Massachusetts Commercial Food Waste Ban Economic Impact Analysis

Presented for the Massachusetts Department of Environmental Protection

June 2025

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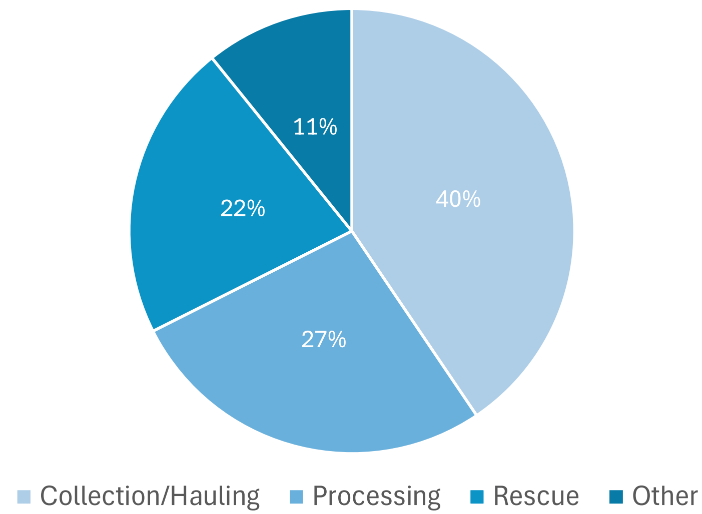
Survey Methodology

Survey Methodology and Responses

- Distributed to 117 industry contacts by MassDEP
- Survey period: January 7th– March 14th; 10 Weeks
- Responses: 37 unique responses* from 30 companies
- Targeted Stakeholders:
  - Organic Waste Collectors/Haulers
  - Organic Waste Processors (e.g. composters)
  - Food Rescue Organizations
  - Other Organizations (e.g. Food Manufacturing, Compostable Products Distribution, Hot Meals & Emergency Food Pantry)
- Questions aimed at the following trends:
  - Revenue
  - Employment
  - Capital investment
  - Experience with the ban
- Industry Statistics: Extrapolated from survey results to industry sectors

Unique Survey Responses by Segment



* Responses were received from 30 companies. A company that indicated it had operations in multiple segments was counted for each respective segment for a total of 37 unique responses. Incomplete responses were excluded.

Snapshot of Industry Trends

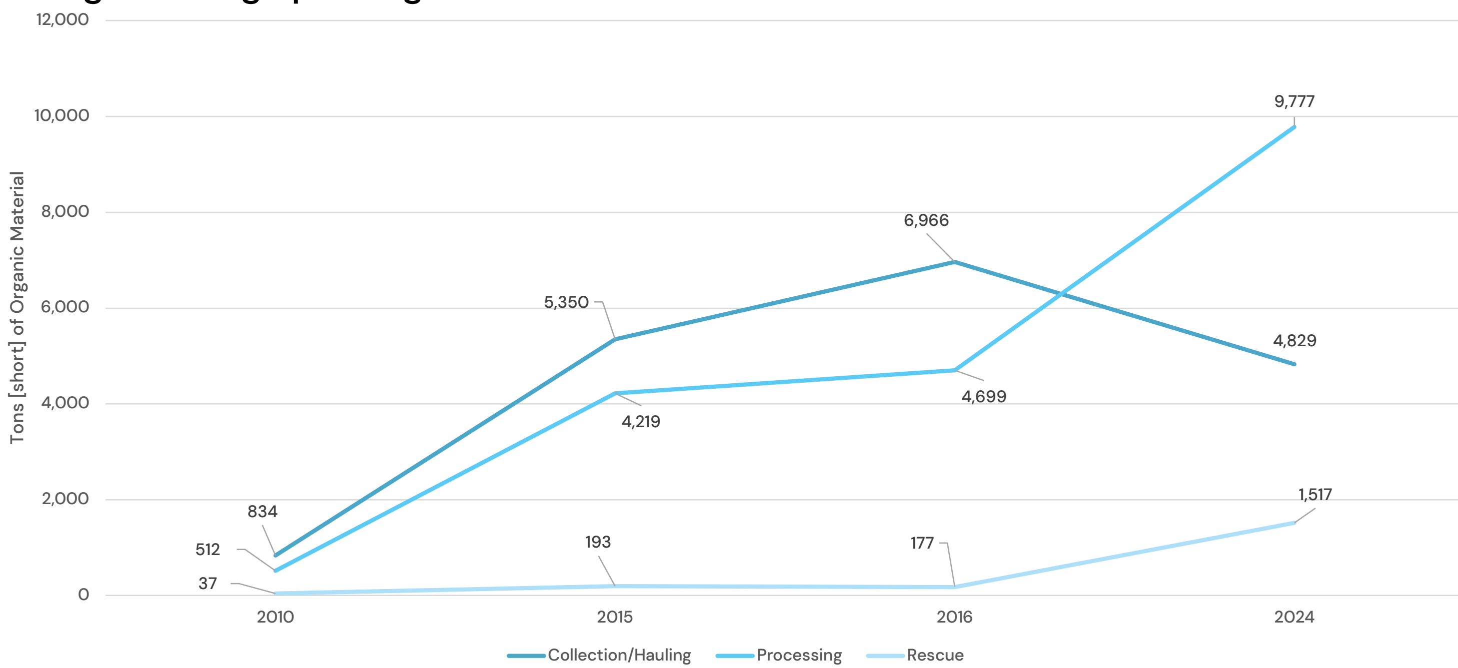
Key Trends

The organics waste industry is growing consistently through continued support and promotion by DEP.

