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ADMINISTRATIVE OFFICE
1021 Redmond Road
Williston, VT 05495

EMAIL info@cswd.net
TEL (802) 872-8100

www.cswd.net

MEMORANDUM

TO: Board of Commissioners
FROM: Nancy Plunkett
DATE: April 14, 2022
RE: 2021 Household Solid Waste Survey Report (Postponed from March meeting)

CSWD contracted with Partners in Brainstorms, Inc. to conduct the 2021 Household Solid Waste Survey. Attached is their report. I will discuss the results of the survey at your April meeting. Copies of the slides for my presentation are attached.



PARTNERS IN BRAINSTORMS
AHEAD OF THE TREND  BEHIND THE SUCCESS

CSWD Chittenden
Solid Waste
District

2021 HOUSEHOLD SOLID WASTE SURVEY RESEARCH REPORT

Prepared by
Partners In Brainstorms, Inc.
January 18, 2022



CHITTENDEN SOLID WASTE DISTRICT 2021 HOUSEHOLD SOLID WASTE SURVEY REPORT

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EXECUTIVE SUMMARY

Partners In Brainstorms, Inc. (PIB), a national market research and strategic consulting firm headquartered in Phoenix, Arizona, conducted a survey of CSWD households in May and June of 2021. The survey objectives 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 potential new solid waste programs and/or changes in existing programs.

In implementing the survey, a stratified random sample was utilized from PIB's proprietary panel of over 30,000 Chittenden County residents ages 18 and older. The stratified random sampling involved taking random samples from stratified groups (e.g., 18 municipalities), in proportion to the population (e.g., age, gender, household income, homeowner versus renter, etc.). In this way, stratified random sampling provided a more precise representation of the population. A customer-centric blended approach was used to implement the survey, enabling participants to choose their preferred response method: online or by phone (both cell and landline). The majority (88%) of surveys were completed online, either on a computer or a mobile device, including Smartphones.

To achieve a 95% confidence level with a +/- 5% sampling error, a minimum goal of 385 completed surveys was established. That goal was far exceeded by 32%, with a total of 507 surveys completed. Where needed, follow-up phone calls were made to respondents (e.g., to complete partial surveys, fill in demographic gaps).

Response frequencies and percentages were calculated for each survey question. Selected cross-tabulations were created, and Pearson's Chi-Square tests were conducted to identify statistically significant relationships between variables. Where applicable, data from this survey were compared to those of previous surveys.

Following are general findings from the 2021 survey:

- Respondents continue to report a positive impression of CSWD, with approximately 93% of respondents reporting a positive impression. The percentage of respondents with a negative impression of CSWD remained low, at less than 2%.
- There appears to be a positive correlation between respondents having a favorable impression of CSWD and their willingness to vote in favor of a measure allowing CSWD to borrow money to build a new recycling facility in Williston.
- Respondents in all CSWD regions consider the following to be important:
 - Cost of trash and recycling services (96%)
 - Reducing the impact of trucks on local roads (95%)
 - Improving neighborhood safety by reducing the number of trash and recycling trucks (94%)

- While residents also consider it important to be able to choose their own hauler for curbside trash and recycling services (90%), their support for a consolidated system of curbside pickup for trash and recycling materials increased considerably from 2019 to 2021, with support rates of 47% and 89%, respectively. Correspondingly, opposition to consolidated collection also decreased significantly from 27% in 2019 to 5% in 2021.
- A slightly larger majority (92%) of respondents support this type of system for just household food scraps, with 2% opposed.
- Respondents continue to give a high rating to their trash and recycling service, with a mean rating of 8.3 on a scale of 1 to 10.
- The majority of suggestions regarding improvements to trash disposal and recycling in Chittenden County fell into two categories: increasing communications and public awareness, and increasing availability of recycling containers in public areas. Other suggestions concerned greater use of technology and expansion of recycling events and facility hours. A few additional comments indicated that some residents are unclear about items eligible for recycling, particularly plastic bottles.
- Disposal methods for regular household trash and recycling were nearly evenly divided among use of curbside pickup (28.2%), drop-off center (28.4%), and both (31.6%). However, some curbside customers likely interpreted regular trash and recycling to include special wastes that are occasionally delivered to drop-off centers.
- For disposal of special wastes in general (includes leaves and yard trimmings, food scraps, leftover hazardous products, etc.), most respondents use an appropriate method, with 75% using drop-off centers. Most use a drop-off center located in their own or a nearby community.
- Regarding specific types of special wastes:
 - Nearly half (48%) of respondents said that they compost yard trimmings at home and 41% bring them to a drop-off center.
 - Approximately half (51%) of respondents say they compost food scraps at home.
 - Over 60% of respondents use a combination of disposal methods to manage leftover hazardous products.
- Participation in recycling remains high, with 57% of respondents setting out recyclables for curbside collection, 57% using a drop-off center, and 19% returning items for deposit (respondents were asked to select all the methods they use). A total of 25% of the respondents admitted that they do put some recyclables in the trash.
- Among the 242 individuals who said they work outside their home in Chittenden County, a large majority (81%) said their employers have a recycling program and a slightly smaller majority (78%) said their employers have a compost program for food scraps.
- Overall, the top four methods for receiving information about trash, recycling, and composting were through newspapers (online and apps), television, email, and Facebook (social media).

