



CHITTENDEN SOLID WASTE DISTRICT

**2015 HOUSEHOLD SOLID
WASTE SURVEY REPORT**

April 2016

**Chittenden Solid Waste District
1021 Redmond Road
Williston, VT 05495
802-872-8100
www.cswd.net**

CHITTENDEN SOLID WASTE DISTRICT 2015 HOUSEHOLD SOLID WASTE SURVEY REPORT

EXECUTIVE SUMMARY

The Center for Research and Public Policy, an independent market research company based in Ludlow, Vermont, executed a telephone survey of 402 CSWD households in June 2015. The objectives of the survey were to quantify waste management and waste reduction activities, obtain a measure of the public's perception of the waste management system in Chittenden County, provide information about current public opinion on solid waste issues and potential program changes, and fulfill a performance standard in the Vermont Materials Management Plan. Information from the survey will help guide future facility, program, and policy decisions.

Response frequencies and percentages were calculated for each survey question, and selected cross tabulations and graphs were created. The results of the 2015 survey were compared to results of previous surveys where applicable.

The general findings of the survey are as follows:

- Residents' perception of CSWD continues to be very positive (81% of respondents have a positive impression). The percentage of respondents with a negative impression of CSWD remained low (< 2%).
- There is a good base of support for consolidated curbside collection but also healthy opposition (44% support, 38% oppose). Support increases if responses are weighted to mirror US Census data on housing status (renters were underrepresented in the survey).
- Provide better/more drop-off center hours (7%) and make cheaper or free (7%) were the top answers for suggested improvements to trash disposal and recycling in Chittenden County.
- Residents are split on support for a 5-cent tax on disposable shopping bags but would support a ban on Styrofoam take-out containers (74%).
- If CSWD decides to accept credit cards at DOCs, a fee per card transaction is the preferred method for recovering the cost.
- About a quarter of respondents use drop-off centers for their regular trash and recyclables.
- The percentage of curbside customers who use drop-off centers for special wastes (84%) increased significantly since 2013.
- Rating of drop-off center service by those who use them for their regular trash and recyclables remains high (8.8 average on a scale of 1-10).

- Respondents continue to rate curbside collection service highly (8.9 average on a scale of 1-10).
- Most of the respondents' employers have a recycling program (95%) and 41% of those have a compost program.
- Participation in recycling at home remains high (87%).
- Diversion of yard trimmings and food scraps by households is high.
- Backyard composting (49%) and curbside pickup (27%) were the top management choices for food scraps when separation is required for households in 2020.
- Most households generate household hazardous waste (95%) and properly dispose of it.
- Most residents know electronics, paint, motor oil, fluorescent bulbs, large appliances, and tires are banned from disposal. Much fewer are aware that blue bin recyclables and yard trimmings are.
- Only 4% of households put at least some of their electronics in the trash.
- A majority of households access CSWD's web site from their home computer. The information most sought includes hours of facility operation, how to get rid of an item, and general information on recycling or composting. Only 28% of the respondents said they did not use the website.
- The top preferred methods for receiving solid waste information are flyer in the mail, e-mail, phone call, and newspaper.

While CSWD facilities and programs enjoy high participation and residents appear very satisfied with their trash and recycling service, there is room for improvement in District programs. The survey report provides recommendations for staff for operations and educational programs.

CHITTENDEN SOLID WASTE DISTRICT 2015 HOUSEHOLD SOLID WASTE SURVEY REPORT

I. INTRODUCTION

A telephone survey of 402 Chittenden Solid Waste District (CSWD) residents was conducted in June of 2015. This report describes the objectives, methodology, and results of the survey and provides some recommendations for staff.

II. OBJECTIVES

Four main objectives were defined for the survey. They are:

A. Quantify waste management and waste reduction activities.

Measuring CSWD residents' use of District programs and their waste reduction efforts helps to answer questions about how well the District is serving the public, how well the public is reducing the amount and toxicity of waste generated over time, and where more consumer education is needed.

B. Obtain a measure of the public's perception of the waste management system in Chittenden County.

Staff is interested in learning how the public views CSWD and its facilities and programs as well as curbside collection service in Chittenden County. This information will help guide future facility, program, and policy decisions.

C. Provide information about current public opinion on potential new solid waste programs and/or changes in existing programs.

This information will also help guide future facility, program, and policy decisions.

D. Fulfill one of the performance standards in the Vermont Materials Management Plan.

Some questions were reworded and new questions added to comply with the survey template provided by the Vermont Agency of Natural Resources.

III. METHODOLOGY

A. Questionnaire Design

The survey consists of thirty-seven questions including five demographic questions. Most of the questions were developed by CSWD staff and reviewed by the market research company hired to conduct the survey. In order to meet one of the performance standards in the Vermont Materials Management Plan, some questions regarding waste management behavior used in previous surveys had to be reworded, and some new questions were added.

B. Sample Selection and Data Collection

The survey was conducted by the Center for Research and Public Policy, an independent market research company based in Ludlow, Vermont. A survey was conducted with every resident 18 years or

older who answered the phone and was willing to participate. Four hundred and two surveys were completed, which provides a 95% confidence level with an estimated +/- 5% margin of error.

For the third time in CSWD survey history, households with at least one cell phone and no landline phone (cell-only households) were included. In the past, households were selected from a random sample of Chittenden County households with landline phones. At the time the 2015 survey was conducted, it was estimated that 28.7% of Vermont households were cell-only (US Department of Health and Human Services, National Health Statistics Report, Number 61, October 12, 2012). In this survey, 28.5% of the respondents were cell-only households.

While a random sample of landline and cell-only households was selected for the survey, it does not appear to be representative of the general population in Chittenden County according to US Census and Vermont data on certain demographic characteristics. While fairly representative distributions by municipality, education, and gender were obtained, low-income households, 18-34 year olds, and renters are underrepresented in the survey. Cross tabulations between these demographic characteristics and the responses to the opinion questions in the survey were run. No significant differences were found in how the various groups answered the questions.

C. Data Analysis

Response frequencies and percentages were calculated for each question. Graphs were created for certain questions to display trends over time. Selected cross tabulations were created, and chi-square tests were conducted to identify statistically significant relationships between variables. Due to the small numbers of respondents in many of the communities, municipalities were grouped regionally for cross tabulations.

Because some people do not want to admit that they engage in wasteful behavior, even to a stranger, the results for questions regarding waste management activities may have been affected. This is referred to as a response or social desirability bias.

D. Comparisons to Previous Surveys

The last seven household surveys were conducted in 1998 by RVS Enterprises, in 2000 by Action Research, in 2002 by R. J. Peters Associates, in 2004 by RKM Research and Communications, and in 2006, 2011, and 2013 by Opinion Access Research. Some similar or identical questions were asked in the different surveys. Where applicable, the responses for these questions are included below. When comparing responses between years, please keep the +/- 5% margin of error in mind.

As mentioned above, some questions regarding waste management behavior used in previous surveys had to be reworded to meet one of the performance standards in the Vermont Materials Management Plan. For example, instead of asking respondents if they recycled or composted, they were asked what they did with recyclables, yard trimmings, and food scraps. These changes may affect how respondents answer these questions. A social responsibility bias may have been higher when the previous wording was used. Consequently, comparisons to previous surveys are difficult.

IV. RESULTS

A. Data Summaries

Response frequencies and percentages for the survey questions may be found in Appendix A. Cross tabulations of selected questions are located in Appendix B. Graphs for certain questions are located in Appendix C.

B. Public Perception and Opinions

Residents' perception of CSWD continues to be very positive. The percentage of respondents with a negative impression of CSWD remained low.

Support for and opposition to consolidated curbside collection both increased. Suggested improvements to trash disposal and recycling in Chittenden County include better/more Drop-Off Center hours, lower prices, and curbside collection of organics.

Opinions on a 5-cent tax on disposable bags are split. There is considerable support for a ban on Styrofoam take-out containers.

If the Drop-Off Centers were to accept credit and debit cards, a fee per card transaction is the preferred method to pay for the additional cost, however, more respondents would not want the service if there were an additional cost.

- 81.1% of residents surveyed said their overall impression of CSWD was positive. Only 1.5% had a negative impression. 5.7% did not have enough information, and 11.7% had no opinion or no response.

Survey Comparison:

IMPRESSION	<u>2000</u>	<u>2002</u>	<u>2004</u>	<u>2006</u>	<u>2011</u>	<u>2013</u>	<u>2015</u>
Positive	78.6%	85.8%	74.3%	61.3%	70.4%	81.1%	81.1%
Negative	0.5%	1.5%	1.3%	1.5%	0.7%	1.7%	1.5%
Not enough information	9.0%	3.6%	10.8%	17.0%	9.0%	3.7%	5.7%
Don't know/No opinion	11.7%	9.2%	13.8%	20.3%	19.7%	13.4%	11.7%

Graph 1 in Appendix C displays these data in a bar chart.

- Respondents with a negative or positive impression were asked if anything specific came to mind that contributed to their impression (multiple responses permitted). The top responses were:
 - 1) helpful/friendly/thoughtful/conscientious/professional employees (19.0%)
 - 2) convenient/easy/accessible/available (14.1%)
 - 3) good work/job/service, happy/satisfied (9.2%)
 - 4) good education/communications (8.4%)
 - 5) organized/clean/efficient (7.3%)
 - 6) great job recycling/accept a lot of materials (4.1%)
 - 7) emphasis on waste diversion (2.7%)

21.6% of those surveyed said they did not know or had no response.

- There may be a relationship between impression of CSWD and level of education (see Cross Tabulation Q8 by Q30 in Appendix B on page B1). A larger percentage of respondents with higher levels of education had a positive impression of CSWD.
- 44.3% of survey respondents would support consolidated collection of trash and recyclables. 38.1% oppose this type of system. The results show a minor increase in supporters (but within the margin of error) and an increase in those opposed. Support increases to 48.8% and opposition decreases to 34.6% if responses are weighted to mirror US Census data on housing status (renters were underrepresented in the survey).
- A significant relationship was found between opinion on consolidation and municipal region (see Cross Tabulation Q8 by Q1 in Appendix B on page B1). Over 50% of respondents in Region 1 (Burlington, South Burlington, and Winooski), the densest area of the County, and in Region 5 (Bolton, Jericho, Underhill, and Westford), one of the most rural regions, support consolidation. Residents in denser areas may be more sensitive to the amount of traffic they experience and see the benefits of route consolidation. Region 5 includes two communities that have experienced some form of consolidated collection. The greatest opposition is found in Region 4 (Charlotte, Hinesburg, Huntington, St. George, Richmond, and Shelburne). In some of the communities in Region 4 since the last survey, there was lengthy discussion in the local media initiated by a local hauler in opposition to consolidated collection. This may explain the higher level of opposition in that region.