- Growth in both institutional and residential customer markets
- Food Recovery and Rescue sector has grown the most since the 2016 study (93% in total tonnage)
- Total employment by companies has continued to grow to support the increase in demand
- Among rescue and processing organizations, larger customers remain the primary drivers of food waste tonnage

Snapshot of Industry Trends: Average Tonnage

Average Tonnage per Organization 2010 - 2024

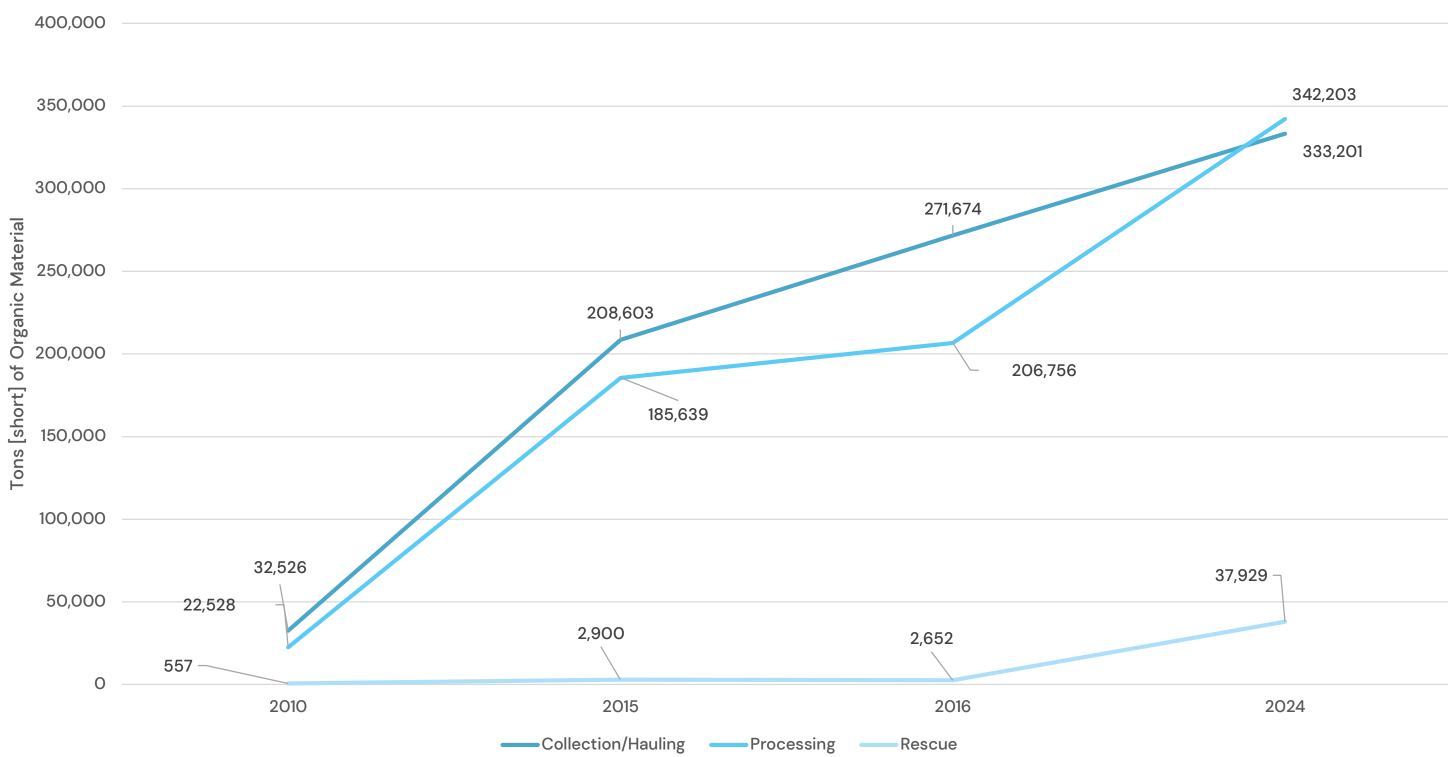


- Note: There were a smaller number of survey respondents in the food rescue organization category than in the organic waste hauler and processor categories, and these results only reflect information collected from the survey, not extrapolated out to the entire industry.
- Source: Data from survey, compiled by ICF.

- **Processors handled about 2 times as much material on average in 2024 as they did in 2016.**
- **The waste Collection/Hauling segments saw increased average tonnage per organization between 2010 and 2016, but reported less tonnage in 2024.**

Snapshot of Industry Trends: Total Tonnage (extrapolated to population)

