

Wake County

Trash and Recycling Survey

Summary of Findings

Presented to:



Wake County
Solid Waste Management Division
October 30, 2017

Conducted by:

Center for Urban Affairs and Community Services
NC State University

Wake County Trash and Recycling Survey Summary of Findings

*Report Prepared by:
Donna M. Hughes, PhD
Alison R. Buck, PhD*

*Online Programming Provided by
Neeraja Mantena*

Center for Urban Affairs & Community Services
NC State University
Box 7401

Raleigh, North Carolina 27695-7401

Telephone: (919) 515-3211

Fax: (919) 515-3642

<http://www.cuacs.ncsu.edu>

Director: Dr. Yevonne Brannon (yevonne_brannon@ncsu.edu)

WAKE COUNTY TRASH AND RECYCLING SURVEY: EXECUTIVE SUMMARY

STUDY BACKGROUND

The Wake County Trash and Recycling Survey was part of an effort by the Wake County Solid Waste Management Division to assess waste collection services in the unincorporated areas of Wake County. A total of 131 residents in thirteen unincorporated Wake County neighborhoods provided information on their use of and satisfaction with current trash and recycling collection services. Neighborhoods surveyed included the following:

| | |
|------------------------|-------------------|
| Black Horse Run | Howell |
| Byrum Woods | Lynnhaven |
| Candlewick | Ridge Haven |
| Clear Springs | Scott Farm |
| Crofts at Brackenridge | Turner Farms |
| Glover Acres | Wakefield Estates |
| Golden Plantation | |

SURVEY METHODS

The survey was posted online and postcards announcing the upcoming survey were mailed to a total of 1220 residences in the neighborhoods of interest. The final sample represents a self-selected sample of respondents who chose to complete the survey. Consequently, not all residents in all neighborhoods are represented in the study findings, but the results do indicate the level of satisfaction with current services as well as the possible need for additional services for a *minimum* number of residents in the neighborhoods.

MAJOR FINDINGS

- The greatest number of respondents (about 29 percent) live in Black Horse Run.
- The majority of respondents use a curbside service for both trash and recycling.
- Most of these residents receive *weekly* collection.
- Respondents are generally highly satisfied with their trash and recycling collection service, with at least 89 percent of residents in every neighborhood reporting that they were satisfied or very satisfied with their service.
- Respondents who receive both trash and recycling pickup are slightly more satisfied than those who receive only trash pickup.
- Respondents with lower curbside service costs are slightly more satisfied than those with higher costs.
- Residents use Wake County Convenience Centers frequently, particularly if they *do not* receive curbside service.
- Frequency of use of the Convenience Center does not detract from respondents' overall satisfaction with their curbside service.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

I. BACKGROUND 1

A. PURPOSE OF STUDY..... 1

B. METHODOLOGY AND SAMPLE CHARACTERISTICS..... 1

C. RESPONDENT CHARACTERISTICS..... 2

D. USE OF CURBSIDE SERVICES 3

E. USE OF WAKE COUNTY CONVENIENCE CENTERS 8

II. SATISFACTION WITH SERVICES 12

III. SUMMARY AND CONCLUSIONS 18

APPENDIX A: SURVEY INSTRUMENT

LIST OF TABLES AND FIGURES

| Name | Page |
|---|------|
| F1. Neighborhood..... | 2 |
| F2. Type of Curbside Service..... | 3 |
| F3. Provider of Curbside Service | 4 |
| T1. Provider by Neighborhood Characteristics | 5 |
| F4. Payment Schedule for Curbside Service | 6 |
| F5. Amount Paid for Curbside Service per Month by Type Service..... | 7 |
| T2. Average Amount Paid per Month by Type Collection and Provider | 7 |
| F6. Use of Wake County Convenience Center to Drop off Trash and Recycling: All Respondents and by Type Service..... | 8 |
| T3. Use of Wake County Convenience Center to Drop off Trash and Recycling: by Neighborhood and Provider | 9 |
| F7. Frequency of Use of Wake County Convenience Center to Drop off Trash and Recycling | 10 |
| T4. Mean Number of Times per Month Using Wake County Convenience Center by Type Service and Neighborhood..... | 11 |
| F8. Satisfaction with Curbside Service | 12 |
| T5. Satisfaction with Curbside Service by Neighborhood..... | 13 |
| T6. Satisfaction with Curbside Service by Provider..... | 14 |
| F9. Satisfaction with Curbside Service by Type Service | 15 |
| F10. Mean Amount Paid per Month by Satisfaction with Curbside Service..... | 15 |
| F11. Satisfaction with Curbside Service by Use of Convenience Center..... | 16 |
| T7. Mean Monthly Payment by Neighborhood, Provider, and Percent Satisfied with Service | 17 |

I. BACKGROUND

A. PURPOSE OF STUDY

The Wake County Trash and Recycling Survey was conducted in the summer of 2017 by the Center for Urban Affairs and Community Services at NC State University. The survey was administered for the Wake County Solid Waste Management Division. The Division is assessing waste collection services in the unincorporated areas of Wake County. As part of that effort, the County conducted a visual survey of trash and recycling collection practices in thirteen unincorporated neighborhoods in order to identify the number of residents using contracted haulers, the number of haulers servicing each neighborhood, and the days of the week neighborhoods are serviced. The visual survey was conducted by counting waste and recycling carts at the curb during a two-week period. The survey described in this report is a follow-up to the visual survey, and focuses on aspects of residential waste collection services and satisfaction with services.

B. METHODOLOGY AND SAMPLE CHARACTERISTICS

An online survey (with a paper option) was developed to assess resident satisfaction with solid waste collection services. The survey contained questions concerning use of curbside services, service provider, frequency of service provision, amount paid for service, satisfaction with services, and use of the Wake County Convenience Centers for drop-off of trash and recycling materials.

The survey was advertised in the thirteen unincorporated neighborhoods in Wake County in which the visual survey had been conducted. Post cards were mailed to a 1220 residences in the targeted areas and potential adult respondents were invited to complete the survey on behalf of their household. The survey was posted online from July 17 through September 1, 2017.

Neighborhoods included in the study represent residences in a variety of areas throughout Wake County as follows:

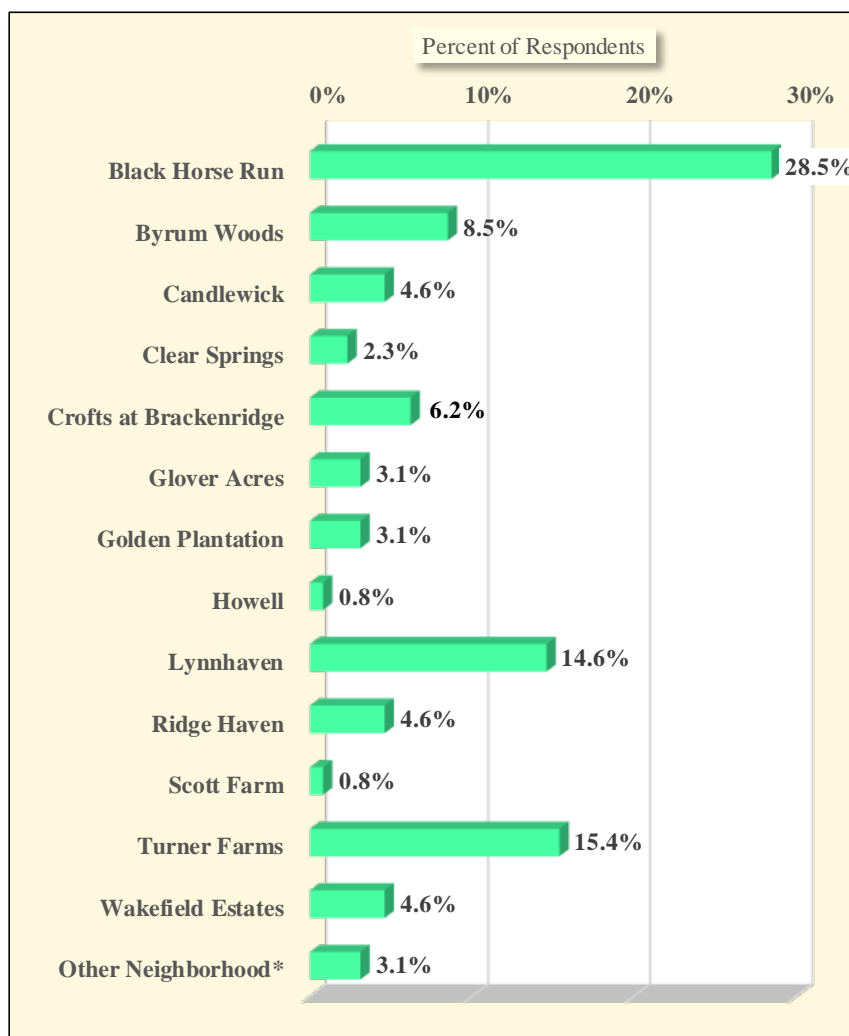
| | |
|-----------------------------|------------------------|
| Black Horse Run (256 homes) | Howell (18) |
| Byrum Woods (103) | Lynnhaven (135) |
| Candlewick (82) | Ridge Haven (76) |
| Clear Springs (64) | Scott Farm (18) |
| Crofts at Brackenridge (89) | Turner Farms (221) |
| Glover Acres (15) | Wakefield Estates (89) |
| Golden Plantation (54) | |

