

# KNOXVILLE'S RECYCLING PROGRAM



Center for Applied Research and Evaluation

University of Tennessee-Knoxville

Spring 2009

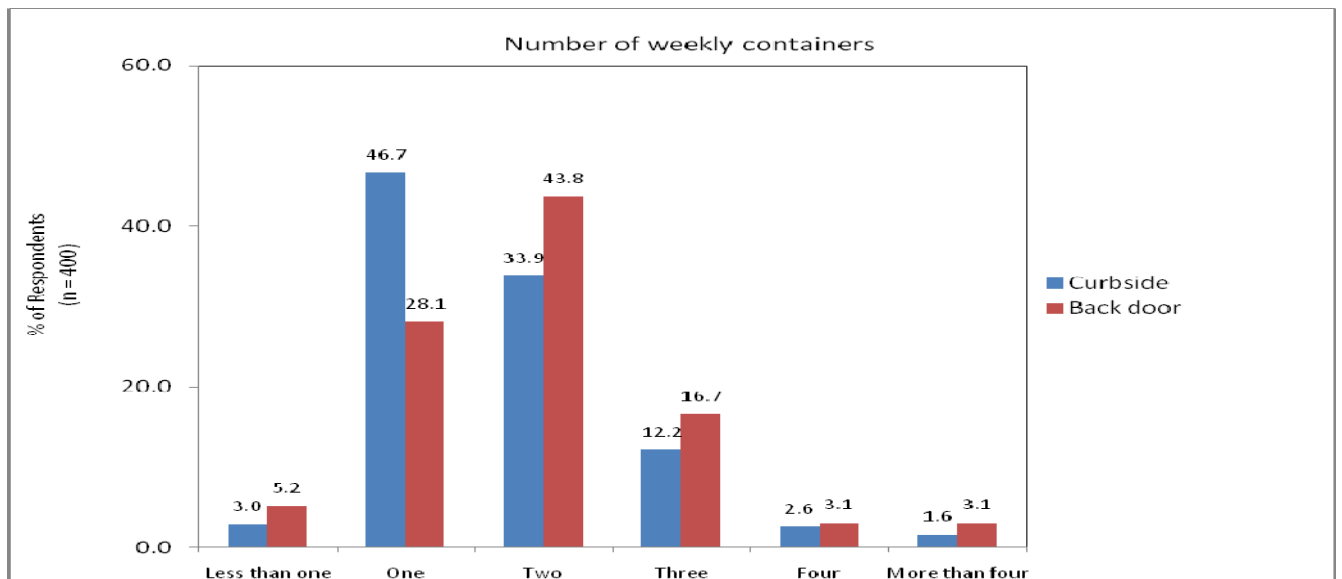
## Methodology

The Center for Applied Research and Evaluation at the University of Tennessee-Knoxville conducted telephone interviews with 401 heads of household residing within Knoxville city limits. The survey was completed between March 9, 2009 and March 15, 2009 to determine household recycling habits and support for future recycling programs. The telephone interviews were conducted using a Computer Assisted Telephone Interviewing (CATI) system. This study utilized a random sample of telephone numbers for listed households purchased from Marketing Systems Group, supplemented with telephone numbers for randomly selected households currently receiving backdoor garbage pick-up. The list of households currently receiving this service was provided by the city of Knoxville. The results of the survey are reported at the 95% confidence level with a +/- 5% margin of error.

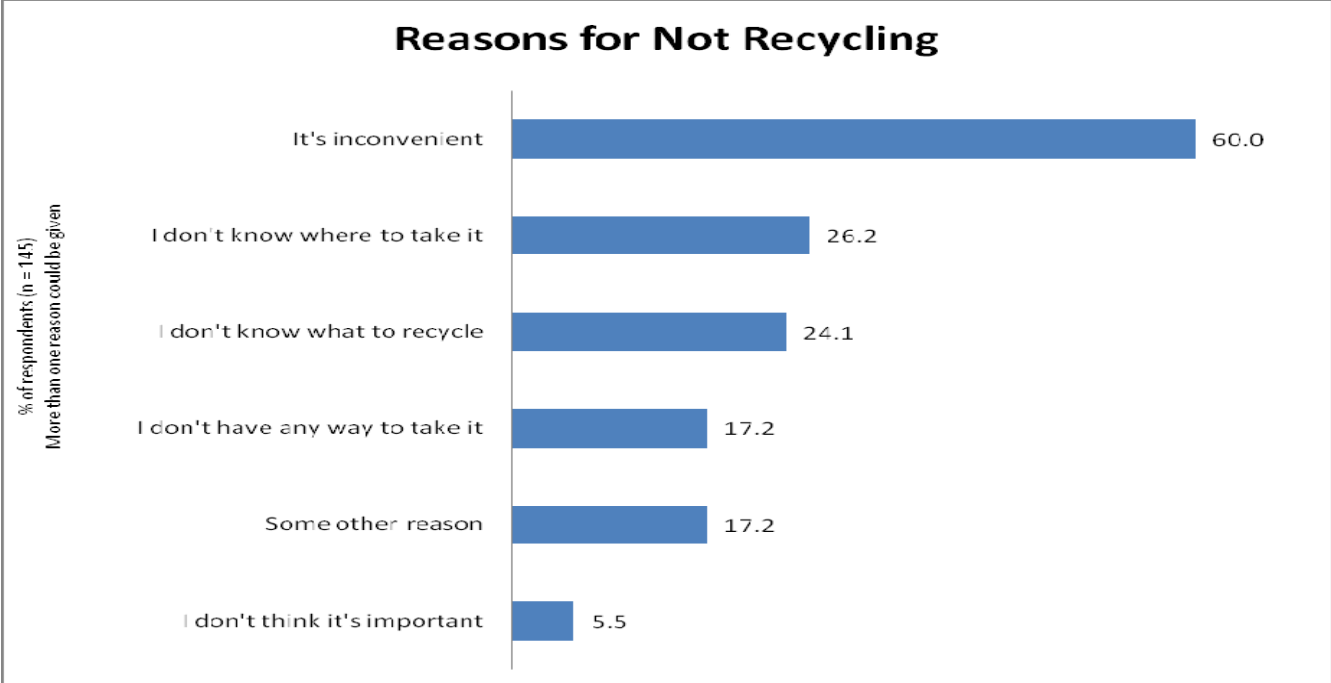
## Current Use and Habits

The city of Knoxville currently offers two types of garbage collection for single family dwellings and multiple family dwellings with less than five units: backdoor service and curbside service. Backdoor service is provided for those households who have someone over the age of seventy or who have someone with a handicap that will make it difficult to take garbage containers to the curb. Approximately 25% of the households in Knoxville currently receive backdoor service. Of the households who reported receiving this type of service, only 54.2% indicated that someone living in the household fit the criteria necessary to receive the backdoor service.

The majority of all households reported setting out one or two containers of trash each week for the city to pick up. Those households with backdoor service were more likely to use more containers than their counterparts who are required to take them to the curb.