Estimated Total Tonnage 2010-2024

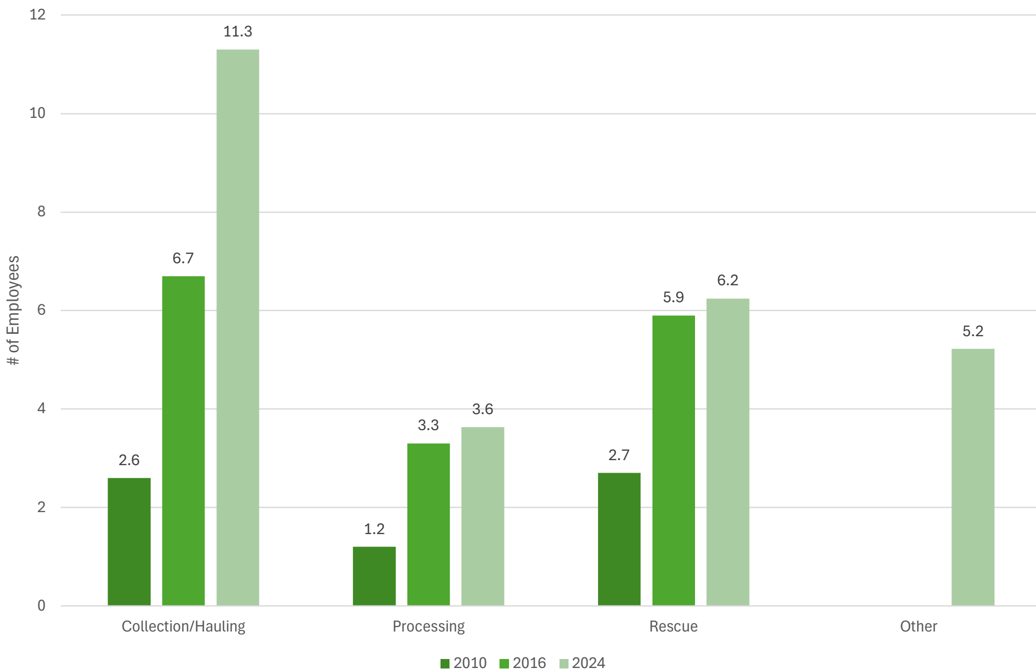


Source: Data from survey, compiled by ICF.

- **Between 2016 and 2024, estimated total tonnage increased by 40% for Processing companies, and 93% increase for Rescue companies.**

Snapshot of Industry Trends: Employment

Average number of employees (2010 – 2024)



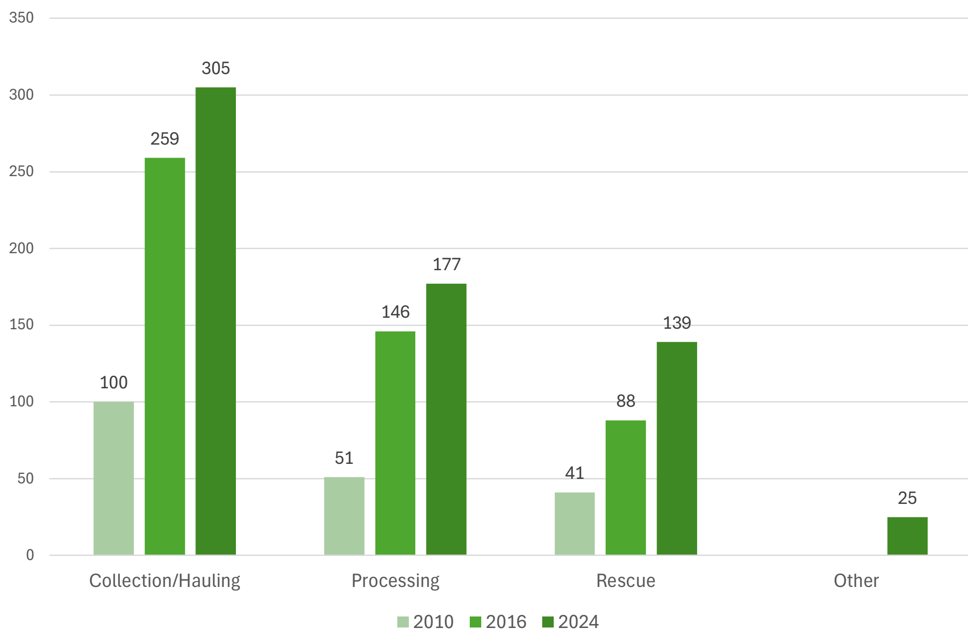
Source: Data from survey, compiled by ICF.

- **All three industry segments reported an increase in the average number of employees between 2010 and 2024.**

- **Between 2016 and 2024, the average number of employees for Collectors/Haulers increased by 97%, 30% for Processors, and 6% for Rescue.**

Snapshot of Industry Trends: Employment (extrapolated to population)

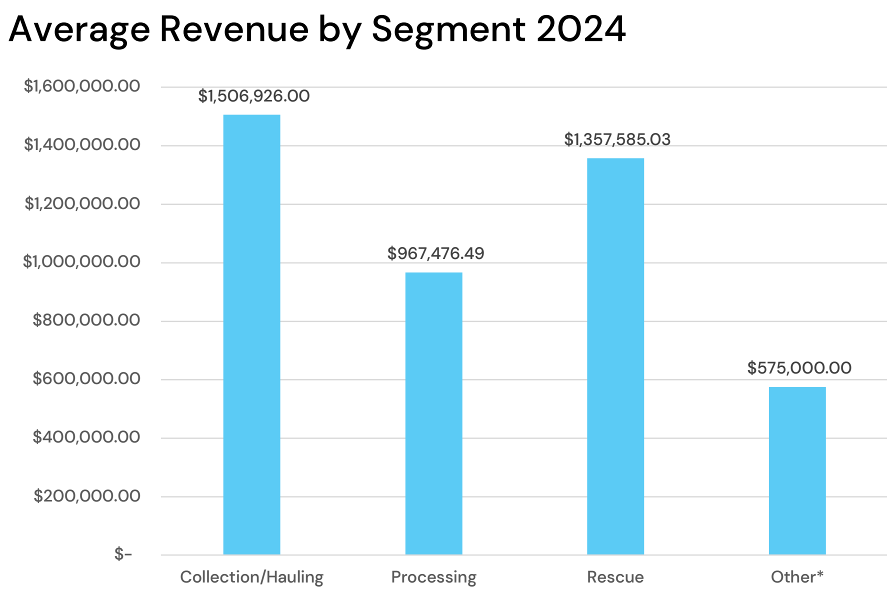
Total employment (2010 – 2024)



Source: Data from survey, compiled by ICF.