Four respondents listed other neighborhoods in Wake County: Englewood Forest, Marcom Place, Saddle Ridge, and Creedmoor Crest. The final sample is a self-selected sample based on respondents who chose to complete the survey. Thus, the sample is not representative of all residents in the neighborhoods of interest but does indicate the level of satisfaction with current services as well as the need for additional services in the neighborhoods of interest among a minimum number of residents in each neighborhood.

C. RESPONDENT CHARACTERISTICS

A total of 131 respondents completed the survey. Figure 1 shows information on the percent of respondents living in each of the neighborhoods. The greatest number of respondents live in Black Horse Run (about 29 percent). Turner Farms and Lynnhaven each represent about 15 percent of the sample. The rest of the neighborhoods combined account for less than half of respondents.

Figure 1. Neighborhood.

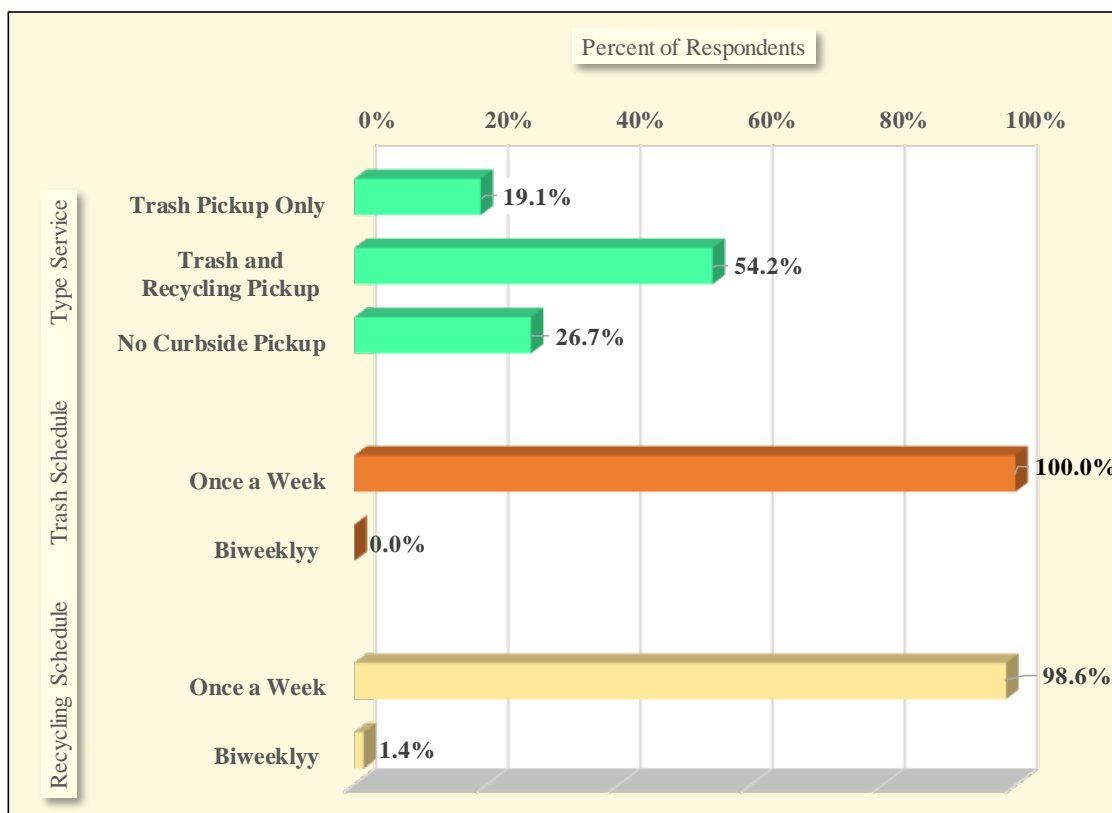


**Other Neighborhoods include Englewood Forest, Marcom Place, Saddle Ridge, and Creedmoor Crest (n=1 each)
Number of Respondents=130*

D. USE OF CURBSIDE SERVICES

Most respondents (around 54 percent) use both trash and recycling pickup services (Figure 2). About 19 percent receive trash but not recycling pickup and about 27 percent report that they do not use curbside pickup services. Among 96 respondents who receive trash collection services, all reported that they receive once a week service. Among 71 respondents who receive curbside recycling services, 70 are on a weekly schedule and one respondent is on a biweekly schedule.

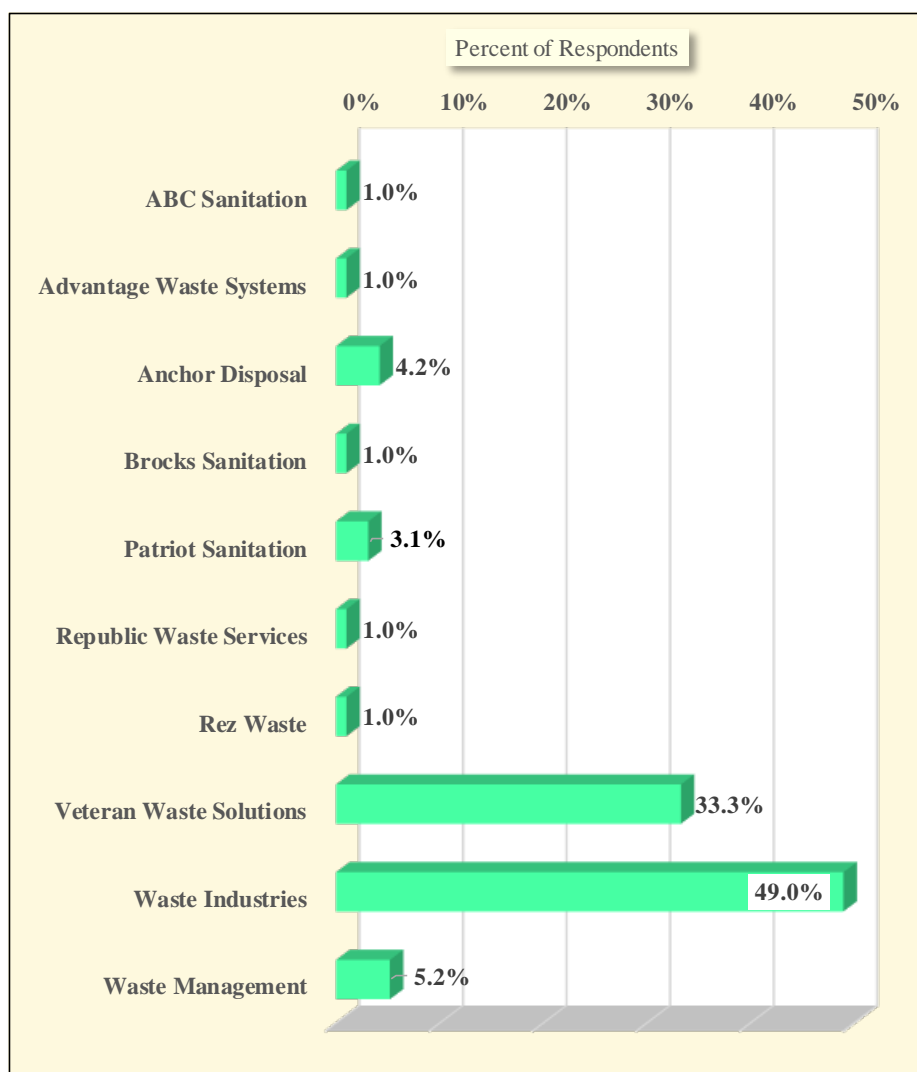
Figure 2. Type of Curbside Service.



