PRIVATE CARTING STUDY

ECONOMIC ASSESSMENT

BUROHAPPOLD
ENGINEERING

CONTENTS

1. INTRODUCTION

1.1 OVERVIEW . . . 2

1.2 PREVIOUS STUDIES . . . 3

2. MARKET ANALYSIS

2.1 KEY TAKEAWAYS . . . 6

2.2 BACKGROUND . . . 7

2.3 METHODOLOGY . . . 7

2.4 INDUSTRY PROFILE . . . 8

2.5 SIZE AND MARKET SHARE . . . 10

2.6 SERVICES PROVIDED AND CUSTOMER RELATIONSHIPS . . . 18

2.7 FINANCIAL POSITION . . . 22

2.8 EMPLOYMENT AND WAGES . . . 24

2.9 THREE TYPICAL HAULERS . . . 28

2.10 THE CARTER'S PERSPECTIVE ON ZONE-BASED COLLECTION . . . 31

3. COST ASSESSMENT

3.1 KEY TAKEAWAYS . . . 36

3.2 BACKGROUND . . . 36

3.3 METHODOLOGY . . . 37

3.4 COST OF SERVICE . . . 37

3.5 CUSTOMER EXPERIENCE AND SATISFACTION . . . 44

3.6 CUSTOMER THOUGHTS ON ZONE-BASED COLLECTION . . . 49

4. BENCHMARKING

4.1 CASE STUDIES . . . 54

4.2 RATE COMPARISON . . . 66

5. COST IMPACT ANALYSIS

5.1 RATE IMPACTS . . . 70

5.2 JOB IMPACTS . . . 75

1. INTRODUCTION

1.1 OVERVIEW

New York City's waste collection system is a fundamental component of the city's infrastructure, yet many take its complex underlying structure for granted. While waste from residents, public agencies, and institutional entities is collected by the Department of Sanitation (DSNY), the collection of waste from all commercial users, from bodegas to office towers, is collected by private carting companies licensed by the Business Integrity Commission (BIC). While the system is highly competitive, with over two hundred of private carters licensed to negotiate directly with customers, there have been questions raised about how the system operates.

Concerns regarding the current system cut across many areas, including routing efficiency, environmental impacts, labor practices, safety standards, and transparency and equity in pricing.

City objectives have deemed the need to reconsider alternatives to the status quo. The OneNYC plan aims to eliminate waste diversion to landfills by 2030, a 90 percent reduction based on 2005 levels.[1] This ambitious goal will require one of the most significant shifts in garbage policy that New York has ever seen, and requires serious consideration of market-reformation strategies, including the implementation of a possible zone-based commercial waste collection system. Beyond environmental objectives, a growing focus on equity considerations also requires a re-examination of labor practices within the private waste industry, and cost of services to customers, many of which are small businesses. And with the implementation of the Vision Zero Action Plan, the City has made the prevention of traffic incidents a key priority.

In order to inform this process, the City has commissioned a Private Carting Study, which includes the market analysis, cost assessment, benchmarking study, and cost impact study contained within this report. The market analysis assesses the private carting industry in terms of the external market it serves and its internal, operational characteristics. The cost assessment examines the industry's customer rates and cost structure, along with customer experience of, and satisfaction, with the present system. The benchmarking study examines the evolution of commercial waste market systems in other major U.S. cities that have implemented zone-based franchising models, including rate impacts. The cost impact study estimates, at a high level, net potential cost impacts to customers, along with potential aggregate impacts to the private carting industry.

1.2 PREVIOUS STUDIES

In recent years, a number of studies have been conducted assessing various aspects of the commercial waste system in New York City. This includes analyses commissioned by the City, as well as those carried out independently by outside organizations. Preceding the analysis for this private carting study, the most relevant of these studies were reviewed by the project team in order to establish context and understand the conclusions and recommendations borne out from these prior analyses. Detailed summaries of each of these studies can be found in Appendix A, and include:

- PricewaterhouseCoopers (2008). *Study of Price Regulation of New York City Commercial Waste Hauling.* An overview and analysis of the private carting industry which estimates the impacts of a potential rent cap increase.
- NYC Department of Sanitation (2012). *New York City Commercial Solid Waste Study and Analysis – Summary Report.* Study provides an overview of the behavior of commercial waste generators and private carters.
- M.J. Bradley & Associates (2013). *New York City Commercial Refuse Truck Age-out Analysis.* An analysis of the costs and air quality benefits of setting 'age-out' provisions for the commercial carting fleet for hauling commercial waste, recyclables, and construction and demolition debris in New York City.
- Transform Don't Trash NYC (2015). *Not at your service – a look at how New York City's commercial waste system is failing its small customers.* Based on a survey with customers, the study provides an overview of how small customers fare in the current system and refers to case studies of other cities to advocate for an exclusive collection zone-based system.
- Transform Don't Trash NYC (2015). *Dirty, Wasteful & Unsustainable – the urgent need to reform New York City's commercial waste system.* Study summarizes previous research on the current state of the commercial industry and advocates for an exclusive zone collection system.

SECTION ENDNOTES

[1] The City of New York (2015). OneNYC: The Plan for a Strong and Just City – Vision 3 Zero Waste

2. MARKET ANALYSIS

2.1 KEY TAKEAWAYS

In assessing the current dynamic of the New York City private carting industry, a number of key takeaways emerge, including:

- The industry is predominantly privately-owned with **nearly half of local revenues collected by non-NYC carters**.
- The market is **highly concentrated** and reflects a **'long-tail' dynamic**, with a few carters holding the majority of customer accounts and collecting a significant proportion of local revenues.
- This market concentration exists in every borough, with a few carters collecting 90 percent of the market and **many carters competing for the last 10 percent of the market**.
- While large carters naturally have a widespread geographical reach, **nearly 40 percent of small carters operate in a dispersed manner** by covering three or more boroughs.
- The economics of commercial waste collection requires carters to provide comprehensive services and serve a diverse customer base, with **80 percent of carters providing both putrescible and recycling pick-up services, and 70 percent of carters serving more than five customer types**.
- Carter-customer relationships are generally **direct, informal, and can change often**.
- **Carters operate on very thin margins**, with half reporting an operating loss in 2013.
- The solid waste collection industry in New York City has seen **relatively strong employment and wage growth in recent years**.
- While wages are relatively high at the occupational level, **earnings can vary widely**.

2.2 BACKGROUND

Up until the 1990s, commercial waste in New York City was controlled by organized crime families, who commanded price cartels that drove up the costs of garbage removal. In 1996, Local Law 42 was put in place to restrain the cartel system and regulate the private carting industry. The Trade Waste Commission (renamed in 2002 as the Business Integrity Commission, or BIC) was put in place to oversee the commercial waste industry and determine service rates for putrescible trade waste removal and recyclable material collection.

Today, the commercial waste industry operates in a regulated but competitive market environment. Companies that transport putrescible and recycling waste must be licensed by BIC. Licenses are valid for two years and cost $5,000. In addition, carters pay $500 for each vehicle they operate beyond one truck as well as other fees such as disclosure fees for each principle and key employee to operate in New York City.[1] BIC also enforces recycling, collection, and reporting requirements.

90
CARTERS IN NYC

108K
BUSINESSES IN NYC

2.3 METHODOLOGY

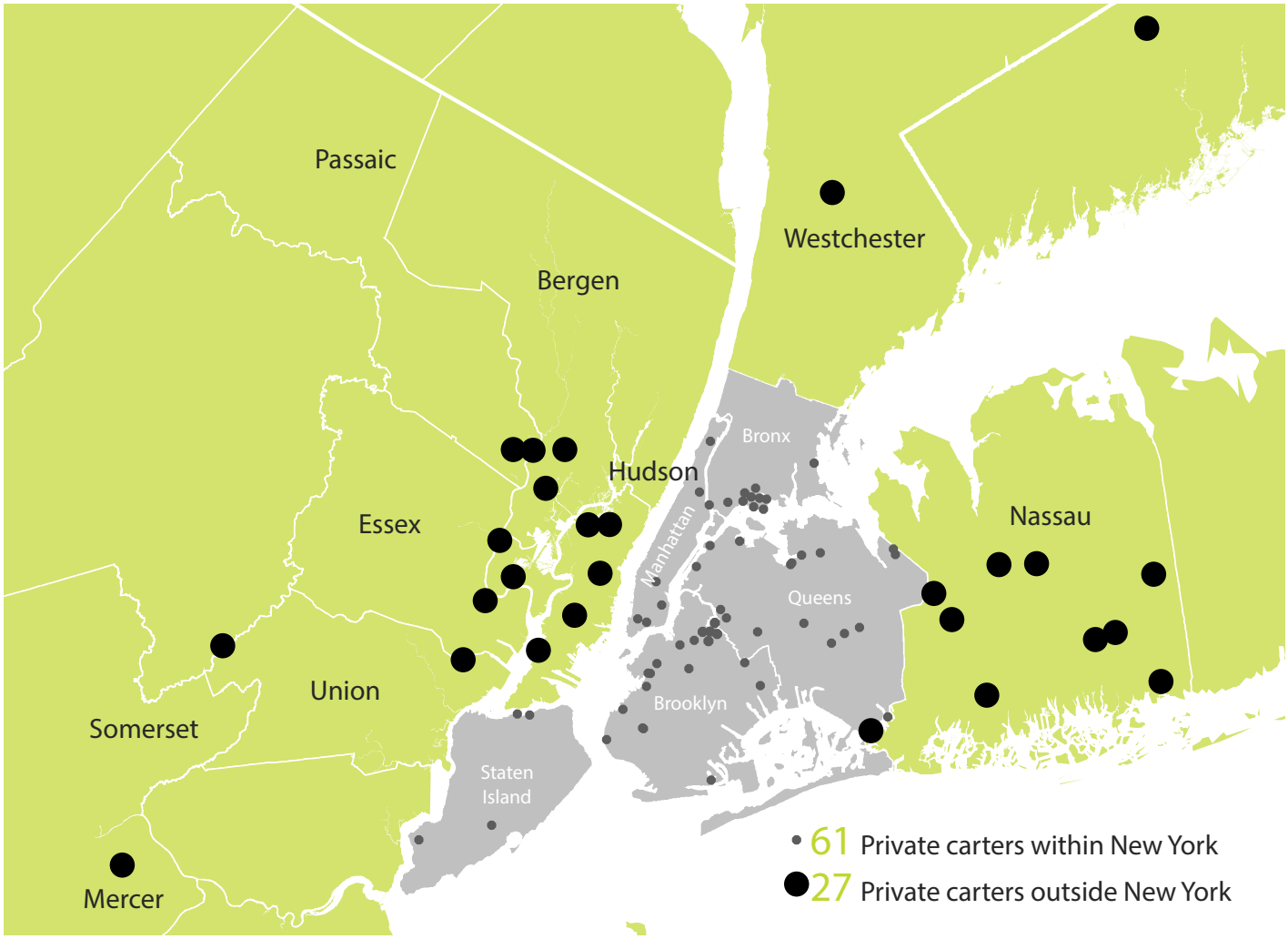
The following market analysis of the private carting industry is based on three primary sources:

- **The BIC Customer Register:** All hauling licensees must maintain a Customer Register that contains a complete and accurate list of all customers served and submit this to BIC on a bi-annual basis. The Customer Register includes a wide range of information on each customer, including type of industry, rates charged, services performed, and amount of waste collected. According to the December 2014 Customer Register, there were 116 carters licensed to pick up commercial waste for 107,800 local customers. Some of these carters specialize in removing unique waste such as medical waste or grease, construction and demolition waste removal, or paper shredding. Other carters offer a one-stop-shop picking up all types of materials. Based on an analysis of the 2014 Customer Register and the carter financial statements, 90 carters actively collect putrescible and/or recycling waste. It is the data of these 90 carters that this report focuses on.
- **Financial Statements:** The 2013 financial statements[2] of the carters, detailing their financial activities and positions, were analyzed. Particularly relevant for this study was information pertaining to operating revenues and costs. Out of the 90 applicable carters identified in the Customer Register, two carters were excluded as their financial statements were not available, and two further carters were excluded as putrescible and recyclable waste collection represent only a small portion of their New York City customers, leaving a total of 86 carters whose financial statements were reviewed.
- **Interviews:** Supplementing the extensive data analyzed, targeted one-on-one interviews were conducted with a cross-section of private carters currently operating in the market, as well as representatives from industry and advocacy organizations. The findings from this outreach process are incorporated in the analysis and provides a useful on-the-ground perspective on the current state of the private hauling market and thoughts on proposed policy changes. Appendix C provides a list of those interviewed and interview scripts.

2.4 INDUSTRY PROFILE

The industry segment that is the principal focus of this study is comprised of 90 companies licensed by the Business Integrity Commission (BIC) to collect putrescible and/or recyclable waste generated from approximately 107,800 customers in New York City – office buildings, retail establishments, restaurants, hotels, factories, distribution centers, etc.

FIGURE 1
LOCATION OF NYC CARTERS BY PRIMARY BUSINESS ADDRESS
SOURCE: BIC FINANCIAL STATEMENTS, 2013



HALF OF COMMERCIAL WASTE REVENUES GENERATED IN NYC GOES TO NON-NYC CARTERS

As shown in **Figure 1**, 61 of these companies, or 68 percent, are based in New York City – 6 in Manhattan, 11 in the Bronx, 22 in Brooklyn, 18 in Queens and 4 on Staten Island. The remaining 32 percent of companies are based outside NYC, including 15 in New Jersey, 9 on Long Island, 1 in Westchester and 2 outside the New York City metro area. However, in terms of total operating revenues, 49 percent of the nearly $500 million generated in the New York City market is collected by these non-local carters.

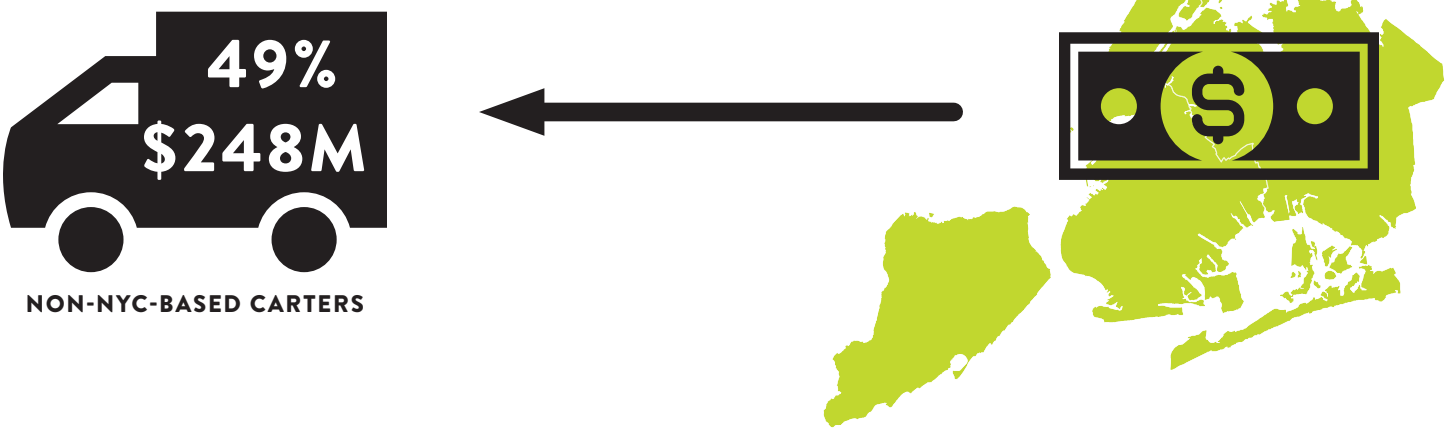
A PREDOMINANTLY PRIVATELY-OWNED INDUSTRY

The carting companies that are the subject of this study are overwhelmingly privately-owned. The largest in terms of total revenues, Action Environmental, is owned by a combination of private equity firms and individual owner-investors. The second-largest, IESI New York, is a subsidiary of an Ontario-based company, Progressive Waste Solutions Ltd, that operates in six Canadian provinces and fourteen U.S. states.[3]

The next eight largest carters are all family-owned. The remaining 78 firms are generally either family-owned, owned by two or a few partners, or by a single individual.

FIGURE 2
NYC OPERATING REVENUE COLLECTED BY NON-NYC-BASED CARTERS
SOURCE: BIC FINANCIAL STATEMENTS, 2013

$500 MILLION
TOTAL REVENUE

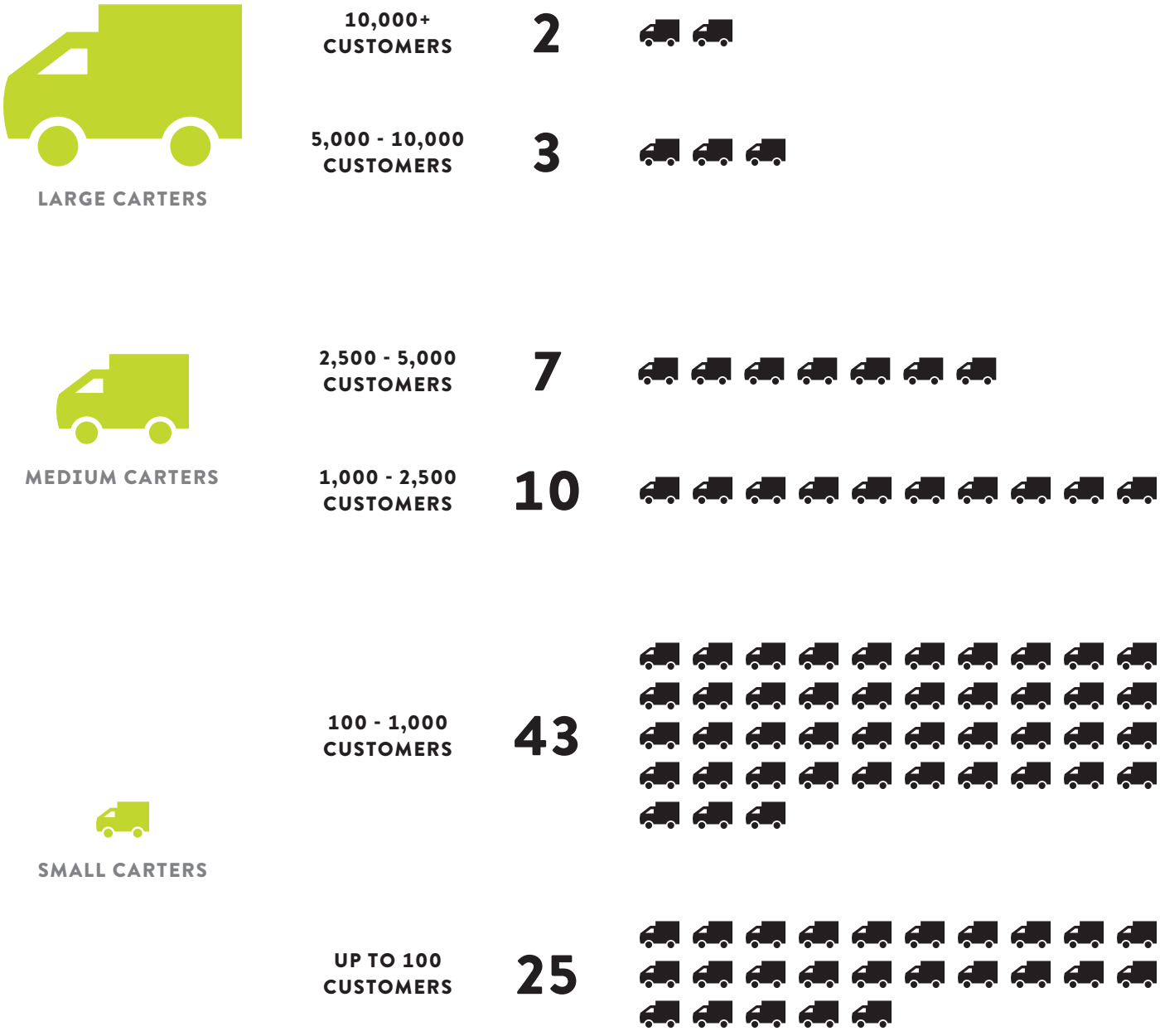


2.5 SIZE AND MARKET SHARE

A FEW LARGE CARTERS DOMINATE THE MARKET

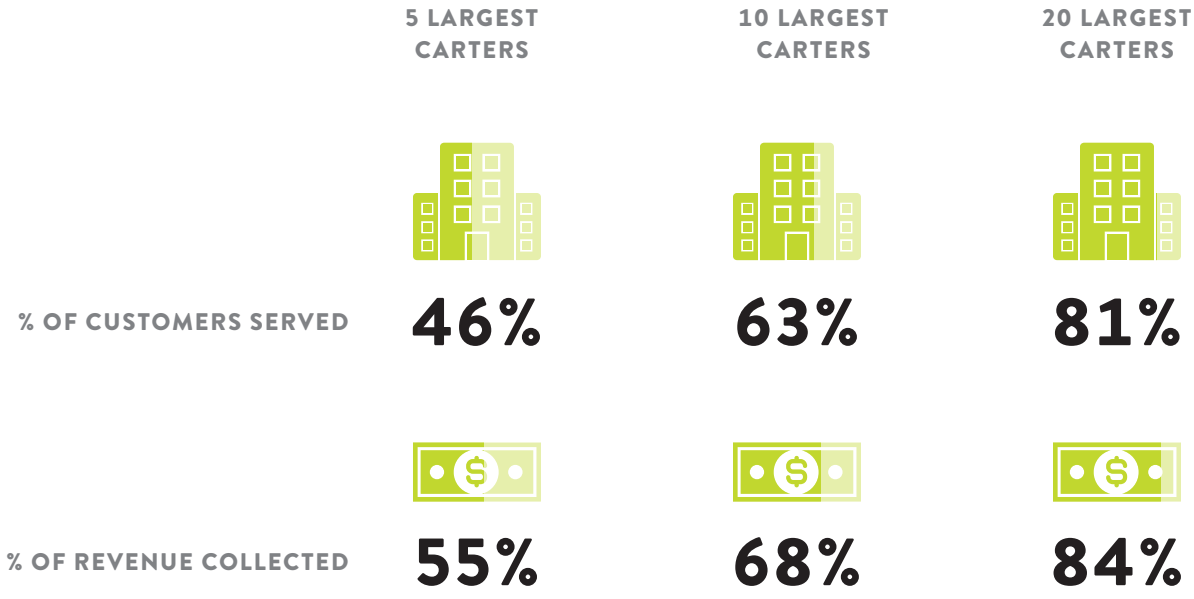
The private carting market in New York City is a highly concentrated one, with a few carters holding a significant proportion of the customer base, while the vast majority operates with relatively few customers. As shown in **Figure 3**, only five carters serve more than 5,000 customers, while more than three-quarters of the carters serve less than 1,000 customers (which equates to less than one percent of total NYC customers).

FIGURE 3
CARTER COUNT BY CUSTOMERS SERVED
SOURCE: BIC CUSTOMER REGISTER, 2014



Examining the market share breakdown of the largest carters further confirms this dynamic. As shown in **Figure 4**, the five largest carters serve nearly half the city's customers, while the 20 largest carters serve more than 80 percent of the customer base. This market concentration is even more pronounced in terms of revenue collected, with the five largest carters collecting 55 percent of total market revenue.