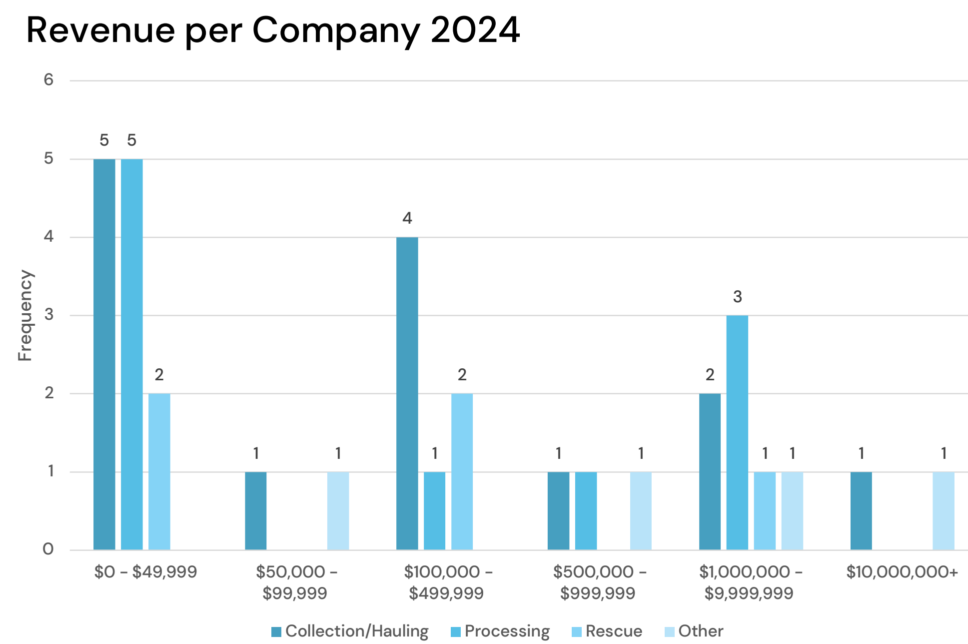
- All three industry segments which were present in the 2010 and 2016 studies saw an increase in the total number of employees between 2010 and 2024.
- Across all three industry segments which were present in the 2010 and 2016 studies, the majority of employment increase came following the initial commercial organic waste ban implementation in 2014.

Snapshot of Industry Trends: Revenue



* There was 1 significant outlier (Greater Boston Foodbank) that was excluded from the average

Source: Data from survey, compiled by ICF.



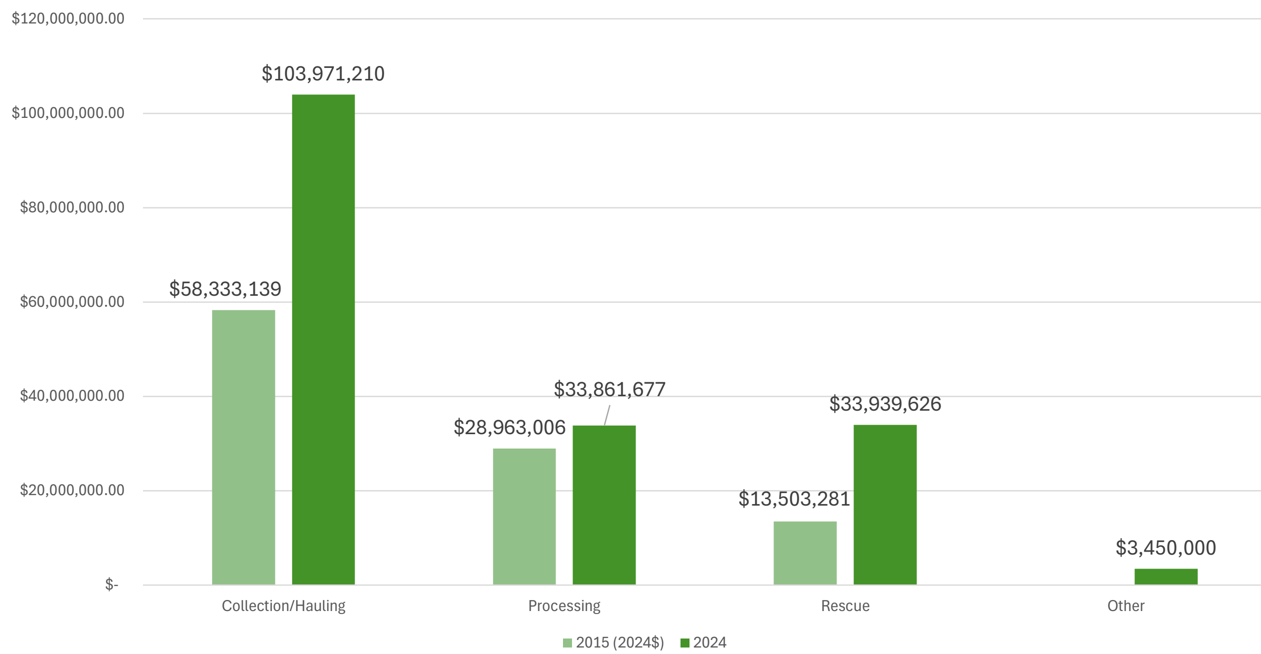
Source: Data from survey, compiled by ICF.