Survey Comparison:

SUPPORT CONSOLIDATION	<u>2000</u>	<u>2002</u>	<u>2004</u>	<u>2006</u>	<u>2011</u>	<u>2013</u>	<u>2015</u>
Support	58.9%	44.4%	44.3%	41.5%	41.3%	43.4%	44.3%
Oppose	21.2%	17.4%	29.8%	31.0%	37.6%	32.8%	38.1%
Not enough information	5.0%	9.2%	9.3%	9.8%	6.2%	6.2%	8.5%
No opinion/Don't know/No response	14.9%	29.0%	16.8%	17.8%	14.9%	17.6%	9.2%

Graph 2 in Appendix C displays these data in a bar chart. The question was amended in 2015 to add a consequence of consolidation that some of the current haulers might not win contracts.

- When asked how trash disposal and recycling services in Chittenden County could be improved, the top answers respondents gave were (multiple responses permitted):
 - 1) they could not be improved (14.7%)
 - 2) provide better/more drop-off center hours (7.0%)
 - 3) make cheaper or free (6.5%)
 - 4) provide curbside collection of food/yard trimmings/compost (5.8%)
 - 5) accept more items for recycling (5.6%)
 - 6) more public awareness/participation (4.0%)

Survey Comparison:**IMPROVEMENTS**

(includes multiple responses)

	2000	2002	2004*	2006	2011	2013	2015
Recycle more items	16.0%	9.9%	27.5%	9.7%	2.9%	2.7%	5.6%
More education/public awareness	9.0%	7.7%	21.5%	3.9%	1.2%	1.0%	4.0%
Lower costs/free service	4.0%	5.1%	15.3%	3.4%	5.3%	4.7%	6.5%
Better/different/consolid. collection services	8.7%	6.8%	14.3%	2.4%	1.9%	5.0%	5.3%
More hours, sites, improvements at drop-offs	2.7%	2.9%	3.8%	6.5%	3.6%	4.2%	8.6%
Provide curbside collection of organics	NA	NA	NA	NA	2.9%	3.5%	5.8%
Other	16.7%	15.0%	7.3%	24.4%	24.1%	14.6%	15.8%
None needed/No response/Don't know	51.8%	55.6%	32.8%	49.8%	61.1%	64.3%	44.9%

Values = the percent of total responses not respondents.

*A change in the survey instrument and interviewer instructions provided by the contractor may have affected the results in 2004. Rather than require interviewers, as for previous surveys, to input each response (which would be coded later), common responses from the previous survey were listed for the interviewer. If the respondent did not seem to have a response, the interviewer was instructed by the contractor to read the first four responses listed on that survey. Consequently, the comparability of these data is questionable. In 2006, the survey instrument was changed so that interviewers again inputted each response without reading a list of responses.

- 48.0% of respondents would support and 45.0% would oppose a 5-cent tax on disposable grocery, take-out, and retail store bags.
- 73.9% of respondents would support a ban on Styrofoam take-out containers. A significant relationship was found between support for a ban and gender (see Cross Tabulation Q28 by QE in Appendix B on page B2). While a majority of both genders supported a ban, a larger proportion of males than females were against a ban.
- Respondents were asked if the Drop-Off Centers were to accept credit and debit cards, what option they would prefer the District use to recover the additional cost of providing the service. 44.8% would not want the service if there was an additional cost, 42.3% would prefer a fee per card transaction, 5.5% would prefer the price of trash be increased, and 5.5% had no opinion or did not have enough information.
- There may be a relationship between preference and type of trash and recycling service (see Cross Tabulation Q29 by Q2 in Appendix B on page B2). Drop-Off Center customers had a slight preference for a fee per card transaction while curbside customers had a slight preference for no credit card service if there were a fee. Both differences are within the margin of error.

C. Type of Trash Disposal and Recycling Service

As compared to the last survey, there was an increase in the percentage of respondents who indicated they use curbside service and a decrease in those who use drop-off centers for their regular trash and recyclables. For the first time, respondents were asked how they currently pay for trash, e.g., by size of container, number of bags, how frequently collected. The survey was conducted in June 2015 right before unit-based pricing was required to be implemented by haulers. At that time, over half paid for their trash based on the quantity disposed (by volume, weight, frequency, or a combination).

- 25.9% of the respondents use drop-off centers and 71.1% use curbside pickup service for their regular trash and recyclables.

Survey Comparison:

SERVICE	1998	2000	2002	2004	2006	2011	2013	2015
Curbside	69.0%	80.5%	72.7%	72.3%	70.8%	68.4%	65.8%	71.1%
Drop-Off	28.5%	18.5%	26.3%	26.3%	25.5%	30.3%	30.8%	25.9%
Other	1.0%	0.0%	0.7%	1.3%	3.3%	0.2%	1.9%	2.9%
Don't know/NR	1.5%	1.0%	0.2%	0.3%	0.5%	1.0%	1.5%	0.0%

- 34.3% of the respondents pay the same for trash no matter how much they dispose. 18.2% pay for trash based on the number of bags disposed, 17.2% pay based on how frequently trash is picked up, and 15.9% pay based on the size of the can they set out. This question was asked before unit-based pricing was implemented in Chittenden County.
- A relationship appears to exist between how a customer pays for trash and whether they use curbside or drop-off service (see Cross Tabulation Q6 by Q2 in Appendix B on page B3). 87.7% of Drop-Off Center customers said they were charged based on quantity while only 24.6% of curbside customers said they paid by quantity.

D. Drop-Off Centers

Drop-off centers are well used by residents for regular and special wastes. Rating of drop-off center services by those who use them for their regular trash and recyclables remains high. The Essex Drop-Off Center is the most popular facility for regular drop-off center users. The South Burlington Drop-Off Center is the most used by all user types.

- 83.6% of curbside customers said they use drop-off centers for special wastes, such as yard trimmings, electronics, motor oil, used clothing, bulky items, scrap metal, or appliances, a large increase compared to the results of the last survey. Of all CSWD respondents, 87.8% are using the drop-off centers for regular or special waste services. This is also a large increase from the previous survey, which was 77.7%. Graph 3 in Appendix C displays type of drop-off center use by survey year.

Survey Comparison:

USE FOR SPECIAL WASTE	1998	2000	2002	2004	2006	2011	2013	2015
Curbside customers only								
Yes	50.7%	57.9%	56.2%	63.5%	72.2%	73.8%	68.3%	83.6%
No	46.0%	42.1%	42.2%	35.4%	27.1%	25.1%	30.6%	16.1%
Don't know/No response	3.3%	0.0%	1.2%	1.1%	0.8%	1.1%	1.1%	0.3%

- On a scale of 1-10, with 10 being the highest, the average rating for trash and recycling services for regular drop-off center users is 8.8. In surveys prior to 2011, respondents were asked to rate trash and recycling services separately.

Survey Comparison:

RATING	2002		2004		2006		2011	2013	2015
	Rec	Trash	Rec	Trash	Rec	Trash	Both	Both	Both
1-4	1.8%	0.9%	0.9%	3.2%	2.0%	8.8%	1.6%	0.8%	2.0%
5	1.8%	0.9%	0.9%	4.8%	1.0%	2.0%	2.5%	3.2%	2.9%
6	0.0%	1.8%	0.9%	3.2%	0.0%	1.0%	0.8%	1.6%	1.0%
7	8.3%	4.6%	7.5%	3.2%	7.8%	1.0%	6.6%	8.9%	4.8%
8	27.5%	20.2%	16.0%	12.9%	18.6%	4.9%	18.0%	17.7%	22.1%
9	26.6%	31.2%	18.9%	16.1%	18.6%	7.8%	19.7%	15.3%	24.0%
10	29.4%	29.4%	39.6%	30.6%	46.1%	22.5%	46.7%	47.6%	37.5%
Don't know/ No response	4.6%	11.0%	15.1%	25.8%	5.9%	52.0%	4.1%	4.8%	5.8%
Average rating	8.7	8.8	9.0	8.5	8.9	7.7	8.9	8.9	8.8

- The Essex Drop-Off Center is used the most by the respondents that use drop-offs for their regular trash and recyclables with South Burlington next and then Richmond. South Burlington is the most popular site among respondents that use drop-offs for their regular trash and recyclables and/or for special wastes followed by Essex and then Burlington.

Survey Comparison:

REGULAR USERS									
SITE	1998	2000	2002	2004	2006	2011	2013	2015	
Burlington	NA	NA	NA	1.0%	8.9%	20.1%	12.9%	9.6%	
Colchester	11.4%	5.4%	2.8%	9.5%	7.9%	NA	NA	NA	
Essex	31.6%	24.3%	38.5%	23.8%	25.7%	22.0%	16.9%	31.7%	
Hinesburg	4.4%	5.4%	6.4%	4.8%	5.9%	5.5%	7.3%	1.9%	
Milton	7.9%	13.5%	11.0%	14.3%	8.9%	5.2%	14.5%	5.8%	
Richmond	5.3%	14.9%	8.3%	6.7%	13.9%	10.1%	16.1%	13.5%	
South Burlington	22.8%	18.9%	19.3%	22.9%	10.9%	19.5%	17.7%	23.1%	
Williston	16.7%	6.8%	10.1%	10.5%	12.9%	9.5%	11.3%	4.8%	
CSWD	NA	NA	NA	NA	NA	2.7%	0.0%	2.9%	
Other	0.0%	1.4%	0.0%	1.0%	3.0%	1.2%	1.6%	6.7%	
DK/No response	0.0%	9.5%	3.7%	5.8%	2.0%	4.3%	1.6%	0.0%	

E. Curbside Collection

Respondents continue to rate curbside collection service highly. All Cycle Waste/Casella, Myers Container Service, and Gauthier Trucking are still the top three haulers used by respondents.

- On a scale of 1-10, with 10 being the highest, the average rating for curbside trash and recycling services is 8.9. In surveys prior to 2011, respondents were asked to rate trash and recycling services separately.