FIGURE 4
MARKET SHARE OF THE LARGEST CARTERS
SOURCE: BIC CUSTOMER REGISTER, 2014



This trend has become more pronounced in recent years, as the market share of the ten largest carters increased from 48% in 2012 to 63% in 2014.[4] This is likely due to a number of factors, including tighter operating margins, a drive to increase efficiencies of scale within the system, and the changing regulatory environment. Furthermore, those within the industry indicate that a focus on increasing market share has become a priority for a number of carters in recent years. At the other end of the market, clear trends also emerge with the smaller carters, primarily a high churn rate. Nearly a third of these small carters have been in business for less than five years, while no mid or large sized carter has been in business for that short of a period. In fact, 91 percent of medium and large carters have been in operation for more than ten years. With a low barrier to entry, smaller carters tend to enter the market with relative ease, but a number of these carters find it difficult to operate on tightening profit margins, or choose to eventually sell their business to a larger private carter.

FINANCIAL STATEMENTS CONFIRM INDUSTRY'S 'LONG TAIL' DYNAMIC

As **Figure 5** shows, a few large carters account for nearly 70 percent of the industry's revenues. However, like some other industries that at first glance might seem to be highly concentrated, private carting in New York City is also characterized (as shown in **Figure 6**) by a "long tail" distribution of revenues, in which a few large carters dominate the market but at the same time coexist with a much larger number of small-scale operators. The ten largest carters generated $344 million in New York City revenues in 2013, the next ten largest $73 million, and the remaining 56 approximately $82 million.

This pattern is fairly common in industries in which size confers significant advantages, but in which barriers to entry are nevertheless low. As many participants in the City's commercial waste market can attest, it has been relatively easy for aspiring entrepreneurs (for example, workers with several years' experience as drivers for a large or mid-sized carting company) to buy a truck, go through the BIC licensing process and start offering their services to customers, including those with whom they already have a connection.

FIGURE 5
INDUSTRY CONCENTRATION, MEASURED BY PERCENT OF NYC OPERATING REVENUE
SOURCE: BIC FINANCIAL STATEMENTS, 2013

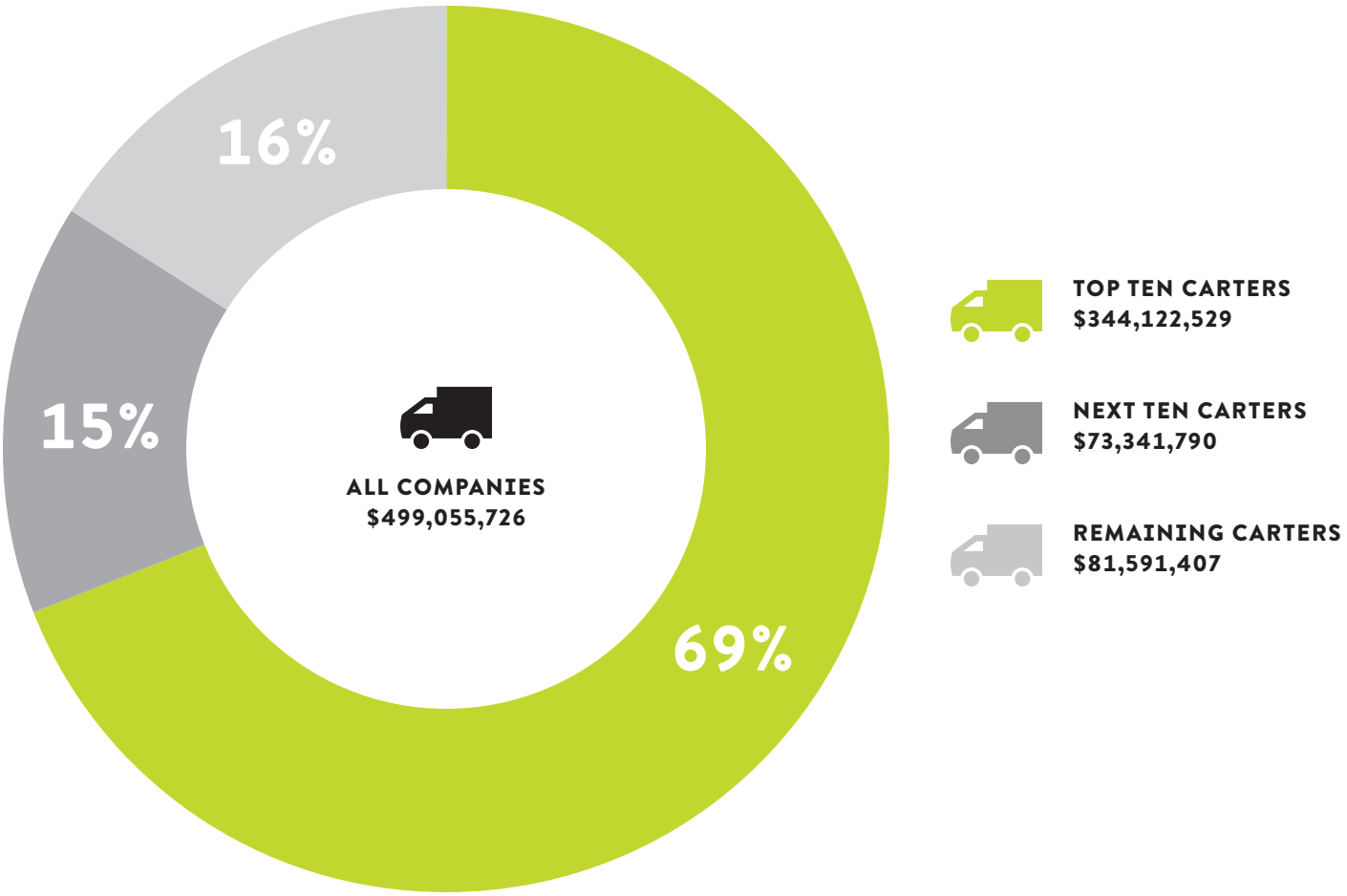
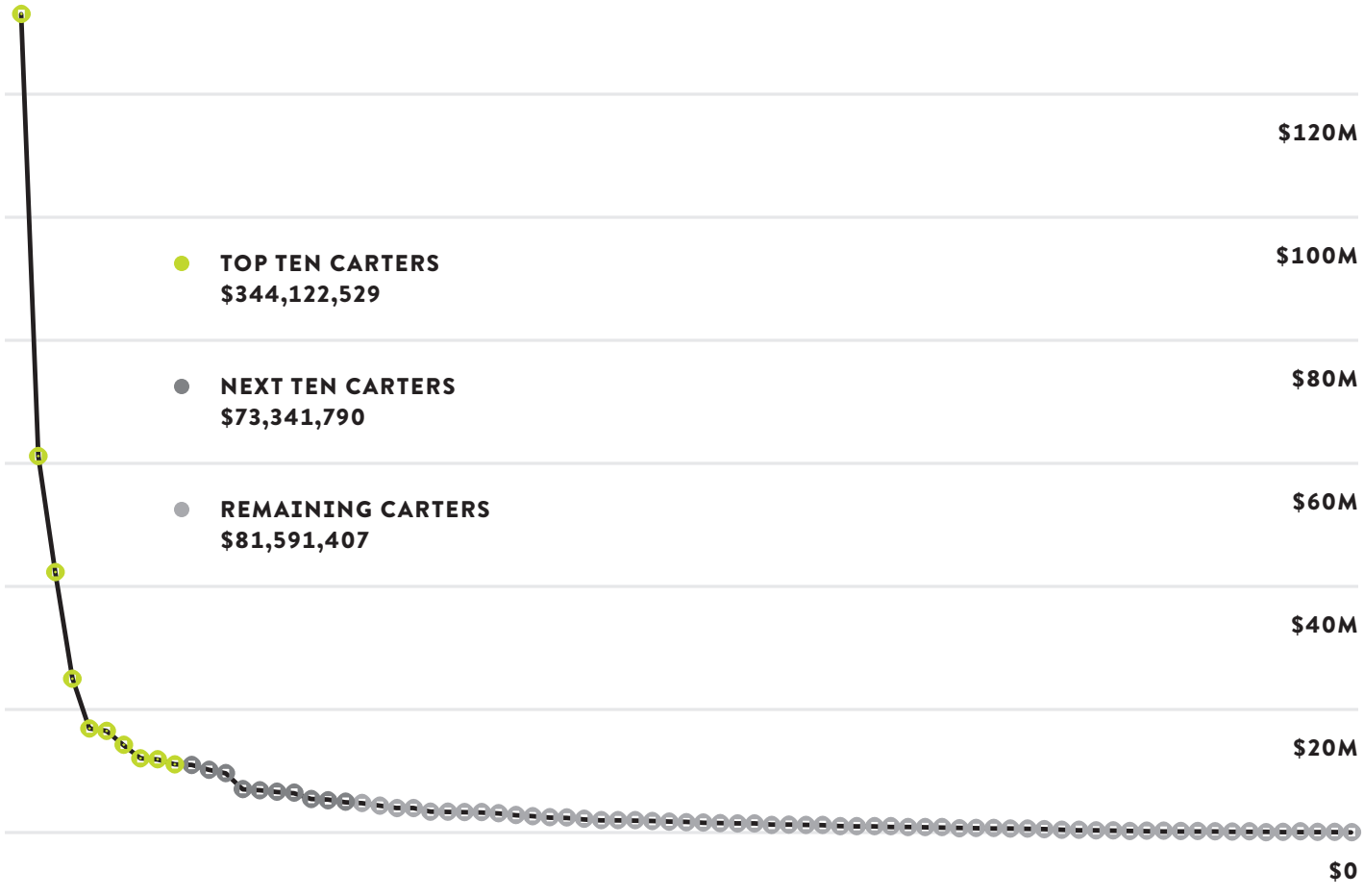


FIGURE 6
"LONG TAIL" DISTRIBUTION OF CARTERS' NYC OPERATING REVENUES
SOURCE: BIC FINANCIAL STATEMENTS, 2013



MANY CARTERS COMPETE FOR THE LAST 10% OF THE MARKET

What emerges as a result of this market fragmentation is that many carters compete for the last 10 percent of the market. To illustrate this point, **Figure 7 and Figure 8** shows the total number of carters that operate in each borough as well as the number of carters that collect waste from 90 percent of the customers in each borough. In every borough across the city, the vast majority of carters are serving a small proportion of the customer base, highlighting potential inefficiencies that can emerge from an open permit system. For example, 63 carters actively operate in Manhattan, the most of any borough in the city. However, 90 percent of the customer base in the borough is served by 22 carters, with the remaining 41 carters operating for the last 10 percent of the market.

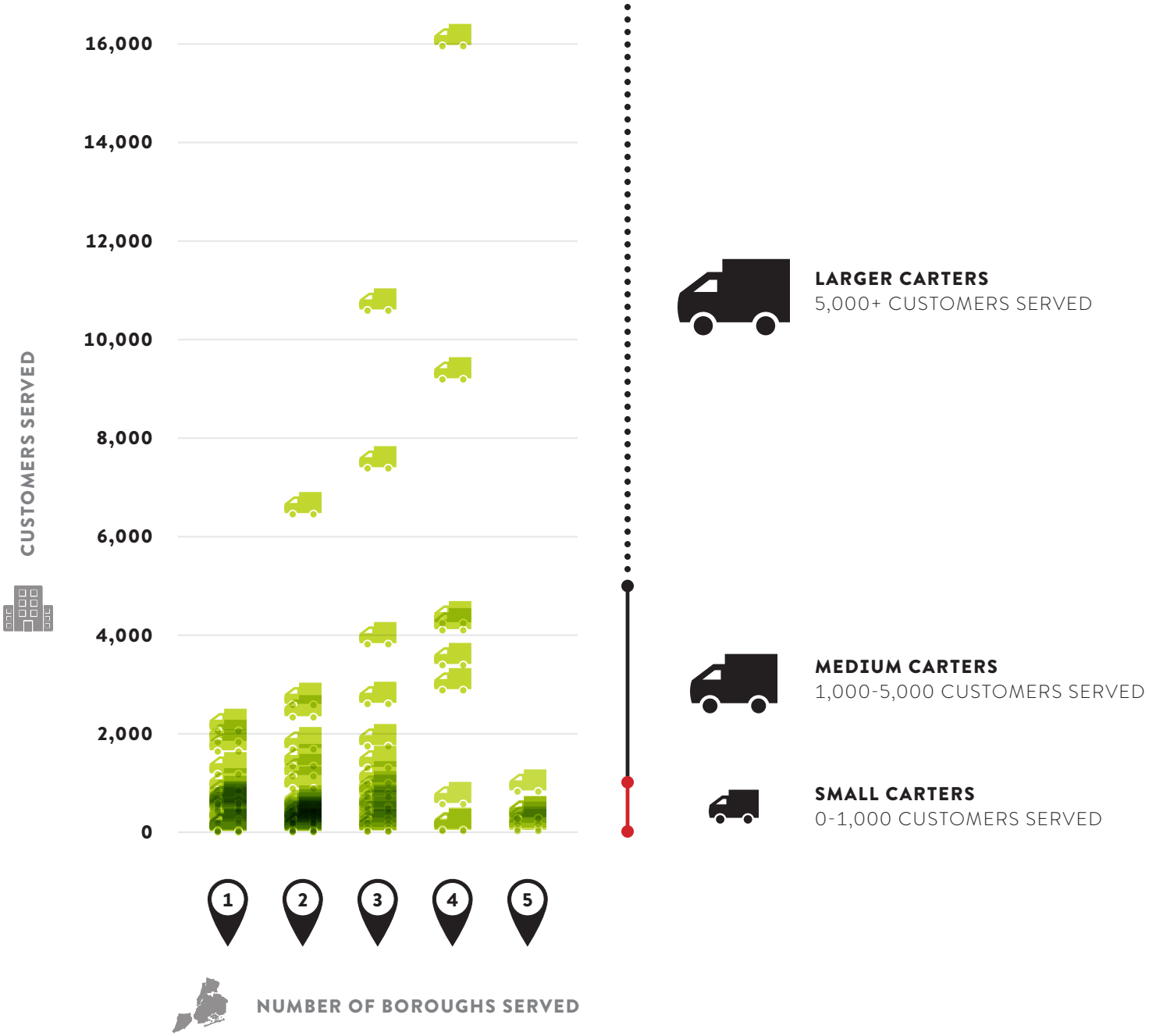
FIGURE 7
NUMBER OF CUSTOMERS AND NUMBER OF CARTERS OPERATING IN EACH BOROUGH
SOURCE: BIC CUSTOMER REGISTER, 2014

FIGURE 8
NUMBER OF CARTERS OPERATING AND CARTERS SERVING 90% OF CUSTOMERS IN EACH BOROUGH
SOURCE: BIC CUSTOMER REGISTER, 2014

LARGE CARTERS NATURALLY HAVE WIDE GEOGRAPHICAL REACH, WHILE A NUMBER OF SMALL CARTERS OPERATE IN A DISPERSED MANNER

In the private hauling market, one metric for operational efficiency is the geographical dispersion of a carter's customer base. While a separate task of this study includes an in-depth analysis of the routing and collection patterns in the market, **Figure 9** charts the information from the Customer Register to demonstrate, at a high level, the geographical operations of private carters in New York City. The collection patterns of some carters naturally reflect their respective customer base – with the largest carters typically operating in 2 to 4 boroughs. However, 38 percent of small carters serve three boroughs or more, reflecting potential inefficiencies in the operation of these carters (see **Figure 10**).

FIGURE 9
NUMBER OF BOROUGHS SERVED BY CARTER SIZE
SOURCE: BIC CUSTOMER REGISTER, 2014



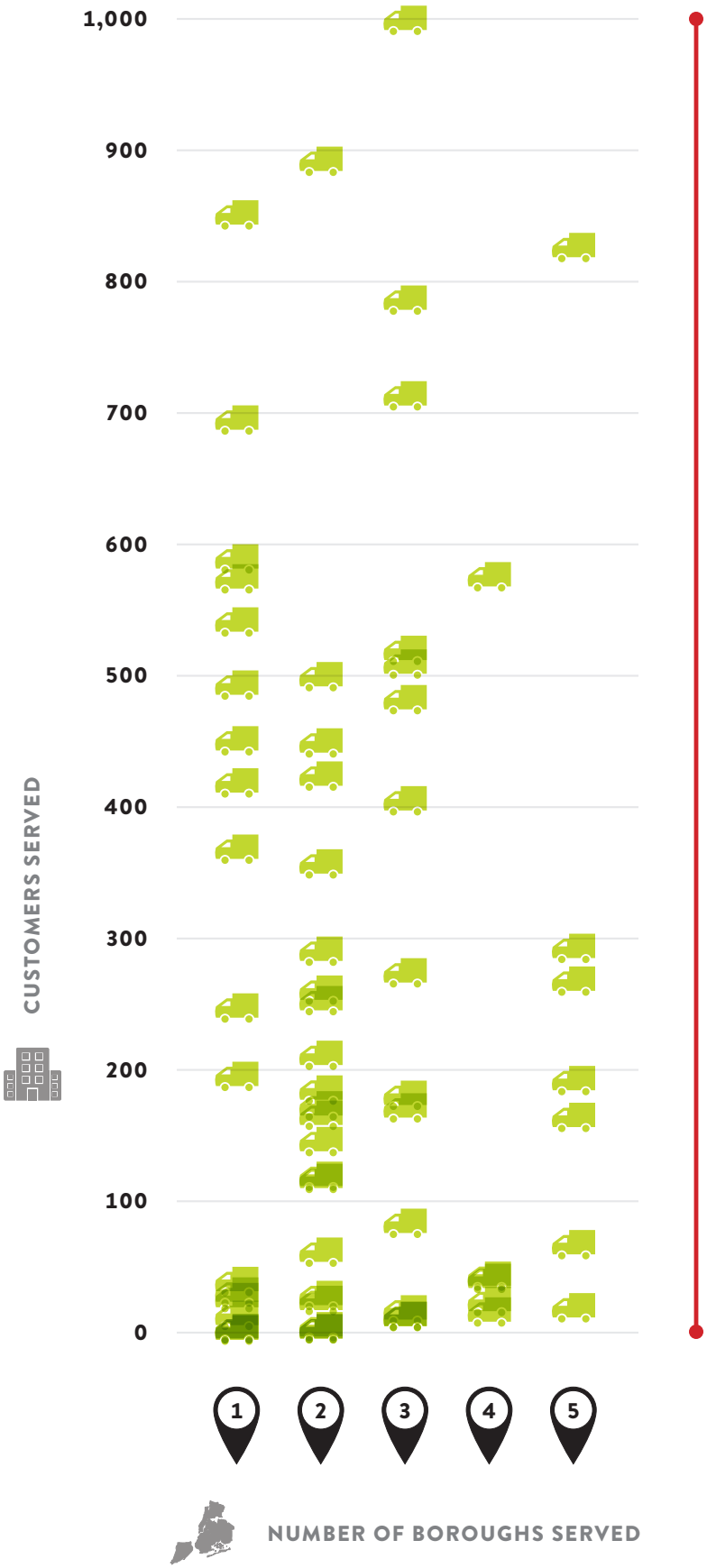


FIGURE 10
NUMBER OF BOROUGHS SERVED BY SMALL CARTERS
SOURCE: BIC CUSTOMER REGISTER, 2014

SMALL CARTERS
0-1,000 CUSTOMERS SERVED

2.6 SERVICES PROVIDED AND CUSTOMER RELATIONSHIPS

THE ECONOMICS OF COMMERCIAL WASTE COLLECTION REQUIRES COMPREHENSIVE SERVICES AND A DIVERSE CUSTOMER BASE

80 percent of active carters provide both putrescible and recycling pick-up services. The predominance of these cross-stream operations is primarily a result of the economics of collecting waste. With the rate cap in place, which may not reflect the true cost of collection for certain waste types, private carters tend to use an informal cross-subsidization process, with the lower collection costs or higher inherent value associated with certain waste types, such as paper and cardboard, making up for more costly waste types, such as food waste. However, the viability of this model is constantly in flux and has shifted in recent years as the value of recyclable materials has declined, pointing to instability in relying on such an approach.

The 20 percent of carters that specialize in either putrescible or recycling exclusively also operate under business models that attempt to make the industry's thin margins work. Carters with a customer base that receive purely putrescible waste service all have other income streams such as medical waste, shredding, or other specialized services[5]. Carters that provide only recycling pick-up do so with very low stated rates or for free, and make a profit through re-selling their collected materials to recycling facilities.