- **Organizations in the Collection and Hauling sector reported the highest average revenue**

- **The majority (66%) of respondents who reported revenues of $1 million or higher were in the Collection and Hauling or Processing sectors.**

Snapshot of Industry Trends: Revenue (extrapolated to population)

Total revenue (2015 in 2024$ – 2024)



Note: Revenue estimates were not produced in the 2010 study

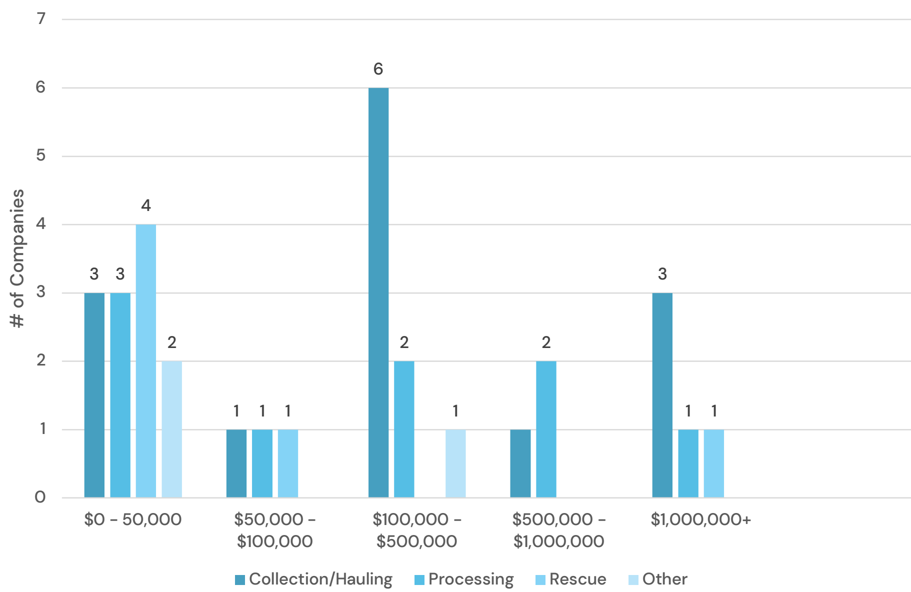
Source: Data from survey, compiled by ICF.

- All three industry segments which were present in the 2016 study saw an increase in the sectors revenue from 2015 and 2024.

- The Processing segment experienced the smallest growth. Many customers who produce ½ ton of organics per week were already complying after the 1 ton limit was implemented which may have mitigated the impact of the 2022 Expansion.

Snapshot of Industry Trends: Capital Investment

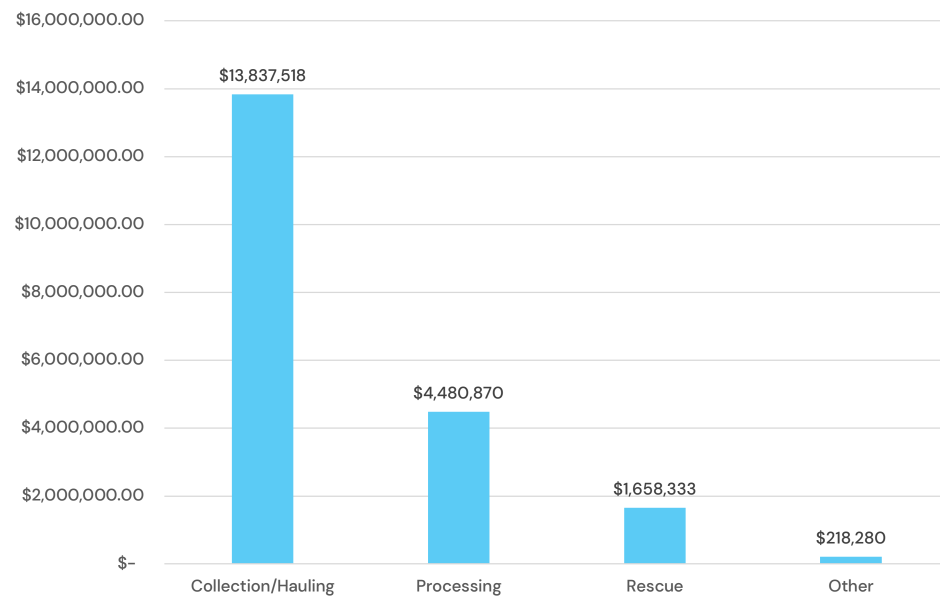
Total Capital Investment 2021 - 2024



Source: Data from survey, compiled by ICF.