Survey Comparison:

RATING	2002		2004		2006		2011	2013	2015
	Rec	Trash	Rec	Trash	Rec	Trash	Both	Both	Both
1-4	1.7%	1.4%	1.4%	0.3%	2.6%	1.1%	2.2%	1.5%	0.7%
5	1.3%	2.7%	2.8%	1.0%	3.2%	1.8%	1.5%	1.9%	1.2%
6	2.3%	1.0%	0.7%	1.4%	1.8%	1.1%	2.5%	0.8%	0.7%
7	8.3%	3.0%	5.5%	2.4%	4.6%	3.9%	6.2%	5.7%	7.2%
8	26.2%	23.3%	15.6%	15.3%	14.5%	13.8%	14.9%	15.5%	13.9%
9	18.3%	22.3%	16.3%	18.0%	15.2%	17.7%	18.9%	21.9%	12.9%
10	38.2%	43.2%	52.2%	56.1%	56.9%	58.3%	52.4%	51.7%	34.3%
Don't know/ No response	3.7%	3.4%	5.5%	5.4%	1.4%	2.5%	1.5%	1.1%	0.0%
Average rating	8.7	8.9	9.0	9.3	9.0	9.2	9.0	9.1	8.9

- The top three haulers used by respondents are All Cycle Waste/Casella (46.5%), Myers Container Service (16.4%), and Gauthier Trucking (9.8%).
- 14.3% of respondents who are curbside customers do not know who picks up their trash. One would assume this response would be common among renters and condominium owners, because many landlords and property managers or associations subscribe for trash collection for them. However, 8.0% of curbside customers who own their home did not know who collected their trash. In these cases, it may be that the person who completed the survey was not the person who had subscribed for service and pays that bill.

F. Waste Diversion at Work

Most of the respondents' employers have a recycling program and over one third of them have a compost program.

- 94.5% of respondents who work in Chittenden County said they were able to recycle at work, similar to the results of the last survey.

Survey Comparison:

RECYCLING AT WORK	2004	2006	2011	2013	2015
Yes	87.1%	92.2%	90.9%	94.9%	94.5%
No	7.7%	5.9%	4.8%	3.7%	4.3%
Don't know/No response	5.2%	1.8%	4.3%	1.4%	1.2%

- 40.6% of respondents who work in Chittenden County and have access to recycling at work said their workplace collected food scraps for composting. This question should have been asked of all who work in County, although one can probably assume that if a recycling program is not in place, it is unlikely that a composting program exists.

Survey Comparison:

COMPOSTING AT WORK	2011	2013	2015 ¹	2015 ²
Yes	24.5%	38.4%	40.6%	38.3%
No	60.6%	57.4%	47.3%	50.2%
Don't know/No response	14.9%	4.2%	12.1%	11.5%

¹Of those who have access to a recycling program at work.

²If we assume that those without access to recycling at work also have no access to composting at work.

G. Waste Diversion at Home

As discussed above, some of the questions regarding waste management at home were rewritten to comply with the survey requirements in the Vermont Materials Management Plan (MMP). Please keep this in mind when comparing the results of this survey to those of earlier ones.

Participation in recycling remains high. The majority of households manage yard trimmings at home. Over a third of households compost food scraps at home, set them out separately for collection, or drop them off for composting. Given a choice on how to manage food scraps under Act 148, more respondents choose backyard composting than curbside or drop-off service.

In compliance with the MMP, three new questions were asked. About a third of respondents would need to keep food scraps out of the trash to comply with the new Universal Recycling Law (Act 148). Close to a half said they are already in compliance. Almost half of residents knew that clean wood could be recycled locally. Much fewer knew that recycling programs for drywall scrap and asphalt shingles are available. A majority of residents knew that most special wastes are banned from disposal, but only a third to a half were aware that blue bin recyclables are.

- 86.6% of respondents said they recycle curbside or at drop-off centers. An additional 1.7% said they recycle some recyclables and put others in the trash. 11.7% said they put their recyclables in the trash.
- 51.0% of the residents said they manage yard trimmings at home (compost or leave on lawn) and 22.4% deliver them to drop-off sites for composting. 11.2% do not generate any yard trimmings, 5.0% use a combination of diversion methods, 3.5% have them removed by a landscaper or maintenance company, and 1.7% burn yard trimmings or put them in the trash.
- 37.1% of the residents said they currently put food scraps in their trash. 30.8% compost food scraps at home, 10.9% put scraps down the garbage disposal, 5.7% drop them off for composting, and 1.2% set them out for collection for composting. Others use a combination of management methods.

Survey Comparison:

ORGANICS MGMT METHOD	1998	2000	2002	2004	2006	2011	2013	2015
Compost yard trimmings	33.8%	38.9%	34.3%	37.3%	45.8%	55.0%	58.8%	26.6%
Leave on lawn or property	NA	NA	NA	NA	NA	NA	NA	24.4%
Drop off yard trimmings	NA	NA	NA	NA	NA	NA	NA	22.4%
Yard trimmings curbside/landscaper	NA	NA	NA	NA	NA	NA	NA	4.2%
Combo of diversion options	NA	NA	NA	NA	NA	NA	NA	5.0%
Combo of diversion w/ disposal	NA	NA	NA	NA	NA	NA	NA	1.5%
Don't generate	NA	NA	NA	NA	NA	NA	NA	11.2%
Put in trash	NA	NA	NA	NA	NA	NA	NA	1.0%
Burn	NA	NA	NA	NA	NA	NA	NA	0.7%
Compost food scraps	23.0%	25.9%	24.4%	23.8%	34.0%	43.8%	49.9%	30.8%
Drop off food scraps	NA	NA	NA	5.8%	6.8%	9.7%	9.4%	5.7%
Put down garbage disposal	NA	NA	NA	NA	NA	NA	NA	10.9%
Set out for collection for composting	NA	NA	NA	NA	NA	NA	NA	1.2%
Use for animal feed	NA	NA	NA	NA	NA	NA	NA	0.7%
Combo of diversion options	NA	NA	NA	NA	NA	NA	NA	3.2%
Combo of diversion w/ disposal	NA	NA	NA	NA	NA	NA	NA	9.7%
Put in trash	NA	NA	NA	NA	NA	NA	NA	37.1%

- There appears to be a relationship between how residents manage yard trimmings (their first response to a multiple response question) and municipal region (see Cross Tabulation Q10 by Q1 on page B3 in Appendix B). As one might expect, the more rural the region, the more likely households are to manage yard trimmings at home.
- There may also be a relationship between how residents manage yard trimmings (their first response to a multiple response question) and type of trash and recycling service (see Cross Tabulations Q10 by Q2 on page B4 in Appendix B). Residents who use drop-off centers for their regular trash and recyclables appear more likely to manage yard trimmings at home.
- There appears to be a relationship between how residents manage food scraps (their first response to a multiple response question) and type of trash and recycling service (see Cross Tabulations Q11 by Q2 on page B4 in Appendix B). Residents who use drop-off centers appear more likely than curbside customers to compost food scraps at home (49.0% vs. 31.3%) or bring them to drop-off centers for composting (19.2% vs. 0.7%).
- Respondents were asked what their preference was for managing their food scraps in face of the coming Vermont ban on the disposal of food scraps. Their choices were 1) composting food scraps in their backyard, 2) taking them to a drop-off center or compost facility for a fee, 3) having them picked up at the curb by a hauler for a fee, or 4) some combination of these choices. 48.8% chose backyard composting, 27.4% chose curbside pickup, 9.5% chose drop-off, 5.0% chose curbside for non-backyard composting items, and 1.7% chose drop-off for non-backyard composting items (see Graph 4 on page C4 in Appendix C). If curbside and drop-off options were combined, 32.4% would use curbside service and 11.2% would use drop-off service. The results are similar to 2013.

Survey Comparison:

FOOD SCRAP MGMT CHOICE	2013	2015
Backyard compost	47.4%	48.8%
Curbside pickup	30.0%	27.4%
Take to drop-off	8.2%	9.5%
Curbside pickup & backyard	3.0%	5.0%
Drop-off and backyard	1.5%	1.7%
Not enough information	1.7%	2.7%
Don't know/No response	8.2%	5.0%

Note: In 2013, the question described the fee for curbside or drop-off composting as %small+. The word %small+ was removed for both options from the 2015 survey.

- There appears to be a relationship between preference and type of service (see Cross Tabulation Q2 by Q13 on page B5 in Appendix B). Drop-off center users were more likely to choose backyard or drop-off composting than curbside customers and curbside customers were more likely to select curbside service than drop-off users.
- In compliance with the MMP survey requirements, respondents were asked what changes they would need to make to comply with the Universal Recycling Law (Act 148). 44.3% said nothing; they are already in compliance. 31.8% said they would need to keep food scraps out of the trash, 4.0% would need to do a combination of things, 1.0% said they would need to start recycling, and 1.0% said they never heard of the law.
- In compliance with the MMP, residents were asked if certain construction and demolition project wastes could be recycled locally. 47.0% knew that clean wood could be recycled. Only 12.4% knew that drywall scrap could be recycled, and 11.7% knew that asphalt shingles were recyclable locally. 16.9% said that all three materials could be recycled. The drywall scrap and shingle recycling programs are relatively new, and promotion has been focused on those in the construction industry. This may explain why fewer knew about them.
- In compliance with the MMP, respondents were asked which of the materials on a list were currently banned from disposal in landfills. Ranging from 61.7-71.9%, most residents knew that electronics, paint, motor oil, fluorescent bulbs, large appliances, and tires are banned from disposal. Ranging from 32.3-47.8%, less than half of the respondents were aware that cardboard and other paper products, glass bottles and jars, metal cans, and plastic bottles and jugs (i.e., the mandatory recyclables) were banned from disposal. Only 29.1% knew that yard trimmings were also banned.

One explanation for the difference might be that the hazardous materials have received more attention in the regional and national media. A shifting local population needs continuing education on local requirements that are not universal. Another explanation might be that most of CSWD's media campaigns in the past have focused on positive reasons to recycle. Whether residents know what is banned from disposal is less important to CSWD than what they do with these materials when they are ready to discard them, which we measure in other ways. Knowing it is the law provides motivation for a sector of the population, though, and an upcoming media campaign will inform the public that recycling is mandatory.

H. Hazardous Waste

Most residents generate household hazardous waste and properly dispose of it, similar to earlier surveys. Almost all households are complying with the Vermont law on electronics disposal.