Number of Respondents=131

Slightly under half of respondents use Waste Industries for curbside services and about a third use Veteran Waste Solutions (Figure 3). The least commonly used providers are ABC Sanitation, Advantage Waste Systems, Brocks Sanitation, Republic Waste Services, and Rez Waste, each cited by 1 percent of respondents.

Figure 3. Provider of Curbside Service.



Number of Respondents=96

Two thirds of respondents in Byrum Woods and half in Turner Farms use Waste Industries (Table 1). Percentages in Black horse Run are split at around 45 percent each for Waste Industries and Veteran Waste about 61 percent in Lynnhaven also use Veteran Waste. The number of respondents in other neighborhoods is too low for meaningful analysis but respondents in most neighborhoods are predominantly served by these two companies.

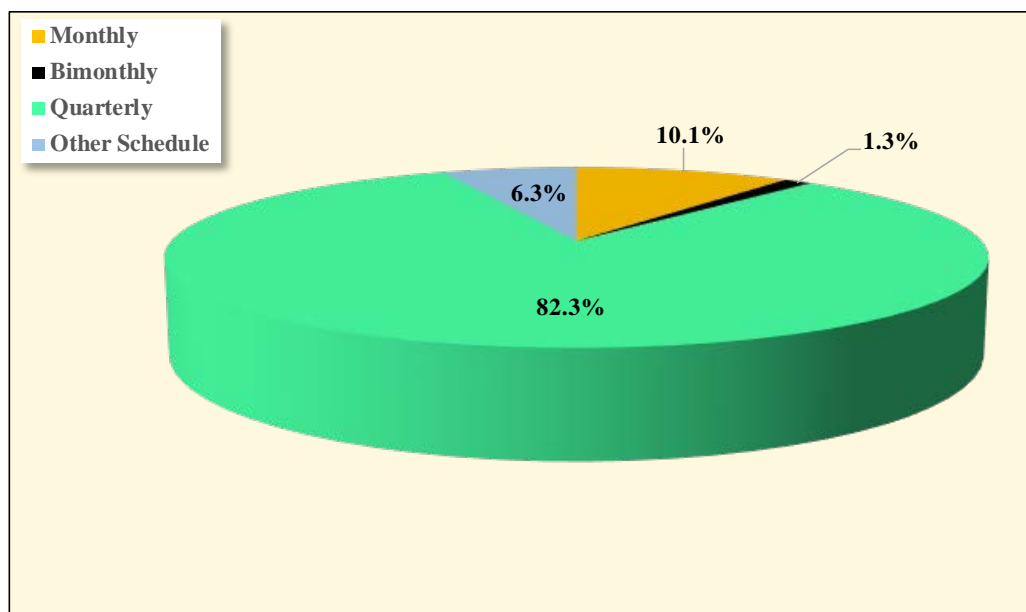
Table 1. Provider by Neighborhood Characteristics.

| Characteristic | Neighborhood / Column Percent | | | | | | | | | | |
|----------------------|-------------------------------|-------------|------------|---------------|------------------------|--------------|-------------------|-----------|-------------|--------------|-------------------|
| | Black Horse Run | Byrum Woods | Candlewick | Clear Springs | Crofts at Brackenridge | Glover Acres | Golden Plantation | Lynnhaven | Ridge Haven | Turner Farms | Wakefield Estates |
| Provider | | | | | | | | | | | |
| ▲ ABC Sanitation | | | | | | | 25.0% | | | | |
| ▲ Advantage Waste | | | | | | | 25.0% | | | | |
| ▲ Anchor Disposal | | | | | | | 25.0% | | | 16.7% | |
| ▲ Brocks Sanitation | | | | | | | | | | 5.6% | |
| ▲ Patriot Sanitation | 3.5% | | 50.0% | | | | | | | 5.6% | |
| ▲ Republic Waste | | | | | | | | | | 5.6% | |
| ▲ Rez Waste | 3.5% | | | | | | | | | | |
| ▲ Veteran Waste | 44.8% | 33.3% | | | 50.0% | | | 61.5% | | 16.7% | |
| ▲ Waste Industries | 48.3% | 66.7% | 50.0% | 100% | 50.0% | 66.7% | 25.0% | 30.8% | 100.0% | 50.0% | 50.0% |
| ▲ Waste Management | | | | | | 33.3 | | 7.7% | | | 50.0% |
| Number | 29 | 9 | 2 | 1 | 6 | 3 | 4 | 13 | 1 | 18 | 6 |
| Type Service | | | | | | | | | | | |
| ▲ Trash Only | 8.1% | 18.2% | 16.7% | | 37.5% | 75.0% | 50.0% | 10.5% | 16.7% | 35.0% | |
| ▲ Trash & Recycling | 70.3% | 63.6% | 16.7% | 33.3% | 37.5% | | 50.0% | 57.9% | 0.0% | 55.0% | 100.0% |
| ▲ Neither | 21.6% | 18.2% | 66.7% | 66.7% | 25.0% | 25.0% | | 31.6% | 83.3% | 10.0% | |
| Number | 37 | 11 | 6 | 3 | 8 | 4 | 4 | 19 | 6 | 20 | 6 |

Number of Respondents: Provider=92; Type Service=124

Figure 4 shows the distribution of payment schedules for curbside service reported by respondents. The overwhelming majority of respondents (82.3 percent) report paying for curbside service on a quarterly basis. A bimonthly payment schedule was the least commonly reported (1.3 percent).

Figure 4. Payment Schedule for Curbside Service.

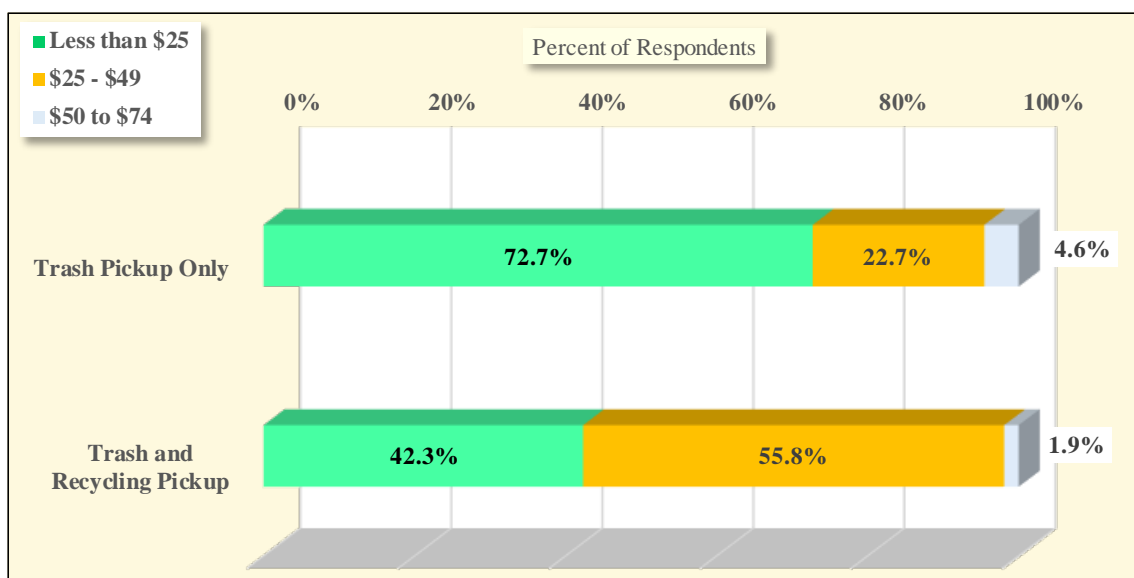


Number of Respondents=79

For those receiving trash pickup only, the majority (72.7 percent) pay less than \$25 per month (Figure 5). Those receiving both trash and recycling pickup are more likely to pay between \$25 and \$49 dollars per month (55.8 percent).