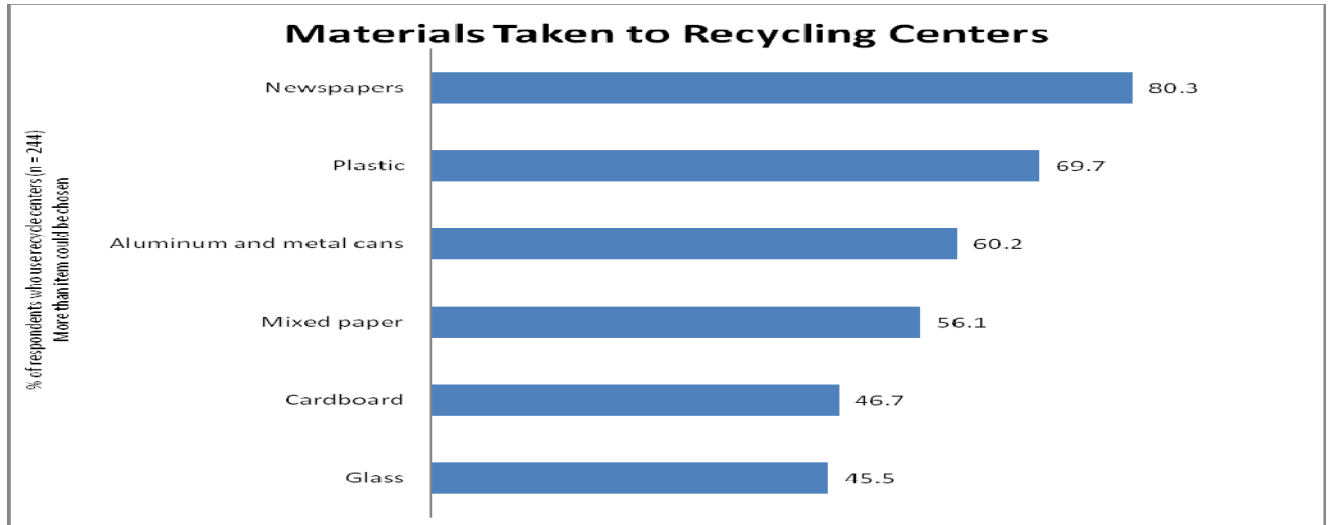


Respondents were also asked to report on their recycling habits and the use of a recycling service. This type of service, a private service that picks up recycling at the curb for a fee, is rarely used by the residents of Knoxville. Only twenty-one households, or 5.2% of the respondents, reported using such a service. A large majority of households using this service were either happy with the service with 80.9% reporting that they were either happy or very happy with the current service. Respondents who reported not using either a recycling service or taking advantage of the recycling centers provided by Knoxville were asked for the reasons they do not currently recycle. The most prevalent reason cited for not recycling was inconvenience followed by not knowing where to take it. The least cited reason was that the respondent did not think it is important to recycle.



African-American respondents were more likely to report the reason they do not currently recycle is because they do not know what to recycle or where to take the recyclables. They were also more likely to report that not having a way to take materials for recycling is a reason for not recycling.

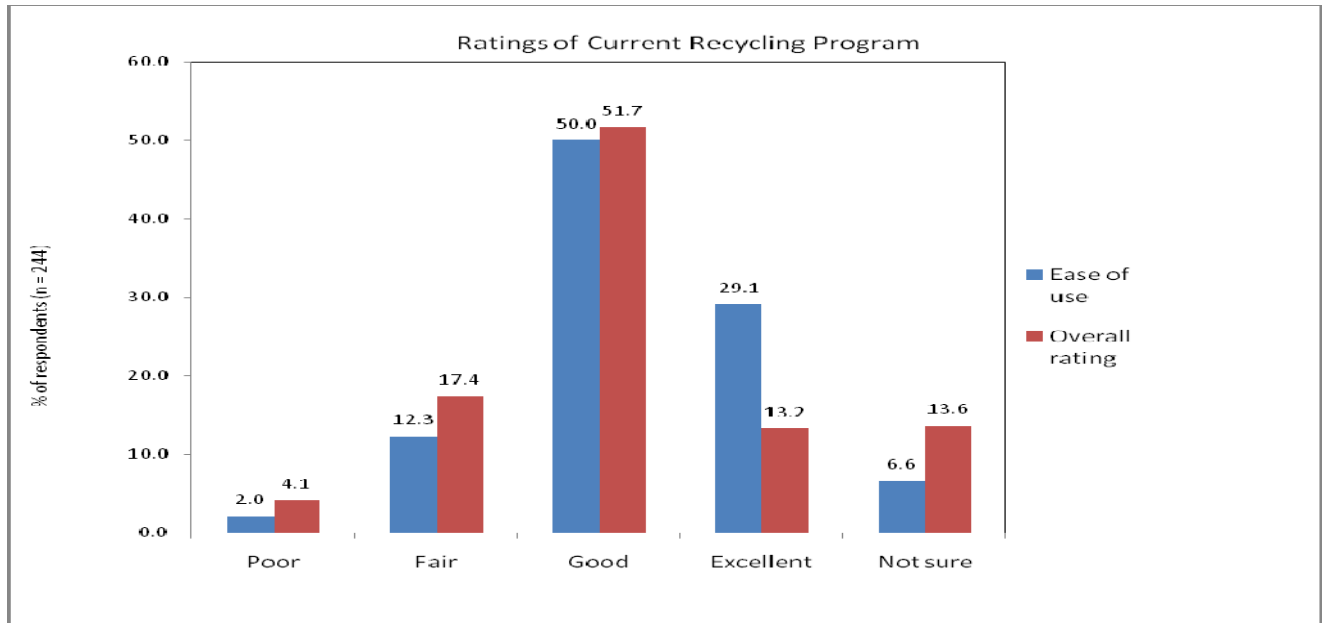
The majority of respondents, (60.8%), reported that they currently utilize the recycling centers provided by the city. For those who reported using the recycling centers, paper is the material most likely to be recycled. This is followed by plastic and aluminum or metal cans. The material least likely to be included for recycling at the recycling centers was glass.



Respondents were asked to report which recycling centers they utilized for their recycling purposes and the frequency of their visits. Kroger stores were the most popular; the Broadway Shopping Center was reported by 20.1% of the respondents and Knox Plaza was reported by 18.9% of the respondents. Several respondents, 14.7%, reported taking their recycling to sites other than those operated by the city. Local churches and county dumps were the most frequently mentioned of these sites. Respondents were more likely to indicate that they took their recycling to the recycling centers whenever it was needed as opposed to having a regular schedule.

Frequency of drop-off / Type of material	Frequency of drop-off			
	Once a week	Every two weeks	Once a month	Whenever it is needed
<b>Overall (n = 244)</b>	17.4%	26.0%	21.5%	35.1%
<b>Aluminum or metal cans</b>	22.1%	31.7%	14.5%	31.7%
<b>Cardboard</b>	23.7%	28.9%	14.9%	32.5%
<b>Glass</b>	21.6%	34.2%	13.6%	30.6%
<b>Mixed paper</b>	19.0%	32.8%	15.4%	32.8%
<b>Newspapers</b>	19.5%	26.2%	22.1%	32.2%
<b>Plastic</b>	20.6%	30.6%	18.8%	30.0%

An overwhelming majority of respondents who utilize the recycling centers gave the current recycling program high marks. Respondents reported that the recycling centers were easy to use and 64.9% of the respondents felt that the overall recycling program was either good or excellent.



### Future Use

One of the purposes of this study is to determine preferences for future recycling programs. Respondents were provided with scenarios of possible programs and then asked to report their level of support for these different scenarios. Respondents were told that the city of Knoxville is currently considering expanding the existing recycling program. It was explained that this expansion could occur in two possible means: expanding the current drop-off recycling program or to add recycling pickup to the current garbage pickup service. The respondents were overwhelmingly in support of adding recycling pickup to their current garbage pickup service. Of those respondents who chose to respond to this question (8 respondents chose not to answer), 77.1% preferred that their recyclables be picked up with the rest of their trash, 15.8% preferred the current drop-off program be expanded, and 7.1% were not sure at the time of the interview which they would prefer. Not surprisingly, those who did not currently use the drop-off centers were more likely to support recycling added to the garbage pickup (87.3%) than those who currently use the centers (68.0%). Those who have curbside garbage pickup are slightly more likely to prefer adding the recycling (79.0%) than those who currently have backdoor service (71.0%). The level of support for adding recycling with the current garbage pickup service increases as the level of education of the respondents increase.

The city also wants to know how different types of programs will impact future recycling for their citizens. Respondents were provided the same scenarios from above and asked to place their future recycling habits on a scale of 1 to 10 with 0 meaning not all likely to recycle and ten meaning they would be very likely to recycle in the future. Respondents reported a higher level of recycling in the future if recycling is added to their garbage pickup (mean = 8.45) than if the current drop off program is expanded (mean = 7.19). Moreover, a significantly higher level of future recycling is reported by those who do not currently use the recycling drop-off centers if recycling is included with the garbage pickup. This finding suggests that respondents are not likely to change their current habits with only an expansion of the current services being offered.