- 94.7% of respondents indicated they generate hazardous waste. The question asked was reworded to comply with the MMP survey requirements. In previous surveys, respondents were asked if they ever have leftover hazardous products. In the 2015 survey, they were asked how often they need to dispose of leftover hazardous products (from which we can answer the former question). The rewording may have affected the response, which shows a large increase in HW generators.

Survey Comparison:

GENERATE HW	<u>2004</u>	<u>2006</u>	<u>2011</u>	<u>2013</u>	<u>2015¹</u>
Yes	69.5%	75.0%	74.9%	72.0%	94.7%
No	29.8%	25.0%	25.1%	27.3%	4.5%
Don't know/No response	0.8%	0.0%	0.0%	0.7%	0.7%

¹The question was reworded in 2015. See text for details.

- Half of the respondents said they need to dispose of hazardous products about once a year. 23.4% said more than once per year, and 21.1% said less than once per year.
- Over a third of the generators use the Environmental Depot or Rover and 45.1% use a District drop-off center to dispose of the waste. (Please note that when answering "drop-off center" or "CSWD", residents may have been referring to the Environmental Depot or the Rover when it was located at a drop-off center.) This question was also reworded to comply with MMP requirements.

Survey Comparison:

DISPOSAL METHOD (includes multiple responses)	<u>2004</u>	<u>2006</u>	<u>2011</u>	<u>2013</u>	<u>2015</u>
Drop-Off Center/CSWD	36.3%	41.8%	39.4%	39.6%	45.1%
Rover	27.1%	26.4%	20.9%	16.7%	7.9%
Environmental Depot	20.3%	23.1%	33.3%	30.3%	24.9%
Store/retailer	NA	NA	NA	NA	2.4%
Regular trash	4.2%	2.4%	0.9%	1.2%	3.1%
Down the drain	0.3%	0.6%	0.3%	0.0%	0.0%
Combination of above or Other	5.9%	2.7%	2.3%	7.7%	13.4%
Don't know/No response	5.9%	3.0%	2.9%	4.3%	3.1%

- In compliance with the MMP survey requirements, respondents were asked what they do with electronics, such as computers, monitors, computer peripherals, printers, and televisions. 84.4% said they drop them off at designated recycling sites and/or community collection events. 2.5% use other diversion methods, 2.0% use a combination of diversion and disposal methods, and 1.7% put electronics in their trash. 3.5% said they don't have any to dispose.

I. Communications

The top preferred methods for receiving solid waste information are flyer in the mail, e-mail, phone call, and newspaper. A majority of respondents access CSWD's website from their home computers. The

most common types of information sought on the website are hours of facility operation, how to dispose/recycle an item, and general information on recycling or composting.

- 42.5% of respondents prefer to receive information about trash, recycling, and composting via a flyer in the mail. The other top answers include e-mail (27.4%), phone call (17.2% óa big increase over last survey), newspaper (10.2%), and CSWD’s website/internet (5.2% óless than in the last survey).

Survey Comparison:

BEST WAY TO REACH w/ INFO

(Multiple answer possible; percent of respondents, not responses, shown)

	<u>2013</u>	<u>2015</u>
Flyer in the mail	43.9%	42.5%
E-mail	21.3%	27.4%
Phone call	0.7%	17.2%
Newspaper	14.6%	10.2%
CSWD website/internet	13.6%	5.2%
Front Porch Forum	5.7%	4.2%
Television	6.5%	4.0%
Radio	4.7%	2.7%
Hauler	4.5%	2.5%
Drop-Off Center	7.9%	1.0%
Other	10.4%	5.5%
Don’t know/No response	11.2%	4.0%

- 59.5% of respondents access CSWD’s website from their home computer, 13.4% from their cell phone, 10.2% from their work computer, and 9.2% from their tablet. 27.9% don’t use the website.
- The information most sought on the CSWD website include hours of facility operation (32.7%), how to get rid of an item (24.6%), general information on recycling or composting (17.5%), and trash or recycling pickup information (9.8%).

V. CONCLUSIONS & RECOMMENDATIONS

- In general, CSWD facilities and programs enjoy high participation. Residents appear satisfied with their trash and recycling service, are managing their hazardous waste properly, and most have a positive impression of the District.
- There is a good base of support for and of opposition to consolidated collection. If it is pursued in the future, its benefits need to be well communicated to the public before implementation.
- CSWD will likely have more support from members in backing or implementing a ban on Styrofoam take-out containers than backing or imposing a 5-cent tax on disposable shopping bags.
- If CSWD decides to accept credit cards at DOCs, it should charge a fee per card transaction.
- While there is strong participation in food scraps diversion by households and businesses, additional planning, promotion, and outreach on all management options are needed.

- CSWD should focus future promotion of household food scraps diversion on residents with curbside collection service for regular trash and recyclables.
- Recycling opportunities for clean wood, asphalt shingles, and drywall scrap should be further promoted.
- Direct mail and e-mail should continue to be used as major avenues for disseminating information on solid waste management.

APPENDIX A

Chittenden Solid Waste District 2015 Household Solid Waste Survey RESPONSE FREQUENCIES & PERCENTAGES BY QUESTION

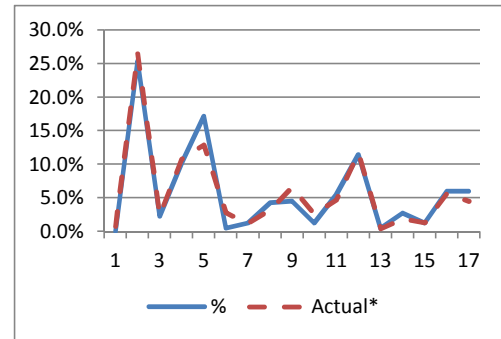
Respondent Type	#	%	VT Est. Actual*
Cell phone only households	108	26.9%	29.9%
Landline households	294	73.1%	
TOTAL	402	100.0%	

*US Department of Health & Human Services 2013

Q1 What town or city do you reside in?

Response	#	%	VT Est. Actual*
Bolton	0	0.0%	0.8%
Burlington	102	25.4%	26.5%
Charlotte	9	2.2%	2.4%
Colchester	41	10.2%	10.8%
Essex Junction/Essex Town	69	17.2%	12.9%
Hinesburg	2	0.5%	2.8%
Huntington	5	1.2%	1.2%
Jericho	17	4.2%	3.2%
Milton	18	4.5%	6.6%
Richmond	5	1.2%	2.6%
Shelburne	22	5.5%	4.7%
South Burlington	46	11.4%	11.7%
St. George	2	0.5%	0.4%
Underhill	11	2.7%	1.9%
Westford	5	1.2%	1.3%
Williston	24	6.0%	5.7%
Winooski	24	6.0%	4.5%
TOTAL	402	100.0%	100.0%

*Vermont Department of Health, 2013



Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

Response	#	%
Curbside/pick up/dumpster	286	71.1%
Drop-off/dump/landfill	104	25.9%
Bring to work	5	1.2%
Both curbside & drop-off	3	0.7%
Other	4	1.0%
Don't know/No response	0	0.0%
TOTAL	402	100.0%

Q3 Do you ever take other items to a drop-off center, such as yard trimmings, electronics, motor oil, used clothing, old furniture, scrap metal, batteries, or appliances?

Response	#	%
Yes	345	85.8%
No	56	13.9%
Don't know/No response	1	0.2%
TOTAL	402	100.0%

Q4 Which drop-off center do you usually use?
 Asked only of Q2=Drop-off or Q3=yes.

Response	#	%
South Burlington	82	23.8%
Essex	79	22.9%
Burlington	48	13.9%
Williston	35	10.1%
Richmond	23	6.7%
Milton	15	4.3%
Hinesburg	4	1.2%
CSWD/All	26	7.5%
Myers Recycling Center	1	0.3%
Other	18	5.2%
Don't know/No response	14	4.1%
TOTAL	345	100.0%

Q5 Which trash collection company picks up your trash?
 Asked only of those who use curbside service for their regular trash and recycling.

Response	#	%
All Cycle Waste/Casella	133	46.5%
Myers Container	47	16.4%
Gauthier Trucking Company	28	9.8%
Clean Green Sanitation	14	4.9%
Tourville Trucking	9	3.1%
Barnier Waste	4	1.4%
Duffy's Waste & Recycling	3	1.0%
Trashaway & Recycling Service	2	0.7%
Other	4	1.4%
Don't know	41	14.3%
No response	1	0.3%
TOTAL	286	100.0%

Q6 Do you currently pay for your trash based on:

Response	#	%
Pay the same no matter how much trash	138	34.3%
Number of bags disposed	73	18.2%
How frequently trash is picked up	69	17.2%
Size of the can set out	64	15.9%
Weight of the trash	8	2.0%
Volume of trash & frequency of collection	5	1.2%
Other	8	2.0%
Don't know	26	6.5%
No response	11	2.7%
TOTAL	402	100.0%

Q7 On a scale of 1 to 10, with 10 being the highest, how would you rate the trash and recycling service you receive?

Response	#	%
10-Highest rating	181	45.0%
9	77	19.2%
8	83	20.6%
7	35	8.7%
6	4	1.0%
5	8	2.0%
4	4	1.0%
3	0	0.0%
2	1	0.2%
1-Lowest rating	0	0.0%
Don't know/No response	9	2.2%
TOTAL	402	100.0%
Average rating	8.9	

Curbside Respondents		
Response	#	%
10-Highest rating	138	48.3%
9	52	18.2%
8	56	19.6%
7	29	10.1%
6	3	1.0%
5	5	1.7%
4	3	1.0%
3	0	0.0%
2	0	0.0%
1-Lowest rating	0	0.0%
Don't know/No response	0	0.0%
TOTAL	286	100.0%
Average rating	8.9	

Drop-Off Respondents		
Response	#	%
10-Highest rating	39	37.5%
9	25	24.0%
8	23	22.1%
7	5	4.8%
6	1	1.0%
5	3	2.9%
4	1	1.0%
3	0	0.0%
2	1	1.0%
1-Lowest rating	0	0.0%
Don't know/No response	6	5.8%
TOTAL	104	100.0%
Average rating	8.8	

Q8 The next question is about curbside collection of trash and recyclables. In most cases in Chittenden County, if you want curbside service, you can choose which hauler comes to your home to pick up your trash and recyclables. Many other communities (including some in Vermont) have chosen to assign routes to specific haulers through a bidding process, so that only one hauler services a given neighborhood. This type of system can reduce fuel and other costs, air and noise pollution, and the impact of trucks on the roads; however, curbside customers would no longer have a choice of haulers, though all haulers in the system would be required to maintain specific service standards. In addition, some of the current haulers might not win contracts. Would you support or oppose this type of system?