Mean, minimum, and maximum amounts paid per month are shown in Table 2. On average, respondents pay around \$23 for trash collection and \$26 for trash and recycling collection. Table 2 also shows mean payments for trash only versus trash and recycling for different providers. Means shown in the table are for only Waste Industries and Veteran Waste Solutions because fewer than five respondents reported the cost of curbside service for any of the other providers. Minimum and maximum amounts are shown for providers with fewer than five respondents.

Mean cost of both trash collection and trash/recycling collection was lower for Veteran Waste Solutions than for Waste Industries (\$15.80 compared to \$22.85 and \$23.44 compared to \$29.38, respectively). Respondents reported paying amounts that ranged from \$10.00 to \$59.00 a month for trash collection only and \$4.33 to \$66.00 a month for trash and recycling collection.

Figure 5. Amount Paid for Curbside Service per Month by Type Service.

Number of Respondents:

▲ Trash=25

▲ Trash and Recycling=71

Table 2. Average Amount Paid per Month by Type Collection and Provider.

| Neighborhood | Type Service / Monthly Amount | | | | | | | |
|-------------------------|-------------------------------|-----------------|-----------------|-----------|---------------------|----------------|-----------------|-----------|
| | Trash Only | | | | Trash and Recycling | | | |
| | Mean | Min | Max | N | Mean | Min | Max | N |
| All Respondents | \$ 22.79 | \$ 10.00 | \$ 59.00 | 22 | \$ 26.64 | \$ 4.33 | \$ 66.00 | 52 |
| ABC Sanitation | | | | | -- | \$ 25.00 | \$ 25.00 | 1 |
| Advantage Waste Systems | -- | \$ 21.00 | \$ 21.00 | 1 | | | | |
| Anchor Disposal | -- | \$ 18.33 | \$ 18.67 | 3 | | | | |
| Patriot Sanitation | -- | \$ 19.67 | \$ 19.67 | 1 | -- | \$ 23.33 | \$ 33.33 | 2 |
| Republic Waste Services | -- | \$ 59.00 | \$ 59.00 | 1 | | | | |
| Rez Waste | | | | | -- | \$ 28.00 | \$ 28.00 | 1 |
| Veteran Waste Solutions | \$ 15.80 | \$ 10.00 | \$ 18.00 | 5 | \$ 23.44 | \$ 4.33 | \$ 66.00 | 19 |
| Waste Industries | \$ 22.85 | \$ 14.00 | \$ 30.00 | 13 | \$ 29.38 | \$ 20.00 | \$ 33.00 | 24 |
| Waste Management | -- | \$ 25.67 | \$ 25.67 | 1 | -- | \$ 30.00 | \$ 40.00 | 2 |

Mean is omitted where $n < 5$

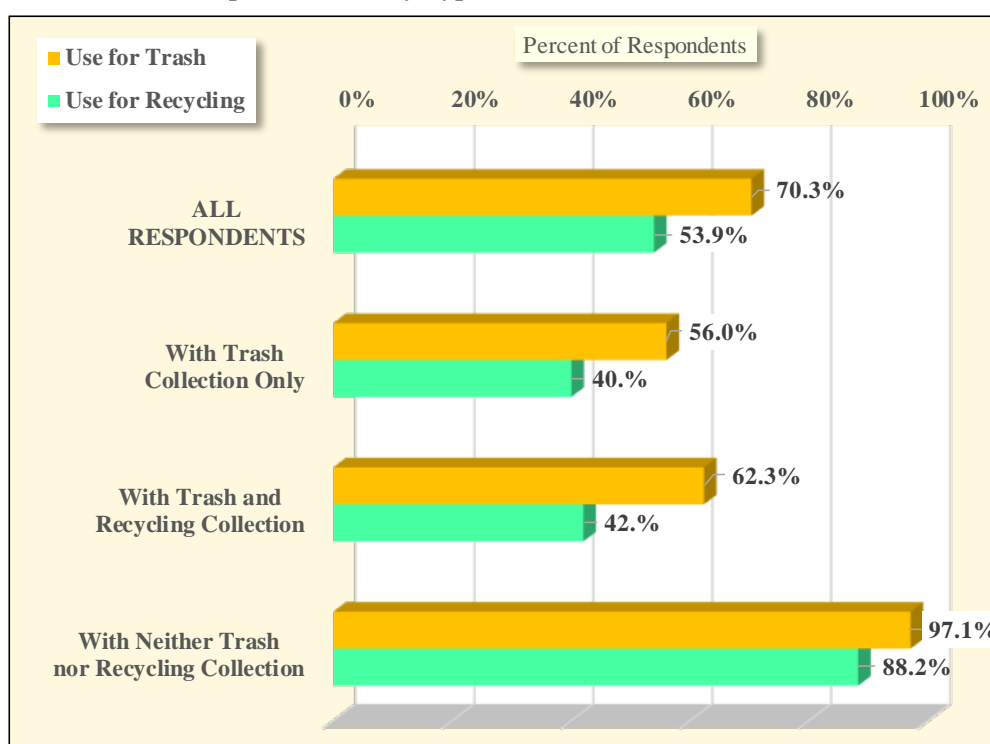
Shaded cell indicates no respondents

No respondents reported cost data for Brocks Sanitation.

E. USE OF WAKE COUNTY CONVENIENCE CENTERS

Figure 6 shows information on the use of Wake County Convenience Centers. Among the total sample, around 70 percent of respondents use the Convenience Center for trash and about 54 percent for recycling. Fifty-six percent of those receiving only trash pickup use the centers for trash drop-off and 40 percent for recycling. Among respondents with both trash and recycling service, about 62 percent use the centers for trash and 42 percent for recycling. Unsurprisingly, an overwhelming majority of those who do not receive curbside pickup take trash to the Wake County Convenience Center (97.1 percent).

Figure 6. Use of Wake County Convenience Center to Drop off Trash and Recycling: All Respondents and by Type Service.



Number of Respondents: Total Sample=128

Table 3 presents information on use of the Convenience Centers by neighborhood and service provider. For most rows shown in the table, the number of respondents is too low for meaningful analyses. A majority of respondents in the larger neighborhoods—Black Horse Run, Lynnhaven, and Turner Woods—visit the Convenience Center to drop off trash. In contrast, one of the four respondents from neighborhoods not listed on the survey (n=1 each) do so.

Results for use of the Convenience Centers for recycling are mixed, but a majority of respondents in the larger neighborhoods use the Convenience Centers for this purpose. The exception to this pattern is for Turner Farms where only 35 percent of respondents use the Convenience Centers for recycling.