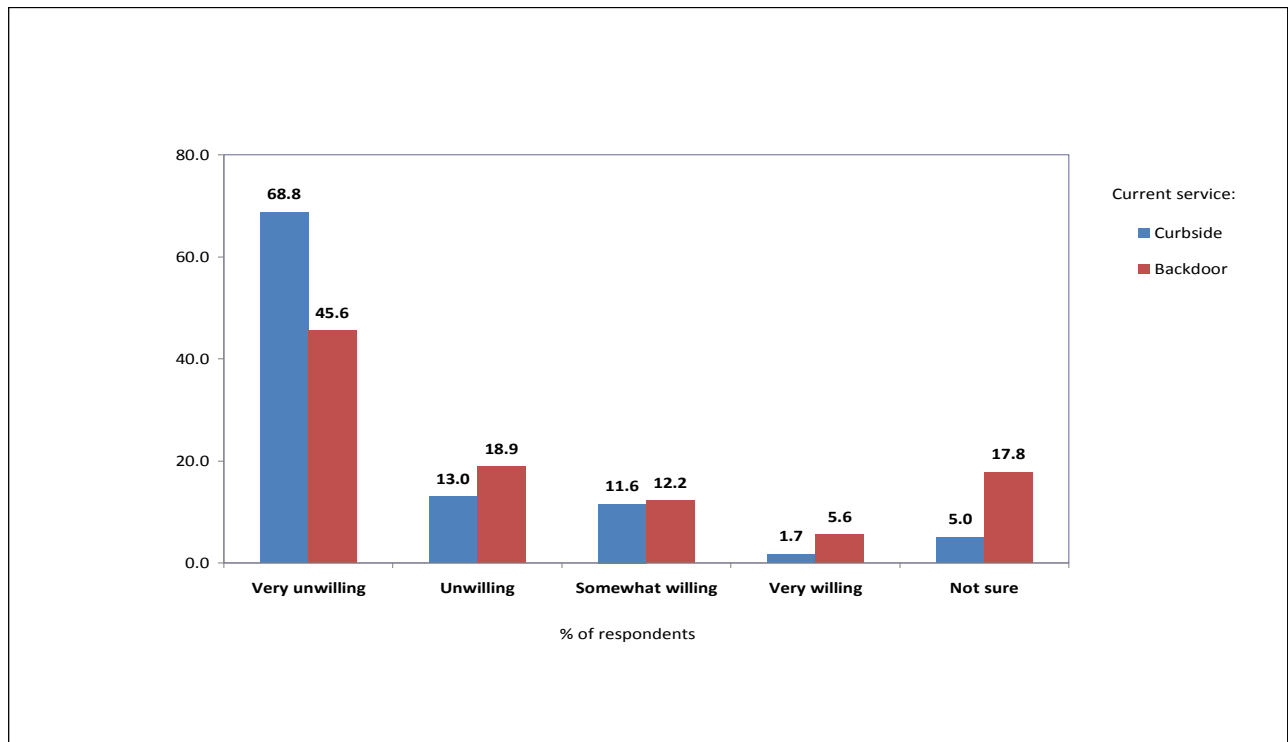
Likelihood of future recycling if City offers:	Expanded drop-off program at recycling centers (mean score)	Adding recycling to current garbage pickup (mean score)
<b>Overall (n = 401)</b>	7.19	8.45
<b>Currently use recycling centers</b>	8.62	8.59
<b>Currently do not use recycling centers</b>	4.95	8.23

Respondents were provided with three specific features of possible future recycling programs and asked to report how these features would impact their participation in the future. One program provides each household with a large recycling container and would not require the respondent to separate the recyclables. The second program would provide households with coupons worth up to \$20 each month with the amount being determined by the volume of material being recycled. The third program would provide residents with incentives such as coupons books and promotional items for participating in the recycling program. The preferred program by the overall sample is not being required to separate the recyclable items. However, it should be noted that younger respondents were much more likely than older respondents to increase their participation if coupons or incentives were offered.

	No separation of recyclables	Earn \$20 in coupons	Earn random incentives
<b>Much more likely to participate</b>	56.0%	38.0%	26.4%
<b>Somewhat more likely to participate</b>	14.2%	17.5%	15.5%
<b>Somewhat less likely to participate</b>	1.5%	2.0%	2.0%
<b>Much less likely to participate</b>	5.0%	3.8%	5.0%
<b>It would make no difference</b>	22.5%	37.5%	49.9%
<b>Not sure</b>	.8%	1.2%	1.2%

Respondents were also asked to report their level of support for reducing the current number of garbage containers from four containers to two containers and adding a 64 gallon container on wheels for recycling that would be picked up with the regular garbage pickup. Respondents were very supportive of this feature with almost three-fourths of the respondents stating they were either somewhat or strongly supportive of this proposal.

Respondents were also asked about their willingness to pay for services being considered by the city. Initially, respondents were asked if they would be willing to pay for backdoor services, if they did not qualify for this service because of age or physical condition. Overwhelmingly, the respondents reported not being willing to pay for this service. Of those respondents who currently do not receive backdoor service, 81.8% reported they were either unwilling or very unwilling to pay for this service. Those who currently receive the service were somewhat more willing to pay with 64.5% stating they were either unwilling or very unwilling to pay for the service.



Respondents were also asked about their willingness to pay between \$5 and \$10 for curbside recycling considering the possibility of incentives for the volume of recycling produced by their household. A majority, 58.3% reported they would either be somewhat or very unwilling to pay for the service. However, it is important to note that there is a significant difference in the willingness of respondents between the ages of 18 and 35. Respondents in this age category were willing to pay for the service with 65.5% reporting they would be somewhat or very willing to pay for the service.

## Conclusions

Respondents are supportive of recycling efforts – only 5.5% reported the reason they did not currently recycle is because they didn't think it was important. The overriding reason for not recycling is lack of awareness of where to take items to be recycled and lack of awareness of which items can be recycled. Respondents overwhelmingly support including recycling services with their regular garbage pickup and report this service would increase their recycling in the future. This is especially prevalent among those who do not currently recycle. Respondents are especially receptive to the idea of not being required to separate their recycling, even with the proposal of reducing the number of garbage containers on a weekly basis from four to two. Moreover, the majority of respondents reported not using more than two containers and therefore would not be sacrificing their current services.

The question remains about respondents' willingness to pay for the services. A small number of respondents, 34.9%, reported being willing to pay at least \$5 for backdoor service, prior to hearing about the potential features of future programs. Moreover, only 39.9% of the respondents reported being willing to pay at least \$5 for curbside recycling, even after all the possible incentives were explained. Willingness to pay a fee for including recycling with regular garbage pick-up is strongly correlated with age. The highest level of willingness to pay a fee is found among the younger age groups. These same groups are more receptive to the programs involving coupons and incentives for their participation.