- 45% of all companies reported $100,000 or more in capital investments between 2021 and 2024

Average Annual Capital Investment 2024



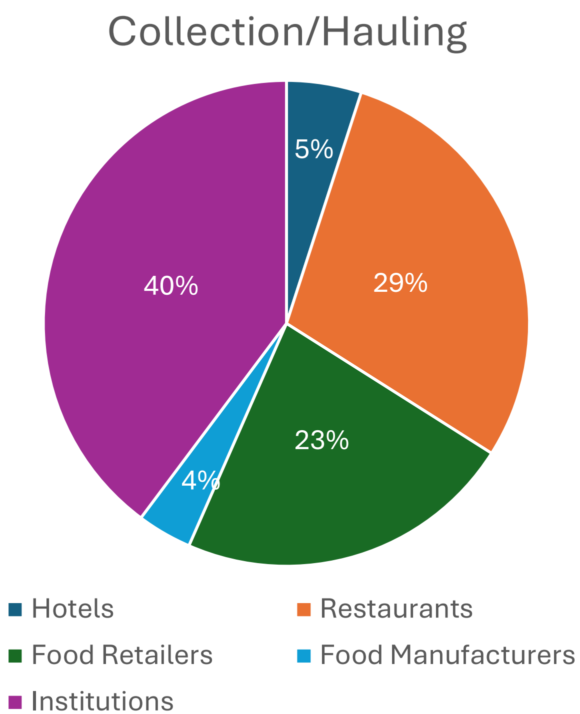
Source: Data from survey, compiled by ICF.

- Collection/Hauling companies reported the highest average capital investment per year

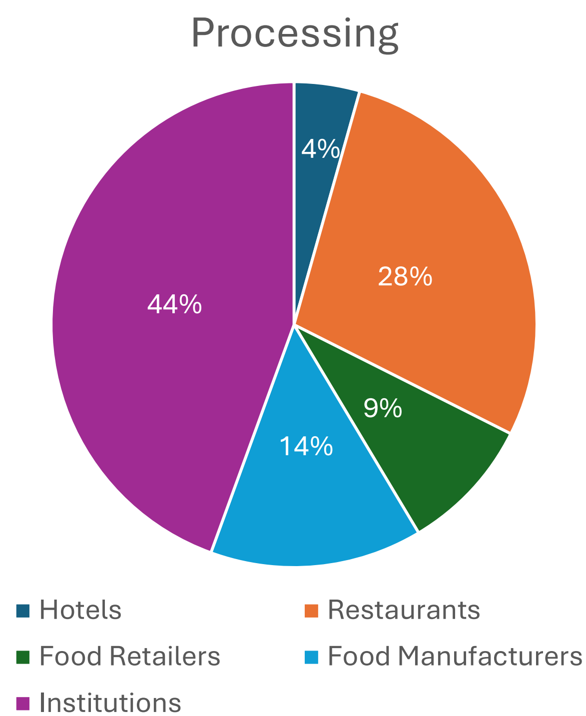
Snapshot of Industry Trends: Customers (Collection & Processing)

Some companies specified Other customers were households. For companies that did not specify, it was assumed "other" consisted of residential curbside compost pickup. These figures exclude the "other" customers due to their comparative low tonnage.

Key customers by Segment (excluding Other customers)



Source: Data from survey, compiled by ICF.

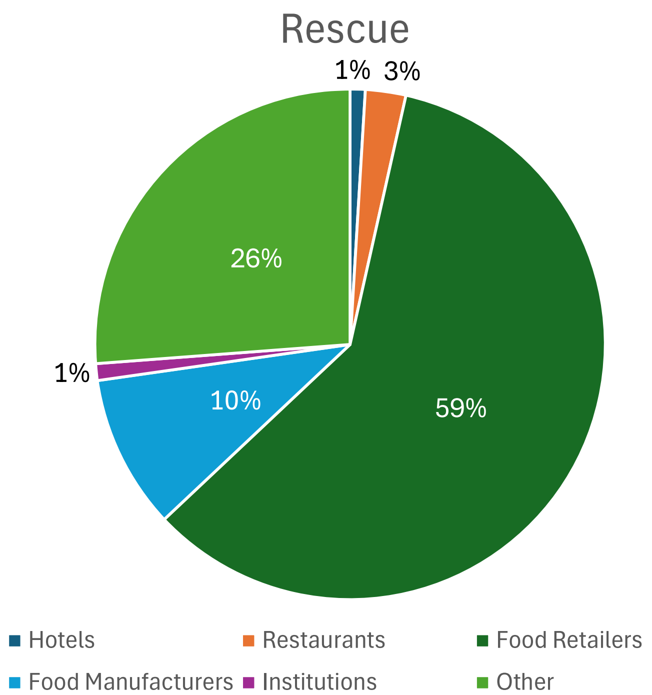


Source: Data from survey, compiled by ICF.