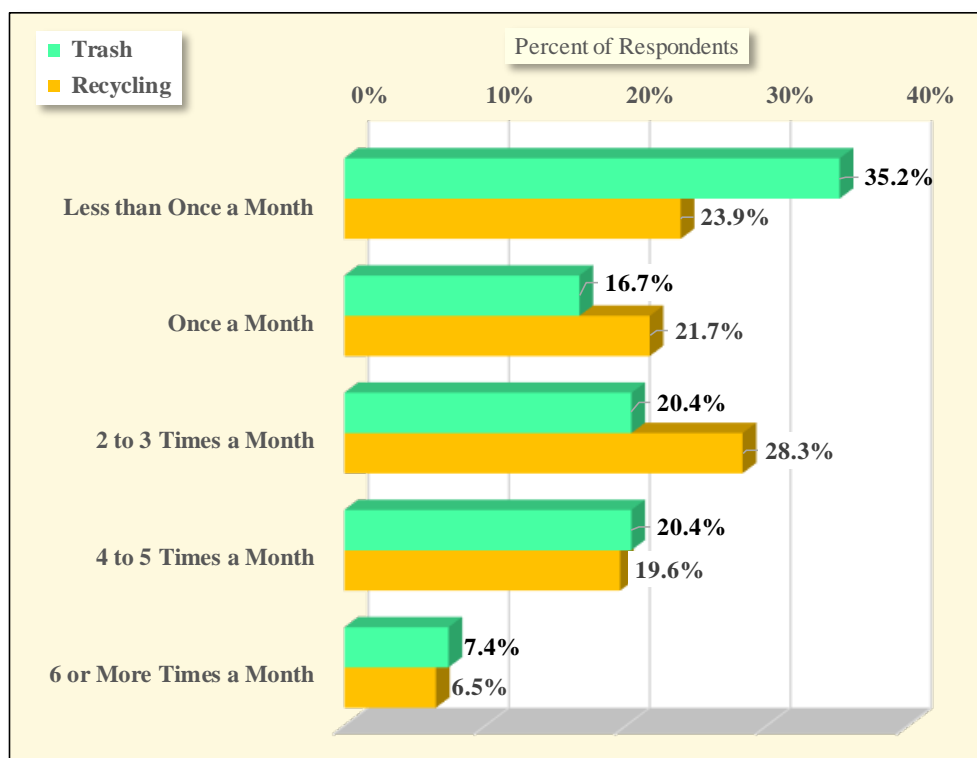
Respondents in larger neighborhoods with the highest rate of both trash and recycling services nevertheless use the Convenience Centers at a high rate: Black Horse Run, 76 percent for trash and 60 percent for recycling; Byrum Woods, 60 and 60 percent; Lynn Haven 79 and 68 percent; and Turner Farms, 55 and 35 percent. In Ridge Haven, where about 58 percent of respondents have both services, 83 percent use the Convenience Centers for trash and 66 percent for recycling.

Table 3. Use of Wake County Convenience Center to Drop off Trash and Recycling: by Neighborhood and Provider.

| Neighborhood | Type Service / Row Percent / Row Total N | | | |
|---------------------------|--|-------|-----------|-------|
| | Trash | | Recycling | |
| | Percent | Row N | Percent | Row N |
| Neighborhood | | | | |
| ▲ Black Horse Run | 75.7% | 37 | 59.5% | 37 |
| ▲ Byrum Woods | 60.0% | 10 | 60.0% | 10 |
| ▲ Candlewick | 50.0% | 6 | 33.3% | 6 |
| ▲ Clear Springs | 100.0% | 3 | 33.3% | 3 |
| ▲ Crofts at Brackenridge | 83.3% | 6 | 83.3% | 6 |
| ▲ Glover Acres | 50.0% | 4 | 25.0% | 4 |
| ▲ Golden Plantation | 75.0% | 4 | 0.0% | 4 |
| ▲ Howell | 100.0% | 1 | 100.0% | 1 |
| ▲ Lynnhaven | 79.0% | 19 | 68.4% | 19 |
| ▲ Ridge Haven | 83.3% | 6 | 66.7% | 6 |
| ▲ Scott Farm | 100.0% | 1 | 100.0% | 1 |
| ▲ Turner Farms | 55.0% | 20 | 35.0% | 20 |
| ▲ Wakefield Estates | 83.3% | 6 | 66.7% | 6 |
| Provider | | | | |
| ▲ ABC Sanitation | 100.0% | 1 | 0.0% | 1 |
| ▲ Advantage Waste Systems | 100.0% | 1 | 0.0% | 1 |
| ▲ Anchor Disposal | 50.0% | 4 | 0.0% | 4 |
| ▲ Brocks Sanitation | 0.0% | 1 | 0.0% | 1 |
| ▲ Patriot Sanitation | 33.3% | 3 | 33.3% | 3 |
| ▲ Republic Waste Services | 100.0% | 1 | 0.0% | 1 |
| ▲ Rez Waste | 100.0% | 1 | 100.0% | 1 |
| ▲ Veteran Waste Solutions | 54.8% | 31 | 35.5% | 31 |
| ▲ Waste Industries | 60.9% | 46 | 52.2% | 46 |
| ▲ Waste Management | 100.0% | 5 | 40.0% | 5 |

Figure 7 shows a wide range of Convenience Center use frequency. Over a third of respondents use the Centers for trash less than monthly and about 17 percent, once a month. About a fifth reported two to three times a month and another fifth, four to five times a month. Slightly under a quarter visit the Convenience Centers less than monthly for recycling and slightly over a fifth visit monthly.

Figure 7. Frequency of Use of Wake County Convenience Center to Drop off Trash and Recycling.



Number of Respondents:

▲ Trash:=77

▲ Recycling=46

Table 4 contains information on average monthly use of the Convenience Centers for trash and recycling by type service and neighborhood. As might be expected, respondents with only trash collection and those with no collection service are more likely to use Convenience Centers for both purposes than those with no trash or recycling service. On average, respondents with no service visit a Convenience Center more than three times a month for trash and slightly under three times a month for recycling.

Among neighborhoods, average use for Black Horse Run and Lynnhaven is between one and two times a month. Five respondents in Ridge Haven use the centers 4.6 times a month on average with a minimum of one time and a maximum of twelve times. Several neighborhoods with fewer than five respondents show usage at less than monthly frequency.

Table 4. Mean Number of Times per Month Using Wake County Convenience Center by Type Service and Neighborhood.