## APPENDIX I

## Preference for Future Recycling Program

	<b>Expand Current Drop-Off Program</b>	<b>Add Recycling to Trash Pickup</b>	<b>Not Sure</b>
<b>Overall</b>	15.8%	77.1%	7.1%
<b>Service</b>			
Curbside	15.3%	79.0%	5.7%
Backdoor	17.2%	71.0%	11.8%
<b>Gender</b>			
Male	27.4%	64.6%	8.0%
Female	11.1%	82.1%	6.8%
<b>Race</b>			
African American	11.5%	84.7%	3.8%
Caucasian	16.6%	76.1%	7.3%
Other	15.7%	77.1%	7.2%
<b>Age</b>			
18 – 35	10.4%	86.2%	3.4%
36 – 50	9.7%	90.3%	0%
51 – 65	13.8%	79.7%	6.5%
65+	22.0%	68.0%	10.0%
<b>Education</b>			
Less than High School	28.6%	61.9%	9.5%
High School	15.8%	77.4%	6.8%
Some College	15.6%	78.8%	5.6%
College Degree	12.1%	79.4%	8.5%
<b>Income</b>			
< \$12,500	16.1%	80.6%	3.3%
\$12,501 - \$25,000	24.6%	70.2%	5.2%
\$25,001 - \$50,000	13.9%	79.2%	6.9%
50,001 - \$75,000	10.4%	89.6%	0%
\$75,001 - \$100,000	10.4%	89.6%	0%
\$100,000 +	3.0%	84.8%	12.2%

Willingness to Pay for Backdoor Service for Those Who **Do Not Currently** Have Backdoor Service

	<b>Very Unwilling</b>	<b>Unwilling</b>	<b>Somewhat Willing</b>	<b>Very Willing</b>	<b>Not Sure</b>
<b>Overall</b>	68.8%	13.0%	11.6%	1.7%	5.0%
<b>Gender</b>					
Male	68.5%	11.2%	13.5%	1.2%	5.6%
Female	68.9%	13.7%	10.8%	1.9%	4.7%
<b>Race</b>					
African American	68.3%	9.8%	17.1%	4.8%	0%
Caucasian	69.9%	13.8%	9.4%	1.2%	5.7%
Other	33.3%	11.1%	55.6%	0%	0%
<b>Age</b>					
18 – 35	56.0%	16.0%	24.0%	0%	4.0%
36 – 50	74.6%	11.8%	13.6%	0%	0%
51 – 65	68.2%	11.4%	13.6%	2.3%	4.5%
65+	68.5%	13.5%	7.2%	2.7%	8.1%
<b>Education</b>					
Less than High School	78.8%	5.3%	5.3%	5.3%	5.3%
High School	74.3%	10.9%	8.9%	0%	5.9%
Some College	66.2%	14.1%	12.7%	4.2%	2.8%
College Degree	64.4%	15.4%	14.4%	1.0%	4.8%
<b>Income</b>					
< \$12,500	69.6%	13.0%	13.0%	4.4%	0%
\$12,501 - \$25,000	67.4%	17.4%	10.9%	0%	4.3%
\$25,001 - \$50,000	73.4%	10.2%	11.4%	2.5%	2.5%
50,001 - \$75,000	62.5%	15.0%	15.0%	5.0%	2.5%
\$75,001 - \$100,000	68.2%	4.5%	18.2%	0%	9.1%
\$100,000 +	54.5%	22.7%	18.3%	0%	4.5%

Willingness to Pay for Backdoor Service for Those Who **Do Currently** Have Backdoor Service

	<b>Very Unwilling</b>	<b>Unwilling</b>	<b>Somewhat Willing</b>	<b>Very Willing</b>	<b>Not Sure</b>
<b>Overall</b>	45.6%	18.9%	12.2%	5.6%	17.7%
<b>Gender</b>					
Male	48.1%	18.5%	11.2%	7.4%	14.8%
Female	44.4%	19.0%	12.8%	4.8%	19.0%
<b>Race</b>					
African American	54.5%	18.2%	0%	9.1%	18.2%
Caucasian	43.6%	19.2%	14.1%	5.2%	17.9%
<b>Age</b>					
51 – 65	40.6%	9.4%	18.8%	3.1%	28.1%
65+	53.8%	20.5%	7.7%	10.3%	7.7%
<b>Education</b>					
High School	36.7%	20.0%	20.0%	3.3%	20.0%
Some College	68.5%	10.5%	10.5%	0%	10.5%
College Degree	41.7%	19.4%	8.4%	11.1%	19.4%

Support for Reducing Number of Containers and Adding Container for Non-Separated Recyclables

	Strongly Oppose	Somewhat Oppose	Somewhat Support	Strongly Support	Not Sure
<b>Overall</b>	12.3%	11.8%	24.6%	39.8%	11.5%
<b>Service</b>					
Curbside	10.8%	11.2%	22.4%	43.4%	12.2%
Backdoor	16.8%	13.7%	31.6%	28.4%	9.5%
<b>Gender</b>					
Male	16.1%	12.7%	27.1%	37.3%	6.8%
Female	10.7%	11.4%	23.5%	40.9%	13.5%
<b>Race</b>					
African American	11.5%	11.5%	30.8%	34.7%	11.5%
Caucasian	12.4%	11.7%	24.4%	39.8%	11.7%
Other	10.0%	20.0%	10.0%	60.0%	0%
<b>Age</b>					
18 – 35	10.3%	13.8%	20.7%	48.3%	6.9%
36 – 50	11.1%	11.1%	15.3%	56.9%	5.6%
51 – 65	13.0%	10.6%	30.1%	39.0%	7.3%
65+	13.7%	13.7%	24.2%	32.0%	16.4%
<b>Education</b>					
Less than High School	4.9%	19.0%	23.8%	33.3%	19.0%
High School	11.2%	12.7%	26.1%	37.3%	12.7%
Some College	13.0%	8.7%	28.3%	41.3%	8.7%
College Degree	14.0%	11.2%	21.0%	44.1%	9.7%
<b>Income</b>					
< \$12,500	9.7%	16.1%	19.4%	48.4%	6.4%
\$12,501 - \$25,000	16.9%	13.6%	23.7%	30.5%	15.3%
\$25,001 - \$50,000	12.9%	9.8%	21.8%	51.5%	4.0%
50,001 - \$75,000	0%	14.6%	33.3%	43.8%	8.3%
\$75,001 - \$100,000	18.1%	9.1%	30.3%	36.4%	6.1%
\$100,000 +	9.4%	15.6%	25.0%	43.8%	6.2%

Impact of No Separation of Recyclables on Future Participation in Recycling Program

	Much More Likely to Participate	Somewhat More Likely to Participate	Somewhat Less Likely to Participate	Much Less Likely to Participate	Make No Difference	Not Sure
<b>Overall</b>	56.0%	14.2%	1.5%	5.0%	22.5%	.8%
<b>Service</b>						
Curbside	57.4%	12.8%	1.6%	5.6%	21.6%	1.0%
Backdoor	51.5%	18.9%	1.1%	3.2%	25.3%	0%
<b>Gender</b>						
Male	47.1%	19.3%	1.7%	10.9%	19.3%	1.7%
Female	59.8%	12.1%	1.4%	2.5%	23.8%	.4%
<b>Race</b>						
African American	59.7%	19.2%	0%	1.9%	19.2%	0%
Caucasian	55.6%	12.9%	1.8%	5.4%	23.4%	.9%
Other	60.0%	20.0%	0%	0%	20.0%	0%
<b>Age</b>						
18 – 35	69.0%	20.7%	0%	0%	10.3%	0%
36 – 50	72.2%	9.7%	1.4%	0%	16.7%	0%
51 – 65	61.4%	16.9%	0%	4.0%	16.9%	.8%
65+	44.4%	13.1%	3.3%	9.8%	28.1%	1.3%
<b>Education</b>						
Less than High School	52.4%	9.5%	0%	4.8%	28.5%	4.8%
High School	56.0%	14.9%	1.5%	4.5%	22.4%	.7%
Some College	62.6%	12.1%	1.1%	4.4%	18.7%	1.1%
College Degree	54.5%	13.8%	2.1%	6.2%	23.4%	0%
<b>Income</b>						
< \$12,500	51.6%	19.4%	3.2%	3.2%	22.6%	0%
\$12,501 - \$25,000	49.2%	13.6%	1.7%	8.5%	25.4%	1.6%
\$25,001 - \$50,000	68.3%	16.8%	1.0%	3.0%	10.9%	0%
50,001 - \$75,000	52.1%	22.9%	4.2%	2.1%	16.6%	2.1%
\$75,001 - \$100,000	63.6%	6.1%	0%	12.1%	18.2%	0%
\$100,000 +	68.7%	12.5%	0%	0%	18.8%	0%