Response	#	%
Support	178	44.3%
Oppose	153	38.1%
Not enough information	34	8.5%
No opinion	25	6.2%
Don't know/No response	12	3.0%
TOTAL	402	100.0%

Weighted by Home Ownership
48.8%
34.6%

Q9 What do you do with household recyclables, for example, bottles, cans, cardboard, paper?

Response	#	%
Set out for collection for recycling	230	57.2%
Drop off at designated recycling sites	102	25.4%
Put in trash	47	11.7%
Both drop off & curbside	13	3.2%
Some drop off or curbside & some in trash	7	1.7%
Other	3	0.7%
Don't know/No response	0	0.0%
TOTAL	402	100.0%

Q10 What do you do with yard trimmings?

Response	#	%
Compost at home	107	26.6%
Leave on lawn or elsewhere on property	98	24.4%
Drop off at designated composting sites	90	22.4%
Combination of diversion with no disposal	20	5.0%
Removed by landscaper/maintenance co.	14	3.5%
Combination of diversion with disposal	6	1.5%
Set out for collection for composting	3	0.7%
Put in trash	4	1.0%
Burn	3	0.7%
Other	5	1.2%
Don't have any	45	11.2%
Don't know/No response	7	1.7%
TOTAL	402	100.0%

Q11 What do you do with food scraps?

Response	#	%
Put in trash	149	37.1%
Compost at home	124	30.8%
Put down garbage disposal	44	10.9%
Drop off at designated composting sites	23	5.7%
Compost at home & trash	18	4.5%
Garbage disposal & trash	18	4.5%
Garbage disposal & compost at home	8	2.0%
Set out for collection for composting	5	1.2%
Compost at home & drop off	4	1.0%
Use for animal feed	3	0.7%
Combination of diversion with disposal	3	0.7%
Compost & animal feed	1	0.2%
Don't know/No response	2	0.5%
TOTAL	402	100.0%

Q12 What do you do with electronics, such as computers, monitors, computer peripherals, printers, and televisions?

Response	#	%
Drop off at designated recycling sites	315	78.4%
Take to community collection events	16	4.0%
Combination of above	8	2.0%
Don't have any to dispose	14	3.5%
Use other diversion method	10	2.5%
Combination of diversion with disposal	8	2.0%
Put in trash	7	1.7%
Other	3	0.7%
Don't know/No response	21	5.2%
TOTAL	402	100.0%

Q13 In 2012, the Vermont Legislature passed Act 148, which includes the banning of food scraps from landfills. This part of the law is being phased in over time starting with businesses that generate large amounts of food scraps. Beginning in 2020, residents will be required to separate out food scraps from their trash for composting. If you had a choice between 1) composting food scraps in your backyard, 2) taking them to a drop-off center or compost facility for a fee, or 3) having them picked up at the curb by a hauler for a fee, what would be your preference?

Response	#	%
Backyard compost	196	48.8%
Curbside pickup	110	27.4%
Take to a drop-off center	38	9.5%
Curbside pickup of items can't compost	20	5.0%
Take items I can't compost to drop-off	7	1.7%
Not enough information	11	2.7%
Don't know/No response	20	5.0%
TOTAL	402	100.0%

Q14 What changes will you need to make to comply with the new Universal Recycling Law, also known as Act 148, as it goes into effect? Multiple responses permitted.

Response	#	%
Nothing: Already in compliance	178	44.3%
Keep food scraps out of trash	128	31.8%
Start recycling	4	1.0%
Keep yard trimmings out of trash	0	0.0%
Keep wood out of trash	1	0.2%
Combination of above	16	4.0%
Other	32	8.0%
Never heard of Universal Recycling Law	4	1.0%
Don't know/No response	39	9.7%
TOTAL	402	100.0%

Q15 How often do you need to dispose of leftover household hazardous products such as chemicals, paint, automotive fluids, pesticides, batteries, fluorescent bulbs, and household cleaners?

Response	#	%
Less than once per year	85	21.1%
About once per year	202	50.2%
More than once per year	94	23.4%
Never	18	4.5%
Don't know/No response	3	0.7%
TOTAL	402	100.0%

Q16 What do you do with leftover hazardous products?
 Asked only of those who had leftover hazardous products.
 Multiple responses permitted.

Response	#	%
Bring to Drop-Off Center	159	41.7%
Bring to Environmental Depot	95	24.9%
Bring to Rover	30	7.9%
Bring to CSWD/District	13	3.4%
Bring to a store/retailer	9	2.4%
Combination of above options	35	9.2%
Some proper management & some trash	2	0.5%
Put in trash	12	3.1%
Put down the drain	0	0.0%
Other	14	3.7%
Don't know/No response	12	3.1%
TOTAL	381	100.0%

Q17 Which of the following construction or demolition project waste can be recycled in your region?
 Displayed as percent of total respondents, not responses.

Response	#	%
Clean wood	189	47.0%
Drywall scrap	50	12.4%
Asphalt shingles	47	11.7%
All of the above	68	16.9%
None of the above	13	3.2%
Don't know/No response	131	32.6%

Q18 Which of the following materials are currently banned from disposal in landfills?
 Displayed as percent of total respondents, not responses.

Response	#	%
Motor oil	289	71.9%
Paint	283	70.4%
Electronics	277	68.9%
Fluorescent lamps/bulbs	269	66.9%
Large appliances	249	61.9%
Tires	248	61.7%
Plastic bottles & jugs	192	47.8%
Metal cans	174	43.3%
Glass bottles & jars	166	41.3%
Scrap metal	164	40.8%
Cardboard & other paper products	130	32.3%
Yard trimmings	117	29.1%
Concrete	117	29.1%
Untreated wood	101	25.1%
Household food scraps	63	15.7%
Don't know/No response	48	11.9%
All of the above	38	9.5%
None of the above	8	2.0%

Q19 Do you work outside the home in Chittenden County?

Response	#	%
Yes	253	62.9%
No	146	36.3%
Don't know/No response	3	0.7%
TOTAL	402	100.0%

Q20 Are you able to recycle at work?
 Asked only of those who work in Chittenden County.

Response	#	%
Yes	239	94.5%
No	11	4.3%
Don't know/No response	3	1.2%
TOTAL	253	100.0%

Q21 Does your workplace collect food scraps for composting?
 Asked only of those who are able to recycle at work. Should have been asked of all who work in the County (although one can probably assume that if a recycling program is not in place, it's unlikely that a composting program is).

Response	#	%
Yes	97	40.6%
No	113	47.3%
Don't know/No response	29	12.1%
TOTAL	239	100.0%

Q22 What would be the best way or ways to reach you with information about trash, recycling, and composting in Chittenden County?
Multiple responses permitted.

Response	#	% of Responses	% of Respondents
Flyer in the mail	171	33.7%	42.5%
E-mail	110	21.7%	27.4%
Phone call	69	13.6%	17.2%
Newspaper	41	8.1%	10.2%
CSWD web site/internet	21	4.1%	5.2%
Front Porch Forum	17	3.3%	4.2%
Television	16	3.1%	4.0%
Radio	11	2.2%	2.7%
Hauler	10	2.0%	2.5%
Facebook	6	1.2%	1.5%
Drop-off center	4	0.8%	1.0%
Twitter	4	0.8%	1.0%
Other	12	2.4%	3.0%
Don't know/No response	16	3.1%	4.0%
TOTAL	508	100.0%	

Q23 What newspapers do you read?
Asked only of those who chose "newspaper" in Q22.
Multiple responses permitted.

Response	#	%
Burlington Free Press	29	43.9%
Seven Days	16	24.2%
Local town papers	12	18.2%
NY Times	5	7.6%
Wall Street Journal	4	6.1%
TOTAL	66	100.0%

Q24 What radio stations do you listen to?
Asked only of those who chose "radio" in Q22.
Multiple responses permitted.

Response	#	%
107.9/WVPS/VPR/NPR	6	46.2%
98.9/WOKO/The Big Station/FM Country	4	30.8%
Other	2	15.4%
Don't know/No response	1	7.7%
TOTAL	13	53.8%

Q25 If you use CSWD's web site, how do you access it?
Multiple responses permitted.

Response	#	% of Responses	% of Respondents
Home computer	239	47.6%	59.5%
Cell phone/smart phone	54	10.8%	13.4%
Work computer	41	8.2%	10.2%
Tablet/iPad/Surface	37	7.4%	9.2%
Other computer (library, etc.)	4	0.8%	1.0%
Other	1	0.2%	0.2%
Don't use the website	112	22.3%	27.9%
Don't know/No response	14	2.8%	3.5%
TOTAL	502	100.0%	

Q26 What do you look for on the website?
Multiple responses permitted.

Response	#	%
Hours of operation	166	32.7%
How to get rid of/dispose of/recycle an item	125	24.6%
General information on recycling or composting	89	17.5%
Trash or recycling pickup information	50	9.8%
Contact information	21	4.1%
Ways to reduce waste	7	1.4%
Pricing	6	1.2%
Job announcements	3	0.6%
Other	21	4.1%
Don't know/No response	20	3.9%
TOTAL	508	100.0%

Q27 Would you support or oppose a 5-cent tax on disposable grocery, take-out, and retail store bags?

Response	#	%
Support	193	48.0%
Oppose	181	45.0%
Not enough information	14	3.5%
No opinion	8	2.0%
Don't know/No response	6	1.5%
TOTAL	402	100.0%

Q28 Would you support or oppose a ban on Styrofoam take-out containers?

Response	#	%
Support	297	73.9%
Oppose	79	19.7%
Not enough information	14	3.5%
No opinion	8	2.0%
Don't know/No response	4	1.0%
TOTAL	402	100.0%

Q29 The Chittenden Solid Waste District Drop-Off Centers currently accept only cash or checks. If the Drop-Offs were to accept credit and debit cards, which of the following options would you prefer the District use to recover the additional cost of providing this service?

Response	#	%
Wouldn't want if additional cost	180	44.8%
Charge service fee per card transaction	170	42.3%
Increase price for trash disposal	22	5.5%
Not enough information	4	1.0%
No opinion/Don't care	18	4.5%
Other	2	0.5%
Don't know/No response	6	1.5%
TOTAL	402	100.0%

Q30 What is your overall impression of the Chittenden Solid Waste District?