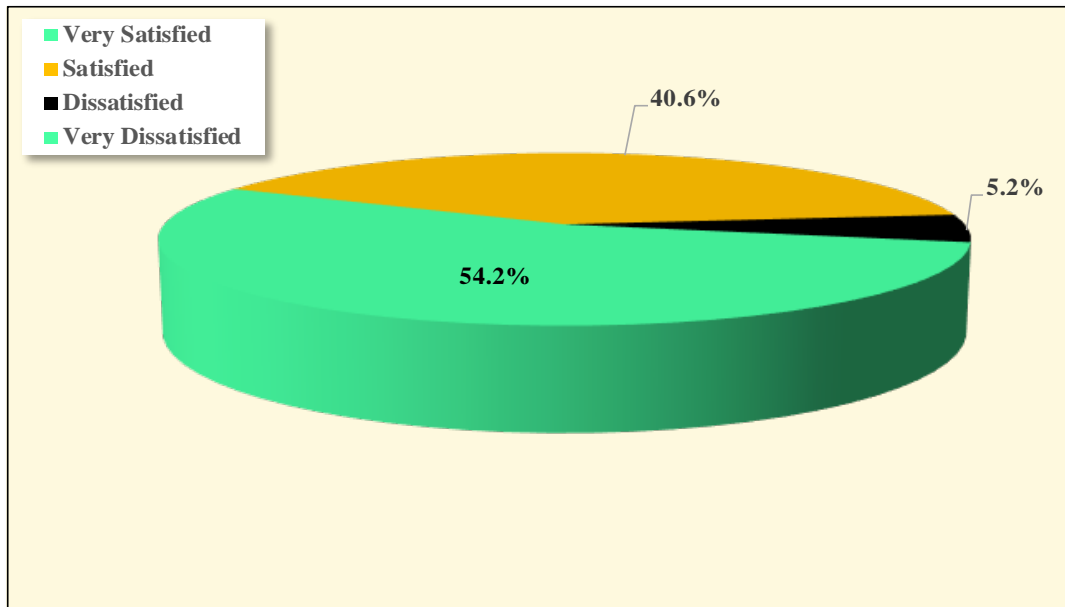
| Characteristic | Trash | | | | Recycling | | | |
|--------------------------------|-------|-----|------|----|-----------|-----|-----|----|
| | Mean | Min | Max | N | Mean | Min | Max | N |
| Type Service | | | | | | | | |
| ▲ Trash Collection Only | 1.8 | 0.5 | 4.0 | 5 | 2.8 | 0.5 | 4.0 | 6 |
| ▲ Trash & Recycling Collection | 0.6 | 0.5 | 1.0 | 18 | 0.7 | 0.5 | 1.0 | 11 |
| ▲ Neither Trash nor Recycling | 3.4 | 0.5 | 12.0 | 31 | 2.8 | 0.5 | 8.0 | 29 |
| Neighborhood | | | | | | | | |
| ▲ Black Horse Run | 1.7 | 0.5 | 8.0 | 16 | 1.9 | 0.5 | 8.0 | 14 |
| ▲ Byrum Woods | -- | 0.5 | 8.0 | 3 | -- | 0.5 | 2.0 | 2 |
| ▲ Candlewick | -- | 3.0 | 4.0 | 2 | -- | 2.0 | 3.0 | 2 |
| ▲ Clear Springs | -- | 0.5 | 4.0 | 3 | -- | 4.0 | 4.0 | 1 |
| ▲ Crofts at Brackenridge | -- | 1.0 | 3.0 | 3 | -- | 1.0 | 4.0 | 3 |
| ▲ Glover Acres | -- | 1.0 | 1.0 | 1 | -- | 0.5 | 0.5 | 1 |
| ▲ Golden Plantation | -- | 0.5 | 0.5 | 1 | | | | 0 |
| ▲ Howell | -- | 4.0 | 4.0 | 1 | -- | 2.0 | 2.0 | 1 |
| ▲ Lynnhaven | 1.6 | 0.5 | 4.0 | 10 | 1.7 | 0.5 | 4.0 | 9 |
| ▲ Ridge Haven | 4.6 | 1.0 | 12.0 | 5 | -- | 1.0 | 8.0 | 4 |
| ▲ Scott Farm | -- | 8.0 | 8.0 | 1 | -- | 8.0 | 8.0 | 1 |
| ▲ Turner Farms | 2.4 | 0.5 | 4.0 | 5 | -- | 1.0 | 4.0 | 4 |
| ▲ Wakefield Estates | -- | 0.5 | 0.5 | 2 | -- | 0.5 | 0.5 | 2 |

-- Means not shown for $N < 5$

II. SATISFACTION WITH SERVICES

In general, respondents rate their curbside services highly. Respondents were asked to rate their service provider on a 4-point Likert type scale with the responses: *Very Satisfied*, *Satisfied*, *Dissatisfied*, and *Very Dissatisfied*. Over half report that they are very satisfied with their curbside service and another 41 percent are satisfied, for an overall rating of almost 95 percent positive assessments. A few reported being dissatisfied (5 percent), and no respondents reported being very dissatisfied.

Figure 8. Satisfaction with Curbside Service.



Number of Respondents=96

Just as respondents in general report high levels of satisfaction, so did the majority of those across neighborhoods (Table 5). The highest proportion of very satisfied ratings is for Byrum Woods and Glover Acres at 66.7 percent. The highest percentage of dissatisfied ratings was for Byrum Woods, at 11 percent, among nine respondents. For several neighborhoods, the number of respondents was too low for meaningful analysis. The single respondent for both Clear Springs and Ridge Haven and the two respondents for Candlewick all provided *Very Satisfied* ratings.

Among the four neighborhoods not listed on the survey, respondents were generally satisfied. The single respondent in both Marcom Place and Saddle Ridge provided ratings of *Very Satisfied* and the single respondent in Englewood Forest provided a rating of *Satisfied*.

Table 5. Satisfaction with Curbside Service by Neighborhood.

| Neighborhood | Percent Satisfied with Current Service | | | | Row N |
|------------------------|--|-----------|--------------|-------------------|-------|
| | Very Satisfied | Satisfied | Dissatisfied | Very Dissatisfied | |
| Black Horse Run | 48.3% | 44.8% | 6.9% | | 29 |
| Byrum Woods | 66.7% | 22.2% | 11.1% | | 9 |
| Candlewick | | 100.0% | | | 2 |
| Clear Springs | | 100.0% | | | 1 |
| Crofts at Brackenridge | 66.7% | 33.3% | | | 6 |
| Glover Acres | 66.7% | 33.3% | | | 3 |
| Golden Plantation | 50.0% | 50.0% | | | 4 |
| Lynnhaven | 84.6% | 15.4% | | | 13 |
| Ridge Haven | | 100.0% | | | 1 |
| Turner Farms | 50.0% | 44.4% | 5.6% | | 18 |
| Wakefield Estates | 33.3% | 66.7% | | | 6 |

Number of Respondents=92

Table 6 shows satisfaction with curbside service as it varies across service providers. All respondents reported being very satisfied or satisfied with most of the providers. Of the two most frequently used companies, about 60 percent were satisfied and about 30 percent were very satisfied with Waste Industries; 84 percent of Veteran Waste Solutions clients were very satisfied and about 16 percent were satisfied. Only five respondents provided data for Waste Management, with two reporting very satisfied ratings and three reporting satisfied ratings. Providers with only one respondent reporting received high ratings as well with respondents for ABC Sanitation, Republic Waste Services, and Rez Waste each providing very satisfied ratings. Advantage Waste Systems and Brocks Sanitation received satisfied ratings from each respondent.

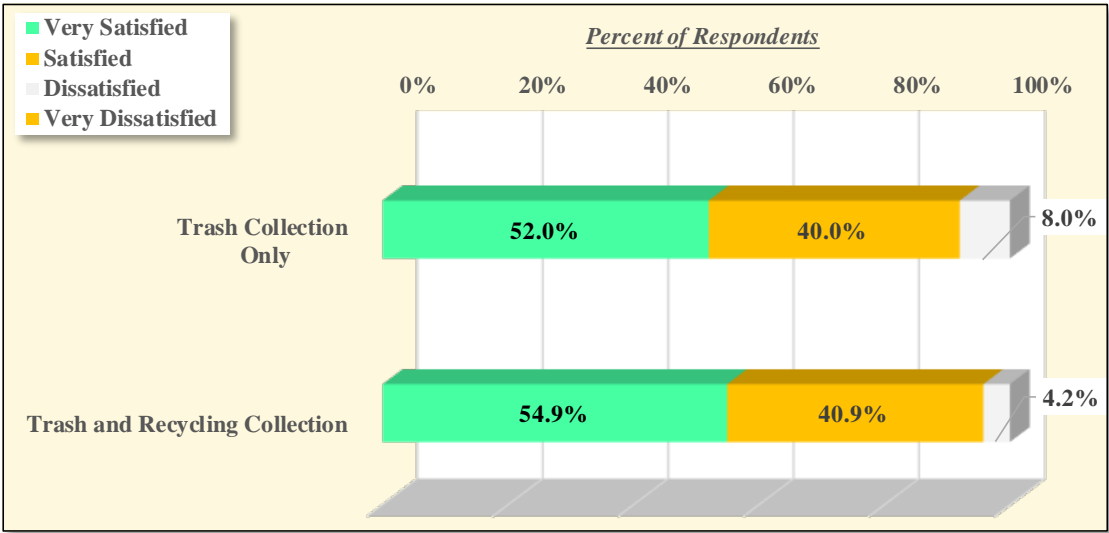
Table 6. Satisfaction with Curbside Service by Provider.

| Provider | Percent Satisfied with Current Service | | | | Row N |
|-------------------------|--|-----------|--------------|-------------------|-------|
| | Very Satisfied | Satisfied | Dissatisfied | Very Dissatisfied | |
| ABC Sanitation | 100.0% | | | | 1 |
| Advantage Waste Systems | | 100.0% | | | 1 |
| Anchor Disposal | 100.0% | | | | 4 |
| Brocks Sanitation | | 100.0% | | | 1 |
| Patriot Sanitation | 66.7% | 33.3% | | | 3 |
| Reliable Sanitation | | | | | |
| Republic Waste Services | 100.0% | | | | 1 |
| Rez Waste | 100.0% | | | | 1 |
| Veteran Waste Solutions | 84.4% | 15.6% | | | 32 |
| Waste Industries | 29.8% | 59.6% | 10.6% | | 47 |
| Waste Management | 40.0% | 60.0% | | | 5 |

N=96

Figure 9 shows ratings based on the type of service received: trash collection only versus both trash and recycling collection. The majority of respondents reported being very satisfied or satisfied with both types of curbside service. Those whose service includes both trash and recycling pickup showed slightly higher levels of satisfaction with around 55 percent very satisfied compared to 52 percent for those with only trash collection. Eight percent of this group and 4 percent of the trash and recycling group reported being dissatisfied and none were very dissatisfied with service.