Impact of Earning Up to \$20 in Coupons on Future Participation in Recycling Program

	Much More Likely to Participate	Somewhat More Likely to Participate	Somewhat Less Likely to Participate	Much Less Likely to Participate	Make No Difference	Not Sure
<b>Overall</b>	38.0%	17.5%	2.0%	3.8%	37.5%	1.2%
<b>Service</b>						
Curbside	41.0%	18.0%	1.6%	4.4%	33.4%	1.6%
Backdoor	28.4%	15.8%	3.2%	2.1%	50.5%	0%
<b>Gender</b>						
Male	40.3%	16.8%	.8%	6.7%	32.8%	2.6%
Female	37.0%	17.8%	2.5%	2.5%	39.5%	.7%
<b>Race</b>						
African American	40.4%	19.3%	3.8%	0%	34.6%	1.9%
Caucasian	37.8%	17.1%	1.8%	4.2%	37.8%	1.3%
Other	40.0%	30.0%	0%	0%	30.0%	0%
<b>Age</b>						
18 – 35	58.6%	20.7%	0%	0%	20.7%	0%
36 – 50	48.6%	16.7%	2.8%	0%	31.9%	0%
51 – 65	46.0%	21.0%	.8%	3.2%	29.0%	0%
65+	24.2%	16.3%	2.6%	7.2%	47.1%	2.6%
<b>Education</b>						
Less than High School	28.6%	4.8%	4.8%	4.8%	47.6%	9.4%
High School	41.8%	14.9%	2.2%	3.7%	36.6%	.8%
Some College	36.3%	20.8%	2.2%	4.4%	35.2%	1.1%
College Degree	38.6%	20.0%	1.4%	3.4%	35.9%	.7%
<b>Income</b>						
< \$12,500	38.7%	6.5%	6.5%	6.5%	41.8%	0%
\$12,501 - \$25,000	33.9%	13.6%	3.4%	6.8%	42.3%	0%
\$25,001 - \$50,000	41.6%	20.8%	2.0%	4.0%	31.6%	0%
50,001 - \$75,000	45.8%	29.2%	0%	0%	22.9%	2.1%
\$75,001 - \$100,000	39.4%	21.2%	0%	3.0%	33.4%	3.0%
\$100,000 +	46.9%	21.9%	0%	0%	31.2%	0%

Impact of Earning Random Incentives on Future Participation in Recycling Program

	Much More Likely to Participate	Somewhat More Likely to Participate	Somewhat Less Likely to Participate	Much Less Likely to Participate	Make No Difference	Not Sure
<b>Overall</b>	26.4%	15.5%	2.0%	5.0%	49.9%	1.2%
<b>Service</b>						
Curbside	28.2%	16.7%	1.3%	5.6%	46.6%	1.6%
Backdoor	20.8%	11.5%	4.2%	3.1%	60.4%	0%
<b>Gender</b>						
Male	24.2%	15.8%	2.5%	7.5%	47.5%	2.5%
Female	27.4%	15.3%	1.8%	3.9%	50.9%	.7%
<b>Race</b>						
African American	32.7%	17.3%	0%	3.8%	44.3%	1.9%
Caucasian	26.0%	15.3%	2.1%	4.8%	50.9%	.9%
Other	20.0%	20.0%	10.0%	10.0%	30.0%	10.0%
<b>Age</b>						
18 – 35	44.8%	13.8%	0%	0%	41.4%	0%
36 – 50	36.1%	19.4%	1.4%	1.4%	41.7%	0%
51 – 65	35.5%	18.5%	2.4%	4.8%	37.9%	.9%
65+	13.0%	11.7%	2.6%	8.4%	62.4%	1.9%
<b>Education</b>						
Less than High School	28.6%	4.8%	0%	9.5%	47.6%	9.5%
High School	29.1%	15.7%	2.2%	3.7%	48.5%	.8%
Some College	23.9%	13.0%	1.1%	7.6%	53.3%	1.1%
College Degree	26.2%	19.3%	2.8%	4.1%	46.9%	.7%
<b>Income</b>						
< \$12,500	48.5%	3.2%	0%	3.2%	41.9%	3.2%
\$12,501 - \$25,000	23.7%	6.8%	1.7%	10.2%	57.6%	0%
\$25,001 - \$50,000	27.5%	21.6%	0%	4.8%	46.1%	0%
50,001 - \$75,000	35.4%	18.7%	4.2%	2.1%	37.5%	2.1%
\$75,001 - \$100,000	30.3%	9.1%	0%	3.0%	57.6%	0%
\$100,000 +	25.0%	21.9%	6.2%	0%	46.9%	0%

Willingness to Pay Between \$5 and \$10 for Proposed Curbside Recycling

	<b>Very Unwilling</b>	<b>Somewhat Unwilling</b>	<b>Somewhat Willing</b>	<b>Very Willing</b>	<b>Not Sure</b>
<b>Overall</b>	49.5%	9.3%	20.9%	14.3%	6.0%
<b>Service</b>					
Curbside	48.4%	8.6%	20.7%	15.5%	6.8%
Backdoor	53.2%	11.7%	21.3%	10.6%	3.2%
<b>Gender</b>					
Male	54.6%	12.6%	15.2%	12.6%	5.0%
Female	47.3%	7.8%	23.3%	15.1%	6.5%
<b>Race</b>					
African American	30.8%	17.3%	25.0%	17.3%	9.6%
Caucasian	52.9%	7.6%	19.3%	14.5%	5.7%
Other	40.0%	10.0%	50.0%	0%	0%
<b>Age</b>					
18 – 35	24.2%	6.9%	34.5%	31.0%	3.4%
36 – 50	34.3%	12.8%	18.6%	30.0%	4.3%
51 – 65	45.2%	12.1%	22.6%	12.8%	7.3%
65+	64.7%	4.6%	19.6%	6.5%	4.6%
<b>Education</b>					
Less than High School	71.5%	0%	9.5%	9.5%	9.5%
High School	52.6%	8.3%	24.1%	6.7%	8.3%
Some College	45.7%	14.1%	22.8%	12.0%	5.4%
College Degree	45.5%	7.7%	19.6%	24.5%	2.7%
<b>Income</b>					
< \$12,500	48.4%	9.6%	22.6%	19.4%	0%
\$12,501 - \$25,000	54.2%	8.5%	20.3%	3.4%	13.6%
\$25,001 - \$50,000	44.1%	9.8%	25.5%	17.6%	2.8%
50,001 - \$75,000	48.9%	6.4%	23.4%	14.9%	6.4%
\$75,001 - \$100,000	39.4%	6.1%	24.2%	27.3%	3.0%
\$100,000 +	37.5%	9.4%	28.1%	25.0%	0%

## Appendix II

GENDER (n = 401)

- |           |       |
|-----------|-------|
| 1. MALE   | 29.9% |
| 2. FEMALE | 70.1% |

Question Q2 (n = 401)

The City of Knoxville provides weekly trash pick up for residents that is paid for through property taxes. Some households receive curbside service and some receive back door service. Which type of trash pick-up does your household receive?

- |             |       |
|-------------|-------|
| 1. CURBSIDE | 76.1% |
| 2. BACKDOOR | 23.9% |

Question Q3 (n = 96)

Is anyone in your household over the age of 70 or who has a medical condition that would make it difficult to take the trash to the curb?

- |        |       |
|--------|-------|
| 1. YES | 54.2% |
| 2. NO  | 45.8% |

Question Q4 (n = 401)

In a typical week, how many containers of trash do you set out for pickup at [INSERT "THE CURBSIDE"/"YOUR BACKDOOR"]?