FIGURE 11
CARTERS BY SERVICES PROVIDED
SOURCE: BIC CUSTOMER REGISTER, 2014

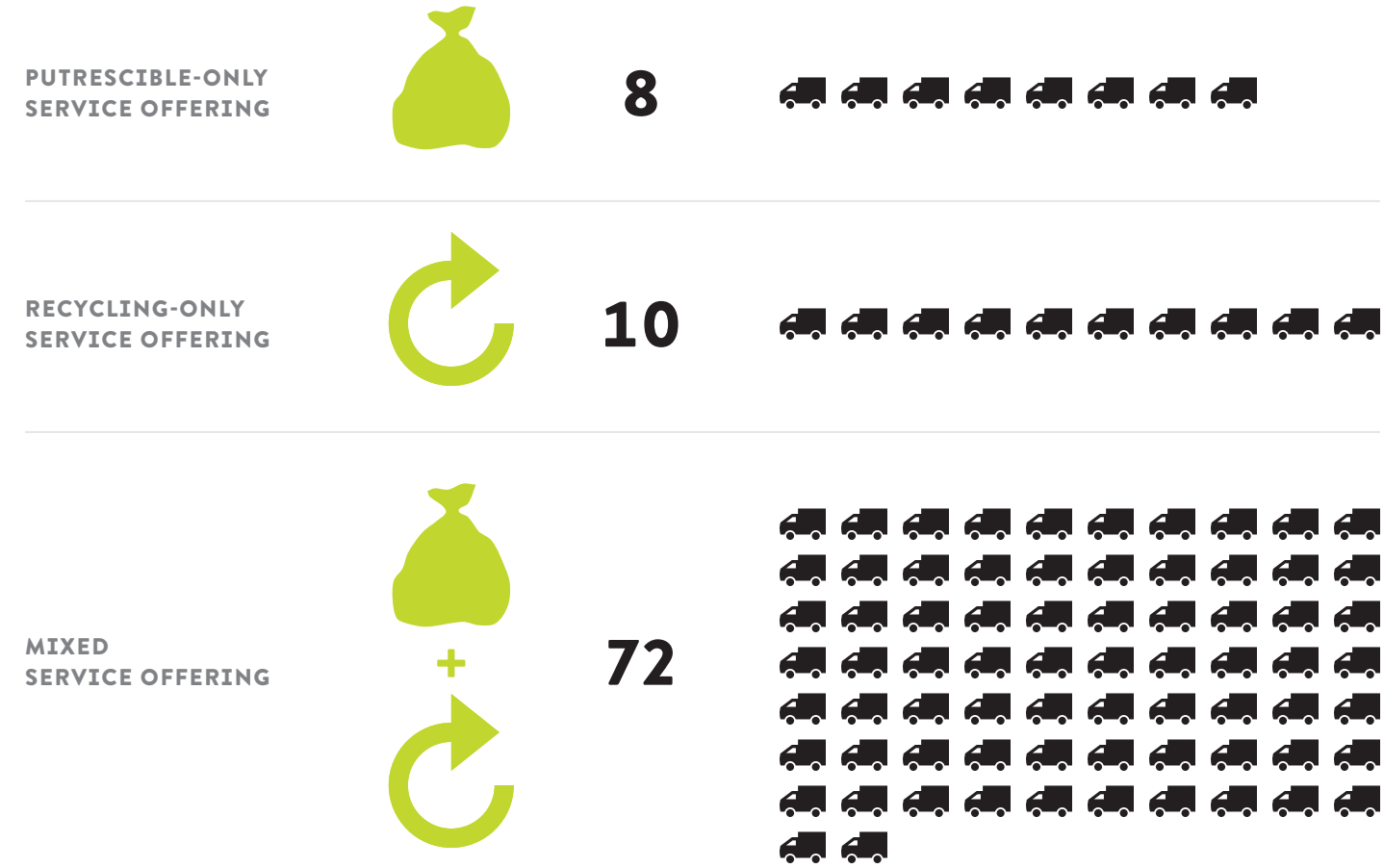
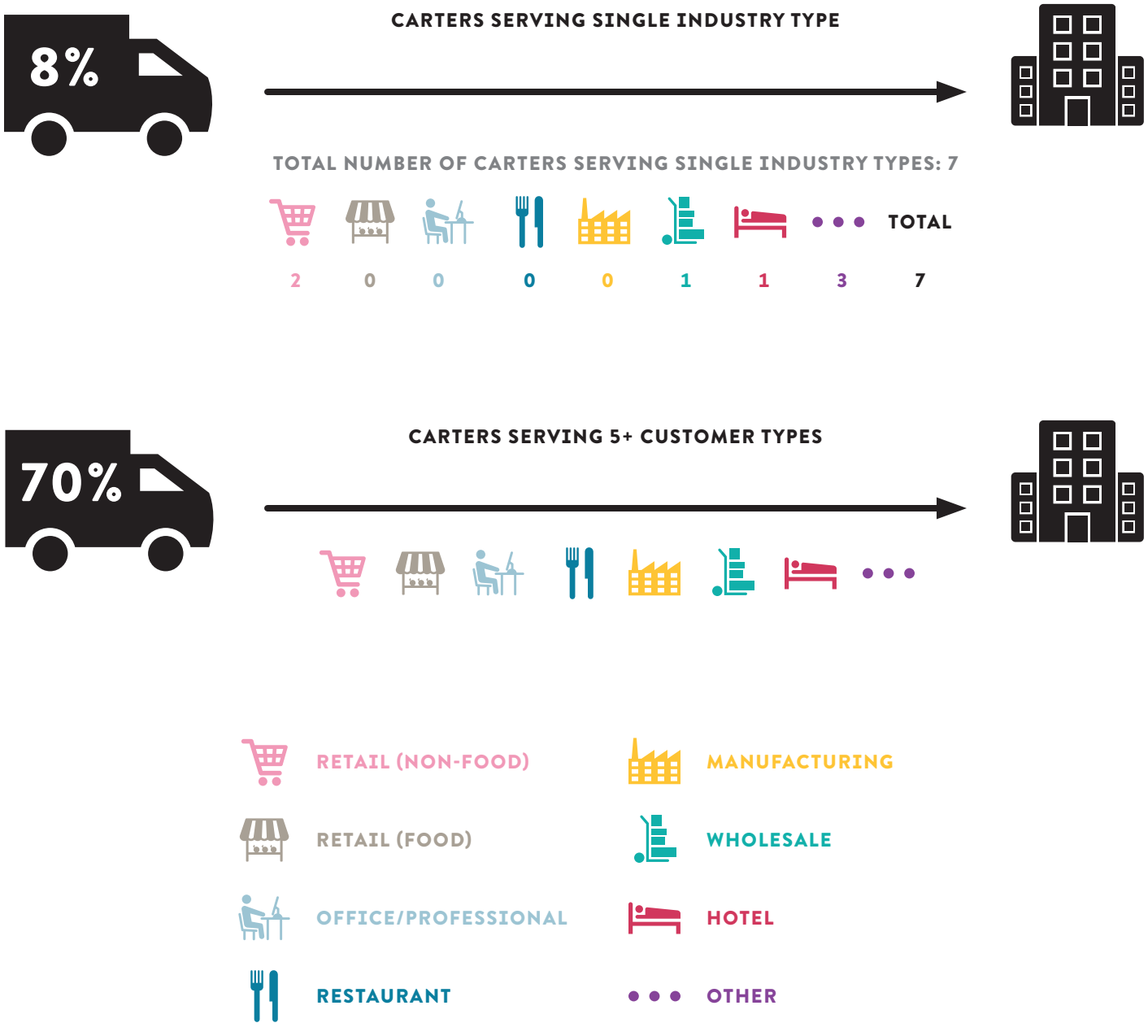


Figure 12 outlines the number of carters who specialize in each business type, as categorized by the Customer Register. Further indicating the simultaneous pressures to increase market share and minimize operational costs through a cross-subsidization approach, only 8 percent of carters specialize in one customer type, and 70 percent serve more than five customer types. From the carters' perspective, a wide-ranging customer base allows them to take on accounts which are more easily available to obtain but costlier to serve, such as restaurants or food retail, which are then offset by accounts that are more profitable to serve but harder to obtain, such as office tenants.

FIGURE 12
CUSTOMER TYPE SPECIALIZATION BY CARTERS
SOURCE: BIC CUSTOMER REGISTER, 2014

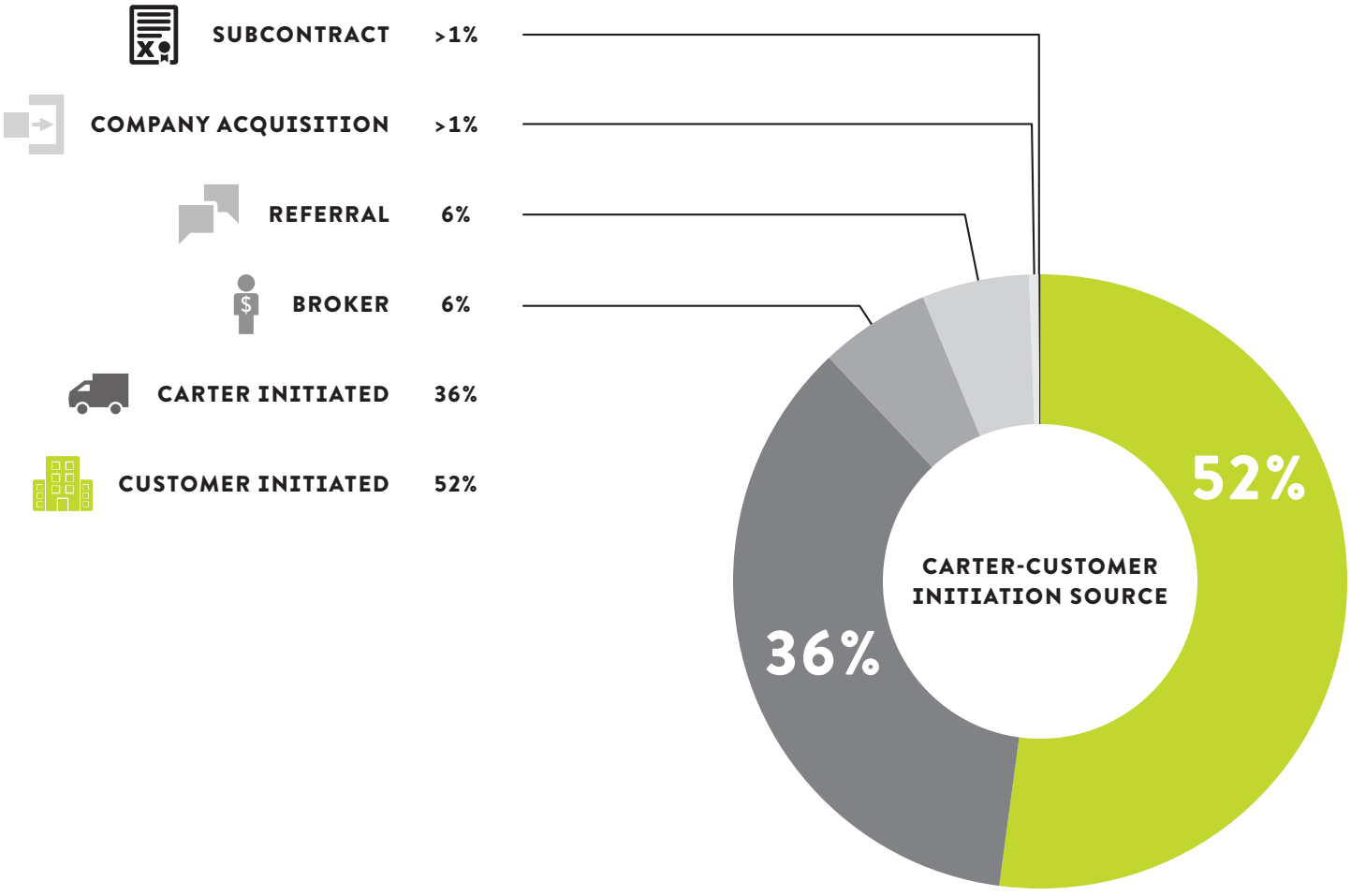


CUSTOMER-CARTER RELATIONSHIPS ARE TYPICALLY DIRECT, INFORMAL, AND ARE FREQUENTLY IN FLUX

In New York City, commercial waste collection service is initiated approximately half the time by the customer and approximately a third of the time by the carter (see **Figure 13**). Brokers, who represent the customer, have a relatively marginal and declining role in the market, which as of 2014, was associated with 6 percent of accounts. Brokers are most often used by large, national chain companies looking to consolidate their search for waste services in an efficient and cost-effective manner.

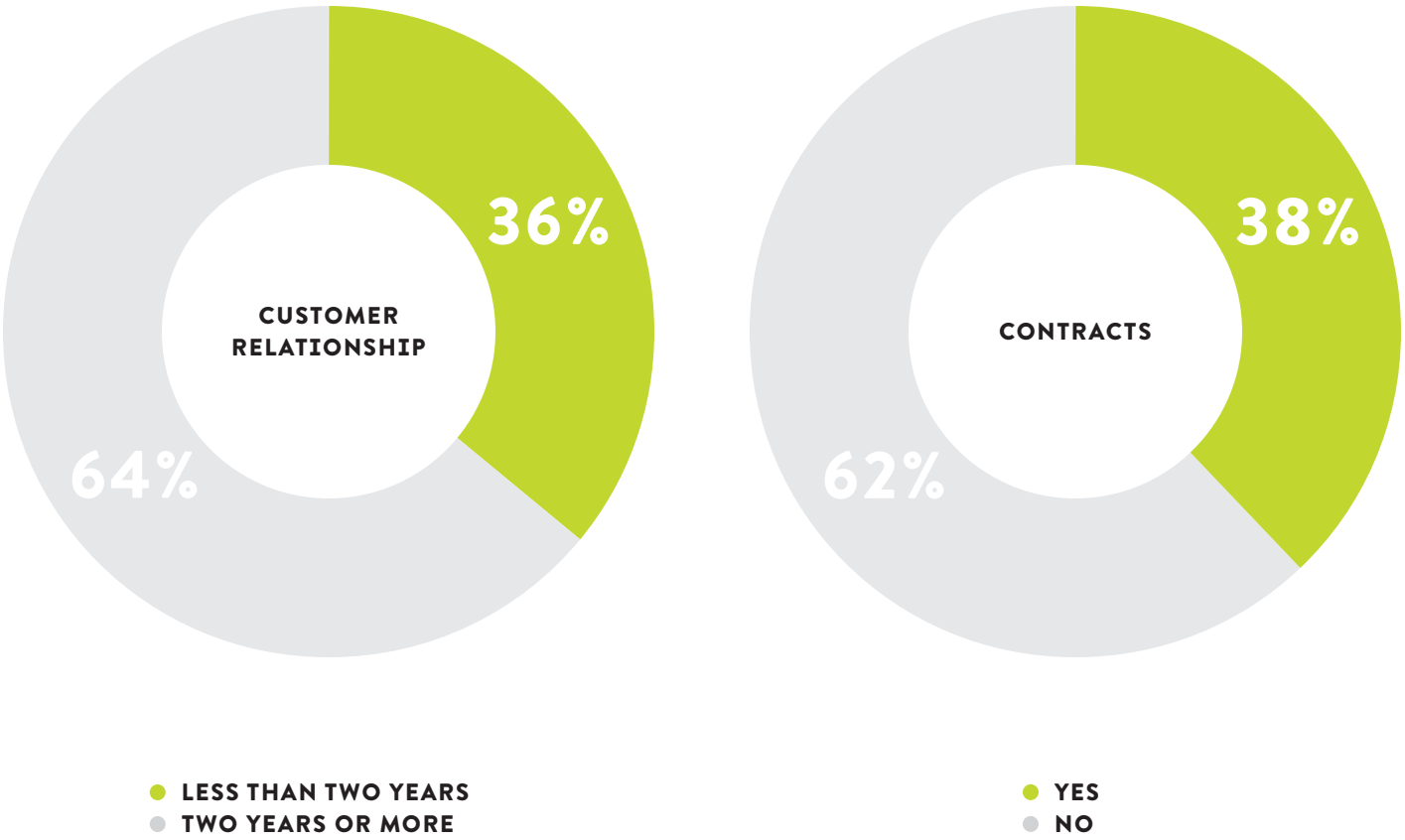
Sub-contracting, where carters receive BIC approval to service another carter's customer, makes up a very small proportion of accounts (approximately 0.07 percent)[6]. Carters have argued that allowing for more sub-contracting in the market would be the most efficient method to reduce truck miles traveled within the current system.

FIGURE 13
CARTER-CUSTOMER INITIATION SOURCE
SOURCE: BIC CUSTOMER REGISTER, 2014



As shown in **Figure 14**, 62 percent of customers do not have a written contract with their carter, a number that has not significantly changed in recent years.[7] While benefits of the predominantly informal nature of the market includes flexibility for carters to adjust pricing and customers to change carters as needed, it also leads to uncertainty on both sides in terms of pricing for the customer and revenue stability for the carter. Certain customer types are likelier to have contracts than others, including heavy-user customers, franchise customers, and food retailers. BIC regulation dictates contracts to have term lengths not exceeding two years.[8] Approximately two-thirds of customers have been with their carter for more than two years, while the other third has been with the carter for less than two years.

FIGURE 14
LENGTH OF CUSTOMER RELATIONSHIP AND PERCENTAGE OF FORMAL CONTRACTS (SOURCE: BIC CUSTOMER REGISTER, 2014)



2.7 FINANCIAL POSITION

PUTRESCIBLE WASTE CONSTITUTES THE VAST MAJORITY OF OPERATING REVENUES IN THE MARKET

According to financial reports that licensed carters are required to submit to BIC, in 2013[9] the combined revenues of 86[10] of these 90 companies totaled $632 million, of which $499 million was derived from their operations in New York City.

According to the financial reports filed with BIC, putrescible waste accounts for 64 percent of the companies' total New York City revenues, paper and cardboard for 4 percent and construction and demolition waste for 19 percent.

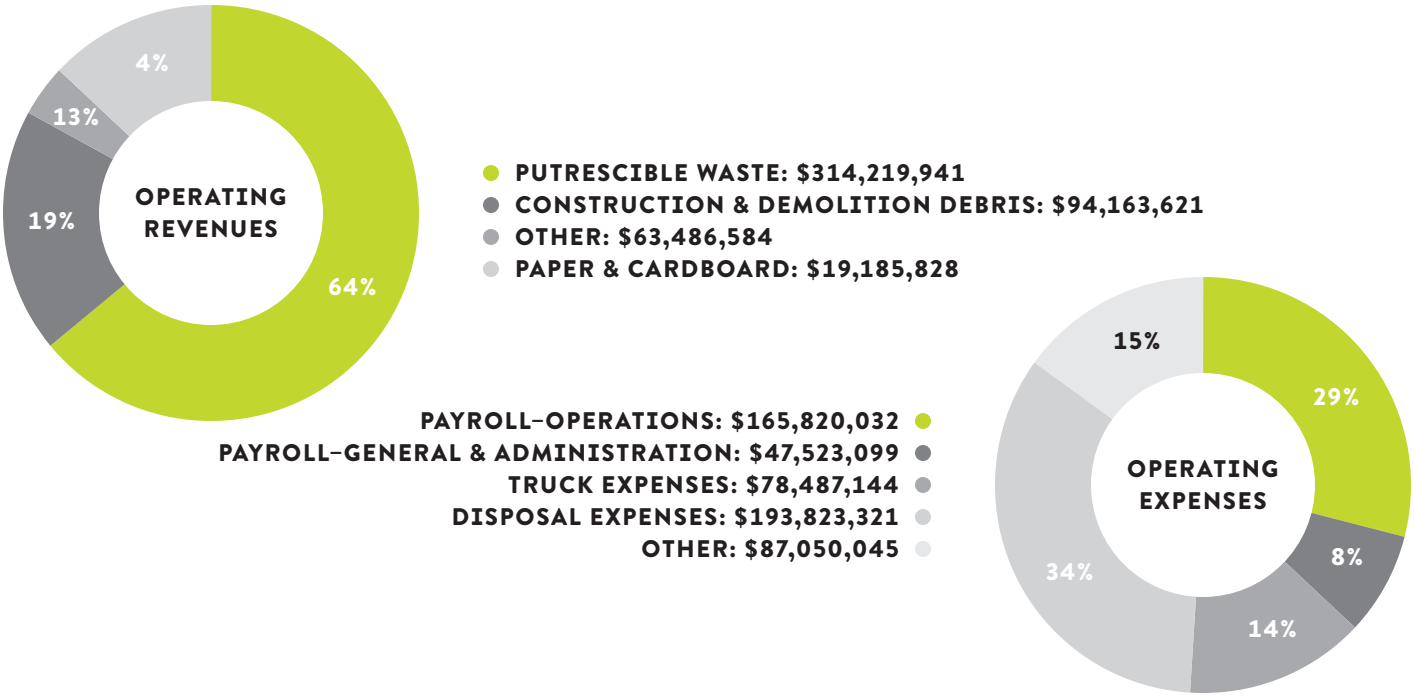
PAYROLL COSTS AND DISPOSAL EXPENSES MAKE UP A SIGNIFICANT PROPORTION OF THE INDUSTRY'S OPERATING EXPENSES

At about $213.3 million in 2013, total payroll costs were the private carters' single largest operating expense, accounting for (as shown in **Figure 15**) about 37 percent of total operating costs. This total includes about $166 million paid to operating employees (drivers, helpers, mechanics, etc.) and nearly $48 million paid to management and administrative staff. Payroll expenses can vary considerably across the industry. Among the ten largest carters, for example, they range from about a quarter of total operating expenses to more than half.

The carters' second-largest expense is waste disposal – the fees that most carters pay to private transfer stations for aggregating the waste they collect, for shipment to disposal sites outside the City. In 2013 disposal expenses totaled $193.8 million – 34 percent of total operating costs. Among the ten largest carters, disposal costs average 39 percent of total operating costs, and range from 32 to 50 percent.

Trucking expenses other than payroll (such as fuel, maintenance, insurance etc) totaled about $78.5 million – 14 percent of all operating costs. Other expenses account for 15 percent.

FIGURE 15
BREAKDOWN OF NYC OPERATING REVENUES AND OPERATING EXPENSES
SOURCE: BIC FINANCIAL STATEMENTS, 2013



THE MARKET OPERATES ON VERY THIN MARGINS

The financial reports that carters submit to BIC include calculations of net operating income and net income before taxes. While the self-reported, unaudited nature of these data means they should be used with some caution, in the aggregate they suggest that private carting in New York City is a low-margin business. As shown below in **Table 1**, of the ten largest firms ranked by total New York City revenues, six reported that their net operating income was negative in 2013; and five reported that they incurred a net loss before taxes. The combined net income of these ten companies incurred a combined net loss before taxes totaling $5,670,792—about 1.65 percent of total operating revenues.

Of the 86 companies included in this analysis, 47 reported that they lost money on operations; and after taking into account income from other sources, 33 reported that their net income before taxes was negative. In the aggregate, net income before taxes for the entire group totaled $17.8 million – 2.82 percent of total operating revenue.

TABLE 1
TEN LARGEST CARTERS RANKED BY NYC REVENUES: NET INCOME, 2013
SOURCE: BIC FINANCIAL STATEMENTS, 2013

RANK	COMPANY	NET OPERATING REVENUE	OTHER REVENUE	NET INC BEFORE TAXES
1	10 Largest Firms	($12,850,747)	$7,725,177	($5,635,482)
2	Remaining Firms	$17,475,342	$30,662,458	$23,455,668
3	TOTAL	**$4,624,595**	**$38,387,635**	**$17,820,186**

2.8 EMPLOYMENT AND WAGES

According to reports filed with BIC, the 90 licensed carters that are the focus of this study employed a total of 3,170 people in 2013. As **Figure 18** shows, drivers accounted for 36 percent of total employment, helpers for 10 percent; company principals for 7 percent, and other employees (including administrative staff, maintenance staff and others) for 47 percent.

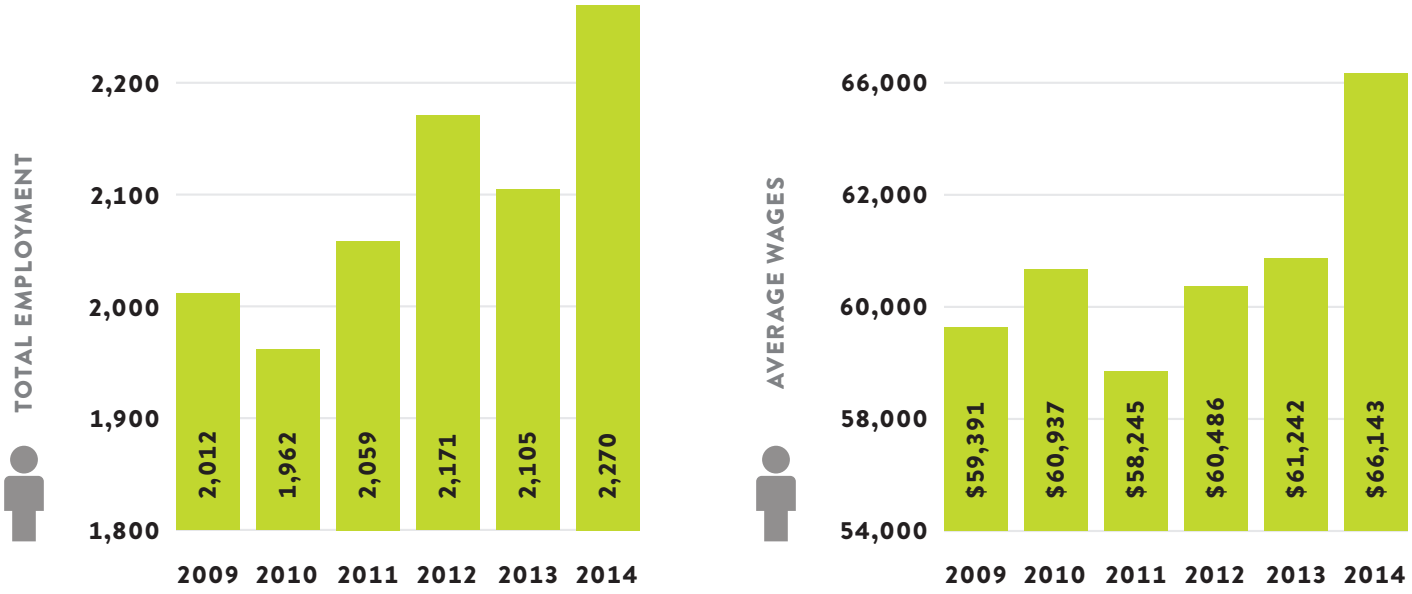
Additional perspective on employment in waste collection can be gleaned from data published by the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW). QCEW data indicates that in 2014, 2,270 people were employed by companies in New York City engaged in "solid waste collection" (NAICS Code 562111). While smaller than the total cited above, it should be noted that the number reported by QCEW represents the number of people employed by solid waste collection customers located in New York City, while the number in the preceding paragraph (3,170) represents people employed companies serving New York City, including those who are employed by companies located in New Jersey, on Long Island and elsewhere. **Table 2** shows how these 126 establishments and 2,270 people fit within the broader category of waste management employment in New York City.