While CSWD facilities and programs enjoy high participation and residents appear satisfied with solid waste management in Chittenden County, there is room for improvement in residents' participation in waste reduction programs. The survey report includes suggestions for population segments and geographical areas where CSWD may wish to consider targeted communications aimed at increasing participation.

CHITTENDEN SOLID WASTE DISTRICT

2021 HOUSEHOLD SOLID WASTE SURVEY REPORT

Research Background and Objectives

A survey of Chittenden Solid Waste District (CSWD) residents was conducted in May and June of 2021. This report describes the objectives, methodology, relevant external factors, and results of the survey. Potential strategies for consideration by CSWD are also included.

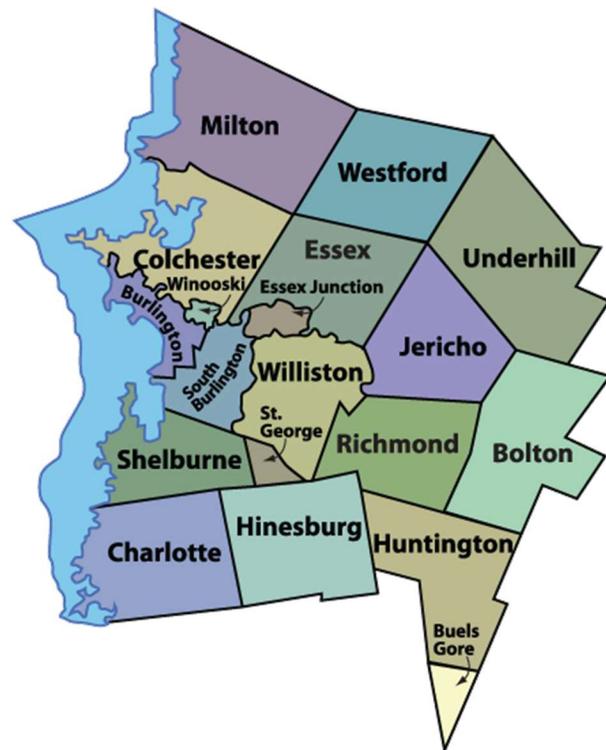
Three survey objectives were identified by CSWD:

1. Quantify waste management and waste reduction activities.
2. Obtain a measure of the public's perception of the waste management system in Chittenden County.
3. Provide information about current public opinion on potential new solid waste programs and/or changes in existing programs.

Methodology

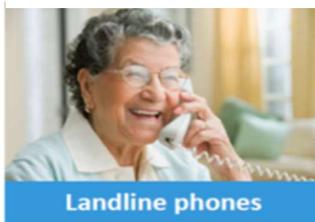
CSWD serves a population base of approximately 165,400. It encompasses Chittenden County, which consists of 18 municipalities, including Burlington and surrounding suburbs, as well as numerous rural towns. The 18 municipalities in Chittenden County include:

- Bolton, Bolton Valley, West Bolton
- Burlington
- Charlotte
- Colchester
- Essex
- Essex Junction
- Hinesburg
- Huntington, Hanksville
- Jericho, Jericho Center
- Milton
- Richmond, Jonesville
- Shelburne
- South Burlington
- St. George
- Underhill, Underhill Center
- Westford
- Williston
- Winooski



In implementing this survey, Partners In Brainstorms (PIB) took a customer-centric approach by employing a blended methodology that used both online and phone (cell and landline) for data collection, enabling respondents to choose the mode by which they prefer to complete the survey.