- |                   |       |
|-------------------|-------|
| 1. LESS THAN ONE  | 3.5%  |
| 2. ONE            | 42.1% |
| 3. TWO            | 36.2% |
| 4. THREE          | 13.2% |
| 5. FOUR           | 2.7%  |
| 6. MORE THAN FOUR | 2.1%  |
| 8. NOT SURE       | 0.0%  |
| 9. REFUSAL        | .2%   |

Question Q5 (n = 401)

Does your household currently subscribe to a recycling service? This is a service that picks up recycling from the curbside for a fee and is not part of your normal trash service.

- |        |       |
|--------|-------|
| 1. YES | 5.2%  |
| 2. NO  | 94.8% |

Question Q5A (n = 21)

How happy are you with the service/program?

1. VERY UNHAPPY	4.8%
2. SOMEWHAT UNHAPPY	9.5%
3. SOMEWHAT HAPPY	9.5%
4. VERY HAPPY	71.4%
8. NOT SURE	4.8%
9. REFUSAL	0.0%

Question Q6 (n = 401)

Does your household currently drop off any items at a recycling center located in the City?

1. YES	60.8%
2. NO	39.2%

\*Question Q7 (n = 145)

I'm going to read you a few reasons why some households do not recycle. Please tell me if any of these are reasons that your household does not recycle?

1. IT IS INCONVENIENT	60.0%
2. I DON'T THINK IT'S IMPORTANT	5.5%
3. I DON'T KNOW WHERE TO TAKE IT	26.2%
4. I DON'T HAVE ANY WAY TO TAKE IT	17.2%
5. I DON'T KNOW WHAT TO RECYCLE	24.1%
6. SOME OTHER REASON	17.2%
7. NONE OF THE ABOVE	2.8%

\*Question Q8 (n = 244)

What items does your household currently take to the recycling center?

1. ALUMINUM AND/OR METAL CANS	60.2%
2. NEWSPAPERS	80.3%
3. MIXED PAPER	56.1%
4. GLASS	45.5%
5. PLASTIC	69.7%
6. CARDBOARD	46.7%

\*Question Q9 (n = 244)

Which sites do you drop off your recycling?

1. KROGER STORE - BROADWAY SHOPPING CENTER	20.1%
2. KROGER STORE - FOUNTAIN CITY	14.8%
3. KROGER STORE - I-640 PLAZA	14.8%
4. KROGER STORE - KNOX PLAZA	18.9%
5. GOODWILL COLLECTION CENTER - MOODY AVENUE	6.6%
6. GOODWILL COLLECTION CENTER-CHILHOWEE PARK AREA	9.8%
7. GOODWILL COLLECTION CENTER - PARK VILLAGE ROAD	.2%
8. GOODWILL COLLECTION CENTER METLER DRIVE	1.6%
9. DOWNTOWN RECYCLING CENTER	.4%
10. FOOD CITY STORE - KINGSTON PIKE	1.6%
11. FOOD CITY STORE - ALCOA HIGHWAY	1.2%
12. OTHER	14.7%

Question Q10 (n = 244)

How often does someone from your household take materials to the recycling center?

1. ONCE PER WEEK	17.3%
2. EVERY TWO WEEKS	25.8%
3. ONCE A MONTH	21.3%%
4. WHENEVER IT IS NEEDED	34.8%
8. NOT SURE	.8%
9. REFUSAL	0.0%

Question Q11A (n = 244)

Once you arrive at your recycling drop-off location how would you rate the ease of use at the site?

1. POOR	2.0%
2. FAIR	12.3%
3. GOOD	50.0%
4. EXCELLENT	29.1%
8. NOT SURE	6.6%
9. REFUSAL	0.0%

Question Q11B (n = 244)

How would you rate Knoxville's current recycling drop-off program overall?

1. POOR	4.2%
2. FAIR	17.2%
3. GOOD	51.2%
4. EXCELLENT	13.1%
8. NOT SURE	13.5%
9. REFUSAL	.8%

Question Q12A (n = 401)

The City of Knoxville is considering an expansion of the City's recycling program. There are two ways the program could be expanded. One would be an expansion of the current drop-off recycling program or another would be by adding recycling pickup to the current garbage pickup. Which would you prefer?

1. EXPANSION OF CURRENT DROP-OFF RECYCLING PROGRAM	15.5%
2. ADDING RECYCLING PICKUP TO CURRENT GARBAGE PICKUP	75.5%
8. NOT SURE	7.0%
9. REFUSAL	2.0%

Question Q12B (n = 401)

And, on a scale of zero to ten, how likely are you to recycle in the future if Knoxville were to expand its drop off recycling program. A zero means you are not likely at all to recycle in the future and a ten means you are extremely likely to recycle in the future.

0. Not at all likely	14.2%
1.	.5%
2.	1.3%
3.	1.3%
4.	2.1%
5.	8.2%
6.	3.5%
7.	3.2%
8.	10.7%
9.	2.7%
10. Very likely	47.1%
88. Not sure	4.5%
99. Refusal	.7%

Question Q12C (n = 401)

And, again on a scale of zero to ten, how likely are you to recycle in the future if Knoxville were to add recycling to the current garbage pick-up program. A zero means you are not likely at all to recycle in the future and a ten means you are extremely likely to recycle in the future.

0.	Not at all likely	6.5%
1.		0.0%
2.		.5%
3.		.5%
4.		.5%
5.		5.0%
6.		3.0%
7.		2.5%
8.		11.7%
9.		3.3%
10.	Very likely	60.8%
88.	Not sure	5.2%
99.	Refusal	.5%

Question Q13A (n = 305)

Knowing that you currently do not have back door service and would not meet the medical condition or age requirement of 70, making it difficult to take garbage to the curb, would you be willing to pay for back door collection services at your residence if offered by the City?

1.	VERY UNWILLING	67.9%
2.	SOMEWHAT UNWILLING	12.8%
3.	SOMEWHAT WILLING	11.5%
4.	VERY WILLING	1.6%
8.	NOT SURE	4.9%
9.	REFUSAL	1.3%

Question Q13B (n = 96)

Knowing that you currently have back door service and IF for some reason someone in your household did NOT meet the medical condition or age requirement of 70, making it difficult to take garbage to the curb, would you be willing to pay for continued back door collection services at your residence if offered by the City?

1.	VERY UNWILLING	42.7%
2.	SOMEWHAT UNWILLING	17.7%
3.	SOMEWHAT WILLING	11.5%
4.	VERY WILLING	5.2%
8.	NOT SURE	16.7%
9.	REFUSAL	6.2%

Question Q14a (n = 401)

Would you be willing to pay \$15 each month for the proposed trash and recycling program if offered at your back door?

1. YES	12.5%
2. NO	84.3%
8. NOT SURE	3.2%
9. REFUSAL	0.0%

Question Q14B (n = 351)

How about \$10 per month?

1. YES	9.4%
2. NO	86.3%
8. NOT SURE	4.3%
9. REFUSAL	0.0%

Question Q14C (n = 318)

How about \$5 per month?

1. YES	17.9%
2. NO	75.8%
8. NOT SURE	6.3%
9. REFUSAL	0.0%

Question Q15 (n = 401)

Currently, the city of Knoxville will pick up up to four trash containers per week from each household. If the city added curbside recycling pick-up to the regular trash pickup, and a large 64 gallon recycling container on wheels were supplied for your use, where all recyclable materials could be placed in one container at once, would you support or oppose reducing the maximum number of trash containers picked up per week from four to two per household?

1. STRONGLY OPPOSE	12.2%
2. SOMEWHAT OPPOSE	11.7%
3. SOMEWHAT SUPPORT	24.4%
4. STRONGLY SUPPORT	39.7%
8. NOT SURE	11.5%
9. REFUSAL	.5%

Question Q16 (n = 401)

Would you support or oppose paying a monthly fee between \$5 and \$10 for curbside recycling?

1. STRONGLY OPPOSE	51.4%
2. SOMEWHAT OPPOSE	10.2%
3. SOMEWHAT SUPPORT	20.0%
4. STRONGLY SUPPORT	13.0%
8. NOT SURE	5.0%
9. REFUSAL	.4%

Question Q171 (n = 401)

The City would provide a large single recycling container on wheels so recyclable materials do not need to be separated.