The BLS QCEW data suggest that employment by solid waste collection companies in New York City has been growing. As shown below in **Figure 16**, the number of people employed by these companies grew by approximately 13 percent between 2009 and 2014 – an increase of 258 jobs.

As shown below in **Figure 17**, the average annual wages of these workers increased by 11.4 percent between 2009 and 2014 – an average of about 2.2 percent annually – slightly better than overall wage growth in New York City, and the local industrial sector during the same period.

FIGURE 16
TOTAL NYC EMPLOYMENT IN SOLID WASTE COLLECTION INDUSTRY, 2009-2014
SOURCE: U.S. BUREAU OF LABOR STATISTICS, QUARTERLY CENSUS OF EMPLOYMENT AND WAGES

FIGURE 17
AVERAGE ANNUAL WAGES IN NYC SOLID WASTE COLLECTION INDUSTRY, 2009-2014
SOURCE: U.S. BUREAU OF LABOR STATISTICS, QUARTERLY CENSUS OF EMPLOYMENT AND WAGES



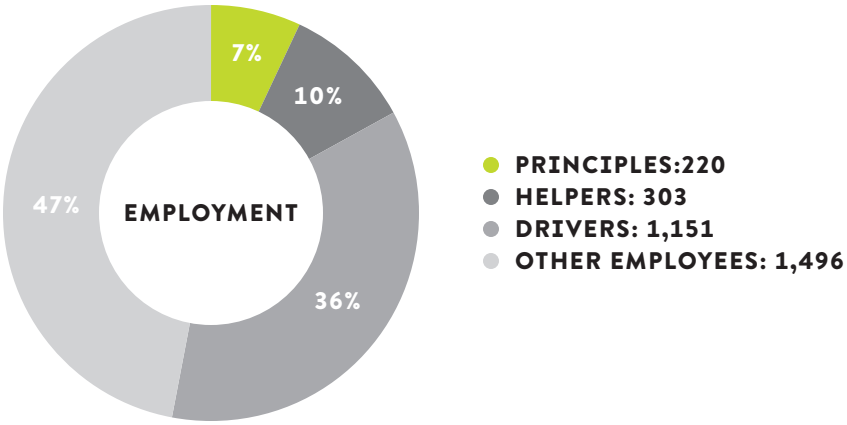


FIGURE 18
BREAKDOWN OF EMPLOYMENT BY POSITION, 2013
SOURCE: 2013 BIC APPLICATIONS OR RENEWAL FORM FILED BY EACH CARTER

TABLE 2
NYC WASTE MANAGEMENT EMPLOYMENT, 2014
SOURCE: U.S. BUREAU OF LABOR STATISTICS, QUARTERLY CENSUS OF EMPLOYMENT AND WAGES, 2014

	ALL EMPLOYEES	ESTABLISHMENTS	TOTAL WAGES (IN $000S)	AVERAGE ANNUAL PAY
562–Waste mgmt & remediation services	7,174	346	$403,001	$56,175
5621–Waste collection	2,243	163	$156,424	$69,739
562111–Solid waste collection	2,270	126	$150,144	$66,143
562112–Hazardous waste collection	0	8	$0	-
562119–Other waste collection	226	30	$14,294	$63,248
5622–Waste treatment & disposal	84	11	$4,263	$50,750
56221–Waste treatment & disposal	84	11	$4,263	$50,750
562211–Hazardous waste treatment & disposal	0	2	$0	-
562212–Solid waste landfill	0	2	$0	-
562219–Other nonhazardous waste disposal	0	7	$0	-
5629–Remediation & other waste services	3,926	173	$195,358	$49,760
56291–Remediation services	2,730	101	$128,498	$47,069
56292–Materials recovery facilities	395	24	$17,338	$43,894
56299–All other waste management services	613	49	$34,028	$55,511
562991–Septic tank & related services	10	9	$332	$33,200
562998–Miscellaneous waste mgmt services	26	40	$1,061	$40,808

In assessing the quality of employment opportunities in the carting industry, it is important to recognize the limitations of both the QCEW data and the data collected by BIC, including:

- The average annual wage figures shown in the QCEW data ($66,143 in 2014) reflect employment across the entire industry segment, including management and administrative personnel. As a result, they may or may not accurately reflect the wages of operating employees – primarily drivers and helpers.
- The BIC data put the number of helpers employed by companies collecting putrescible and recyclable waste in New York City at 303 – a figure that implies that the industry employs nearly 4 drivers for every helper, which does not reflect the on-the-ground reality. This tends to support suggestions from a variety of sources that practices such as treating helpers as "casual" employees (that is, day laborers), paying them off the books, or having them informally hired by individual drivers, are widespread.

TABLE 3
WAGES OF REFUSE AND RECYCLABLE MATERIAL COLLECTORS IN NYC, 2014
SOURCE: NEW YORK STATE DEPARTMENT OF LABOR, OCCUPATIONAL EMPLOYMENT STATISTICS

SOC	OCCUPATION	JOBS	ANNUAL WAGES			
			AVERAGE	MEDIAN	ENTRY	EXPERIENCED
53-7081	REFUSE & RECYCLABLE MATERIAL COLLECTORS	6,610	$60,820	$67,330	$41,430	$70,520

New York State Labor Department (NYSDOL) and BLS data on employment and wages by occupation provide some further insight into the number of people employed in solid waste collection, and what they earn. Data published by NYSDOL indicate that in 2014, 6,610 workers were employed in New York City as "refuse and recyclable material collectors" (OES Code 53-7081), with median annual earnings of $67,330.

Because many of the carters serving New York City customers are based elsewhere in the region, region-wide occupational data are also relevant. BLS regional data indicate that in 2014 11,090 workers were employed in the New York-Northern New Jersey-Long Island area as refuse and recyclable material collectors, with median annual earnings of $57,440. Within this occupational group, however, earnings can vary widely. According to NYSDOL data **(Table 3),** annual wages for entry-level refuse and recyclable material collectors in New York City average $41,430; and for experienced workers in this group, $70,520. At the regional level BLS provides annual wage data by percentile, which shows an even greater spread. As shown below in **Table 4**, refuse and recyclable material collectors at the 10th percentile of annual wages were paid $30,900, while those at the 90th percentile were paid $75,440.

Some of the variations in wages shown in **Table 4** may reflect geographic variations within the region; but they may also reflect differences between union and non-union wages. International Brotherhood of Teamsters District 16 estimates that:

- Employees of about one-third of all private carters in serving New York City are represented by the teamsters or other AFL-CIO unions;
- Employees of another one-third of all carters serving the City are represented by independent unions not affiliated with the AFL-CIO; and
- The remaining one-third of all carters serving the City are non-union.

TABLE 4
WAGES OF REFUSE AND RECYCLABLE MATERIAL COLLECTORS IN THE NYC-NORTHERN NJ-LI AREA, 2014
SOURCE: U.S. BUREAU OF LABOR STATISTICS, OCCUPATIONAL EMPLOYMENT STATISTICS

SOC	OCCUPATION	JOBS	ANNUAL WAGE PERCENTILES				
			10TH	25TH	MEDIAN	75TH	90TH
53-7081	REFUSE & RECYCLABLES COLLECTORS	11,090	$30,900	$39,840	$57,440	$69,800	$75,440

According to data provided by District 16, a current contract between one of the City's largest private carters and Teamsters Local 813 provides starting hourly wages of $23.00 for packer drivers, $24.00 for roll-on/roll-off drivers, and $16.00 for helpers, with annual increases of 2.75 percent. Drivers and helpers are also paid time-and-a-half for any hours beyond 40 per week; and double-time for any hours worked between Saturday evening and Sunday morning.

Based on the contract terms cited above, we can estimate that:

- A packer driver with five years' experience who is employed full-time and works 400 hours of overtime would earn approximately $70,500.
- A helper with five years' experience, employed full-time and working 400 hours of overtime would earn about $49,100.

2.9 THREE TYPICAL CARTERS

As part of this study, targeted one-on-one interviews were conducted with a number of private carters currently operating in the market. These interviews included the largest carters currently operating in the market, as they represent a significant proportion of the market share, along with a cross-section of randomly-selected medium and small carters. Through the information gleaned from these discussions, along with the quantitative analysis presented in the preceding section of this report, a clear typology of carters emerged. The following characterizes, at a high level, the three broad types of carters found in the New York City commercial waste market as categorized by their respective size: the large carter (Carter L), the mid-sized carter (Carter M), and the small carter (Carter S).

CARTER L: THE LARGE PRIVATE CARTING CARTER

Carter L is a private-equity firm that entered New York City's commercial waste market at the end of the 1990s, and provides hauling services for a number of other major cities across the country. Besides waste collection, Carter L also owns a transfer station and a recycling facility in the New York City market. In the local market, Carter L has approximately 10,000 customers and operates across four boroughs. The majority of its customers are customers that, on average, generate $300 – 400 of revenue per month. The company has around 80-120 trucks and 200-300 helpers and drivers, all of them unionized, but not necessarily with the same union. Carter L pays its drivers an entry level salary of around $22-25/hour and its helpers an entry level salary of $16-18/hour, plus benefits such as health insurance and a 401K. Annual direct profit margins for its New York City operations are considerably lower than the same margins achieved in other cities.

Carter L has a professional sales team that deals directly with new accounts, most of which are customer-initiated, but in some cases are actively pursued by the carter. Whenever possible, Carter L tries to avoid brokers, but for larger accounts recognizes that a broker may be inevitable. Their rates are highly competitive to the rest of the market, and while there is no set formula, they are roughly established based on the waste survey conducted and the type of customer. Carter L would like to see the rate cap lifted as the value of paper recycling has significantly declined in recent years, thereby preventing its long-used cross-subsidization approach across waste types, further eroding already-thin operating margins. At the same time, they also advocate for a rate minimum, arguing that the consistent entry of many smaller carters looking to build a customer base has created a 'race to the bottom' environment.

Carter L operates a professionally run business and is particularly interested in innovation within the waste collection and processing system, and where it may provide economic or strategic value, invests in new technologies that improve safety standards, operating efficiencies, and the environment. While understanding the rationale for switching to a zone collection system and appreciating the benefits of such a system, Carter L is very concerned about the market uncertainty it has created in the city. While the company is highly optimistic about its chances of winning a zone under a zone collection system, it is also aware that this could open up New York City's commercial waste market to other national players that are currently not operating in the local market. Rather than a zone collection system, Carter L believes that the City's goals can be achieved through more stringent regulations in areas of safety, labor, and diversion.

CARTER M: THE MID-SIZED PRIVATE CARTING CARTER

Carter M is a third-generation family-owned business in New York City that focuses primarily on waste collection, and has minimal alternative revenue streams. It has around 2,000 customers and operates in relatively concentrated areas across three boroughs. The company operates less than 10 trucks with approximately a dozen drivers and helpers, all of them unionized. Entry-level salaries are $20-25/hour for drivers and $15-18/hour for helpers plus standard benefits, such as health insurance and a pension plan. Increasing labor and operating costs make the commercial waste hauling business in New York City increasingly difficult for Carter M.

Carter M has long-standing relationships with many of its customers and is not actively seeking to grow its business as investment costs are high. Carter M does not work with brokers as they erode profit margins. To estimate rates for customers, Carter M uses its truck scales and also conducts physical counts of bags of waste produced. Rates generally reflect cost of service, with a restaurant being charged more than a laundromat for example, but the role of negotiation between customer and carter is still critical in establishing rates. In many cases, Carter M initially quotes the rate cap, but is well aware that with the abundant competition, customers have considerable leverage to negotiate down the quoted rates. Like Carter L, Carter M would like to see the rate cap eliminated, and the introduction of a minimum rate that would prevent some of the intense price competition taking place in the commercial waste market.

To make the economics work, Carter M needs to operate as efficiently as possible. While it reduces costs where possible, it maintains its trucks and invests in safety improvements. Carter M is well aware of NYC Local Law 145 and has made a schedule to replace its fleet by 2020. It has already invested in a number of new trucks and anticipates buying another one each year, but is fearful that these investments will not pay off if the city decides to introduce a zone collection system. It is aware that the industry could improve, but feels that BIC could increase system efficiency through issuing less licenses and improving the process of subcontracting. Carter M does not believe it would survive in a zone collection system because it currently does not have the available capital or operational capacity to serve an entire zone.

CARTER S: THE SMALL PRIVATE CARTING CARTER

Carter S is a family-owned business run by a husband and wife partnership. The company serves around 400 customers across two boroughs with 2-3 trucks, 3-4 drivers, and 3-5 helpers. The husband drives one of the trucks himself and his wife acts as the office manager and bookkeeper. Carter S is struggling financially, as labor, insurance, and dumping costs have increased rapidly in recent years. As such, Carter S is unable to pay its workers competitive wages or provide benefits, which limits its ability to attract the skilled drivers and helpers Carter L and Carter M are able to hire. Its workers are not unionized.

To attract customers, Carter S hands out business cards and offers competitive rates, often undercutting the rate that the customer is currently paying. Carter S has a personal relationship with many of its customers, and does not work with brokers as they typically represent larger customers.

Carter S tries to grow its business along existing routes, but is always open to taking on customers outside its this geography in order to maintain a reasonable customer base. Carter S therefore operates less efficiently than Carter M or Carter L. Carter S does not have the financial means to invest in new equipment. It bought an additional truck last year, but one that is not meeting the EPA 2007 particulate matter standards. Given the market realities, Carter S would prefer to sell its business but its value on the market is low and with zones looming over the market, there are few prospective buyers. Carter S is opposed to the idea of a zone collection system as it is aware that chances are small its business would survive.

2.10 THE CARTER'S PERSPECTIVE ON ZONE-BASED COLLECTION

The perspective from active private carters on implementing a zone-based collection system within the commercial waste market is relatively clear and unequivocal in being opposed to such a system, at least conceptually. The following summarizes their main arguments on why such a system could be detrimental or unnecessary[11]:

- **Franchising means a loss of jobs and customers.** The introduction of zones would lead to many smaller, family-owned carters going out of business. While some jobs could potentially be transferred, there will be a net job loss in the industry.
- **New York City is unique and cannot be compared with other cities.** The type and density of customers in New York City means that customers such as large office towers and small restaurants that are on the same block will always have different level of service requirements, and creates challenges in implementing route efficiencies.
- **Customer choice would be constrained and service would suffer.** Customers would no longer be free to choose their carter and would be restricted in the type and/or frequency of service they receive. Many customers have direct, personal relationships with their carter that have developed over many years and can obtain highly tailored services for their specific business and its needs. Carters operating with a guaranteed customer base would not be interested in providing the best customer service.
- **The market is already consolidating.** Carters anticipate the market to consolidate naturally, especially by 2020, as many carters will be unable to invest in new trucks that meet the EPA 2007 particulate matter standards. BIC could accelerate the consolidation process by setting higher regulatory requirements for those seeking operating licenses, such as higher insurance requirements, increasing labor standards, more stringent safety regulations, and disallowing cash payments.
- **Current inefficiencies can be addressed through BIC regulation.** Besides increasing regulatory requirements for BIC licenses, BIC can mediate current operating inefficiencies through facilitating an easier sub-contracting application process to allow carters to sub-contract some of their customers outside of their geographical focus to other carters.

SECTION ENDNOTES

[1] New York City (2014). New York City Rules & Regulations. Title 17. Business Integrity Commission.

[2] Latest year available at study initiation.

[3] In January 2016 Waste Connections, Inc., a Texas-based waste management firm, announced that it will acquire Progressive Waste Solutions for $2.69 billion in a "tax inversion" transaction in which Waste Connections will shift its headquarters to Ontario and become a Canadian-domiciled company.

[4] NYC Department of Sanitation (2012). New York City Commercial Solid Waste Study and Analysis – Summary Report (p. 20).

[5] Note: customers that receive these types of services have however not been taken into account in the analysis.

[6] A review of the subcontracting in applications for 2014 showed that 27 companies subcontracted a total of 367 accounts (around 0.3% of NYC accounts) suggesting that carters underreported subcontracting in the 2014 Customer Register.

[7] The PricewaterhouseCoopers report Study of Price Regulation of New York City Commercial Waste Hauling for the New York City Economic Development Corporation from 2008 reported a figure of 68 percent.

[8] This includes new customers that just opened their business and customers that went out of business.

[9] The most recent year for which extensive – although not necessarily complete – financial data was available.

[10] Of the 90 companies included in the overall study, two were excluded here because putrescible and recyclable collections represent only a very small portion of their total New York City business, and two because 2013 financial reports were not available.

[11] These do not represent the authors' views and are not necessarily supported or refuted by the analysis conducted as part of this study.

3. COST ASSESSMENT

3.1 KEY TAKEAWAYS

In analyzing the customer rates and level of service in the New York City commercial waste market, a number of key takeaways emerge, including:

- As a result of how carter-customer relationships are initiated and the myriad of factors influencing pricing, **there is no consistent formula and little transparency on how rates are established**.
- Commercial customers in New York City pay an average rate of **$12.68 per cubic yard, approximately 30 percent lower than the rate cap** set by BIC of $18.27 per cubic yard.
- There is **no relationship between the size of the carter and average rates charged**, implying that underlying operational models or cost structures have little influence on prices charged.
- With the exception of Staten Island, **there is little connection between rates and geography**, even though each borough is unique in terms of commercial density, proximity to transfer stations, carters active in the borough, or actual waste produced.
- While there are clear distinctions between industry types in the type and amount of waste produced, there is **minimal correlation between a customer's industry and rates**.
- The size of customers has a significant impact on rates, with **large customers paying on average approximately 38 percent less than small customers**.[1]
- The average rate for recyclables is only 5 percent less than that of putrescible, indicating that the **current market pricing does not reflect actual waste material produced**.

3.2 BACKGROUND

When Local Law 42 came into force in 1996, BIC (known as the Trade Waste Commission at the time) set maximum rates at $14.70 per cubic yard of loose waste and $46.70 per cubic yard of pre-compacted waste. In 1997, rates were lowered to $12.20 and $30.19, respectively. In response to carter concerns about the higher costs of servicing heavy or wet waste[2], the option of a weight-based rate, set at $8.00 per 100 pounds, was introduced in 2003. At the same time, the pre-compacted waste rate was eliminated.[3] Subsequently, the rate caps were adjusted in late 2008 and again in 2013. They are currently at $18.27 per cubic yard and $11.98 per 100 pounds of waste. In February 2016, BIC proposed a rate increase by 3.3 percent to $18.87 per cubic yard and $12.38 per 100 pounds respectively.

3.3 METHODOLOGY

The analysis for this cost of services study is based on data from the 2014 BIC Customer Register and interviews conducted with a sample of customers, covering a cross-section of industry types across all five boroughs.

The 2014 BIC Customer Register contains self-reported data from the private carters (Appendix B provides a detailed summary of how the raw data was processed and analyzed). According to the December 2014 Customer Register, there are approximately 107,800 customers in New York City that receive putrescible and/or recycling services.

Approximately 82 percent of customers were charged by volume (on a per cubic yard basis) and 18 percent of customers were charged by weight (on a per 100 lbs. basis). As the proportion of customers charged by volume constitutes the vast majority of accounts, and in order to streamline the data analysis, this study focuses on these customers.

To supplement the data analysis, interviews were conducted with a range of customers across the city representing a variety of industry types, geographical locations, and customer sizes. In addition to these direct customer interviews, representatives from various industry associations, Business Improvement Districts, and multi-tenant entities (such as a food market or industrial center) were also interviewed (for a detailed list, see Appendix C).

82%
CUSTOMERS

18%
CUSTOMERS

3.4 COST OF SERVICE

NO CONSISTENT FORMULA AND LITTLE TRANSPARENCY ON HOW RATES ARE ESTABLISHED

Both the data and customer outreach reveal a lack of consistency in how rates are established. Without posted rate formulas, customer-initiated service requests require a direct phone call to the carter or a quote request submitted on the carter's web site, making comparison shopping fairly difficult. Additionally, carter-reported data to BIC do not reflect how a rate for a customer was established or pricing differentials between putrescible or recycling.