Response	#	%
Positive	326	81.1%
Negative	6	1.5%
Not enough information	23	5.7%
No opinion	46	11.4%
No response	1	0.2%
TOTAL	402	100.0%

Q31 Does anything specific come to mind that contributes to this impression?

Asked only of those who had a positive or negative impression.

Multiple responses permitted.

Response	#	%
No	78	21.1%
Helpful/friendly/thoughtful/ conscientious/professional employees	70	19.0%
Convenient/easy/accessible/available	52	14.1%
Good work/job/service, happy/satisfied	34	9.2%
Good education/communications	31	8.4%
Organized/clean/efficient	27	7.3%
Great job recycling/accept a lot of mat.	15	4.1%
Emphasis on waste diversion	10	2.7%
Leadership/management	6	1.6%
Cost effective	6	1.6%
Innovative/proactive	5	1.4%
Other (1-4 responses each)	33	8.9%
No response	2	0.5%
TOTAL	369	100.0%

Q32 How could trash and recycling services in Chittenden County be improved?

Multiple responses permitted.

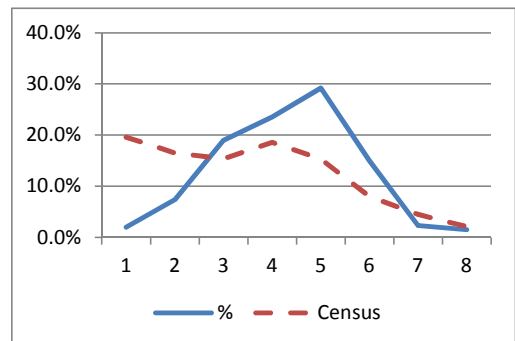
Response	#	%
They could not be improved/satisfied	63	14.7%
Better/more drop-off center hours	30	7.0%
Cheaper/free	28	6.5%
Curbside food/yard debris/compost	25	5.8%
Accept more items for recycling	24	5.6%
More public awareness/participation	17	4.0%
Municipal/consolidated collection	16	3.7%
Carts/better containers	7	1.6%
Add Drop-Off Centers	7	1.6%
Other (1-4 responses each)	68	15.8%
Response not clear	15	3.5%
Don't know/No response	130	30.2%
TOTAL	430	100.0%

DEMOGRAPHIC QUESTIONS

For comparison purposes, 2009-2013 American Community Survey data from the US Census are shown.

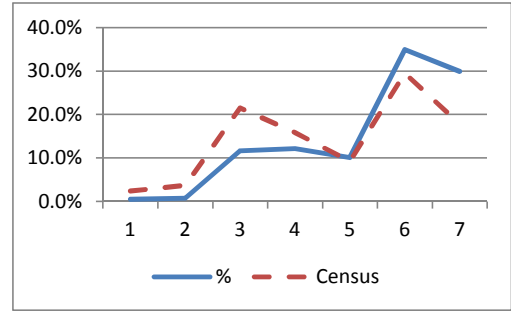
QA In which of the following age brackets do you fit?

Response	#	%	Census
18 to 24	8	2.0%	19.6%
25 to 34	29	7.4%	16.5%
35 to 44	75	19.0%	15.4%
45 to 54	93	23.6%	18.6%
55 to 64	115	29.2%	15.3%
65 to 74	59	15.0%	8.0%
75 to 84	9	2.3%	4.5%
85 or older	6	1.5%	2.1%
TOTAL	394	100.0%	100.0%
No response	8		



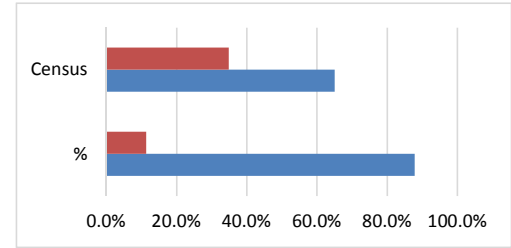
QB What is the highest level of education that you have completed?
 Census data is for the population 25 years and over.

Response	#	%	Census
Less than 9th grade	2	0.5%	2.4%
Some high school (9-11)	3	0.8%	3.7%
High school graduate/GED	46	11.6%	21.5%
Some college	48	12.2%	15.8%
Associate's degree	40	10.1%	9.2%
Bachelor's degree	138	34.9%	29.5%
Graduate or professional degree	118	29.9%	17.8%
TOTAL	395	100.0%	99.9%
No response	7		



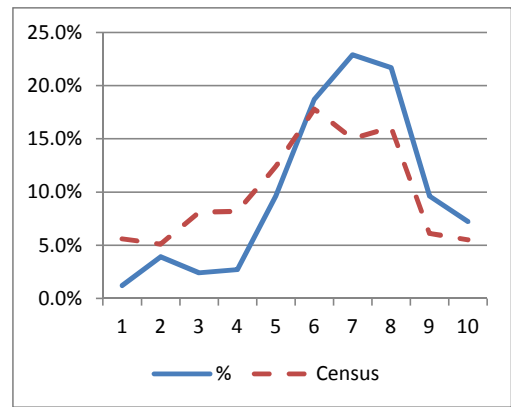
QC Do you own or rent your home?

Response	#	%	Census
Own	348	87.9%	65.1%
Rent	45	11.4%	34.9%
Other	3	0.8%	
TOTAL	396	100.0%	100.0%
No response	6		



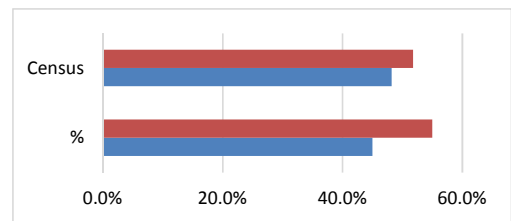
QD Which of the following ranges best describes your combined annual household income?

Response	#	%	Census
Less than \$10,000	4	1.2%	5.6%
\$10,000 to \$14,999	13	3.9%	5.1%
\$15,000 to \$24,999	8	2.4%	8.1%
\$25,000 to \$34,999	9	2.7%	8.2%
\$35,000 to \$49,999	32	9.6%	12.4%
\$50,000 to \$74,999	62	18.7%	17.8%
\$75,000 to \$99,999	76	22.9%	15.0%
\$100,000 to \$149,999	72	21.7%	16.1%
\$150,000 to \$199,999	32	9.6%	6.1%
\$200,000 or more	24	7.2%	5.5%
TOTAL	332	100.0%	99.9%
No response	70		



QE Respondent's sex (by observation)

Total Respondents	#	%	Census
Male	181	45.0%	48.2%
Female	221	55.0%	51.8%
TOTAL	402	100.0%	100.0%



APPENDIX B

Chittenden Solid Waste District 2015 Household Solid Waste Survey CROSS TABULATIONS

QB by Q30

Level of Education by Impression of CSWD

QB What is the highest level of education that you have completed?

Q30 What is your overall impression of the Chittenden Solid Waste District?

Level of Education	Positive	Negative	Not enuf info	No opinion	TOTAL
< 9th grade	0 0.0%	0 0.0%	0 0.0%	2 100.0%	2 0.5%
Some HS	2 66.7%	0 0.0%	0 0.0%	1 33.3%	3 0.8%
HS grad/GED	31 67.4%	0 0.0%	3 6.5%	12 26.1%	46 11.6%
Some college	35 72.9%	3 6.3%	4 8.3%	6 12.5%	48 12.2%
Assoc Degree	29 72.5%	0 0.0%	6 15.0%	5 12.5%	40 10.1%
Bach Degree	120 87.0%	1 0.7%	7 5.1%	10 7.2%	138 34.9%
Grad/Prof Deg	106 89.8%	1 0.8%	3 2.5%	8 6.8%	118 29.9%
TOTAL	323 81.8%	5 1.3%	23 5.8%	44 11.1%	395 100.0%

Excludes no response to Level of Education and Impression of CSWD questions.

Probability of chi-square = .000019

Expected value cells < 5 = 61%

Q8 by Q1

Opinion of Consolidated Collection by Municipal Region

Q8 The next question is about curbside collection of trash and recyclables. In most cases in Chittenden County, if you want curbside service, you can choose which hauler comes to your home to pick up your trash and recyclables. Many other communities (including some in Vermont) have chosen to assign routes to specific haulers through a bidding process, so that only one hauler services a given neighborhood. This type of system can reduce fuel and other costs, air and noise pollution, the impact of trucks on the roads, and lower the overall cost to consumers; however, curbside customers would no longer have a choice of haulers, though all haulers in the system would be required to maintain specific service standards. In addition, some of the current haulers might not win contracts. Would you support or oppose this type of system?

Q1 What town or city do you live in?

Consolidated Collection	Region 1	Region 2	Region 3	Region 4	Region 5	TOTAL
Support	85 51.2%	22 37.9%	43 46.7%	10 24.4%	18 54.5%	178 45.6%
Oppose	46 27.7%	29 50.0%	40 43.5%	26 63.4%	12 36.4%	153 39.2%
Not enough info	22 13.3%	2 3.4%	6 6.5%	2 4.9%	2 6.1%	34 8.7%
No opinion	13 7.8%	5 8.6%	3 3.3%	3 7.3%	1 3.0%	25 6.4%
TOTAL	166 100.0%	58 100.0%	92 100.0%	41 100.0%	33 100.0%	390 100.0%

Region 1 = Burlington, So. Burlington, Winooski

Region 2 = Colchester, Milton

Region 3 = Essex, Essex Junction, Williston

Region 4 = Charlotte, Hinesburg, Huntington, St. George, Richmond, Shelburne

Region 5 = Bolton, Jericho, Underhill, Westford

Excludes no response and "Don't know" responses to the Opinion of Consolidated Collection question.

Probability of chi-square = .002

Expected value cells < 5 = 30%

Q28 by QE
Opinion on Styrofoam Ban by Gender

Q28 Would you support or oppose a ban on Styrofoam take-out containers?
 QE Gender

Styrofoam Ban	Male	Female	TOTAL
Support	114 63.3%	183 83.9%	297 74.6%
Oppose	54 30.0%	25 11.5%	79 19.8%
Not enough info	9 5.0%	5 2.3%	14 3.5%
No opinion	3 1.7%	5 2.3%	8 2.0%
TOTAL	180 100.0%	218 100.0%	398 100.0%

Excludes no response and "Don't know" responses to the Styrofoam Ban question.
 Probability of chi-square = .000016
 Expected value cells < 5 = 25%

Q29 by Q2
Credit Card Cost Preference by Type of Service

Q29 The Chittenden Solid Waste District Drop-Off Centers currently accept only cash or checks. If the Drop-Offs were to accept credit and debit cards, which of the following options would you prefer the District use to recover the additional cost of providing this service?

Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

Credit Card Cost Preference	Curbside	Drop-Off	Bring to work	Other	TOTAL
Increase price of trash	18 6.4%	3 2.9%	1 20.0%	0 0.0%	22 5.6%
Fee per card transaction	116 41.3%	50 48.5%	1 20.0%	3 42.9%	170 42.9%
No, if additional cost	127 45.2%	47 45.6%	2 40.0%	4 57.1%	180 45.5%
Not enough information	4 1.4%	0 0.0%	0 0.0%	0 0.0%	4 1.0%
No opinion	15 5.3%	3 2.9%	0 0.0%	0 0.0%	18 4.5%
Other	1 0.4%	0 0.0%	1 20.0%	0 0.0%	2 0.5%
TOTAL	281 100.0%	103 100.0%	5 100.0%	7 100.0%	396 100.0%

Excludes no response and "Don't know" responses to Credit Card Cost Preference question and no response and "Don't know" responses to the Type of Service
 Probability of chi-square = .000034
 Expected value cells < 5 = 71%

Q6 by Q2

How Pay for Trash by Type of Service

Q6 Do you currently pay for your trash based on:

Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

How Pay for Trash	Curbside	Drop-Off	Bring to work	Other	TOTAL
Size of can	41 15.5%	21 23.3%	1 20.0%	1 16.7%	64 17.5%
Frequency	66 25.0%	1 1.1%	1 20.0%	1 16.7%	69 18.9%
Number of bags	15 5.7%	56 62.2%	0 0.0%	2 33.3%	73 20.0%
Pay same no matter quantity	132 50.0%	3 3.3%	1 20.0%	2 33.3%	138 37.8%
Weight	4 1.5%	2 2.2%	2 40.0%	0 0.0%	8 2.2%
Both quantity & frequency	5 1.9%	0 0.0%	0 0.0%	0 0.0%	5 1.4%
Other	1 0.4%	7 7.8%	0 0.0%	0 0.0%	8 2.2%
TOTAL	264 100.0%	90 100.0%	5 100.0%	6 100.0%	365 100.0%

Excludes no response and "Don't know" responses to the How Pay for Trash question.

Probability of chi-square = .000000

Expected value cells < 5 = 64%

Q10 by Q1

How Manage Yard Trimmings (first response) by Municipal Region

Q10 What do you do with yard trimmings? (multiple response possible)

Q1 What town or city do you live in?

First Response Yard Trimmings	Region 1	Region 2	Region 3	Region 4	Region 5	TOTAL
Leave on lawn/property	26 15.4%	25 43.9%	24 26.4%	18 40.0%	14 42.4%	107 27.1%
Compost at home	42 24.9%	13 22.8%	32 35.2%	16 35.6%	15 45.5%	118 29.9%
SUBTOTAL	40.2%	66.7%	61.5%	75.6%	87.9%	57.0%
Drop off for composting	54 32.0%	10 17.5%	22 24.2%	10 22.2%	0 0.0%	96 24.3%
Curbside for composting	3 1.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 0.8%
Removed by landscaper/maint.	10 5.9%	2 3.5%	2 2.2%	0 0.0%	0 0.0%	14 3.5%
Put in trash	2 1.2%	1 1.8%	0 0.0%	0 0.0%	1 3.0%	4 1.0%
Don't have any	27 16.0%	5 8.8%	11 12.1%	0 0.0%	2 6.1%	45 11.4%
Burn	1 0.6%	0 0.0%	0 0.0%	1 2.2%	1 3.0%	3 0.8%
Other	4 2.4%	1 1.8%	0 0.0%	0 0.0%	0 0.0%	5 1.3%
TOTAL	169 100.0%	57 100.0%	91 100.0%	45 100.0%	33 100.0%	395 100.0%

Region 1 = Burlington, So. Burlington, Winooski

Region 2 = Colchester, Milton

Region 3 = Essex, Essex Junction, Williston

Region 4 = Charlotte, Hinesburg, Huntington, St. George, Richmond, Shelburne

Region 5 = Bolton, Jericho, Underhill, Westford

Excludes no response and "Don't know" responses to the How Manage Yard Trimmings question.

Probability of chi-square = .000095

Expected value cells < 5 = 56%

Q10 by Q2

How Manage Yard Trimmings (first response) by Type of Service

Q10 What do you do with yard trimmings? (multiple response possible)

Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

First Response Yard Trimmings	Curbside	Drop-Off	Bring to work	Other	TOTAL
Leave on lawn/property	78 28.0%	27 26.0%	1 20.0%	1 14.3%	107 27.1%
Compost at home	75 26.9%	40 38.5%	1 20.0%	2 28.6%	118 29.9%
SUBTOTAL	54.8%	64.4%	40.0%	42.9%	57.0%
Drop off for composting	59 21.1%	32 30.8%	2 40.0%	3 42.9%	96 24.3%
Curbside for composting	3 1.1%	0 0.0%	0 0.0%	0 0.0%	3 0.8%
Removed by landscaper/maint.	14 5.0%	0 0.0%	0 0.0%	0 0.0%	14 3.5%
Put in trash	3 1.1%	0 0.0%	1 20.0%	0 0.0%	4 1.0%
Don't have any	40 14.3%	4 3.8%	0 0.0%	1 14.3%	45 11.4%
Burn	3 1.1%	0 0.0%	0 0.0%	0 0.0%	3 0.8%
Other	4 1.4%	1 1.0%	0 0.0%	0 0.0%	5 1.3%
TOTAL	279 100.0%	104 100.0%	5 100.0%	7 100.0%	395 100.0%

Excludes no response and "Don't know" responses to How Manage Yard Trimmings question.

Probability of chi-square = < .007372

Expected value cells < 5 = 75%

Q11 by Q2

How Manage Food Scraps (first response) by Type of Service

Q11 What do you do with food scraps? (multiple response possible)

Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

Food Scraps Management	Curbside	Drop-Off	Bring to work	Other	TOTAL
Garbage disposal	49 17.3%	11 10.6%	0 0.0%	1 14.3%	61 15.3%
Compost at home	89 31.3%	51 49.0%	2 40.0%	1 14.3%	143 35.8%
Drop off for composting	2 0.7%	20 19.2%	0 0.0%	1 14.3%	23 5.8%
Curbside for composting	5 1.8%	0 0.0%	0 0.0%	0 0.0%	5 1.3%
Trash	135 47.5%	22 21.2%	3 60.0%	3 42.9%	163 40.8%
Animal feed	4 1.4%	0 0.0%	0 0.0%	1 14.3%	5 1.3%
TOTAL	284 100.0%	104 100.0%	5 100.0%	7 100.0%	400 100.0%

Excludes no response and "Don't know" responses to the How Manage Food Scraps question.

Probability of chi-square = .000000

Expected value cells < 5 = 67%

Q2 by Q13**Type of Service by Mandatory Food Scraps Separation Preferences**

Q2 For your household trash and recycling, do you have a hauler who provides curbside pickup or do you use a drop-off center?

Q13 In 2012, the Vermont Legislature passed Act 148, which includes the banning of food scraps from landfills. This part of the law is being phased in over time starting with businesses that generate large amounts of food scraps. Beginning in 2020, residents will be required to separate out food scraps from their trash for composting. If you had a choice between 1) composting food scraps in your backyard, 2) taking them to a drop-off center or compost facility for a fee, or 3) having them picked up at the curb by a hauler for a fee, what would be your preference?

Type of Service	Backyard	Drop-Off	Curbside	Curb for Non-BY	DOC for Non-BY	Not enuf info	TOTAL
Curbside	128 46.9%	14 5.1%	103 37.7%	18 6.6%	3 1.1%	7 2.6%	273 100.0%
Drop-Off	62 63.3%	22 22.4%	4 4.1%	2 2.0%	4 4.1%	4 4.1%	98 100.0%
Bring to work	2 40.0%	1 20.0%	2 40.0%	0 0.0%	0 0.0%	0 0.0%	5 100.0%
Other	4 66.7%	1 16.7%	1 16.7%	0 0.0%	0 0.0%	0 0.0%	6 100.0%
TOTAL	196 51.3%	38 9.9%	110 28.8%	20 5.2%	7 1.8%	11 2.9%	382 100.0%

Excludes no response and "Don't know" responses to the Mandatory Food Scraps Separation Preferences question.