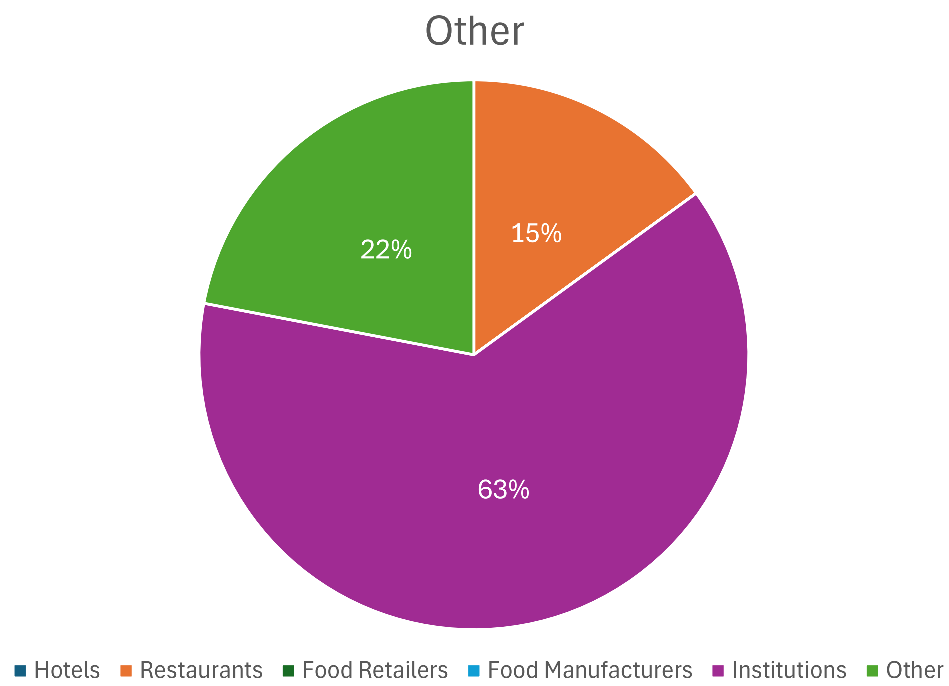
Snapshot of Industry Trends: Customers (Rescue and Other)

The majority of Rescue organizations' customers were food retailers, while the majority of customers for companies in the Other segment (e.g. Food manufacturing, Compostable Products Distribution, Hot Meals & Emergency Food Pantry) were institutions

Key customers by Segment



Source: Data from survey, compiled by ICF.



Source: Data from survey, compiled by ICF.

Economic Impact Methodology

Lightcast Methodology

- Model used: Lightcast input-output model calculates the indirect and induced impacts associated with current organics waste industry activity in Massachusetts.

Three types of impacts are calculated by the model:

- Direct Impacts: impacts in the primary industries that engage with organic waste hauling, processing and rescue.
- Indirect Impacts: impacts in the industries that supply or interact with the primary industries. For example, when a waste hauling business expands and purchases new equipment, the industry sectors supplying the equipment experience indirect impacts.
- Induced Impacts: represent increased spending by workers who earn money due to increased economic activity, such as when waste processors use their wages to purchase goods from local shops.

- ICF obtained the latest data from Lightcast for the Commonwealth of Massachusetts and developed a customized model framework for analysis.

Lightcast Inputs

Lightcast Inputs	Collection/Hauling	Processing	Rescue	Other
NAICS code	562998; 562119	624210; 624229; 562998; 562119	624210; 624229	624210; 624229; 562998; 562119
Sector Name	All Other Miscellaneous Waste Management Services; Other Waste Collection	Community Food Services; Other Community Housing Services; All Other Miscellaneous Waste Management Services; Other Waste Collection	Community Food Services; Other Community Housing Services	Community Food Services; Other Community Housing Services; All Other Miscellaneous Waste Management Services; Other Waste Collection
Payroll/Employee Compensation	$46,912,00	$7,333,000	$8,643,000	$1,809,000

Direct Industry Activity

	Collection/Hauling	Processing	Rescue	Other
Employment	506	169	128	23
Revenue	$103,971,000	$33,862,000	$33,940,000	$3,450,000
Payroll/Employee Compensation	$28,848,000	$13,132,000	$8,643,000	$1,809,000

Economic Impact Results

Summary Impact Findings

Combined, the four industry segments generated significant economy-wide impacts:

- 1,676 jobs
- $143 million in labor income
- $194 million in value add
- $390 million in industry activity

Collection and Hauling experienced the largest direct and total economic impact growth from 2016 to 2025, while reallocation of companies to the “Other” segment from processing resulted in a decrease in several metrics.

Direct Economic Impact Compared to 2016

Impact Type	Collectors/Haulers		Processors		Rescue Organizations		Other*	Cumulative Impact	
	2016	2024	2016	2024	2016	2024	2024	2016	2024
Employment	258	506	146	94	88	128	23	492	751
Labor Income ($ millions)	$24	$47	$12	$7	$6	$9	$2	$42	$65
Value Added ($ millions)	$40	$78	$15	$9	$4	$6	$2	$58	$94
Industry Activity ($ millions)	$80	$157	$29	$17	$8	$12	$4	$117	$190

Source: Data from survey, analyzed by ICF.

* “Other” companies were not a categorization in 2016

Total Economic Impact Compared to 2016

Impact Type	Collectors/Haulers		Processors		Rescue Organizations		Other*	Cumulative Impact	
	2016	2024	2016	2024	2016	2024	2024	2016	2024
Employment	646	1,236	291	179	130	189	45	1,067	1,676
Labor Income ($ millions)	$48	$111	$24	$14	$9	$13	$4	$82	$143
Value Added ($ millions)	$82	$160	$30	$18	$8	$12	$5	$121	$194
Industry Activity ($ millions)	$165	$322	$60	$35	$16	$24	$9	$242	$390

Source: Data from survey, analyzed by ICF.

* “Other” companies were not a categorization in 2016

Organic Ban Perceptions

Survey Respondent and Interview Perceptions of 2022 Expansion

Opportunities

- **Continued education** of stakeholders and policymakers to expand awareness of and support for the ban.
- Continued support for the **federal tax credit for food donation and expansion to state tax credit** to drive recovery and rescue efforts.
- Expansion of the ban provided marketing support to help customers **understand the transition of organics out of the waste stream.**
- Allowed for **discussions with the customer** of compliance and potential solutions to bring them into compliance.
- **Value-added services** (such as diversion products for farm waste to prevent surplus from entering the landfill waste stream) for companies are additionally valuable with the new ½ ton requirements.