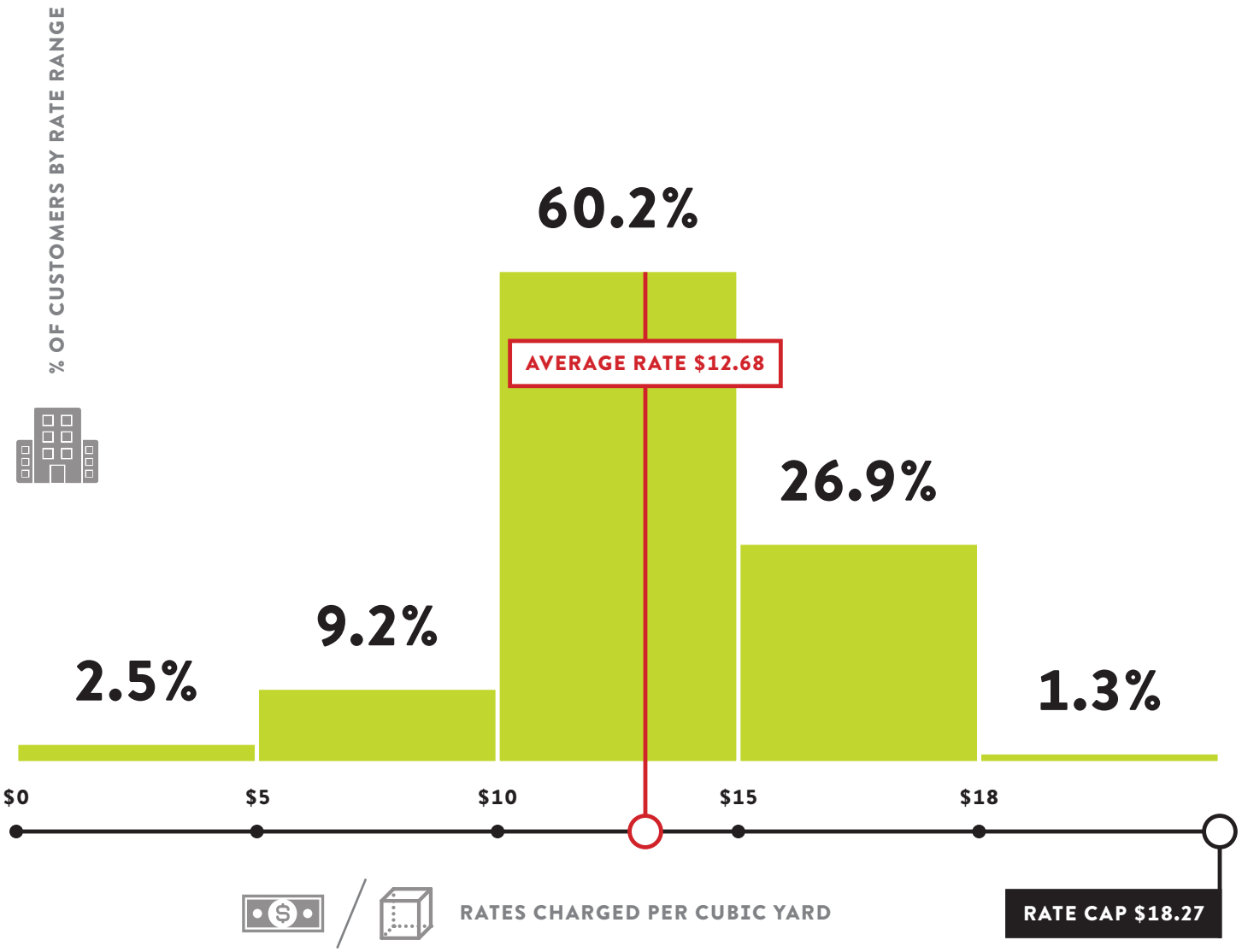
Discussions with carters argue the opaqueness in rate establishment is a result of the wide variety of factors and service options involved in waste collection. While the carter uses its intuitive sense of a customer type's waste production and the results of the waste survey to establish rates, a myriad of possible discounts and mark-ups are applied depending on recycling rate, pick-up frequency, or specialized time-of-day collection. Additionally, a number of indirect factors also play a role, including relationship history or a customer's negotiations skill. As such, customer rates show minimal correlation to standard metrics, such as actual waste produced, type of industry, or service address.

AVERAGE CUSTOMER RATES ARE FAR LOWER THAN THE RATE CAP

The average rate for commercial customers in New York City is $12.68 per cubic yard, approximately 30 percent lower than the rate cap of $18.27 per cubic yard set by BIC. As shown in the distribution breakdown in **Figure 19**, 1.3 percent of customers pay at or near the rate cap (more than $18 per cubic yard), while 60 percent of customers pay between $10.00 and $14.99 per cubic yard and 27 percent of customers pay between $15.00 and $17.99 per cubic yard.

Carters acknowledge and confirm the discrepancy between the maximum allowable rate and the average rate charged, claiming that it is a by-product of a highly competitive market with a focus on protecting or expanding market share. Carters argue that raising the rate cap would allow for certain services to be appropriately priced, and establishing a minimum rate would prevent widespread price cutting.

FIGURE 19
DISTRIBUTION OF COMMERCIAL WASTE COLLECTION RATES
SOURCE: BIC CUSTOMER REGISTER, 2014

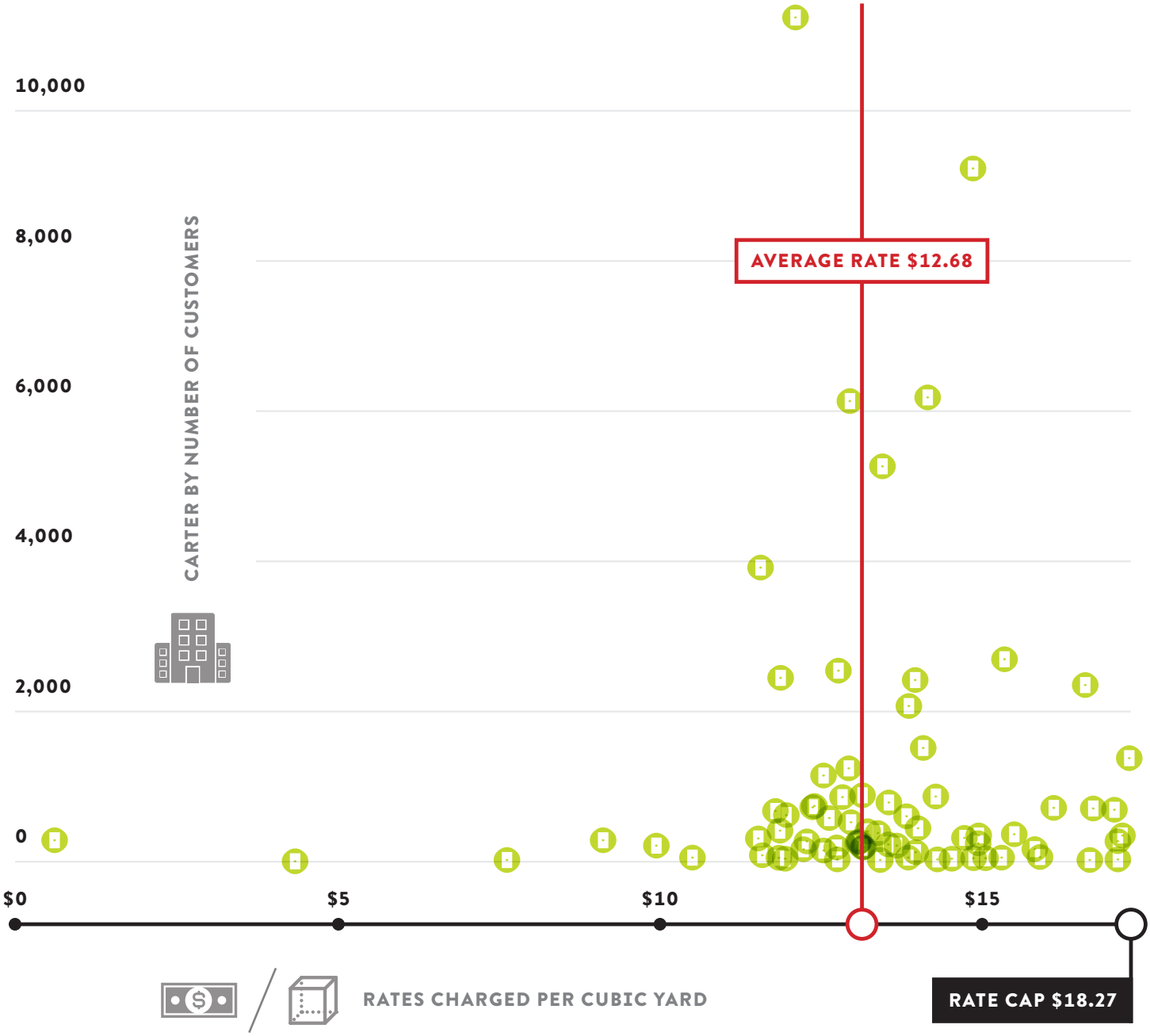


CARTER SIZE HAS MINIMAL IMPACT ON RATES CHARGED

The data analyzed shows no relationship between the size of the carter and the average rates charged. The average rate as shown in **Figure 20** for the 10 largest carters stands at essentially the same rate as the market overall – $12.50 per cubic yard. The average rate for most carters fall between $11.00 and $15.00. This implies that the underlying operational model or cost structure, which can vary widely between large and small carters, has little influence on prices charged to customers.

The two outliers with rates below $5.00 per cubic yard are carters that generate most of their revenue through specialized waste services such as shredding or construction and demolition. These carters operate on a specialized business model with the resale of recyclable materials acting as their primary source of revenue.

FIGURE 20
AVERAGE RATE CHARGED BY SIZE OF CARTER
SOURCE: BIC CUSTOMER REGISTER, 2014

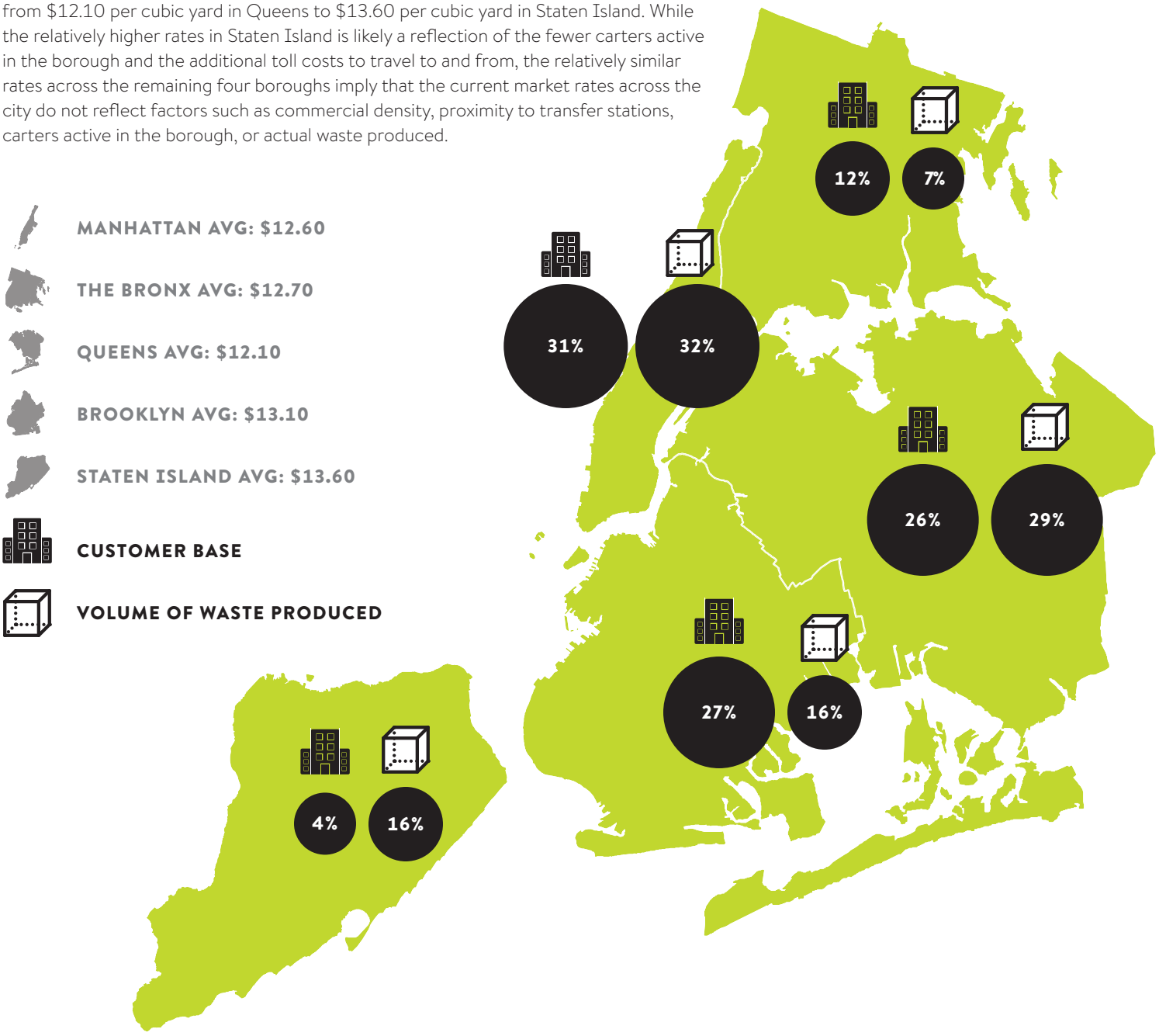


LITTLE CONNECTION BETWEEN GEOGRAPHY AND RATES

Although the boroughs vary dramatically in terms of density, traffic levels, or waste production patterns, there is little connection between geography and rates. Based on the customer inventory in the 2014 BIC Customer Register, Manhattan is the most active borough in commercial waste, with approximately one-third of both the customer base and total volume produced in the city. Brooklyn and Queens each contain approximately one-quarter of the citywide customer base, but produce markedly different amounts of waste, with Brooklyn producing nearly half the volume of waste as Queens. The Bronx holds 12 percent of accounts and produces 7 percent of the city's waste. Staten Island has the fewest share of accounts, at approximately 4 percent, but proportionally produces three times as much waste, constituting 16 percent of the citywide total.

Figure 21 shows average rates paid by customers in each borough, with rates ranging from $12.10 per cubic yard in Queens to $13.60 per cubic yard in Staten Island. While the relatively higher rates in Staten Island is likely a reflection of the fewer carters active in the borough and the additional toll costs to travel to and from, the relatively similar rates across the remaining four boroughs imply that the current market rates across the city do not reflect factors such as commercial density, proximity to transfer stations, carters active in the borough, or actual waste produced.

FIGURE 21
PROPORTION OF CITY-WIDE CUSTOMERS AND WASTE PRODUCED BY BOROUGH
SOURCE: BIC CUSTOMER REGISTER, 2014



INDUSTRY TYPE OF CUSTOMER HAS MINIMAL CORRELATION TO RATES CHARGED

The BIC Customer Register classifies the customer base by 17 different industry categories. **Figure 22** combines these categories into eight broader categories, and provides a proportional breakdown of the customer base by industry. Nearly half of customers are "Non-Food Retail", which includes customers such as hairdressers, dry cleaners, and nail salons. Food-based retail and restaurants, which produces some of the costliest waste in the market to collect, constitute approximately a quarter of customers. Office buildings and professional services make up 13 percent of the market, which often act as a single customer for the waste carter, but represent various tenants in a single building.

Certain customers, such as office buildings, non-food retail and manufacturers, generate high rates of recyclables which, depending on type, are resalable on the market. Other industries, such as food retail, restaurants, and hotels generally produce high amounts of heavy, organic waste, and require more frequent and specialized services. As such, they are considered to be the costliest customers to service from the carter's perspective. To determine whether the type and amount of waste produced by different customers has an impact on rates charged, **Figure 23** shows the average amounts of putrescible and recycling produced for each industry type benchmarked against respective average rates for the sector. While manufacturing and non-food retail currently generate the highest proportions or recyclable materials in the New York City commercial waste market, they are charged at or above food-based customers who produce more putrescible and less recyclables. Office customers, who produce the highest paper and cardboard waste, see only marginally lower rates than customers in other industries.

FIGURE 22
CUSTOMER BASE BY INDUSTRY TYPE
SOURCE: BIC CUSTOMER REGISTER, 2014

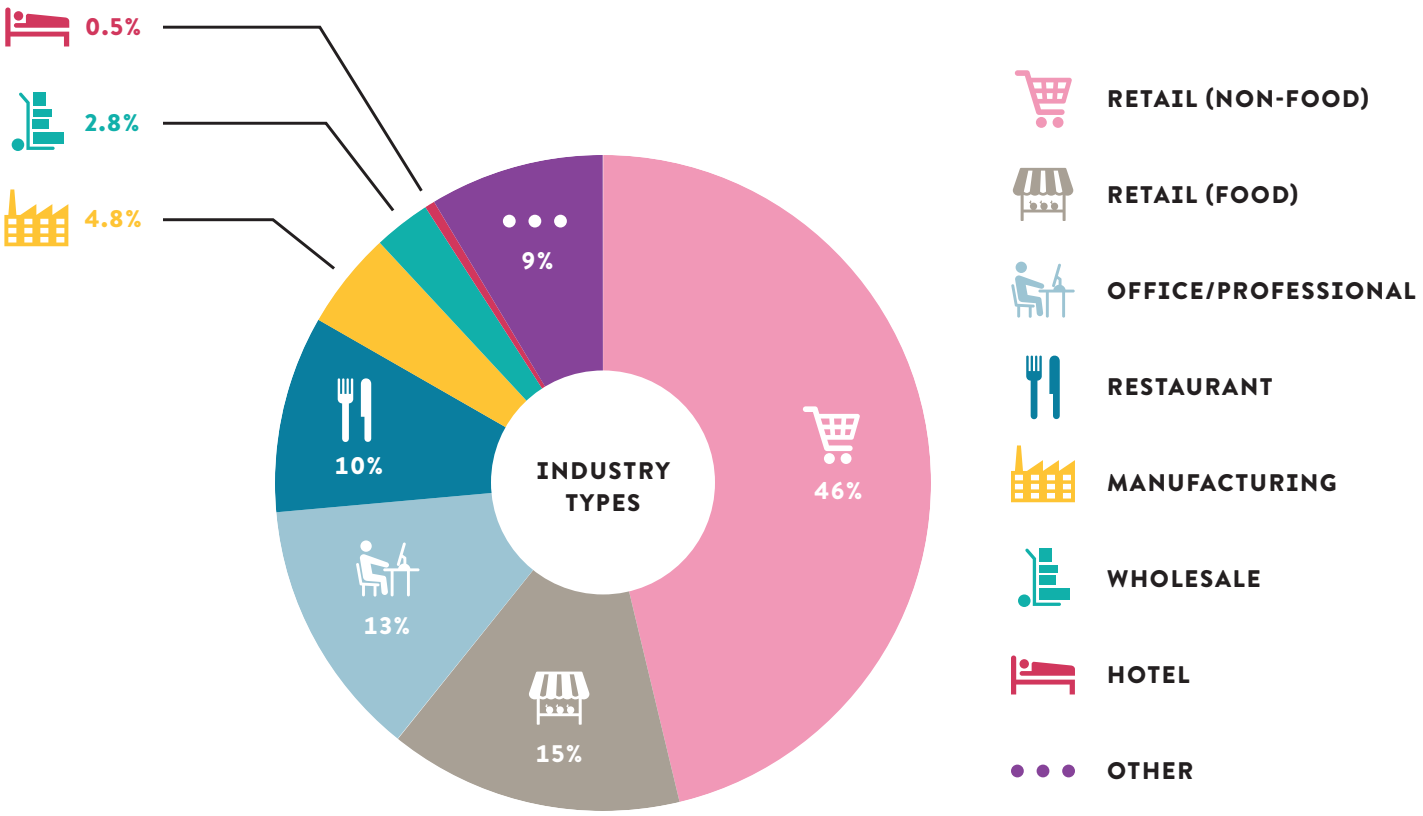


FIGURE 23
AVERAGE MONTHLY WASTE PRODUCED AND RATE PER CUPIC YARD BY INDUSTRY TYPE
SOURCE: BIC CUSTOMER REGISTER, 2014

INDUSTRY TYPE	AVERAGE MONTHLY PUTRESCIBLE WASTE	AVERAGE MONTHLY RECYCLING WASTE	AVERAGE RATE PER CUBIC YARD
RETAIL (NON-FOOD)	18 yd^3	312 yd^3	$12.70
RETAIL (FOOD)	80 yd^3	66 yd^3	$12.70
OFFICE/PROFESSIONAL	20 yd^3	257 yd^3	$12.90
RESTAURANT	70 yd^3	58 yd^3	$12.50
MANUFACTURING	25 yd^3	332 yd^3	$13.20
WHOLESALE	51 yd^3	63 yd^3	$12.40
HOTEL	107 yd^3	74 yd^3	$12.50
OTHER	26 yd^3	646 yd^3	$12.00

RATES CHARGED FOR RECYCLABLES ARE ONLY SLIGHTLY LESS

The data contained with the Customer Register allow for an assessment of the pricing differential between putrescible and recyclables across all accounts, with the expectation that recyclables should be charged at considerably lesser rates due to lower cost of collection, higher resale value, and as a means to incentivize customers to divert accordingly. However, across the commercial waste market, the average rate for recyclables is $12.08 per cubic yard, as compared to $12.77 per cubic yard for putrescible, a differential of only 5 percent, further indicating that customers are not priced according to actual waste material produced.

FIGURE 24
RATES BY MATERIAL
SOURCE: BIC CUSTOMER REGISTER, 2014

FIGURE 25
RATES BY CUSTOMER SIZE
SOURCE: BIC CUSTOMER REGISTER, 2014

$12.77
PER CUBIC YARD

$12.08
PER CUBIC YARD

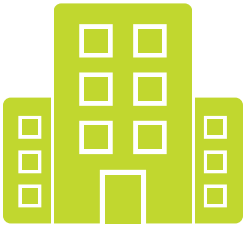
THE SIZE OF CUSTOMERS HAS A SIGNIFICANT IMPACT ON RATES

While size of carter, location of customer, and industry type do not show any correlation to customer rates, the size of customers has a significant impact on rates, as seen in **Figure 25**. Customer size refers to the amount of total waste produced, and for purposes of this assessment, were broadly categorized as "small", "medium", and "large". Small customers were defined as those producing between 0.01 and 8.6 cubic yards of waste per month (the 0 to 50th percentile of customer accounts in terms of volume produced); medium customers as those that produce between 8.61 and 193.6 cubic yards of waste per month (the 50th to 98th of customer accounts), and large customers as those that produce more than 193.6 cubic yards of waste (the top 2 percent of customer accounts).

While small customers pay on average $13.20 per cubic yard, large customers pay on average $9.60 per cubic yard, a differential of 38 percent. While this is partially a result of the higher proportion of recyclable material in the waste streams of large customers, it also reflects the greater ability of larger clients to better negotiate their rates.

SMALL CUSTOMERS
$13.20

MEDIUM CUSTOMERS
$12.20



LARGE CUSTOMERS
$9.60

3.5 CUSTOMER EXPERIENCE AND SATISFACTION

To gain a sense of the customer experience of, and satisfaction with, the present system of commercial carting, 22 interviews were conducted representing 27 customer contracts located in diverse locations throughout the five boroughs (10 Brooklyn, 6 Manhattan, 5 Queens, 3 Bronx, 2 Staten Island). Customers represented five industry types (as defined in the BIC Customer Register): Restaurants, Manufacturing, Office/Professional, Retail (non-food) and Retail (food). In addition, interviews were conducted with representatives of two Business Improvement Districts (in Manhattan and the Bronx) and one city-wide trade association. For a detailed list of customer types and locations interviewed, refer to Appendix C.

RELIABILITY AND FREQUENCY ARE THE TOP CUSTOMER PRIORITIES

As will be described below, customer experience of the commercial carting industry can vary depending on size, location or industry type, however when it comes to business priorities customers have a remarkably unified voice. The top concern for the vast majority of customers is quality of service – as defined by the reliability and frequency of pick up. Cost of service ranks a close second for most customers, and is particularly a concern for smaller customers operating on tight margins and producing proportionally high volumes of waste. While all other factors are rated significantly lower in priority by customers, two bear mention: cleanliness of service, important to larger customers dealing with complex building operations, and environmental management practices (primarily the appropriate and 'honest' disposal of recyclables or compost).

SIZE IS THE DIFFERENTIATOR

Large and small customers – as defined by the amount of waste produced – face a different experience of the commercial carting industry. Large customers understand the free-market structure of the industry well, and leverage the value of their lucrative contracts to gain favorable pricing, high quality customer service and strict operational standards. These customers continuously look to improve operational efficiencies and lower costs in relation to waste management, and often value the relationship with their private carter as a partner in achieving these goals. For this reason, they usually choose larger, well-established carting companies as their providers. At the same time, larger customers also feel well-placed to change carters should they decide to, and use competitive processes to periodically change companies. Handling such huge volumes of waste, large customers face similar logistical and cost challenges across industries; a large-scale office/commercial customer can face many of the same challenges – and leverage many of the same opportunities - as a large retail food business.