1. MUCH MORE LIKELY TO PARTICIPATE	55.9%
2. SOMEWHAT MORE LIKELY TO PARTICIPATE	14.2%
3. SOMEWHAT LESS LIKELY TO PARTICIPATE	1.6%
4. MUCH LESS LIKELY TO PARTICIPATE	5.0%
5. IT WOULD MAKE NO DIFFERENCE	22.4%
8. NOT SURE	.7%
9. REFUSAL	.2%

Question Q172 (n = 401)

Residents recycling could earn up to \$20 in coupons each month good for use at local businesses, based on how much material you recycle.

1. MUCH MORE LIKELY TO PARTICIPATE	37.9%
2. SOMEWHAT MORE LIKELY TO PARTICIPATE	17.5%
3. SOMEWHAT LESS LIKELY TO PARTICIPATE	2.1%
4. MUCH LESS LIKELY TO PARTICIPATE	3.7%
5. IT WOULD MAKE NOT DIFFERENCE	37.4%
8. NOT SURE	1.2%
9. REFUSAL	.2%

Question Q173 (n = 401)

Residents recycling could earn random incentives such as coupon books, gift bags, tee shirts or other promotional items based on recycling participation.

1. MUCH MORE LIKELY TO PARTICIPATE	26.4%
2. SOMEWHAT MORE LIKELY TO PARTICIPATE	15.5%
3. SOMEWHAT LESS LIKELY TO PARTICIPATE	2.0%
4. MUCH LESS LIKELY TO PARTICIPATE	5.0%
5. IT WOULD MAKE NOT DIFFERENCE	49.9%
8. NOT SURE	1.2%
9. REFUSAL	0.0%

Question Q17A (n = 401)

Knowing some of the incentives that could be provided with curbside recycling would you now be willing to pay a monthly fee between \$5 and \$10 dollars for curbside recycling?

1. VERY UNWILLING	49.1%
2. SOMEWHAT UNWILLING	9.2%
3. SOMEWHAT WILLING	20.7%
4. VERY WILLING	14.3%
8. NOT SURE	6.0%
9. REFUSAL	.7%

Question Q17B (n = 401)

Would you be willing to pay \$10 each month for the proposed trash and recycling program if offered at your curb?

1. YES	21.7%
2. NO	71.3%
8. NOT SURE	6.3%
9. REFUSAL	.7%

Question Q17C (n = 314)

How about \$8 per month?

1. YES	3.2%
2. NO	88.5%
8. NOT SURE	7.3%
9. REFUSAL	1.0%

Question Q17D (n = 304)

How about \$5 per month?

1. YES	20.7%
2. NO	71.4%
8. NOT SURE	6.9%
9. REFUSAL	1.0%

Question Q19 (n = 401)

Now, I would like to ask you just a few questions so we can compare your answers to others. How old were you on your last birthday?

RANGE: 18 - 91

MEAN: 60.27

STANDARD DEVIATION: 15.63

REFUSAL 2.2%

Question Q20 (n = 401)

What is the highest grade of school you have completed?

RANGE: 7 - 20

MEAN: 14

STANDARD DEVIATION: 2.33

REFUSAL 2.2%

Question Q21 (n = 401)

Would you consider yourself to be African-American, Caucasian, or some other race?

1. AFRICAN-AMERICAN	13.0%
2. CAUCASIAN	83.3%
3. OTHER	2.5%
9. REFUSAL	1.2%

Question Q22 (N = 410)

What is your zip code?

37909	7.0%
37912	12.2%
37914	12.2%
37915	1.5%
37916	.5%
37917	14.5%
37918	12.5%
37919	12.2%
37920	10.5%
37921	14.5%
37922	.2%
37923	.7%
REFUSAL	1.5%

Question Q23 (n = 401)

Finally, counting income from all sources, which of the following ranges did your total household income fall into in 2008?

1. LESS THAN \$12,500	7.7%
2. \$12,501 - \$25,000	14.7%
3. \$25,001 - \$50,000	25.4%
4. \$50,001 - \$75,000	12.0%
5. \$75,001 - \$100,000	8.2%
6. MORE THAN \$100,000	8.0%
8. NOT SURE	3.3%
9. REFUSAL	20.7%

\*More than one answer could be chosen

Appendix III

CODEBOOK

Question intro

Hello, my name is [\_\_\_\_\_] and I am calling from the University of Tennessee. We are interested in speaking with residents of Knoxville about trash collection and recycling. The interview will take less than ten minutes and the information you provide will help the City of Knoxville make decisions about the best way to provide these services. All of your answers are completely confidential and only a summary of the responses from all participants will be provided to the city. May I speak to one of the heads of household?

Question Q1

First, is your household within the city limits of Knoxville?

[CALLER...If the person doesn't know, prompt with asking if they have to pay extra for fire service or pay a fee for garbage pick-up. If they have to pay for these services, they do not live within the city limits.]

1. YES
2. NO

IF (ANS = 2)TERMINATE INTERVIEW

Question GENDER

1. MALE
2. FEMALE

Question Q2

The City of Knoxville provides weekly trash pick up for residents that is paid for through property taxes. Some households receive curbside service and some receive back door service. Which type of trash pick-up does your household receive?

[PROMPT IF UNSURE....Is your trash picked up at the back door or do you take your containers to the street or alley?]

1. CURBSIDE
2. BACKDOOR

IF (ANS = 1)GO TO Q4

Question Q3

Is anyone in your household over the age of 70 or who has a medical condition that would make it difficult to take the trash to the curb?

1. YES
2. NO
9. REFUSAL

Question Q4

In a typical week, how many containers of trash do you set out for pickup at [INSERT "THE CURBSIDE"/"YOUR BACKDOOR"]?

1. LESS THAN ONE
2. ONE
3. TWO
4. THREE
5. FOUR
6. MORE THAN FOUR
8. NOT SURE
9. REFUSAL

Question Q5

Does your household currently subscribe to a recycling service? This is a service that picks up recycling from the curbside for a fee and is not part of your normal trash service.

1. YES
  2. NO
- IF (ANS = 1)GO TO Q5A  
ALL ELSE GO TO Q6

Question Q5A

How happy are you with the service/program?

1. VERY UNHAPPY
2. SOMEWHAT UNHAPPY
3. SOMEWHAT HAPPY
4. VERY HAPPY
8. NOT SURE
9. REFUSAL

Question Q6

Does your household currently drop off any items at a recycling center located in the City?

1. YES
2. NO

IF (Q5 = 2 & Q6 = 2)GO TO Q7  
IF (ANS = 2)GO TO Q12A  
ALL ELSE GO TO Q8

Question Q7

I'm going to read you a few reasons why some households do not recycle. Please tell me if any of these are reasons that your household does not recycle?

[ASK ONE AT A TIME AND CHECK ALL THAT APPLY]

1. IT IS INCONVENIENT
2. I DON'T THINK IT'S IMPORTANT
3. I DON'T KNOW WHERE TO TAKE IT
4. I DON'T HAVE ANY WAY TO TAKE IT
5. I DON'T KNOW WHAT TO RECYCLE
6. SOME OTHER REASON
7. NONE OF THE ABOVE
8. NO MORE CHOICES

GO TO Q12A

Question Q8

What items does your household currently take to the recycling center?

[ASK ONE AT A TIME AND CHECK ALL THAT APPLY]

1. ALUMINUM AND/OR METAL CANS
2. NEWSPAPERS
3. MIXED PAPER
4. GLASS
5. PLASTIC
6. CARDBOARD
7. NO MORE CHOICES

Question Q9

Which sites do you drop off your recycling?