Challenges

- **Zoning requirements** for processing facilities.
- Many customers producing over ½ ton started complying with the initial ban.
- **Challenges with telling customers** they are out of compliance / enforce the ban
- Companies that service primarily residential customers aren't as able to leverage the changes to reach new customers.
- **Smaller companies don't have the time or density of customers** to leverage changes to the ban to market their services.

Conclusion

Conclusions

- Commercial Food Waste Disposal Ban has supported the growth of the industry and increased cultural mindset oriented towards organics waste diversion and broader waste management innovation.
- Across all segments there is continued growth in employment and investments.
- Combined, the four industry segments generated significant economy-wide impacts that support economic activity across the Commonwealth of Massachusetts.
- Perception of the rollout of the ban increase is universally positive, and many organizations noted that the deliberate pacing has allowed capacity to keep up with demand.

Q&A

Appendix A – Detailed Results

Summary Results

	All Responses	Collectors/Haulers	Processors	Food Rescue	Other
Number of Survey Responses (number of companies)	37 (30)*	15	10	8	4
Company Count (2015)	98	39 (40%)	44 (45%)	15 (15%)	---
Company Count (2024)	117	55 (47%)	35 (30%)	21 (18%)	6 (5%)
Average 2015 Revenue (2024$)	$1,139,703	$1,495,722	$658,250	$900,218	---
Total Revenue 2015 (2024$)	$100,799,000	$58,333,000	$28,963,000	$13,503,000	---
Average 2024 Revenue	$1,220,902	$1,506,926	$967,476	$1,357,585	$575000
Total Revenue 2024	$175,222,513	$103,971,210	$33,861,677	$33,939,626	$3,450,000

Note that counts of companies in each sector may not sum to the total due to some companies operating in multiple sectors.

- Responses were received from 30 companies. A company that indicated it had operations in multiple segments was counted for each respective segment for a total of 37 unique responses. Incomplete responses were excluded.

** there was 1 significant outlier (Greater Boston Foodbank - $100M annual revenue) that was excluded from the average. Their revenue is included in the total revenue estimate.

Source: Data from survey, analyzed by ICF.

Summary Results

	All Responses	Collectors/Haulers	Processors	Food Rescue	Other
Average 2015 Payroll (2024$)	$244,748	$293,042	$179,619	$234,274	---
Average 2024 Payroll	$466,351	$679,923	$209,517	$345,716	$301,494
Total Number of Employees 2016	493	259	146	88	---
Total Number of Employees 2024	646	305	177	139	25
Average Salary per Employee 2016 (2024$)	$36,599	$41,134	$32,619	$34,977	---
Average Salary per Employee 2024	$55,501	$60,145	$57,758	$55,370	$57,758

Source: Data from survey, analyzed by ICF.

Economic Impact Results - Collectors

Impact Type	Employment	Labor Income	Total Value Added	Industry Activity
Direct Effect	506	$46,911,691	$77,838,439	$156,531,559
Indirect Effect	273	$25,324,904	$33,563,854	$67,496,247
Induced Effect	484	$39,095,570	$48,834,253	$98,204,717
Total Effect	1,236	$111,332,165	$160,236,546	$322,232,523

Source: Data from survey, analyzed by ICF.

Economic Impact Results - Processors

Impact Type	Employment	Labor Income	Total Value Added	Industry Activity
Direct Effect	169	$13,132,251	$15,455,330	$30,927,632
Indirect Effect	49	$4,342,273	$5,832,803	$11,672,012
Induced Effect	107	$8,388,975	$10,563,365	$21,138,329
Total Effect	325	$25,863,499	$31,851,498	$63,737,974

Source: Data from survey, analyzed by ICF.

Economic Impact Results - Rescue

Impact Type	Employment	Labor Income	Total Value Added	Industry Activity
Direct Effect	128	$8,642,911	$5,921,919	$11,792,393
Indirect Effect	11	$830,049.00	$1,096,431	$2,183,337
Induced Effect	50	$3,852,022	$4,873,375	$9,704,414
Total Effect	189	$13,324,982	$11,891,725	$23,680,144

Source: Data from survey, analyzed by ICF.

Economic Impact Results - Other

Impact Type	Employment	Labor Income	Total Value Added	Industry Activity
Direct Effect	23	$1,808,965	$2,128,969	$4,260,275
Indirect Effect	7	$598,148	$803,468	$1,607,817
Induced Effect	15	$1,155,580	$1,455,101	$2,911,801
Total Effect	45	$3,562,693	$4,387,538	$8,779,893

Source: Data from survey, analyzed by ICF.

Total Economic Impact Results 2024

Impact Type	Collectors/Haulers	Processors	Rescue	Other*	Total Impact
Employment	796	325	189	45	1,355
Labor Income ($ millions)	$69.2	$25.9	$13.3	$3.6	$112.0
Value Added ($ millions)	$99.9	$31.9	$11.9	$4.74	$148.4
Industry Activity ($ millions)	$201.0	$63.7	$23.7	$8.8	$297.2

Source: Data from survey, analyzed by ICF.

The collecting/hauling sector had the **highest direct employment and employee compensation**, and **thus experienced the largest impacts**