In contrast, the experience of smaller customers tends to split along industry lines, with those customers from industries producing proportionally smaller/lighter amounts of waste (for example non-food retail or office/professional) reporting relatively high levels of customer satisfaction, while higher waste-producing industries (restaurant, retail food) describe more significant issues. These latter customers – high-volume, high-cost to carters – are most likely to report problems with quality of service, pricing, and an overall lack of market leverage.

Notably, while some differences in experience deriving from customer geographic location will be highlighted in the analysis below, for the most part relatively similar issues and opportunities are experienced by customers around the city, regardless of locale.

QUALITY OF SERVICE IS RELATIVELY HIGH

When commercial carting service quality is compromised customers report significant disruption to their operations, regardless of scale of business or industry type. With space at a premium in the city, customers throughout the boroughs are seldom able to dedicate excess real estate to waste storage, and therefore frequency and reliability of service is vital: a missed pick up can take up space needed for business-critical daytime operations, or remain out on the street causing complaints from neighbors or fines from the City. Missed pickups also require a business owner or manager to lodge a complaint and arrange a compensatory pick up. A lesser, but not insignificant issue raised by customers relates to the cleanliness of pick up: spills of waste in loading docks or on city sidewalks caused by poor carter operations contribute to degraded sanitary conditions in both private and public spaces.

The majority of customers interviewed, however, report that significant disruptions to their service are relatively rare, and when experienced tend to be quickly remedied by the carter. Also, almost all confirm that they are serviced at a frequency that satisfies their business needs, and report no issues agreeing on service schedule and timing. On the rare occasions that a pick up is missed, customers note that carters are responsive to complaints and quick to remedy the situation. In addition, it appears relatively easy to schedule ad hoc pickups, and carters are generally reported to manage collections in a sanitary fashion. The majority of customers interviewed have long-standing relationships with their carters, in no small part due to this high quality of service and responsiveness to (infrequent) customer complaints.

There were two notable exceptions to the trend of high customer service. First, a number of smaller customers report poor customer service, including frequent missed pickups, poor carter responsiveness to complaints, and lack of compensation for missed service. Since they represent a small amount of business to their carter, such customers feel that they have limited leverage to remedy the situation and little opportunity for redress.

At the other end of the spectrum, one large retail food customer reported customer service issues when trying to increase the frequency of pick up at two busy and heavily space-constrained Manhattan stores. Despite being one of the largest firms doing business in the city, the customer's regular carter would not scale up its service to provide the multiple daily pickups required to keep operations running smoothly at these particular stores. To solve the issue, the customer now employs a separate brokerage firm to service only these two locations. The broker in turn contracts with multiple carters who provide the numerous pickups required to service the stores throughout the day. Although disappointed that they have had to employ a second firm to achieve the necessary service level, the customer appreciates the freedom the current system allows for to do this.

"IF A CARTER MISSES A NIGHT IT IS A VERY SIGNIFICANT ISSUE FOR US. WE NEED THE DOCKS CLEAR BY THE NEXT DAY FOR CLIENT DELIVERIES, AND TO KEEP THE BUILDING RUNNING SMOOTHLY. HAVING LEVERAGE WITH OUR VENDOR NOW FOR GOOD SERVICE IS EXTREMELY IMPORTANT. "
LARGE OFFICE BUILDING, MANHATTAN

GENERAL SATISFACTION WITH PRICING

Customers of all sizes and geographies indicate a general satisfaction with the cost of their commercial carting service. Most customers report that over the last 10+ years rates have remained stable relative to inflation and the general cost of doing business. Those with long-term relationships with the same carter particularly contrast this to the price 'gouging', 'fixing' or 'inflation' reportedly experienced during the organized-crime years. In fact, many smaller customers in non-food retail or commercial office/ professional industries – producing the smallest amount of waste – report that the absolute cost of carting services is so low as to be almost negligible to their bottom line. These stable, low fees likely account in no small part for the majority of customers ranking cost as second in priority to quality of service.

"WE'VE BEEN WITH OUR CARTER FOR 28 YEARS, SINCE BACK WHEN THEY WERE THE ONLY ONE SERVICING THE NEIGHBORHOOD. WE'VE NEVER HAD ANY ISSUES WITH THEM – WE FIGURE IF IT ISN'T BROKE, DON'T FIX IT. THERE MAY BE CHEAPER FIRMS, BUT IT'S NOT WORTH THE TIME AND TROUBLE TO GO OUT AND COMPARISON SHOP WHEN PRICES ARE ALREADY SO LOW. "
SMALL BANK, FLUSHING, QUEENS

A notable exception to this rule is the restaurant industry, whose low profit margins, high volume of garbage (relative to business size), and recent cost-of-business increases in other operational areas make these customers particularly sensitive to any cost increases no matter how small. One restaurant trade association reports that their members outside Manhattan are already concerned that they face higher costs due to their 'outer-borough' location, and fear that a switch to a zone collection system will exacerbate this trend.

PRICING TRANSPARENCY VARIES FOR LARGE AND SMALL CUSTOMERS

While many customers both large and small report general satisfaction with carter pricing, the transparency around how rates and pricing are determined appears to vary considerably based on customer size. In selecting a carter, larger customers request competitive proposals from multiple firms and are provided quotes, contracts and invoices with detailed pricing breakdowns covering items such as calculation methods (weight/volume), service fees (hauling fees, tipping fees, equipment fees etc.), and rates for varied waste streams. Large customers use their leverage to negotiate preferential pricing, tend to receive discounts on recycling and free/low-cost rates for cardboard, and are able to verify the accuracy of volume/weight measures through the use of carter-provided storage bins or regular carter measurement. These customers work in close partnership with their carters to implement new cost-saving technologies and management practices.

"REGARDING PRICING: THERE IS NO TRANSPARENCY. IF A GUY OPENS UP THE SAME KIND OF BUSINESS NEXT DOOR HE MIGHT PAY DOUBLE IF HE DOESN'T KNOW WHAT HE IS DOING. IT'S ALL NEGOTIATION, BUT A SMALL BUSINESS HAS NO LEVERAGE. "
CAFÉ OWNER, QUEENS

In contrast, rates and pricing structures often seem opaque or arbitrary to smaller customers. Pricing is not posted on carters' websites, and while some small customers request price quotes, most in fact rely on neighboring customers or colleagues to establish a sense of 'reasonable' rates for a given locale. Notably, small customers with multiple carter contracts report being charged different rates across the boroughs (or in some cases even within the borough) for the same type of business. Further, some small customers with past experience have been successful in negotiating better rates for a new customer, further illustrating the variability in the rate-setting process.

SMALL CUSTOMERS OFTEN PAY A FIXED FEE RATHER THAN EXACT COSTS

Theoretically, final pricing should depend not only on rates but also volume/weight of waste produced, but most small customers in fact pay a monthly fixed-price fee decoupled from actual volume of waste produced. These fees are based on an initial waste audit used to establish average monthly volume/weight, after which carters rarely provide ongoing detailed evaluations. Small customers do not appear to have transparency as to whether initial carter assessments are accurate, and some interviewees expressed skepticism as to the veracity of the measurement process. Notably, the few small customers interviewed that had recently undergone a carter-led reassessment of their waste volumes had all experienced a significant jump in their monthly bills.

"NEW SMALL BUSINESS OWNERS REALLY NEED SUPPORT AND HELP WITH UNDERSTANDING THE RULES AND THE SYSTEM. THEY DON'T KNOW THEIR RIGHTS, DON'T KNOW WHAT THE CARTERS HAVE TO DO. THEY CAN GET LOCKED INTO BAD CONTRACTS THAT THEY CAN'T GET OUT OF. EDUCATION FOR SMALL BUSINESSES IS REALLY IMPORTANT."
SMALL DELI OWNER, QUEENS

MANY SMALL CUSTOMERS DO NOT HAVE FORMAL CONTRACTS IN PLACE

In addition, while all large customers report having contracts in place with their carters, the majority of small customers do not have formal written agreements or are unclear as to their contractual status. Surprisingly, a significant number of small customers are unconcerned about this issue. These are the same customers noted above who have experienced good quality of service and stable pricing; benefiting from long-standing carter relationships and experiencing few issues. As such, these customers do not feel exposed to significant risk despite their lack of formal contract. In direct contrast, the few small customers who have experienced significant issues with carter relationships in the past not only have contracts in place, but have insisted on terms under which the agreements can be broken on one month's notice.

MANAGEMENT OF RECYCLABLES VARIES WIDELY DEPENDING ON CUSTOMER SIZE

Interviews with customers confirm that many aspects of recycling management differ depending on customer size. Larger customers clearly separate all recyclables at source into specialized bags or bins and carters collect this waste in dedicated trucks. In contrast, relatively few small customers report separating recyclables, with most mixing glass, metal and plastic with other putrescibles. Those small customers who do separate recyclables report confusion at often seeing carters combine these recyclables with putrescible garbage in single trucks. The only material consistently separated by small customers is cardboard: carters provide little guidance to small customers on the separation of other recyclables, but do clearly request cardboard to be sorted for dedicated pickup, no doubt due to the material's resale value.

Although small customers separate cardboard they do not share the benefits earned from its resale, as these customers seldom receive reduced rates for cardboard waste. Likewise, small customers report no preferential pricing for recyclables. Such flat-rate pricing across all waste streams reduces the incentive to recycle for these customers. Large customers, in contrast, often receive reduced rates for recyclables, with cardboard frequently collected for free. In addition, while some large customers are implementing compost programs at their locations, small customers cite the high cost of commercial compost pickup as a significant barrier. Many small customers report a desire to give greater priority to recycling and composting initiatives but feel that they do not have the economic luxury – or City incentives – to presently do so.

In addition, customers both large and small for whom resource conservation is a clear corporate value cite the lack of transparency in carter's tipping practices as a concern. These customers take pains to separate their garbage into multiple waste streams and select carters they feel confident will appropriately dispose of their recyclables and compost. Despite this, smaller customers in particular mention ongoing fears that carters are mishandling these materials.

THE OPEN MARKET SYSTEM IS NOT NECESSARILY OPEN TO ALL

Large customers use the sizable value of their contracts to gain leverage in negotiating pricing, service levels and other terms and conditions. They run competitive solicitation processes, feel confident that they can change provider at will, and often structure their contracts to allow for termination on just one month's notice. These customers use the same carter for multiple locations around the city without issue.

In contrast, a significant number of small customers interviewed report a lack of choice under the present system. Significantly, all small customers that have expanded to multiple locations across boroughs (or even within the same borough) experienced difficulty in contracting with their existing carter at the new location. The end result is that these customers are unwillingly contracting with multiple firms, and some claim that this issue is caused by carter collusion to fix geographic service areas. Similarly, some small customers that have tried comparison shopping and found little difference in carter rates feel that price fixing is occurring among carting companies.

While such issues are reported by small customers in all boroughs, they are most acutely raised by customers in Staten Island. Staten Island interviewees feel that the lack of competition in the borough has led to comparatively higher prices and poor quality of service, but feel unable to change carters due to the lack of alternatives.

"I EXPECT I WILL BE CHARGED MORE IF I CHOOSE A COMPANY THAT ACTUALLY HANDLES RECYCLING PROPERLY. NO CARTER IS WILLING TO DO IT 100% RIGHT AT AN AFFORDABLE PRICE. NO ONE GETS ANY TAX BREAKS FOR RECYCLING."
CAFÉ OWNER, QUEENS

"WE WOULD LIKE TO DO COMPOSTING, BUT WE CAN'T STORE GARBAGE OUT FRONT AND CARTER PICK UP WOULD NOT BE DAILY. ALSO THE COST IS VERY EXPENSIVE COMPARED TO REGULAR GARBAGE. WE DON'T KNOW HOW TO SOLVE THESE ISSUES. ETHICALLY IT'S RIGHT THING TO DO, BUT IF IT'S 5X THE COST OF REGULAR GARBAGE AT SOME POINT YOU HAVE TO SAY NO."
SMALL SUPERMARKET, BROOKLYN

"IT'S A MISCONCEPTION THAT YOU CAN GO TO WHO YOU WANT NOW. THEY DIVIDE THE TERRITORY UP AMONG THEMSELVES AND DON'T STEP ON EACH OTHER'S' TOES."
RESTAURANTEUR, BRONX

CONSOLIDATION BECOMES EVIDENT BEYOND THE INDIVIDUAL CUSTOMER LEVEL

Organizations with experience at the multi-tenant or district scale, such as BIDs, food retail halls, and office industrial facilities report a number of significant issues under the present system, including:

- An inefficient system: a multitude of carting companies are servicing customers in close geographic proximity, resulting in increased traffic congestion and a high number of dumpsters/bags competing for valuable loading dock or sidewalk real estate.
- Increased levels of pollution and problematic sanitary conditions: the high number of truck visits contributes to increased noise and air pollution, and a multiplicity of operators leads to higher incidents of waste mishandling or spills.
- Imbalance of power: those with a wider view of the system corroborate the relative lack of leverage experienced by smaller customers. When customer service issues spill out into the public realm — such as garbage left on the street by a missed pickup – these tend to originate from disputes between carters and smaller 'mom and pop' customers.
- Lack of accountability: in cases of missed pickup, or other customer service issues, the present multi-carter system makes it difficult to determine responsibility. This can lead to a delay in carter resolution of the mess, or worse, ad-hoc clean up by building maintenance (or BID) crews.

Organizations facing the issues listed above look to solutions that will help consolidate and rationalize operations under the present system. With waste streams similar across tenants, large office/professional industry customers relatively easily consolidate contracts and incorporate waste charges into building O&M costs on a cost/square foot basis. However customers with a varied mix of tenants (and therefore waste) face greater logistical challenges. Two large organizations addressing such issues have adopted varying responses, as outlined below:

Case 1 — A landlord supports 40+ tenants to collectively negotiate a unified structure with a single hauling company. Under this structure tenants keep individual contracts with the carter, but rationalize rates and consolidate operations.

Case 2 — A landlord with 70+ tenants assumes a single contract with one carter. The landlord hires an independent audit company to execute a detailed analysis of all tenant garbage, based on which the landlord sets individual tenant rates. Equipment is also installed to weigh garbage on an on-going basis. Innovative waste management processes and equipment are installed to lower the volume of waste.

Five years after adopting the system described in Case 1, however, the landlord finds the solution unworkable due to a continued power imbalance between the multiple small tenants and the single large carting company. Individual tenant-carter disputes have led to periodic service interruptions for the entire building. In response, despite the considerable resource and time required, the landlord is planning to move to the system outlined in Case 2 above.

Notably, some Business Improvement Districts face the same issues as multi-tenant customers and would be interested in consolidation if they had the autonomy, experience or resources to do so. They do not believe that the majority of commercial entities have bought into separating recycling at source, and advocate the idea of moving to single stream collection to simplify operations and reduce the number of trucks on the street.

"WE WANTED LEVERAGE OVER BOTH SIDES – THE TENANTS AND CARTER. PREVIOUSLY THE CARTER HAD LITTLE LEVERAGE OVER THE TENANTS TO MAKE THEM PAY. BUT BEING A SMALL CONTRACT, THE TENANT ALSO HAD NO LEVERAGE WITH THE CARTER. A SINGLE LARGE CONTRACT WITH THE BUILDING PUTS THE LEVERAGE IN THE RIGHT PLACE: IT'S A SIZABLE CONTRACT SO MEANINGFUL TO THE CARTER, BUT AT THE SAME TIME THE BUILDING CAN EVICT THE TENANTS SHOULD THEY NOT PAY."
LARGE BUILDING OWNER, BROOKLYN

3.6 CUSTOMER THOUGHTS ON ZONE-BASED COLLECTION

The vast majority of individual customers, even those experiencing issues under the system today, are nervous about a shift to a zone collection structure. With significant uncertainty as to the details of such a system, customers worry that zone collection system will create mini-monopolies for carters, eliminate customer leverage, reduce quality of service and increase price. Although generally in favour of the environmental objectives targeted through zones, they remain skeptical that this system is the only or best policy tool to achieve those goals.

Customer concerns around zone collection system can be grouped in three main themes:

- **Elimination of customer choice and leverage**. Customers satisfied with their carter today are unhappy that they might no longer be able to use the same company under a new system. More significantly, however, customers are concerned that the lack of market competition will eliminate all customer leverage with carters. Even those customers reporting choice constraints today feel that the present free market system provides a better balance of power for the customer than would be experienced under a franchise system. For some, the mini-monopolies anticipated under zone collection system go so far as to raise the specter of the 'bad old days' of organized crime.
- **Drop in quality of service and lack of accountability.** Many customers fear that a franchise system would result in reduced service quality, as carters would be directly responsible to the City instead of to individual customers. These customers worry that their only recourse to future problems with carters would be a complaint to the City, and there is skepticism that the Department of Sanitation would have the resources to meaningfully respond to such customer issues.
- **Uncertainty around pricing**. Customers are unclear as to whether a zone collection system would increase or decrease their present costs. On one hand, some interviewees expressed the expectation that greater efficiencies in truck routes could result in reduced rates, however, others raised concerns that zones would result in price gouging or uneven pricing in various areas of the city. The restaurant industry, in particular, posed the question as to whether pricing might increase disproportionately in the outer boroughs, with carters claiming a kind of 'distance/hardship' toll to service more remote areas.

"A FRANCHISE MODEL IS GOOD IF YOU ARE STRICTLY LOOKING TO STREAMLINE FREIGHT ON THE ROADS. BUT IN SAN FRANCISCO WE ARE ALWAYS PIGEON HOLED INTO USING ONE CARTER. IT'S NOT YOUR CONTRACT – THE CITY HOLDS THE CONTRACT. UNDER THIS SYSTEM THE CUSTOMER SERVICE IS ZERO SINCE THE CARTERS HAVE NO INCENTIVE TO DO BETTER FOR INDIVIDUAL CUSTOMERS. IT REQUIRES AN ACT OF GOD TO GET THE FRANCHISER TO DO ANYTHING OUT OF THE USUAL OR CHANGE. MY BACKGROUND IS IN SUSTAINABILITY SO I TOTALLY APPRECIATE WHERE PEOPLE ARE TRYING TO GO WITH THE IMPROVEMENTS, BUT THE TRUTH IS THAT THE FREE MARKET ALLOWS FOR MORE FLEXIBILITY IN HOW WE MANAGE."
LARGE RETAIL FOOD

Despite the fears raised above, many customers are enthusiastic regarding the potential for zone collection system to have a positive impact on environmental issues. They appreciated that a switch to the new system could help rationalize routes, reduce vehicle miles travelled and improve recycling rates. Most customers express support for zones should these environmental targets be met at the same time as quality and cost be maintained. It must be noted, however, that representatives of larger customers, with a more sophisticated grasp of public policy, did raise queries as to whether environmental goals could be achieved through alternate policy choices, such as mandatory recycling and composting programs, or stricter fuel emissions standards for commercial carting trucks.

SECTION ENDNOTES

[1] Large customers and small customers defined as the top two percent and bottom 50 percent of accounts in terms of volume produced, respectively.

[2] PricewaterhouseCoopers (2008). Study of Price Regulation of New York City Commercial Waste Hauling. New York City Economic Development Corporation.

[3] PricewaterhouseCoopers (2008). Study of Price Regulation of New York City Commercial Waste Hauling. New York City Economic Development Corporation.

4. BENCHMARKING

4.1 CASE STUDIES

As New York City contemplates potential structural changes to its commercial waste market system, examining how commercial waste collection has evolved in other major U.S. cities can provide a useful perspective on potential opportunities and challenges in any such changes.

In recent years, a number of major cities across the country have implemented exclusive franchising systems, including Seattle, San Jose, and Los Angeles, and the following provides a high-level overview of the respective commercial waste systems in these cities, including the historical context, the rationale for shifting to franchising, and impacts since implementation. The information presented is based on a review of publicly available materials, as well as direct discussions with the respective agency in each city responsible for waste management.

SEATTLE, WA

HISTORY

In the 1960s, Washington State introduced a non-exclusive franchising system via state legislation. For the next 20 years, the commercial waste system remained relatively stable and uneventful, with approximately six franchisees operating at any given time. In the 1980s and 1990s, the market began to consolidate, with larger carters acquiring smaller ones, eventually leading to two national companies holding franchises under the regulation of the Washington State Utilities and Transportation Commission (WUTC).

The two state franchisees had overlapping territories, and their rates were set by the WUTC, which were deliberately set to be equivalent. Thus, the two firms competed purely on service, and not on price. According to a representative from Seattle Public Utilities (SPU), the collection system was inefficient as both companies operated on overlapping routes throughout the city.

Meanwhile, the City of Seattle directly contracted two carters to collect waste from residential customers, with each carter operating in separate geographic zones. The City set the rates and directly billed the customers, and as such, were not franchisees, but city contractors. The contracts were competitively procured every ten to twelve years.

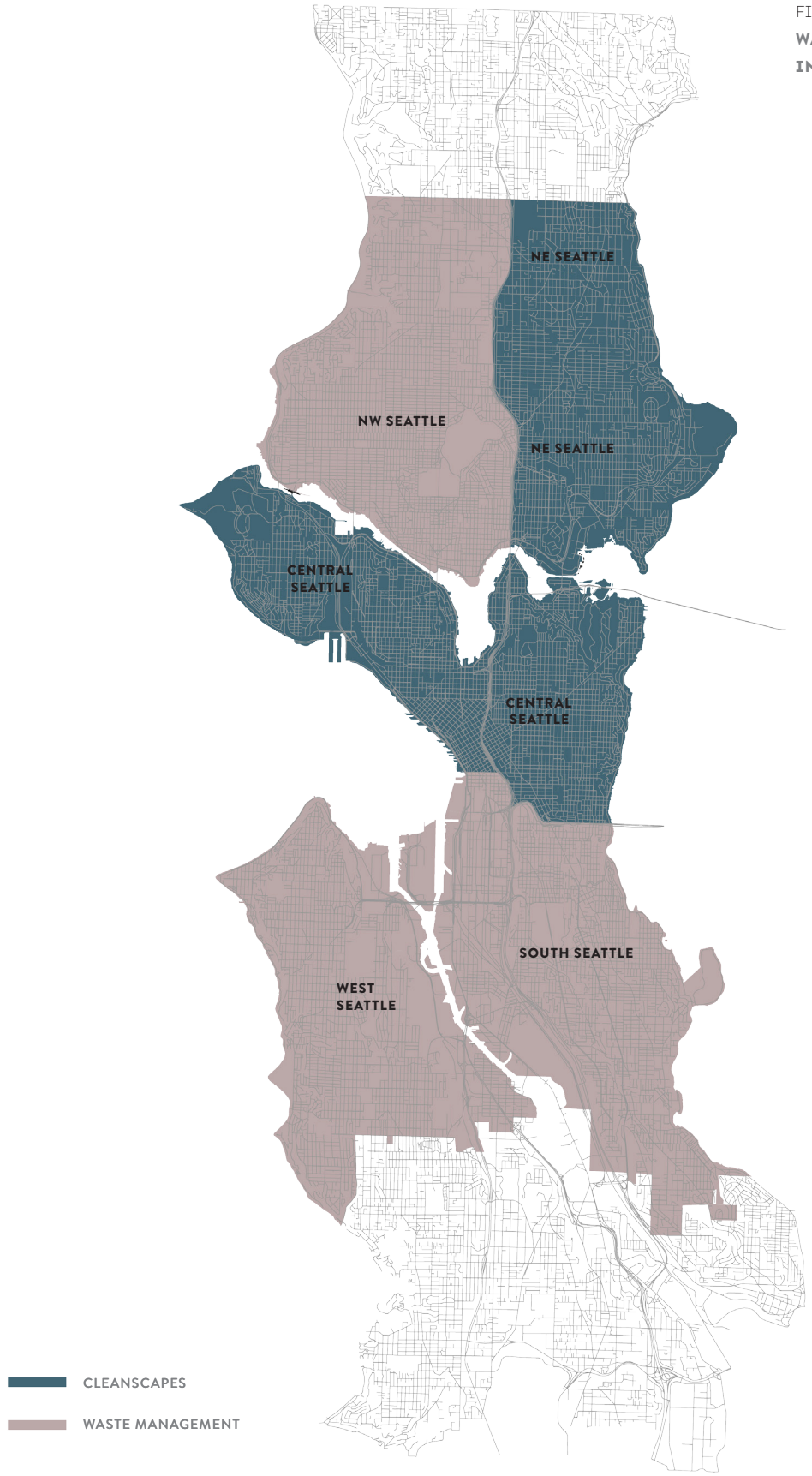


FIGURE 26
WASTE COLLECTION ZONES IN SEATTLE

THE SHIFT TO FRANCHISING

In 2009, as allowed by state law, the City of Seattle combined residential and commercial collection under two contractors that handle four waste-collection zones, picking up waste from 150,000 households, 6,000 apartments, and 8,000 customers. The contracts were competitively procured and will last for a total of ten to twelve years. Waste Management collects garbage, recycling and food and yard waste from residential and commercial customers in Northwest and South Seattle. CleanScapes does the same in Central Seattle and Northeast Seattle. Additionally, the City holds separate contracts with recycling and organic processing facilities.