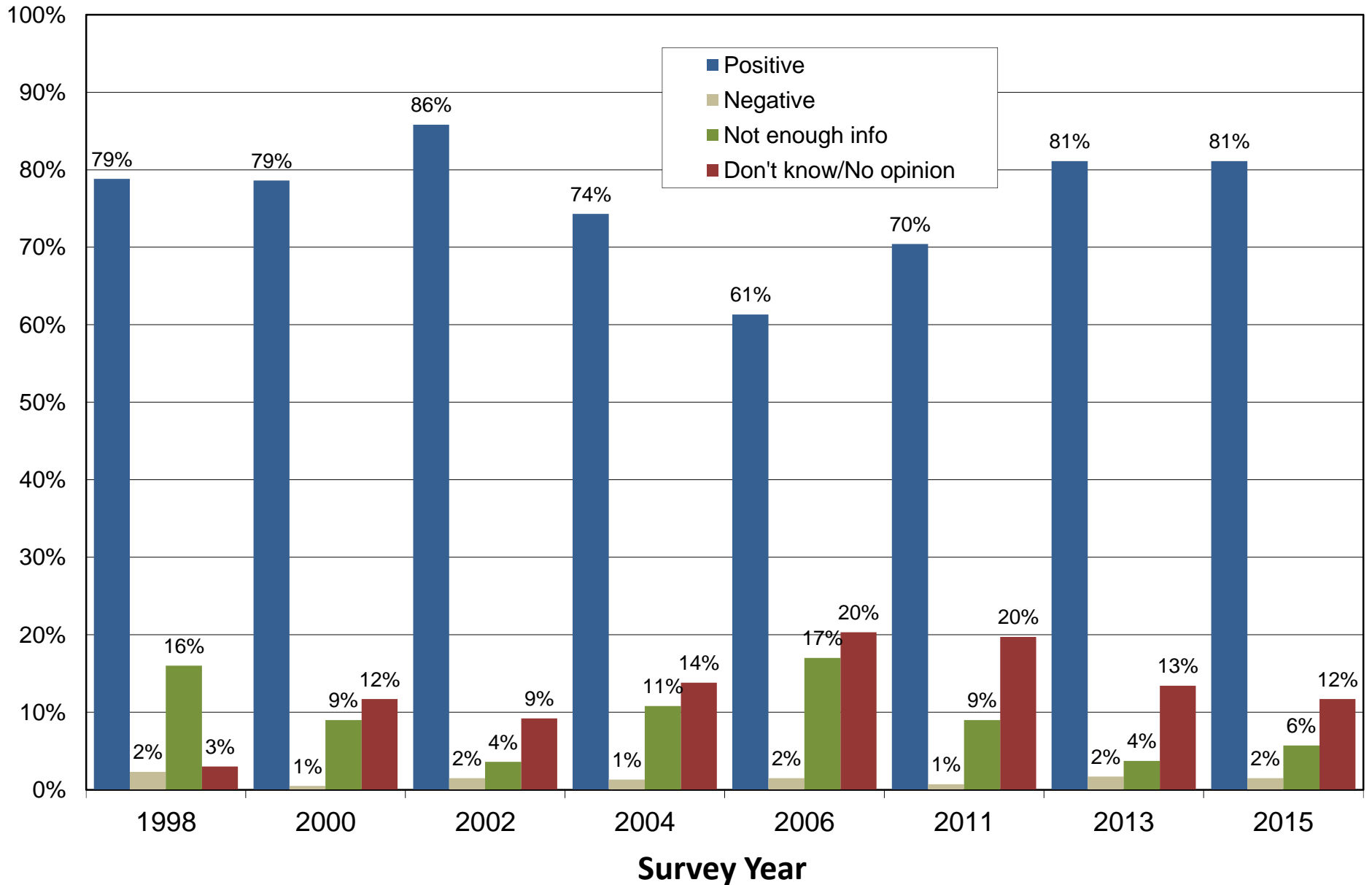
Probability of chi-square = < .000000

Expected value cells < 5 = 58%

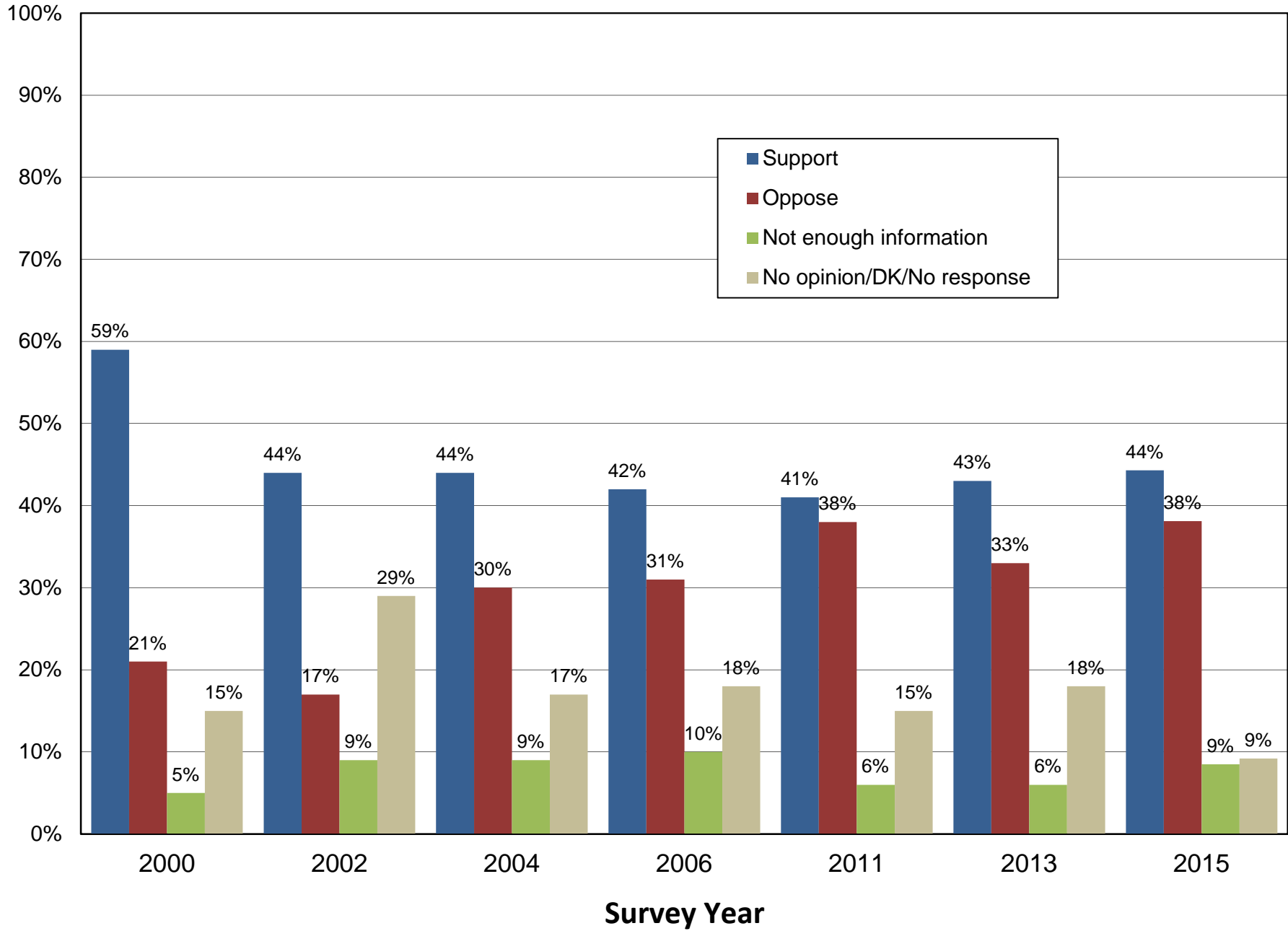
APPENDIX C

Chittenden Solid Waste District 2015 Household Solid Waste Survey

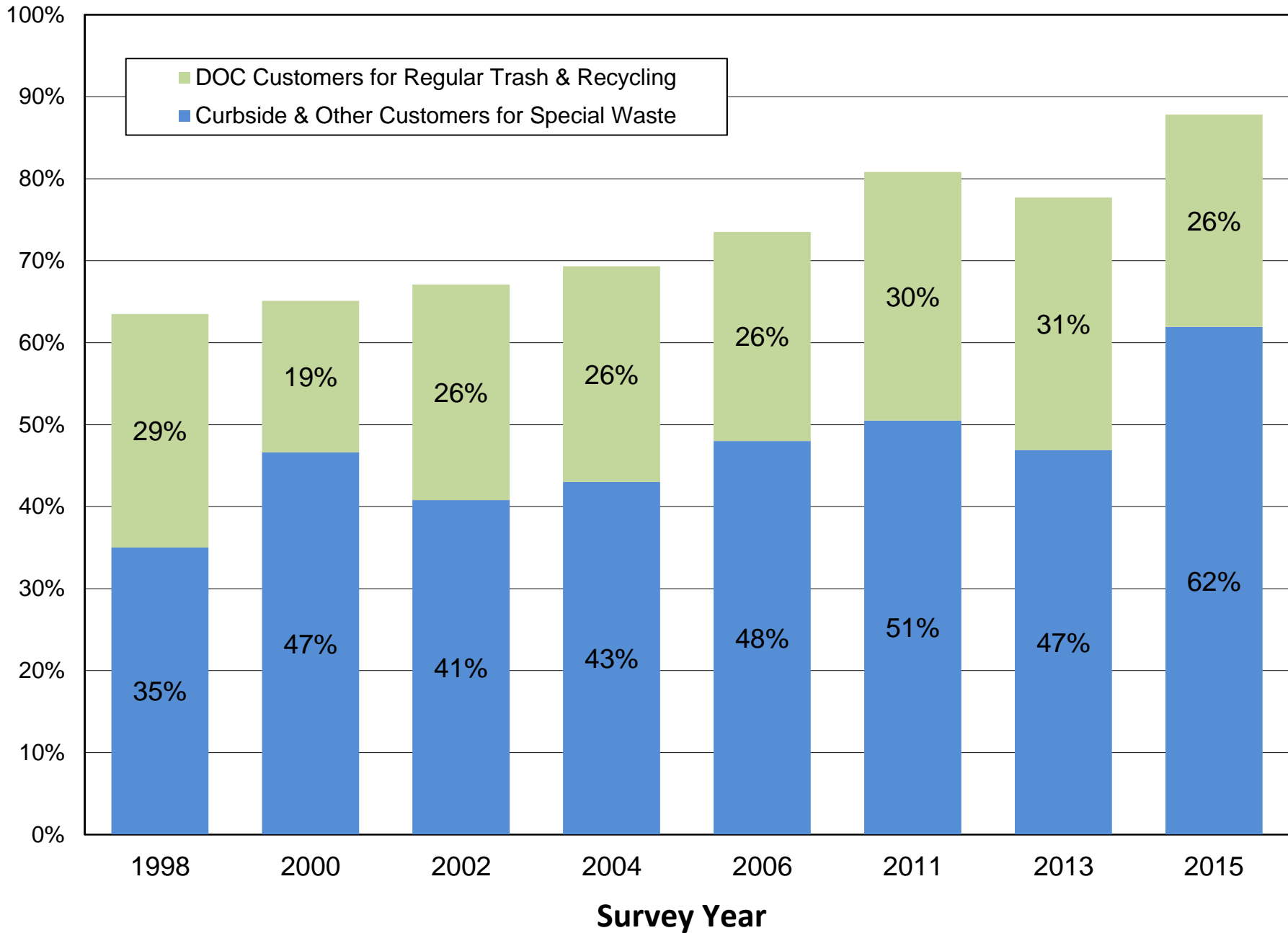
GRAPH 1: IMPRESSION OF CSWD



GRAPH 2: CONSOLIDATED COLLECTION



GRAPH 3: DROP-OFF CENTER USE



GRAPH 4: FOOD SCRAPS MANAGEMENT PREFERENCE

