, wheels and bodies which can be damaged during the collection process, but toter-based systems eliminate the need to purchase, warehouse and distribute PAYT bags.

6.3.2 Cart Procurement and Grants

Ordering, receiving, and assembly and distribution (A&D) of carts and development of the customer database would be required. Cart manufacturers and third-party A&D companies can provide this service. Once collection operations begin, route and billing adjustments would be made as needed.

If the City elects to implement a cart-based system, KCI recommends that as part of the cart procurement process, A&D services are also included in the procurement package. Many cart manufacturers have A&D divisions or partner with third party A&D providers to provide assembly of the carts and deliver to customers based on a City provided database. Part of the A&D service includes recording of RFID tags built into the carts and GPS locations which are matched to customers in the City provided database as carts are delivered to a location. This information can then be electronically transferred back into the City's customer service billing system which streamlines the billing set up for solid waste services. If collection trucks are equipped with RFID readers the data transmitted from the RFID tags installed in the carts can be used for service verification purposes.

Grant funding for the procurement of recycling carts is available from organizations such as The Recycling Partnership. The Recycling Partnership's Residential Curbside Recycling Cart Grant Program presents communities with the opportunity to apply for grant funding to convert bin or bag based curbside recycling programs to carts or to implement new cart-based curbside recycling programs. Applications for funding are accepted on an ongoing and continuous basis, and communities that receive funding for carts will also be offered financial and technical assistance in support of recycling education and outreach. More information regarding the program is available at: <https://recyclingpartnership.org/recycling-cart-grant>

6.3.3 Collection Efficiency and Safety

Collection using an ASL is the most efficient and safest collection vehicle option. ASL collection vehicles are capable of collecting as many as 1,000 homes per day while utilizing one operator who is usually not required to leave the vehicle. The operator does no heavy lifting and any injuries that do occur are usually related to entering and exiting the cab of the truck.

6.3.4 Contamination

ASL collection of recyclables in toters increases the potential for contamination because collection crews do not directly inspect recyclables when they are loaded into the truck. SASL collection can address this issue, however it increases collection time and cost. While the potential for contamination is greater, a well-designed O&E and monitoring program can maintain the quality of recyclables and meet MRF standards for acceptance. A multi-faceted O&E and contamination control program is needed. The Recycling Partnership has implemented and field-tested and offers a wide range of tools and practices designed to both increase recovery and reduce contamination.

6.3.5 Compatibility with PAYT Bags

The possibility exists for Dover to continue using PAYT bags but utilize toters to collect them. In this situation, variable-sized trash toters would not be used. Instead, customers could be given a standard toter size and required to continue purchasing and using PAYT bags for all trash. SASLs can be used to collect toters and provide the benefit of reducing the lifting required by drivers. This process gives drivers the opportunity to spot non-PAYT bags that have been placed in the toter and tag the customers toter as non-compliant. However, this method requires the driver to step out of the truck and tip toters using the lifting mechanism, which eliminates the operational efficiency and cost-benefit of ASL-based collection.

The drawback to using ASLs to collect PAYT bags in toters is the difficulty for drivers to inspect the

contents of toters during the tipping process. ASL operators can typically only see the contents of the toter when it is dumped in the hopper by viewing a camera inside the hopper of the truck. The ASL operator has multiple other items to watch and may not always see waste in non-PAYT bags. While hopper cameras can record images, the ability to determine if non-PAYT bags are present has not been fully demonstrated on a commercial scale. In addition, the ability to track non-compliance “on the fly” and implement penalty fees and enforcement measures would require advanced and highly integrated route monitoring and billing software. If Dover wishes to actively consider using PAYT bags in conjunction with toters it should monitor the program in Concord, NH, which has elected to phase in such a system over the next several years.