The contracts with Waste Management and CleanScapes provide comprehensive requirements in regards to prevailing wages (including hourly wage, usual benefits and overtime pay set by the city on a yearly basis), vehicles specifications, quality of service, and diversion rates. Under the terms of the contracts, carters must deliver a percentage of garbage to the City's own disposal facilities. The City pays the two waste carters a flat monthly fee for service based on an initial cost proposal plus an annual inflation adjustment, and fees are adjusted, either through rewards or penalties, according to whether the contracted carters exceed or fail to meet service delivery standards and diversion targets. The City Council sets customer rates for both residential and commercial customers, and while the city directly bills and deals with residential customers, the two carters handle their respective commercial customers by billing them directly and remitting the income to the City.

By State statute, the City cannot exclude private providers from recycling services. Thus, commercial recycling services remain part of the open-market system, and at any given time, four to five private companies collect the majority of recyclables in the commercial sector. Similarly, commercial customers with organics can either use one of the two city-contracted companies or a private carter [1] , with the City currently subsidizing the food waste composting service

POST-IMPLEMENTATION IMPACTS

Not surprisingly, shifting from a system with two commercial and two residential waste carters to one operating with two total carters collecting both commercial and residential waste was not particularly disruptive or controversial. With only a handful of carters active under the previous system, the push-back from the industry was relatively limited. As a result, the City did not undertake any studies to measure potential impacts to rates or vehicle miles traveled prior to implementation. Seattle intended to attract smaller and innovative customers through their bidding process, which was designed to be flexible and open to a variety of proposals from bidders. Thus CleanScapes, a relatively small but innovative company was able to to win one of the contracts. However, since winning the contract, the company was bought by the much-larger Recology, based in San Francisco.

While the differences between the previous and current systems are not significant, collection efficiency under the current system has increased as a result of the combined commercial and residential collection, and the clear geographical separation of operations for carters. These operational efficiencies positively impacted customer rates, which decreased by approximately eight percent under the current system as compared to before.

SAN JOSÉ, CA

HISTORY

Between 1995 and 2012, San José had a non-exclusive commercial solid waste franchise system where, at any given time, approximately twenty carters competed to serve the city's 8,000 commercial, industrial, and institutional waste generators, producing approximately 300,000 tons of waste annually. Like other systems in California, the system was a source of fiscal revenue for the City, with carters required to pay a franchise fee, which in 2012, was $0.89 per cubic yard of uncompacted waste, $2.67 per cubic yard of compacted solid waste collected, and $0 for recyclable material in order to incentivize recycling.

The previous system allowed customers to negotiate their own rates for waste pick-up service, with little transparency and the ability to comparison shop. As a result, the largest customers were paying the lowest rates due to their ability to negotiate[2]. At the same time, the lack of a guaranteed customer base and consistent customer turnover meant commercial carters had little incentive for investing in recycling infrastructure. Additionally, San José's Green Vision goal to divert 100 percent of waste from landfill presented a fiscal challenge, as the franchise fee model was based on total volume of materials sent to landfill, and thus increasing diversion meant less revenue for the City.

THE SHIFT TO FRANCHISING

Several factors led San José to rethink their commercial waste system. Politically, a newly-elected mayor who ran on a 'green economy' platform saw the commercial waste system shifting to an exclusive franchising system as a means to achieve a number of sustainability goals, while simultaneously realizing a number of economic and fiscal benefits. The priority for the administration was to encourage private-sector infrastructure investment that would contribute to higher diversion rates. Additionally, a new funding model would secure the city's financial stability while still achieving its environmental sustainability goals, and a new streamlined system could also minimize contract management and enforcement costs. According to a representative of San José's Department of Environmental Services, considerations around vehicle miles travelled were less critical as carters already operated efficiently in terms of routing to survive in the highly competitive, low-margin market within a relatively low-density physical environment.

In 2012, San José transitioned to an integrated exclusive franchise system. Republic Services was awarded a 15-year contract to collect wet and dry waste from the entire business community and to process the waste at their high-tech material recovery facility (MRF). Zero Waste Energy Development Company (ZWED) was awarded a 15-year contract to process organic waste using anaerobic digestion and composting. To mitigate the impact on local small carters, the city excluded construction and demolition services from the exclusive franchising system.[3]

The two awarded companies pay the city a flat annual franchise fee based on an annual revenue requirement that covers cost of operations and government fees, and includes a 17 percent profit margin on allowable operating costs, which are clearly defined in the franchising agreement.[4] Republic Services remains responsible for billing customers and remitting the appropriate fees to the city. The city regulates rates through establishing maximum rates based on the actual costs of the previous year. The franchising agreement includes prescribed methods of adjusting customer rates annually that prevents dramatic fluctuations (no greater than 6 percent in most cases), yet allow both Republic Services

and ZWED to be financially sustainable.

Both franchising agreements contain aggressive diversion requirements (80 percent by the second year of the contract) and the contract also includes rewards for exceeding target diversion rates. In order to allow for a smooth transition between systems, Republic began acquiring commercial accounts from other San José carters in late 2011, thereby obtaining more than 90 percent of the customer base prior to the 2012 start date. These early acquisitions enabled Republic to enter all customer information into their database; establish billing; become familiar with the waste stream; and familiarize drivers with routes. The franchising agreements include transparent reporting procedures on customer service performance, and two environmental inspectors are dedicated to the program to ensure that the new system performs to the standards outlined in the municipal code and contracts.

POST-IMPLEMENTATION IMPACTS

According to the representative of San José's Department of Environmental Services, the diversion rates as well as the customer service goals set in the franchising agreements have been met by both companies. The impact on vehicle miles traveled has not been studied, but as Republic converted its fleet to trucks fueled by compressed natural gas, greenhouse gas emissions have been reduced. One report estimates a greenhouse gas emissions reduction by 19,000 metric tons over the course of the 15-year franchise.[5]

The potential adverse impacts on small carters were mitigated by excluding construction and demolition waste from the franchising system. According to the City, the transition to the new system led to a net job gain as Republic has considerably grown due to a more sophisticated collection and sorting system.

The impact on customer rates is difficult to quantify as the system has fundamentally changed with the introduction of the wet-dry system, and the services provided have been significantly enhanced under an exclusive franchising system. The impact has widely varied between customers as there was a stark disparity of rates under the previous system. According to an analysis undertaken by Republic Services, it was estimated that 58% of customers saw their rates decrease while 42% of customers saw their rates increase during the initial year. The decrease in costs for certain customers may have partially been due to a right-sizing process whereas customers adjusted their level of service in the transition to a new system.[6] The City estimates that total customer-collected revenue from the system to have increased by approximately 14 percent after the implementation of franchising. Meanwhile, customer rates remain comparable to or less than surrounding cities in the Bay Area.

FIGURE 27
COMMERCIAL WASTE SYSTEM BOUNDARIES IN SAN JOSE

LOS ANGELES, CA

HISTORY

The City of Los Angeles' commercial and multi-family[7] solid waste collection has historically operated under an open permit system with approximately 120 carters active in the market at any given time. With no rate regulations, prices have depended on the negotiating skills of customers, the pricing structure of particular waste carters, service characteristics and customer location.

According to a study by HF&H Consultants[8], the commercial waste collection market has long been dominated by a few large carters. In 2009 the four largest carters accounted for 85 percent of LA's commercial market share and the ten largest carters accounted for 94 percent.[9]

THE SHIFT TO FRANCHISING

Diversion goals included in a 2005 blueprint for a zero waste policy led the City of LA to rethink its commercial and multi-family waste system. In 2006, the Bureau of Sanitation (LASAN) issued a seven-year notice to the permitted carters, stating the City's intent to modify the multi-family waste hauling system to a franchise system. The process came however to a halt as the City decided to do a more thorough analysis of certain issues, including considerations of implementation timing, franchise terms, and the inclusion of commercial services. In December 2011, the LASAN issued a five-year notice to permitted carters on the implementation of an exclusive franchise system for the commercial and multi-family sectors. The City issued RFPs in 2014 for companies to provide "solid waste, commingled recyclables and organics collection, transfer, disposal and processing service to commercial establishments"[10] and LASAN is currently in the negotiation process with carters. Customer transition is anticipated to begin in early 2017. Special waste services such as medical waste or construction and demolition debris will continue to be excluded from the exclusive franchise system.

The exclusive franchise system is based on carters competing for the right to serve particular geographic areas. LASAN established eleven different zones **(Figure 28)** based on the number of accounts and level of services required for each zone. As there was a long tradition of small customers in the industry, LASAN included three smaller zones where these carters could compete without having to undertake significant capital investments or mortgage their existing assets. The 15 responses to the issued RFP came from both large and small carters, as well as from local and out-of-region companies.

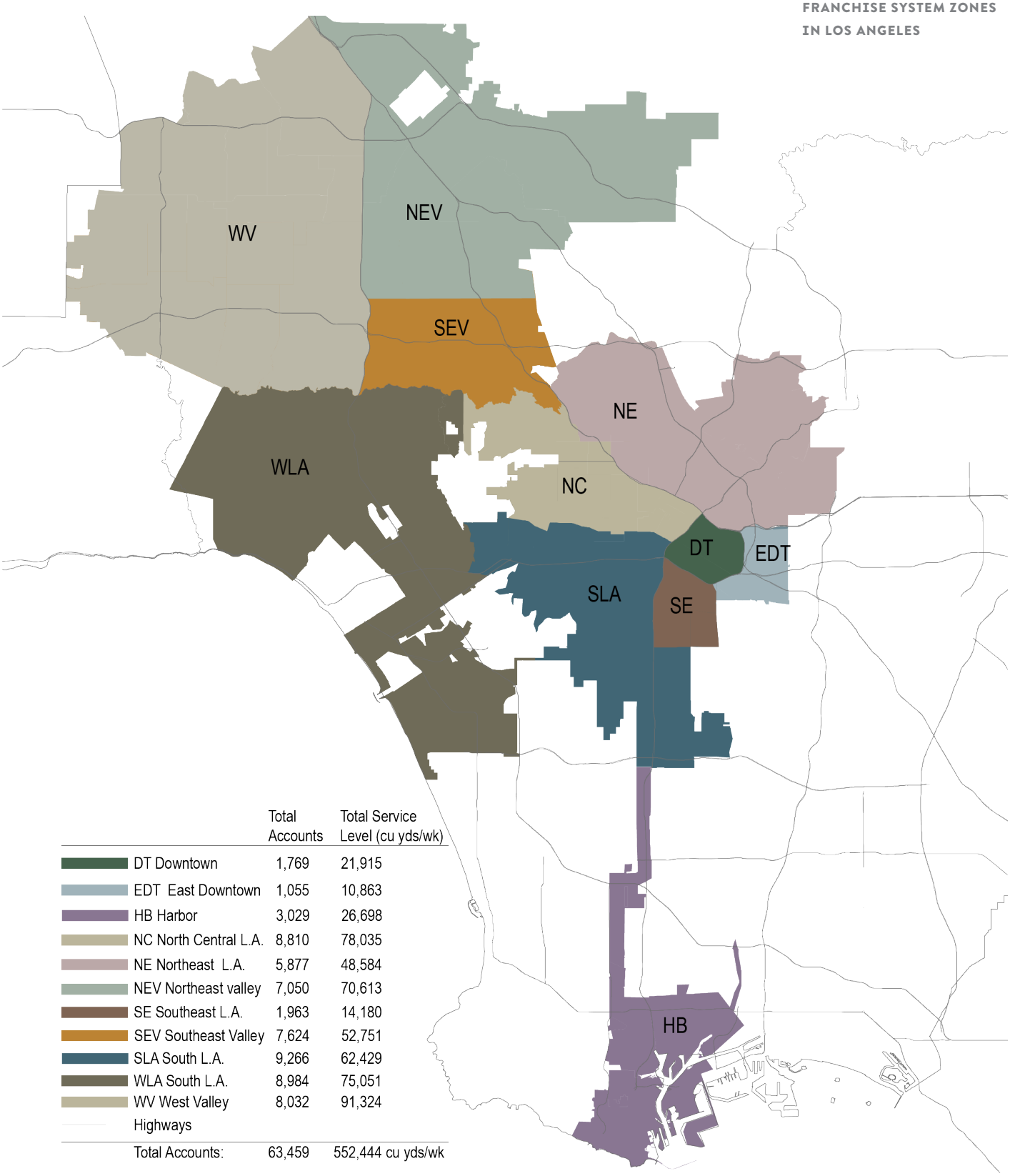
The RFP laid out a set of detailed requirements for awarded companies, reflecting the city's multiple goals, such as meeting the City's zero waste goals; exceeding state requirements for waste diversion and recycling; raising operating standards and improving health and safety of workers; improving routing efficiencies and decreasing vehicle miles traveled; improving air quality; and establishing consistent customer rates.

POST-IMPLEMENTATION IMPACTS

As LA is currently still in the transition process, it remains to be seen what the impacts are and if the city can meet its stated goals for transitioning to an exclusive franchise system. However, one impact seen soon after RFP issuance was a consolidation of the market, whereby larger carting firms began to acquire smaller competitors.

As carting firms did not have to disclose their finances, LASAN was not able to study the potential impact on customer rates in detail. A cost study however provided some basis for understanding if carters were proposing an unrealistic or unsustainable rate structure as part of their bid. It is expected that some customers, especially customers with large amounts of waste that paid relatively less under the previous system, will experience rate increases, while other customers, particularly smaller customers, will see their rates reduced.

FIGURE 28
COMMERCIAL WASTE FRANCHISE SYSTEM ZONES IN LOS ANGELES



	Total Accounts	Total Service Level (cu yds/wk)
DT Downtown	1,769	21,915
EDT East Downtown	1,055	10,863
HB Harbor	3,029	26,698
NC North Central L.A.	8,810	78,035
NE Northeast L.A.	5,877	48,584
NEV Northeast valley	7,050	70,613
SE Southeast L.A.	1,963	14,180
SEV Southeast Valley	7,624	52,751
SLA South L.A.	9,266	62,429
WLA South L.A.	8,984	75,051
WV West Valley	8,032	91,324
Highways		
Total Accounts:	63,459	552,444 cu yds/wk

4.2 RATE COMPARISON

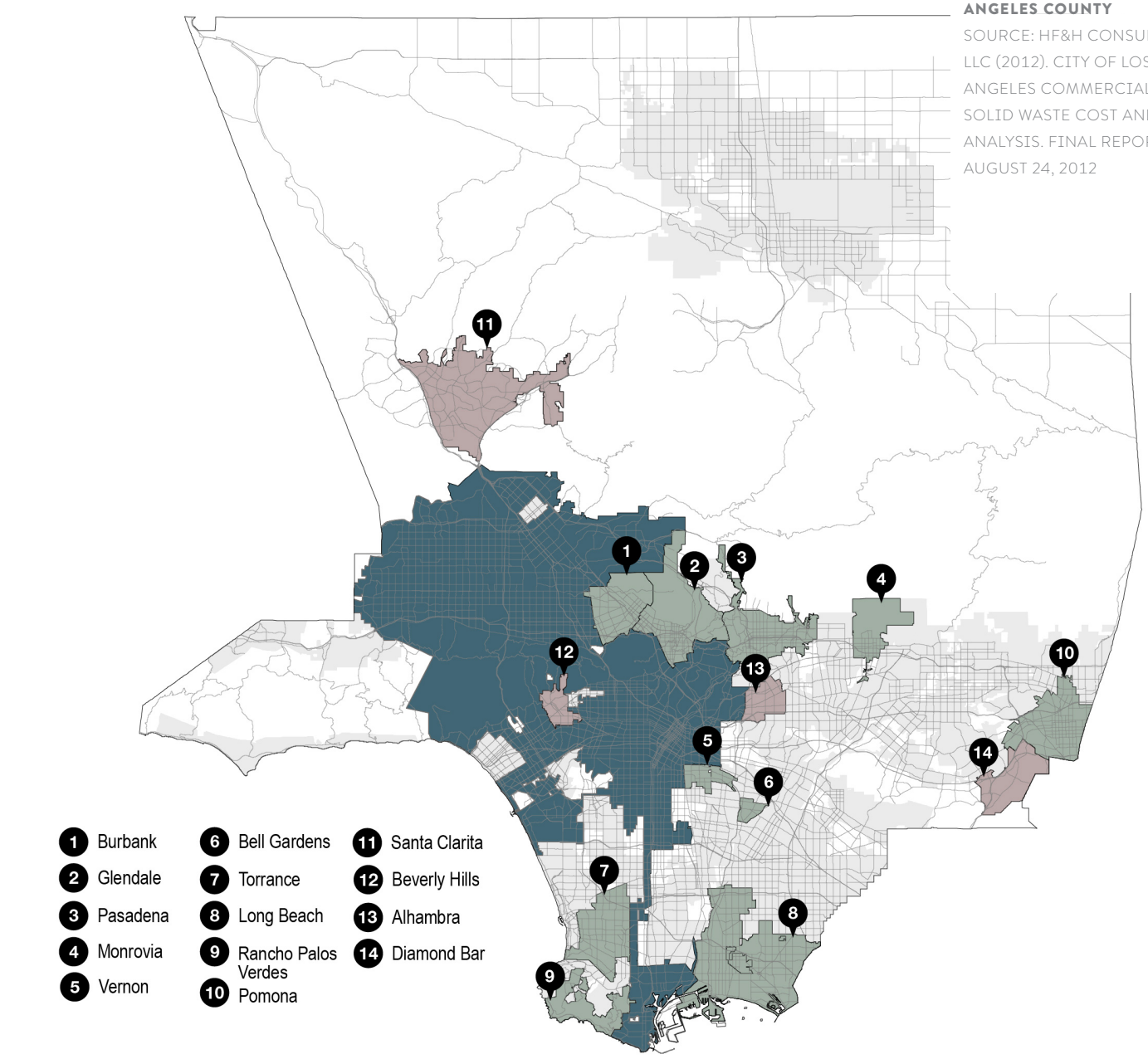
Customer rates are highly contingent on the local context and influenced by multiple factors, such as pick-up frequency and recycling requirements. In open-market and non-exclusive systems, rates depend on the pricing negotiated between individual carters and their customers and are hard to verify as they generally differ highly between customers. In contrast, under a regulated, exclusive system, there is a rate schedule that defines rates for all customers according to the size of container and pick-up frequency.

Rates between cities are difficult to compare due to the particularities of each commercial waste collection system. The following rate comparison is based on a combination of previous studies and original research.

FRANCHISING DOES NOT NECESSARILY MEAN HIGHER RATES

To inform Los Angeles' decision-making and franchise process, HF&H Consultants undertook a comparative study of exclusive and non-exclusive commercial waste systems in forty cities in Los Angeles County.[11] Based on the net cost per ton collected, the median cost per ton collected in exclusive commercial franchise systems and non-exclusive commercial service arrangements was estimated to be on par, and less than the open permit system within the City of Los Angeles (**Figure 29).** The choice to franchise in and of itself does not appear to have an impact on cost of service, and can potentially reduce costs if the status quo is inefficient or inequitable.

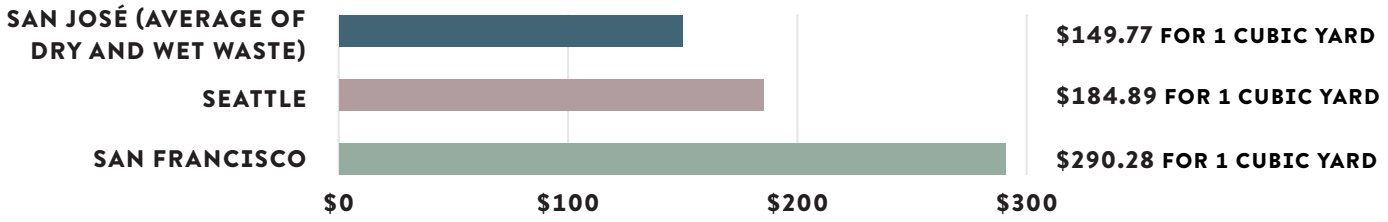
FIGURE 29
MEDIAN COMMERCIAL COST PER 100LBS COLLECTED BY TYPE OF COMMERCIAL WASTE SYSTEM IN LOS ANGELES COUNTY
SOURCE: HF&H CONSULTANTS LLC (2012). CITY OF LOS ANGELES COMMERCIAL SOLID WASTE COST AND FEE ANALYSIS. FINAL REPORT, AUGUST 24, 2012



TYPE OF SYSTEM AND POLICY OBJECTIVES HAVE AN IMPACT ON RATES

While franchising in and of itself does not necessarily lead to higher rates, the structure and requirements of the franchising agreement appears to have an impact on rates. **Figure 30** compares monthly customer charges for the weekly pick-up of a one cubic yard container as per the rate schedule for San José, Seattle, and San Francisco. San José's rates are primarily driven by the agreement's infrastructure requirement for bidders, Seattle's higher average rates is a product of the contract including both residential and commercial waste collection services (with residential waste being costlier to collect), and San Francisco's significantly higher rate a result of the monopolistic nature of the market, with Recology holding an exclusive contract to collect commercial waste for the entire city.