Figure 9. Satisfaction with Curbside Service by Type Service.



Number of Respondents: Trash Collection Only=25 Trash and Recycling=71

Figure 10 shows an inverse linear relationship between satisfaction and amount paid per month. Respondents who are very satisfied with their service pay the lowest average monthly amount and those who are dissatisfied pay the highest amount.

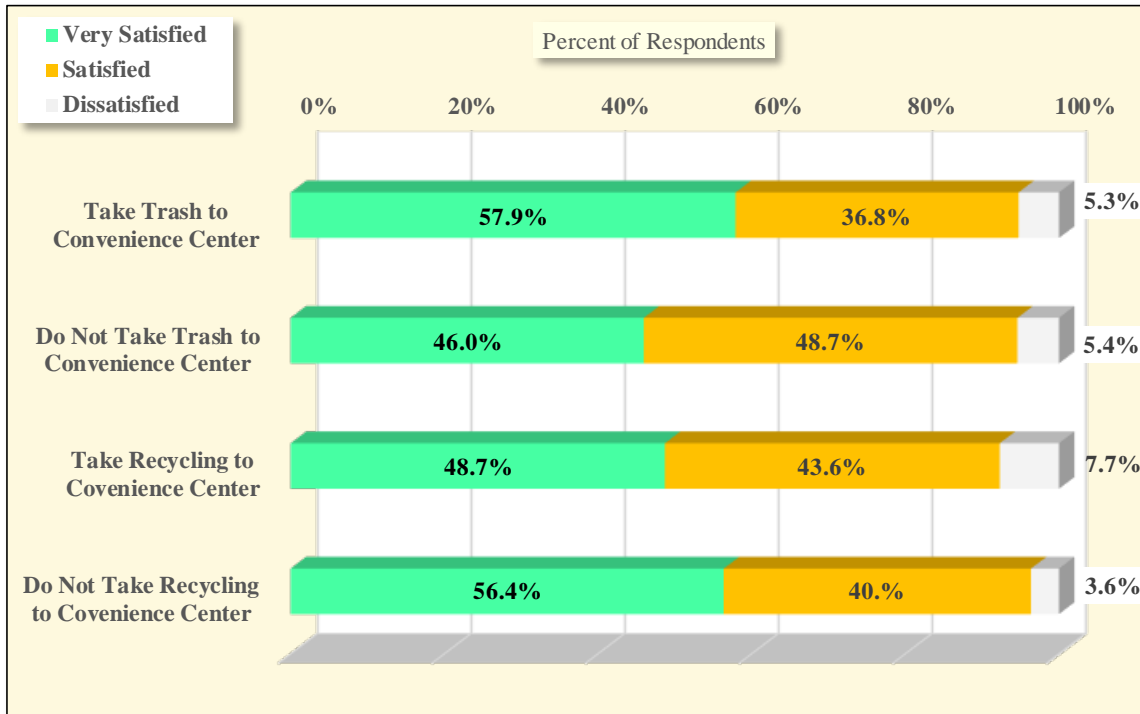
Figure 10. Mean Amount Paid per Month by Satisfaction with Curbside Service.



Number of Respondents=n=74. Very Satisfied=38; Satisfied=32; Dissatisfied=4.

Frequency of use of the Convenience Center appears to have little impact on respondent satisfaction with current service. Most respondents do use the Convenience Center and regardless of use of lack of use, they remain highly satisfied with their current service. About 58 percent who use the Centers for trash are very satisfied with their curbside service compared with 46 percent of those who do not. Comparable percentages for recycling follow similar patterns with the highest level of very satisfied ratings among respondents who do not use the Convenience Centers for recycling.

Figure 11. Satisfaction with Curbside Service by Use of Convenience Center.



Number of Respondents=94

Table 7 presents a summary of information pertaining to service cost, service provider, and satisfaction with service among the neighborhoods of interest. “Combined Satisfaction” is measured as percent *Very Satisfied* + percent *Satisfied*. As previously discussed, satisfaction is high across neighborhoods and service providers.

Black Horse Run represents the neighborhood with the largest number of respondents. Service among this group is split fairly evenly between Waste Industries (48 percent) and Veteran Waste (45 percent). The combined satisfaction score in this neighborhood is 93.1 percent. Other neighborhoods using either or both of these companies provide combined satisfaction ratings of 89 to 100 percent. Neighborhoods showing 100 percent ratings tend to have lower payments than those showing ratings below 100 percent, again supporting the previously discussed idea that cost and satisfaction are related.

Table 7. Mean Monthly Payment by Neighborhood, Provider, and Percent Satisfied with Service.

| Neighborhood | Selected Characteristics | | | | | |
|------------------------|--------------------------|---------|---------|----|------------------------|--|
| | Mean Monthly Payment | | | | Combined Satisfaction† | Primary Provider(s) / (Percent Selected Each) |
| | Mean | Min | Max | N | | |
| Black Horse Run | \$ 27.18 | \$17.00 | \$66.00 | 26 | 93.1% | Waste Industries (48.3%) Veteran Waste (44.8%) |
| Byrum Woods | \$24.72 | \$ 4.33 | \$43.33 | 6 | 88.9% | Waste Industries (66.7%) |
| Candlewick | \$26.00 | \$19.00 | \$33.00 | 2 | 100.0% | Patriot Sanitation (50.0%) Waste Industries (50.0%) |
| Clear Springs | \$26.00 | \$26.00 | \$26.00 | 1 | 100.0% | Waste Industries (100.0%) |
| Crofts at Brackenridge | \$20.42 | \$17.00 | \$22.67 | 4 | 100.0% | Veteran Waste (50.0%) Waste Industries (50.0%) |
| Glover Acres | \$25.50 | \$25.33 | \$25.67 | 2 | 100.0% | Waste Industries (66.7%) |
| Golden Plantation | \$22.89 | \$21.00 | \$25.00 | 3 | 100.0% | * |
| Lynnhaven | \$22.54 | \$10.00 | \$31.33 | 8 | 100.0% | Veteran Waste (61.0%) |
| Ridge Haven | \$25.00 | \$25.00 | \$25.00 | 1 | 100.0% | Waste Industries (100.0%) |
| Turner Farms | \$25.02 | \$18.33 | \$59.00 | 14 | 94.4% | Waste Industries (50.0%) |
| Wakefield Estates | \$33.00 | \$27.33 | \$40.00 | 4 | 100.0% | ** |

† Combined Satisfaction Score=%Very Satisfied + % Satisfied

*Equally split, 25% each: ABC Sanitation, Advantage Waste, Anchor Disposal, Waste Industries

** Equally split, 50.0% each: Veteran Waste, Waste Industries

III. SUMMARY AND CONCLUSIONS

The study described here provides baseline data on use of and satisfaction with curbside service in Wake County's unincorporated neighborhoods. Key findings are as follows:

- The majority of respondents use a curbside service for both trash and recycling with the vast majority receiving weekly collection for both trash and recycling.
- Respondents are highly satisfied with their current services. Turner Farms respondents provided the highest percentage of *Very Satisfied* ratings.
- No respondents indicated that they were very dissatisfied with their current service.
- Respondents who pay lower amounts for their monthly service are slightly more satisfied than those who pay more.
- The majority of respondents use Veteran Waste Solutions (about a third) or Waste Industries (almost half) for their curbside waste and recycling services.
- Use of the Wake County Convenience Centers is common among respondents. The vast majority with no curbside service use the Convenience Centers for both trash and recycling. Respondents with curbside service use the Convenience Centers more often for trash than recycling.
- Frequency of use of the Convenience Centers does not negatively impact respondents' satisfaction with their curbside service.