6.4 Other Consideration of Toters Versus PAYT Bags

Some of the advantages of utilizing toters for trash and recycling collection are that toters provide a uniform appearance in neighborhoods and reduce litter due to weather and animals. Toters allow fully and semi-automated collection, which reduces employee injuries and contact with waste, which improves employee retention. Toters have a long service life, with a typical warranty of 10 years and are designed to allow hundreds of pounds of waste to be collected. Disadvantages of using toters include the cost to purchase the original toters and replacement carts and repair parts. Toters can be difficult for elderly customers to maneuver and on street parking can cause collection issues with toters.

The primary advantages of using PAYT bags are the fact they make the identification of prohibited items easier for the driver to identify when they are collected manually. They also do not require the purchase of expensive carts and collection vehicles. PAYT bags must be monitored for inventory, ordered, warehoused, and distributed more frequently than toters. PAYT bags can be a source of litter if bags are opened due to animal scavenging and weather events. Drivers have more contact with waste when using PAYT bags and sharp objects placed in the PAYT bags can cause injuries. PAYT bags are typically limited to 50 pounds or less of weight per bag.

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Section 7: Summary, Recommendations and Next Steps

7.1 Summary of Key Findings

As shown in Table 13 all options for City provided service result in lower annual costs compared with the current contract with WM.

Table 13: Summary of Costs Estimates for Collection Service Options

Service Option	Trash	Recycling	Total
Contract Service	PAYT Bags	Bins	
Capital Cost	\$0	\$0	\$0
Total Annual Cost	\$2,007,200	\$1,110,800	\$3,118,000
Cost/Household/Month	\$23	\$13	\$35
City Service	PAYT Bags	Bins	
Capital Cost	\$830,400	\$830,400	\$1,660,800
Total Annual Cost	\$1,981,200	\$858,700	\$2,839,900
Cost/Household/Month	\$22	\$9	\$32
City Service	PAYT Bags	Toters	
Capital Cost	\$830,400	\$1,320,100	\$2,150,500
Total Annual Cost	\$1,981,200	\$936,500	\$2,917,700
Cost/Household/Month	\$22	\$10	\$32
City Service	PAYT Toters	Toters	
Capital Cost	\$1,296,800	\$1,320,100	\$2,616,900
Total Annual Cost	\$1,987,300	\$936,500	\$2,923,800
Cost/Household/Month	\$22	\$10	\$32

The range of cost estimates for the three City service options is just \$83,900 or only 3% variance, which falls well within the range of accuracy for this type of planning-level assessment. Based on this, the City can consider all three City service options would have annual costs in the range of \$2.8 to \$2.9 million or \$32 per household per month.

As discussed in Section 6.0, each City-provided service option has its specific set of aspects to be considered.

- **PAYT Bag Trash and Recycling Bin Service:** This requires manual lifting of waste and exposure of employees in inclement weather, can cause litter from open top recycling bins or torn PAYT bags, and can negatively impact recyclables quality due to wet weather. Yet continuing this service with City crews would minimize impacts on customers.
- **PAYT Bag Trash and Recycling Toter Service:** SASLs could be utilized for collection of both PAYT bags and the recycling toters. This type of system would reduce litter from recyclables and damage from wet weather for recyclables and provide lifting assistance to recycling collection

drivers. However, the need to manage PAYT bags and disadvantages of manual collection would remain.

- **Trash and Recycling Toter Service:** SASLs could be utilized for collection, however ASLs would be suitable and be more efficient. It is also the most driver friendly option of the three as the combination of carts and semi-automated side loaders reduces the demand for lifting by the driver which can reduce workers compensation claims and aid in driver retention. Conversion to variable-sized toters would enable the City to continue its PAYT system. Residents would have the option of three or four different toter sizes for collection of trash. Customers opting to use smaller carts would pay less than a customer who elects to utilize a larger cart. Dover-specific size options would need to be determined through citizen engagement during the planning phase. A rate study would be needed to ensure sufficient revenue would be generated to replace the revenue currently generated through the sale of PAYT bags.