FIGURE 30
MONTHLY CHARGE FOR WEEKLY PICK-UP OF A ONE CUBIC YARD CONTAINER (AS OF 2015)



NEW YORK'S CUSTOMER RATES ARE RELATIVELY LOW

Figure 31 illustrates New York's average rates and rate caps for both weight and volume, as compared to San José and Chicago, respectively. While **Figure 32** highlights just two benchmark cities, New York City customers generally pay less than many other major U.S. cities for their waste collection. Further demonstrating how policy goals impacts rates, San José's average cost of service increased approximately 14 percent after the transition to a franchise system, which included the introduction of organic waste collection and processing at a high-tech anaerobic digestion facility. In contrast, Chicago looked to franchising as a means to alleviate the significant price inequities within the open permit system and had anticipated passing along much of the operational cost savings directly to the customer, leading to an anticipated average decrease in rates of between 20 and 40 percent (depending on volume and pick-up frequency).

FIGURE 31
COST OF SERVICE PER 100LBS (AS OF 2014)*

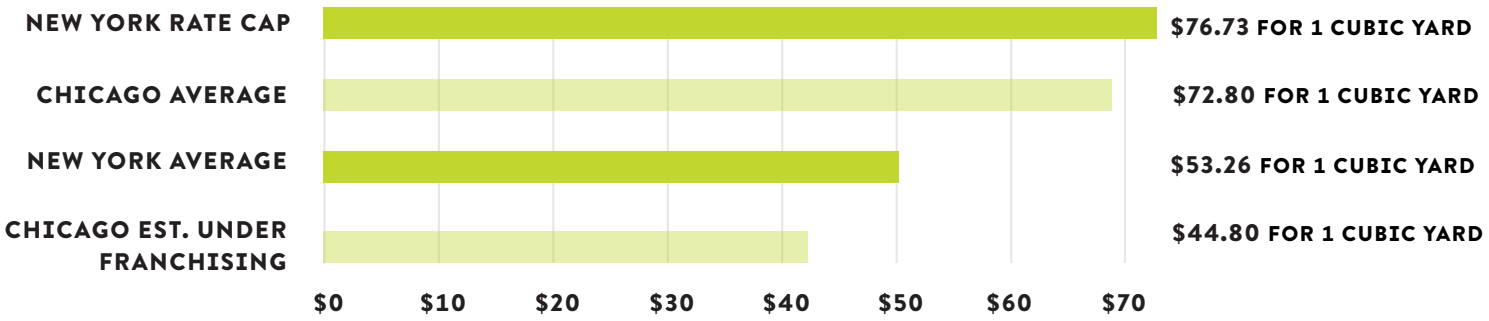


FIGURE 32
MONTHLY $ FOR 1 CUBIC YARD WASTE PICKED UP 1X A WEEK (AS OF 2014)

SECTION ENDTNOTES

[1] Seattle Public Utilities (2013). Solid Waste Management Plan.

[2] SWANA (2013). City of San José Commercial Waste Management System.

[3] Approximately twenty carters are franchised in a non-exclusive system to collect construction and demolition as well as residential clean-out material.

[4] For 2015-2016, the negotiated annual revenue requirements were proposed at $57,405,917, including city fees of $14,246,178 leading to a customer rate increase of 4%.

[5] SWANA (2013). City of San José Commercial Waste Management System.

[6] SWANA (2013). City of San José Commercial Waste Management System.

[7] The multi-family sector includes buildings with five or more residential units.

[8] HF&H Consultants (2012). City of Los Angeles: Solid Waste Franchise Assessment. Final Report, January 23, 2012.

[9] These numbers are based on reported gross receipts. In 2009, 68 carters reported gross receipts. Carters that collect less than 1,000 tons of waste per year were not subjected to reporting gross receipts.

[10] City of Los Angeles (2014). Request For Proposals: City-Wide Exclusive Franchise System for Municipal Solid Waste Collection and Handling, June 11, 2014.

[11] HF&H Consultants LLC (2012). City of Los Angeles Commercial Solid Waste Cost and Fee Analysis. Final Report, August 24, 2012.

5. COST IMPACT ANALYSIS

In order to establish a more comprehensive perspective on the trade-offs involved in establishing and implementing a zone-based commercial waste collection system, this high-level cost impact study estimates the potential net impacts to customers in terms of rates paid, along with potential job impacts within the industry.

5.1 RATE IMPACTS

While there are a variety of methods in which to estimate potential rate changes for customers, the methodology applied here uses operating margin targets for the private carters to conduct the analysis. This method, based on information contained within the financial statements submitted to the Business Integrity Commission for 2014 (the latest year available) and interviews conducted with the carters, was used for a number of reasons. In practical terms, this method proved to be the most methodologically defensible with respect to the quality of the data available. From an implementation perspective, ensuring that private carters are able to operate in a financially sustainable way would be critical to ensuring a successful system. This has been a key feature of franchising agreements established elsewhere. Finally, an initially proposed method of conducting a rate analysis by using the benchmarking research and examining how rates changed in other cities after the implementation of a zone-based system, or the rate differentials in adjacent jurisdictions with different commercial waste systems, proved not to be applicable. As outlined in the benchmarking chapter of this study, a zone-based system in and of itself does not necessarily impact rates directly, but rather the structure and requirements of the implemented franchising agreement, which can be wide-ranging, is the key factor that impacts rates.

This illustrative analysis was conducted by primarily examining the the financial information from the larger private carters operating in the commercial waste market. This was done for two key reasons. When considering the likely average number of accounts per zone in a zone-based system, these carters' current scale of operations in terms of commercial putrescible waste collection in the New York City market closely reflects the size and type of firm most likely to bid on a contract for a zone (the hypothetical zone creation in the routing analysis had between 6,000 and 16,000 accounts per zone). Additionally, from a data standpoint, the information within the financial statements of these carters proved to be most thorough and best reported of all carters.

The following analysis includes a baseline analysis, which estimates impacts on a strictly revenue-based approach, along with a sensitivity analysis incorporating possible increases or decreases in operating costs should a zone-based system be implemented.

BASELINE ANALYSIS

This cost impact analysis ties rate impacts to target operating margins for the private carters. As outlined in the market analysis of this study, in recent years the commercial waste market has become increasingly competitive, with private carters operating on very thin, and decreasing, margins. If implemented, a zone-based system would need to ensure financial sustainability for private carters, and thus allowing them to reach a reasonable operating margin would be critical to the success of any related policy. Based on information provided in the financial statements, the operating margin for current operations (as of 2014) is assumed to be 6.4 percent for the purposes of this analysis.

In order to use operating margins as the key driver to rate changes, a range of target margins were set to determine an associated range of potential rate impacts to customers. As shown in Table 1, the margins used for this analysis are 5 percent, 10 percent, and 15 percent. These were based on consultation with DSNY, discussion with industry representatives, the historic financial performance of the private carters, and assessing franchising agreements implemented in other cities.

Based on the total revenue required to reach the target operating margins on existing operations-based expenses, average rate changes are estimated to be -2 percent for a 5 percent margin, 4 percent for a 10 percent margin, and 10 percent for a 15 percent margin, respectively.

TABLE 5
AVERAGE RATE IMPACTS BY OPERATING MARGIN TARGET
SOURCE: BUROHAPPOLD ANALYSIS, 2016

AVERAGE RATE INCREASES (IN PERCENT)	TOTAL
5% Operating Margin	-2%
10% Operating Margin	4%
15% Operating Margin	10%

This baseline assessment assumes no change in operating costs, and is strictly a revenue-based approach to assessing potential rate impacts. This simplified method, while straightforward and helpful for illustrative purposes, does not account for the likely changes in operating costs that would occur under a zone-based system. As such, the following sensitivity analysis incorporates potential operating cost changes to account for this.

SENSITIVITY ANALYSIS

As demonstrated in the benchmarking chapter of this study, transitioning to a zone-based system could have a wide range of impacts on rates, with some cities implementing a zone-based system showing rates lower than nearby jurisdictions with open permit systems, while other cities seeing rate increases after shifting to a zone-based system. Rate impacts are highly contingent on the various requirements set out in a franchising agreement established by a city.

In order to account for this variability, the following demonstrates potential rate impacts under two scenarios: one in which private carters experience a 10 percent increase in operations-based expenses, and one in which they experience a 10 percent decrease in operations-based expenses.

Increase in Operations-Based Expenses

Should a franchising agreement include provisions or requirements that increase the operational costs for private carters, these expenses would need to be passed on to customers in order for the carters to achieve the higher operating margins established previously. Examples of such franchising agreement requirements include those pertaining to labor or wage standards, facility or fleet requirements, diversion targets, infrastructure investment, or safety-related measures.

Table 6 estimates average rate impacts in a scenario where operations-based expenses increase by 10 percent. Based on revenue required in this scenario, average rates would need to increase by 8 percent from current average rates for a 5 percent operating margin, 14 percent for a 10 percent operating margin, and 21 percent for a 15 percent operating margin.

TABLE 6
AVERAGE RATE IMPACTS WITH A 10% INCREASE IN OPERATIONS-BASED EXPENSES
SOURCE: BUROHAPPOLD ANALYSIS, 2016

AVERAGE RATE INCREASES (IN PERCENT)	
5% Operating Margin	8%
10% Operating Margin	14%
15% Operating Margin	21%

Decrease in Operations-Based Expenses

This scenario assumes that operating cost savings would materialize as a result of implementing a zone-based system, and that these savings would be passed on directly to customers. These savings would be derived primarily from the anticipated VMT savings and efficiencies realized by operating within a geographically defined zone rather than in a distributed manner across the city. Additionally, the guaranteed customer base would remove the revenue volatility risk that currently faces private carters.

Table 7 estimates average rate impacts in a scenario where operations-based expenses decrease by 10 percent. Based on revenue required in this scenario, average rates would decrease by 11 percent from current average rates for a 5 percent operating margin, 6 percent for a 10 percent operating margin, and 1 percent for a 15 percent operating margin.

TABLE 7
AVERAGE RATE IMPACTS WITH A 10% DECREASE IN OPERATIONS-BASED EXPENSES
SOURCE: BUROHAPPOLD ANALYSIS, 2016

AVERAGE RATE INCREASES (IN PERCENT)	
5% Operating Margin	-11%
10% Operating Margin	-6%
15% Operating Margin	-1%

5.2 JOB IMPACTS

By changing the operational structure of the industry, the implementation of a zone-based system would inevitably have employment impacts within the commercial waste collection industry. Based on the routing analysis, the Zoned System Analyses resulted in a total of 293 routes, 47 fewer than the 340 under the Existing Conditions. Intuitively, this increased efficiency would likely lead to a reduction in the need for drivers and helpers. However, much like the rate impacts, any total job impacts are highly dependent on the type and details of the franchising agreement established. This is particularly the case in relation to employment, as an agreement that establishes aggressive targets in labor and wage standards, diversion targets, or infrastructure investment could see net employment in the industry increase, even when factoring in potential direct job reductions as a result of routing efficiencies. As the specific details of such an agreement have yet to be considered, this analysis does not project job impacts as any estimate would be highly speculative at this stage.

APPENDIX A: LITERATURE REVIEW

Publication: Study of Price Regulation of New York City Commercial Waste Hauling

Author: PricewaterhouseCoopers LLP

Date published: February, 2014

Summary: Anoverview and analysis of the private carting industry which estimates the impacts of a potential rate cap increase.

Key findings:

- Current state of the market:
  - Market share: NYC's commercial waste market has few large carters and many smaller ones. Each borough contains a subset of particular carters, with the Bronx and Staten Island being especially concentrated markets.
  - Finances: Few carters collect only putrescible waste, and those who do mostly make losses from their operations. Tipping fees are a significant proportion of carters' expenses.
  - Customer satisfaction: Customers appear to have several choices in selecting caters, albeit instances of less competitive behaviour were reported. Customers are equally concerned about the reliability of the service as the price of removal.
- Impact of rate cap elimination/retention: The removal of the rate cap will not reduce customer prices as they are already below the rate cap. It could however incentivize anti-competitive behavior.

Publication: New York City Commercial Solid Waste Study and Analysis – Summary Report

Author: NYC Department of Sanitation

Date published: 2012

Summary: Based on technical memoranda written by Halcrow Engineers, the study provides overview of the behavior of commercial waste generators and private carters, and estimates the amount of commercial putrescible waste produced.

Key findings:

- Historical context: NYC's commercial waste collection was transferred from the City's responsibility to the private hauling industry in the 1950s. Several methods to reform the system have been proposed over the years, all of them rejected for a purely privatized approach with City oversight. In 1996, NYC passed Local Law 42 to regulate the private hauling industry with oversight by the Trade Waste Commission (subsequently renamed as the Business Integrity Commission or BIC). Since then, all private hauling companies need to be licenced or registered through BIC. The rules enforced by BIC include designating of recyclable materials, defining maximum rates, collection requirements and restrictions, and reporting requirements.
- Recycling behaviour of commercial waste generators: Most NYC customers (71%) contract the same carter for both waste and recycling collection. They are generally aware of the recycling requirements and learn from their carters about them. Cardboard was the most frequently recycled material, followed by paper and plastic bottles.
- Market analysis of the carting industry:

- Market share: There are 250 carters with the 20 largest carters serving almost 67 percent of customers.

- Recycling: Carters generally follow requirements to collect source-separated recyclables in separate trucks. There are however barriers to recycling such as lack of infrastructure (for composting) and lack of recycling enforcement. The diversion rate is estimated at 26%.

- Route efficiency and vehicle miles travelled: While carters generally implement their routes as efficiently as possible, there are inefficiencies in the system as districts are served by multiple carters (e.g., Manhattan's District 5 is served by 79 carters). A substantial portion of vehicle-miles travelled comes from the first and last portion of the route – from terminal location to first customer and last customer to the transfer station.

- Potential efficiency gain: The traffic model that compares the baseline condition with a combined stream scenario, that would consolidate the recyclables and putrescible waste into a single unit to be collected by one truck, shows that system-wide changes could yield substantial improvements to vehicular traffic.

- Traffic safety: Carters engage in illegal practices such as disregarding one-way streets, reverse movements, and illegal right turns on red to increase their route efficiency.

Publication: New York City Commercial Refuse Truck Age-out Analysis

Author: M.J. Bradley & Associates LLC

Date published: September 2013

Summary: An analysis of the costs and air quality benefits of setting 'age-out' provisions for the commercial carting fleet for hauling commercial waste, recyclables, and construction and demolition debris in New York City.

Key findings:

- Size of fleet: There are 4,281 active "License" trucks used for hauling commercial putrescible and recycling waste. 4,065 trucks are registered as "CL-2" trucks used to haul construction and demolition debris. The Numbers have remained stable over the past five years.
- Age of fleet: Average age of current License trucks is almost 16 years old. Only 10-14 percent of trucks are newer than 2007 and therefore meet the most stringent EPA emission standards. Average turn-over per year is 1.5%.
- Cost and benefits of different scenarios to replace the trucks: Comparing different scenarios, the analysis concluded that retiring pre-2007 trucks by 2020 would have the highest impact, equivalent to removing more than 341,000 cars from the city's streets every year between 2014 and 2030 [the City adopted a law in January 2014 that requires all waste vehicles operating on NYC's streets to use post-2007 engines by 2020].

Publication: Dirty, Wasteful & Unsustainable – the urgent need to reform New York City's commercial waste system

Author: Transform Don't Trash NYC

Date published: April 2015

Key arguments:

- Low recycling rates: According to a DSNY/Halcrow study conducted in 2012, New York City's commercial waste sector recycles 24%, compared to a national average of 34.5%. Reports filed with the New York State Department of Environmental Conservation by transfer stations and recycling facilities suggest that rates for major portions of the commercial waste stream may actually only be between 9% and 13%.
- Lack of infrastructure investment: City law passed in the 1990s prohibits carters from negotiating waste contracts lasting more than two years. This means carters and facility operators lack the stable revenue streams for infrastructure investment in recycling and transfer facilities.
- Lack of price transparency: More than 83% of businesses pay a flat monthly rate for garbage services independent from the amount of waste they generate and/or recycle. They therefore have no price incentive to reduce or recycle waste.
- Lack of recycling enforcement: NYC's existing recycling law has been ineffective in increasing recycling as the authorities struggle to enforce the law with 260 licenses carters.
- Size of the industry: The industry includes 260 carters, 4,200 trucks, and more than 5,000 workers. The 20 largest carters service 80% of commercial customers.
- Inefficiencies in the system: As carters serve customers in all five boroughs, trucks operate inefficient routes. At the same time, the clustering of transfer stations lead to additional miles travelled by private garbage trucks.
- Public safety concerns: The system impacts traffic, air pollution, pedestrian and cyclist safety, noise, and pavement damage. Low-income communities of color where private waste transfer stations and truck yards are clustered are most affected.
- Case studies: Case studies of Seattle, Los Angeles, and San Diego show that exclusive waste collection zones under long-term franchise agreements with private waste carters that include rigorous recycling plans lead to increased recycling and investment in infrastructure and reduced vehicle miles travelled by garbage trucks.
- Recommendations: Major infrastructure investment for sorting recyclables and organics, exclusive collection zones system under long-term franchise agreement with private waste carters, detailed reporting systems that generates reliable data.

Publication: Not at your service – a look at how New York City's commercial waste system is failing its small businesses

Author: Transform Don't Trash NYC

Date published: October 2015

Focus: Based on interviews with more than 500 business owners, the study provides an overview of how small businesses fare in the current system and refers to case studies of other cities to advocate for an exclusive collection zone-based system.

Key arguments:

- Small businesses have less leverage to negotiate prices: While large businesses can attract competitive bids to negotiate collection contracts, small businesses fare much worse.

- Small businesses pay a flat rate independent of the amount of waste produced: 90% of small businesses pay a flat rate for waste collection independent of the amount of waste they produce. Only 14% of businesses surveyed report that they receive a waste survey from their carter.
- Small businesses are disincentivized to recycle: 95% of small businesses do not receive a discount for separating recyclables. Many small businesses were told by their carter not to separate recyclables.
- Rate caps have drastically increased: In the last five years, the maximum rates that the City allows carters to charge customers have increased by 50%.
- Small businesses support city oversight for improving working conditions: Large majorities of business owners surveyed support city oversight to ensure safe working conditions and living wages for private sanitation workers.
- The Brooklyn Navy Yard example: 40 tenants at the Brooklyn Navy Yard building negotiated jointly for garbage and recycling services, choosing a single carter who collects waste and recyclables from a centralized compactor. The impact was that businesses reduced their monthly waste bills by 27 percent on average, truck trips to and from the Navy Yard were reduced by 90 percent, and businesses that previously did not receive discounts for recyclable collection now did.
- Case studies:

- A HF&H study of 24 Los Angeles County cities using exclusive zones found that 21 of 24 were able to realize a decrease in customer rates by using a competitive RFP process. The median decrease was 17%.

- The Minnesota Pollution Control Agency surveyed rates paid by households in 49 cities to quantify differences between open and zoned-based waste collection systems. On average, customers in zoned-based systems paid 13%-35% less than those in cities with an open system.

- An Illinois county waste agency found that on average 90% of businesses in five Chicago suburbs received prices decreases or remained at the same price following transitions to an exclusive system.

APPENDIX B: METHODOLOGY

The Market Analysis and Cost Assessment are largely based on carter-reported data from the 2014 BIC Customer Register and 2013 private carter financial statements submitted to BIC. Due to issues around self-reporting, the data contained within the two sources are not assumed to be wholly accurate, but remain the most comprehensive and detailed information on the market currently available.

The following major assumptions were made in the processing and analyzing of data within the Customer Register:

- The analysis included only carters that collected putrescible and recycling waste in 2014.
- BIC issues a Customer Register Training manual that indicates how each field should be filled out. When entries diverged from the codes given in the training manual, the following assumptions were made:
    - How Customer Was Obtained:
    - Reference/Referral was coded separately as 'Referral'.
    - C, Call, Called, Called us, Called in was coded as 'Customer initiated'.
    - S, Sales, Solicitation was coded as 'Carter initiated'
    - Acquire, Acquisition, Purchased from, Purchased corp was separately coded as 'Acquisition'.
    - B was coded as 'Broker'.
    - Broker:
    - 'yes' and a name were coded as 'Broker'.
    - n/a, none, 'no', blank were coded as 'no Broker'.
    - Written contract:
    - 1 was coded as 'yes'.
    - 0 was coded as 'no'.
    - Service performed:
    - G, GB, Garbage, Monthly, Bags, Collection & Disposal, Loose, Container, Refuse, Rubbish, Trash, Solid Waste were coded as 'Putrescible'.
    - C, CB, CDBD, Cardboard, Cardboard Removal, Paper were coded as 'Recycling'.

APPENDIX C: INTERVIEWS

Carter interviews

The three largest hauling companies were interviewed due to their combined market share. In addition, carters were categorized based on the number of customers and the number of boroughs they serve. From each category, a carter was randomly selected. Ten carters were interviewed in total.

CARTER	# OF BOROUGHS SERVED	# OF CUSTOMERS SERVED
1	5	>3,000
2	5	>3,000
3	5	>3,000
4	3	1,000-3,000
5	2	100-1,000
6	4	<100
7	1	1,000-3,000
8	2	100-1,000
9	3	100-1,000
10	4	1,000-3,000

Customer interviews

22 interviews were conducted representing 27 customer contracts located in diverse locations throughout the five boroughs (11 Brooklyn, 6 Manhattan, 5 Queens, 3 Bronx, 2 Staten Island). Customers represented five business types (as defined in the BIC Customer Register): Restaurants, Manufacturing, Office/Professional, Retail (non-food) and Retail (food). In addition, interviews were conducted with representatives of two Business Improvement Districts (in Manhattan and the Bronx) and one city-wide trade association.

CUSTOMER DESCRIPTION	SIZE	INDUSTRY TYPE	NEIGHBORHOOD
Deli	Small	Retail –food	Bronx
Deli and Restaurant – multiple businesses	Small	Retail-food	Bronx
Restaurant	Small	Restaurant	Bronx
Manager of industrial multi-tenant buildings	Large	Manufacturing	Brooklyn
Manager of industrial multi-tenant buildings	Large	Manufacturing	Brooklyn
Dry cleaner	Small	Retail-non-food	Brooklyn
Supermarket	Small	Retail-food	Brooklyn
Architectural finishes manufacturer	Small	Manufacturing	Brooklyn
Food cart manufacturer	Small	Manufacturing	Brooklyn
Hairdresser	Small	Retail-non-food	Brooklyn
Mixed-use building	Large	Restaurant/Office	Manhattan
National food retail business	Large	Retail-food	Manhattan & Brooklyn
Property owner of multiple mixed-use/commercial buildings	Large	Office	Manhattan
Small multi-tenant office building	Small	Office	Manhattan
Wholesale tools business	Small	Wholesale	Queens
Light & signal manufacturer	Large	Manufacturing	Queens
Bank	Small	Office	Queens
Restaurant	Small	Restaurant	Staten Island
Restaurant	Small	Restaurant	Staten Island
Café	Small	Restaurant	Brooklyn & Queens
Restaurant	Small	Restaurant	Brooklyn & Staten Island
Hairdresser	Small	Retail-non-food	Brooklyn & Manhattan

ORGANIZATION	SIZE OF MEMBERS	INDUSTRY TYPE	NEIGHBORHOOD
New York State Restaurant Association	Mixed	Restaurant	Across the city
Manhattan Business Improvement District	Mixed	Mixed	Manhattan
Bronx Business Improvement District	Mixed	Mixed	Bronx

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