[CHECK ALL THAT APPLY]

1. KROGER STORE - 2217 BROADWAY - BROADWAY SHOPPING CENTER
2. KROGER STORE - 5003 BROADWAY - FOUNTAIN CITY
3. KROGER STORE - 4440 WESTERN AVENUE AT CLINTON - I-640 PLAZA
4. KROGER STORE - 4918 KINGSTON PIKE - KNOX PLAZA
5. GOODWILL COLLECTION CENTER - 225 W. MOODY AVENUE
6. GOODWILL COLLECTION CENTER-CORNER OF MAGNOLIA & ALICE - CHILHOWEE PARK AREA
7. GOODWILL COLLECTION CENTER - 341 PARK VILLAGE ROAD
8. GOODWILL COLLECTION CENTER 820 METLER DRIVE
9. DOWNTOWN RECYCLING CENTER - 400 STATE STREET
10. FOOD CITY STORE - 5941 KINGSTON PIKE
11. FOOD CITY STORE - 2939 ALCOA HIGHWAY
12. OTHER
13. NO MORE CHOICES

Question Q10

How often does someone from your household take materials to the recycling center?

1. ONCE PER WEEK
2. EVERY TWO WEEKS
3. ONCE A MONTH
4. WHENEVER IT IS NEEDED
8. NOT SURE
9. REFUSAL

Question Q11A

Once you arrive at your recycling drop-off location how would you rate the ease of use at the site?

1. POOR
2. FAIR
3. GOOD
4. EXCELLENT
8. NOT SURE
9. REFUSAL

Question Q11B

How would you rate Knoxville's current recycling drop-off program overall?

1. POOR
2. FAIR
3. GOOD
4. EXCELLENT
8. NOT SURE
9. REFUSAL

Question Q12A

The City of Knoxville is considering an expansion of the City's recycling program. There are two ways the program could be expanded. One would be an expansion of the current drop-off recycling program or another would be by adding recycling pickup to the current garbage pickup. Which would you prefer?

1. EXPANSION OF CURRENT DROP-OFF RECYCLING PROGRAM
2. ADDING RECYCLING PICKUP TO CURRENT GARBAGE PICKUP
8. NOT SURE
9. REFUSAL

Question Q12B

And, on a scale of zero to ten, how likely are you to recycle in the future if Knoxville were to expand its drop off recycling program. A zero means you are not likely at all to recycle in the future and a ten means you are extremely likely to recycle in the future.  
[USE 88 = NOT SURE; USE 99 = REFUSAL]

Question Q12C

And, again on a scale of zero to ten, how likely are you to recycle in the future if Knoxville were to add recycling to the current garbage pick-up program. A zero means you are not likely at all to recycle in the future and a ten means you are extremely likely to recycle in the future.  
[USE 88 = NOT SURE; USE 99 = REFUSAL]

IF (Q2 = 1)GO TO Q13A  
IF (Q2 = 2)GO TO Q13B

Question Q13A

Knowing that you currently do not have back door service and would not meet the medical condition or age requirement of 70, making it difficult to take garbage to the curb, would you be willing to pay for back door collection services at your residence if offered by the City?

1. VERY UNWILLING
2. SOMEWHAT UNWILLING
3. SOMEWHAT WILLING
4. VERY WILLING
8. NOT SURE
9. REFUSAL

GO TO Q14A

Question Q13B

Knowing that you currently have back door service and IF for some reason someone in your household did NOT meet the medical condition or age requirement of 70, making it difficult to take garbage to the curb, would you be willing to pay for continued back door collection services at your residence if offered by the City?

1. VERY UNWILLING
2. SOMEWHAT UNWILLING
3. SOMEWHAT WILLING
4. VERY WILLING
8. NOT SURE
9. REFUSAL

Question Q14a

Would you be willing to pay \$15 each month for the proposed trash and recycling program if offered at your back door?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

IF (ANS = 1)GO TO Q15

Question Q14B

How about \$10 per month?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

IF (ANS = 1)GO TO Q15

Question Q14C

How about \$5 per month?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

Question Q15

Currently, the city of Knoxville will pick up up to four trash containers per week from each household. If the city added curbside recycling pick-up to the regular trash pickup, and a large 64 gallon recycling container on wheels were supplied for your use, where all recyclable materials could be placed in one container at once, would you support or oppose reducing the maximum number of trash containers picked up per week from four to two per household?

1. STRONGLY OPPOSE
2. SOMEWHAT OPPOSE
3. SOMEWHAT SUPPORT
4. STRONGLY SUPPORT
8. NOT SURE
9. REFUSAL

Question Q16

Would you support or oppose paying a monthly fee between \$5 and \$10 for curbside recycling?

1. STRONGLY OPPOSE
2. SOMEWHAT OPPOSE
3. SOMEWHAT SUPPORT
4. STRONGLY SUPPORT
8. NOT SURE
9. REFUSAL

Question Q17

I am going to read you some things that might be done to encourage resident recycling through a curbside recycling program. After I read each one, please tell me if it would make you unlikely to participate or more likely to participate, or would it make no difference to you one way or another.

Question Q171

The City would provide a large single recycling container on wheels so recyclable materials do not need to be separated.

1. MUCH MORE LIKELY TO PARTICIPATE
2. SOMEWHAT MORE LIKELY TO PARTICIPATE
3. SOMEWHAT LESS LIKELY TO PARTICIPATE
4. MUCH LESS LIKELY TO PARTICIPATE
5. IT WOULD MAKE NO DIFFERENCE
8. NOT SURE
9. REFUSAL

Question Q172

Residents recycling could earn up to \$20 in coupons each month good for use at local businesses, based on how much material you recycle.

1. MUCH MORE LIKELY TO PARTICIPATE
2. SOMEWHAT MORE LIKELY TO PARTICIPATE
3. SOMEWHAT LESS LIKELY TO PARTICIPATE
4. MUCH LESS LIKELY TO PARTICIPATE
5. IT WOULD MAKE NOT DIFFERENCE
8. NOT SURE
9. REFUSAL

Question Q173

Residents recycling could earn random incentives such as coupon books, gift bags, tee shirts or other promotional items based on recycling participation.

1. MUCH MORE LIKELY TO PARTICIPATE
2. SOMEWHAT MORE LIKELY TO PARTICIPATE
3. SOMEWHAT LESS LIKELY TO PARTICIPATE
4. MUCH LESS LIKELY TO PARTICIPATE
5. IT WOULD MAKE NOT DIFFERENCE
8. NOT SURE
9. REFUSAL

Question Q17A

Knowing some of the incentives that could be provided with curbside recycling would you now be willing to pay a monthly fee between \$5 and \$10 dollars for curbside recycling?

1. VERY UNWILLING
2. SOMEWHAT UNWILLING
3. SOMEWHAT WILLING
4. VERY WILLING
8. NOT SURE
9. REFUSAL

Question Q17B

Would you be willing to pay \$10 each month for the proposed trash and recycling program if offered at your curb?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

IF (ANS = 1)GO TO Q19

Question Q17C

How about \$8 per month?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

IF (ANS = 1)GO TO Q19

Question Q17D

How about \$5 per month?

1. YES
2. NO
8. NOT SURE
9. REFUSAL

Question Q19

Now, I would like to ask you just a few questions so we can compare your answers to others.

How old were you on your last birthday?

[USE 99 = REFUSAL]

Question Q20

What is the highest grade of school you have completed?

HIGH SCHOOL DIPLOMA = 12

ASSOCIATE'S DEGREE = 14

BACHELOR'S DEGREE = 16

[USE 99 = REFUSAL]

Question Q21

Would you consider yourself to be African-American, Caucasian, or some other race?

1. AFRICAN-AMERICAN
2. CAUCASIAN
3. OTHER
9. REFUSAL

Question Q22

What is your zip code?

[USE 99999 = REFUSAL]

Question Q23

Finally, counting income from all sources, which of the following ranges did your total household income fall into in 2008?

1. LESS THAN \$12,500
2. \$12,501 - \$25,000
3. \$25,001 - \$50,000
4. \$50,001 - \$75,000
5. \$75,001 - \$100,000
6. MORE THAN \$100,000
8. NOT SURE
9. REFUSAL