In interpreting survey results, certain methodological limitations must be considered. Two major considerations should be taken into account for the current survey. Because the survey was based on a self-selected sample, responses cannot be deemed representative of all clients of service providers or all residents in a neighborhood. Self-selected samples may result in respondents with more extreme views – either positive or negative – completing the survey.¹ In such surveys, less emphatic respondents may choose not to participate in the survey, thus skewing the findings (referred to as non-response bias). With these considerations taken into account, the data described here do provide information on the views of a *minimum* number of residents in the neighborhoods of interest.

¹ Groves, R. 2006. "Nonresponse Rates and Nonresponse Bias in Household Surveys." *The Public Opinion Quarterly*, 70(5): 646-675. Accessed 10/2/2017. <http://www.jstor.org/stable/4124220>

Wake County
Trash and Recycling Survey



Appendix

Survey Instrument

Wake County Trash and Recycling Survey



Wake County has selected your neighborhood to provide feedback on waste and recycling services. Responses from residents using curbside collection or drop-off centers are needed to help improve services offered in Wake County.

All survey responses are completely confidential and data will be grouped for analysis. You must be age 18 or older to complete the survey.

After completing the survey, you will have the option to enter a drawing for a chance to win one of ten \$50 gift cards. PLEASE NOTE: If you select “Don’t Know/Prefer Not to Answer” for all questions, you will not be eligible for the drawing.

If you have questions about the survey please contact: Meghan Baldwin, at Wake County Solid Waste Management: Meghan.Baldwin@wakegov.com

Instructions:

Please answer all questions. Select one answer for each question unless instructed to “Select All that Apply.”

If you don’t know the answer or the question is not applicable to your situation, please check “Don’t Know/Not Applicable” or “Prefer Not to Answer.”

1. What neighborhood do you live in? **[SELECT ONLY ONE.]**

- | | |
|---|--------------------------|
| Black Horse Run | <input type="checkbox"/> |
| Byrum Woods | <input type="checkbox"/> |
| Candlewick..... | <input type="checkbox"/> |
| Clear Springs..... | <input type="checkbox"/> |
| Crofts at Brackenridge | <input type="checkbox"/> |
| Glover Acres | <input type="checkbox"/> |
| Golden Plantation..... | <input type="checkbox"/> |
| Howell..... | <input type="checkbox"/> |
| Lynnhaven..... | <input type="checkbox"/> |
| Ridge Haven..... | <input type="checkbox"/> |
| Scott Farm | <input type="checkbox"/> |
| Turner Farms..... | <input type="checkbox"/> |
| Other? [SPECIFY] | |
| <i>Don't Know / /Prefer not to Answer</i> | <input type="checkbox"/> |

Wake County Trash and Recycling Survey

2. Which best describes you curbside trash collection: **[SELECT ONLY ONE.]**

Trash pickup only **[Answer Q3 and Skip to Q5]** ☐

Trash and recycling pickup ☐

I don't receive curbside pickup **[SKIP TO Q8]** ☐

Don't Know / Prefer not to Answer..... ☐

3. How often is your trash collected? **[SELECT ONLY ONE.]**

Once a week ☐

Every other week ☐

Other Schedule **[SPECIFY]**

Don't Know / Prefer not to Answer **[SKIP TO Q4]**..... ☐

4. **IF RESPONDENT HAS RECYCLING PICKUP (Q2=2):**

How often is your recycling collected? **[SELECT ONLY ONE.]**

Once a week ☐

Every other week ☐

Other Schedule **[SPECIFY]**

Don't Know / Prefer not to Answer..... ☐

5. What's the name of the company that provides your curbside collection?

Aardvark Trash ☐

ABC Sanitation ☐

Advantage Waste Systems ☐

Anchor Disposal..... ☐

Brocks Sanitation ☐

Busy Bee ☐

Patriot Sanitation..... ☐

Reliable Sanitation ☐

Republic Waste Services ☐

Rez Waste ☐

Shaw Sanitation..... ☐

Veteran Waste Solutions ☐

Waste Industries ☐

Waste Management ☐

Other? **[SPECIFY]**

Don't Know / Prefer not to Answer ☐

Wake County Trash and Recycling Survey

6. How much do you pay for your curbside service? **[SELECT ONLY ONE.]**

| <u>Amount</u> | <u>Schedule</u> |
|---------------|--|
| \$ _____ per | Month..... <input type="checkbox"/> |
| | Every Other Month <input type="checkbox"/> |
| | Quarterly <input type="checkbox"/> |
| | Other Schedule..... <input type="checkbox"/> |

[IF OTHER SCHEDULE: INDICATE AMOUNT ABOVE AND SPECIFY FREQUENCY]

_____ ☐
Don't Know / Prefer not to Answer

7. a. How satisfied are you with your current level of curbside services? Would you say you are: **[READ RESPONSES. SELECT ONLY ONE.]**

Very Satisfied ☐
Satisfied ☐
Dissatisfied ☐
Very Dissatisfied..... ☐
Don't Know / Prefer not to Answer ☐

- b. Do you have any comments on the reasons for your rating of your curbside service?
[RECORD RESPONSE.]

8. Do you use Wake County Convenience Centers to drop-off trash? **[SELECT ONLY ONE.]**

Yes ☐
No **[SKIP TO Q10]**..... ☐
Don't Know / Prefer not to Answer..... ☐

9. How often do you bring your trash to the Convenience Center? **[RECORD NUMBER OF TIMES AND SELECT SCHEDULE.]**

| <u>Times</u> | <u>Schedule</u> |
|--------------|--|
| _____ per | Week..... <input type="checkbox"/> |
| | Month..... <input type="checkbox"/> |
| | Every Other Month <input type="checkbox"/> |
| | Other Schedule..... <input type="checkbox"/> |

[IF OTHER SCHEDULE: INDICATE NUMBER OF TIMES ABOVE AND SPECIFY FREQUENCY]

_____ ☐
Don't Know / Prefer not to Answer ☐

Wake County Trash and Recycling Survey

10. Do you use Wake County Convenience Centers to drop-off recycling? **[SELECT ONLY ONE.]**

Yes ☐

No **[SKIP TO Q12]**..... ☐

Don't Know / Prefer not to Answer..... ☐

11. How often do you bring your recycling to the Convenience Center? **[RECORD NUMBER OF TIMES AND SELECT SCHEDULE.]**

Times

Schedule

_____ per Week..... ☐

Month..... ☐

Every Other Month..... ☐

Other Schedule..... ☐

[IF OTHER SCHEDULE: INDICATE NUMBER OF TIMES ABOVE AND SPECIFY FREQUENCY] _____

_____ ☐

Don't Know / Prefer not to Answer..... ☐

12. If your situation is different than any of those specified in the above questions, please use this section to describe your current method of garbage and/or recycling disposal.

That completes the survey. Thanks for your help!
Please return your survey before August 31 to:
Center for Urban Affairs & Community Services (Wake Survey)
NC State University
Campus Box 7401
Raleigh, NC 27695-7401

If you would like to enter the drawing for one of ten \$50 gift cards, please enter your email below. (Your email address will not be linked to your survey data.)

Email _____