The City should include assembly and delivery services in the procurement of toters for recycling collection and eventually trash collection. Utilizing toters with RFID tags will assist the City with service verification and billing issues. Grants should be considered as part of the procurement of the recycling carts and the application process started as soon as a commitment to in-house service is made. U.S. EPA grants are also available to fund development of solid waste management programs and could be applied for the purchase of collection vehicles and toters for trash collection.

7.2 Recommendations

KCI recommends the City move collection operations in-house and convert from the current PAYT bag and bin system to PAYT trash and recycling toter service utilizing SASLs and/or ASLs. The City should consider lease / purchase of sufficient trucks to implement the transition from PAYT bags to variable-sized toters for PAYT trash and recycling collection. In exchange for eliminating the need to manage the PAYT bag system, the City would develop the customer and asset database for PAYT toters and integrate that with the existing water and sewer billing system.

Even if the City elects to continue with contracted services, KCI recommends it transition to toter-based automated or semi-automated services. Due to the ongoing shortage of CDL drivers and driver retention issues, most private haulers prefer contracts based on automated collection services. Continuing with manual collections will likely reduce the number of haulers who may be interested in proposing on, as well as increase the cost of, contracted service. The City could obtain pricing for options like it has done previously and then compare contracted services against internal cost projections.

KCI offers the following supporting recommendations:

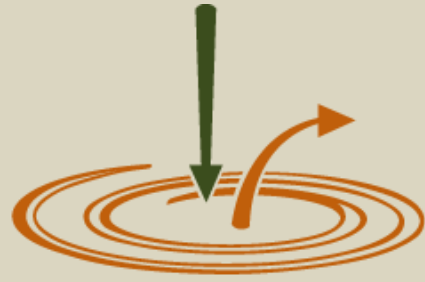
- Implementing a customer outreach and education app such as Recycle Coach even before moving collection operations in-house. This would be a valuable tool now and a great way to educate and inform residents about program changes and service transitions going forward.
- If after engaging the public, the City makes the commitment to move towards in-house collection service, some steps should be started well in advance of the scheduled start date. The lead times for collection trucks can be very long, even if the City intends to lease collection vehicles this process needs to start at least a year prior to the date the City would begin

providing service. Lead times for grants can be long as well, so that process should be started as soon as possible after a commitment has been made.

- The City should consider applying for U.S. EPA Solid Waste Infrastructure for Recycling (SWIFR) Grant Program for trash toters and The Recycling Partnership for recycling toters. If one or both grants are approved, it would reduce front-end transition costs regardless of whether service is provided by the City or a contractor. If the City chooses to continue with contracted service and transition to toters, costs not covered by grant(s) can be spread over the term of the contract with the stipulation that the City owns the toters at the end of the contract.
- The City should consider on board truck telematics system for any collection trucks leased or purchased. These systems provide GPS location data, truck performance metrics, service verification using RFID readers and camera systems, route optimization and turn by turn route directions as well as integration with customer service billing systems for work order issuing and customer communication.
- The City should work closely with the Solid Waste Advisory Committee (SWAC) and engage the public during deliberations and decision-making for any potential transition to City-provided services.
- The City will need to develop pay grades and job descriptions for collection drivers and maintenance personnel and new solid waste operational policies will have to be developed.
- The City should establish an inter-disciplinary implementation team with representatives from key city services, e.g., Community Services, Finance and Purchasing, Planning and Development, Information Technology, and Human Resources. This group would coordinate and delegate various works streams associated with implementation, such as truck and toter, collection routing, staffing, operations and management, billing policies and procedures, etc.

7.3 Next Steps

Based on the assessment and recommendations presented in this report, KCI offers the following preliminary next steps. The City should engage and seek input from City senior management. Based on that input, results of this study and recommendations can be presented to City Council through individual briefings and/or Council meeting. The City should also consider conducting a series of public meetings to further inform its decision-making process. And as noted above, once decisions are made regarding automated versus manual collection and City-provided versus contracted services, a planning and implementation team should be established and necessary resources allocated.



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