Research clearly shows that respondents who are given this option provide more conscientious and detailed answers, and report greater satisfaction with the survey process. The use of online, cell, and landline phones also supported an integrated and methodologically sound approach to ensuring sample quality and representation of the various population segments served by CSWD, such as older adults in rural communities who may only have access through a landline; certain age cohorts, such as 18-34-year-olds; and renters who utilize mobile devices such as Smartphones. The latter two groups have tended to be underrepresented in past CSWD studies.



Sample

In implementing the survey, a stratified random sample was utilized from PIB’s proprietary panel of over 30,000 Chittenden County residents ages 18 and older. The stratified random sampling involved taking random samples from stratified groups (e.g., 18 municipalities), in proportion to the population (e.g., age, gender, household income, homeowner versus renter, etc.). In this way, stratified random sampling provided a more precise representation of the population.

To achieve a 95% confidence level with a +/- 5% sampling error, a minimum goal of 385 completed surveys was established. That goal was far exceeded by 32%, with a total of 507 surveys completed during May and June 2021. The vast majority (88%) were completed online, including use of a mobile device. Where needed, follow-up phone calls were made to respondents (e.g., to complete partial surveys, fill in demographic gaps).

Data Analysis

Response frequencies and percentages were calculated for each question and are presented in Appendix A. The demographics of respondents are presented in Appendix B, and comparisons with U.S. Census data are also included where available. Key cross tabulations are presented in Appendix C. Due to the small numbers of respondents in several of the communities, municipalities were grouped regionally for cross tabulations, as follows:

Region 1 = Burlington, South Burlington, Winooski

Region 2 = Colchester, Milton

Region 3 = Essex, Essex Junction, Williston

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

Region 5 = Bolton, Jericho, Underhill, Westford

Impact of COVID-19 Pandemic

A literature review and recent recycling studies conducted by Partners In Brainstorms revealed the following key points concerning the current and expected impact of the COVID-19 pandemic on trash and recycling collection – some of which may have impacted survey responses:

- State and local stay-at-home orders, combined with business and school closings, meant that significant numbers of people were staying home, resulting in a trash and recycling collection shift from commercial to residential. Nationwide, the tonnage of commercial waste generally decreased while the tonnage of residential waste increased by a slightly larger amount. Industry-related associations report nationwide **commercial waste decreasing about 10% from its normal level, while the increase in nationwide residential waste ranged from 8% to 15%**. These figures refer to total collection of garbage, recycling, and organics.
- Trash and recycling services were temporarily curtailed in many locations throughout the country, due to reasons ranging from temporary closures of facilities to employees falling ill to COVID, such as drivers of collection trucks.
- The increases in recycling tonnage have generally been attributed to such factors as containers from food delivery and pickup; cardboard boxes from delivery of other items (referred to by one industry executive as “the Amazon effect”); more cooking being done at home, resulting in more metal, glass, and plastic food containers to be disposed of; and people having time to do general household “spring cleaning,” resulting in more items being taken to drop-off centers and other facilities that accept large household items like furniture, rugs, etc.
- However, with the increase in residential recycling came reports from some municipalities of **increases in recycling contamination rates and rejected loads, which were generally attributed to residents using their recycling containers for excess garbage**. Some recycling facilities also noted increased contamination rates due to residents’ disposal of masks and other personal protective equipment in recycling containers instead of trash.
- Looking to the future, financial analysts as well as industry executives expect to see changes in contracting for residential trash and recycling services. The **work-from-home trend is expected to continue**, meaning that overall residential trash and recycling may never return to their pre-COVID volumes. Since residential trash and recycling collection contracts are often fixed-price rather than volume-based, the **industry will likely feel the need to make price adjustments**. Additionally, residential recycling costs are frequently subsidized by commercial recycling customers, who dump far larger loads and pay based on the amount of material they are delivering. With a reduced commercial material stream, the residential recycling side of the business may not cover itself. Some industry executives also expect to see greater reliance on technology, such as the use of automated trucks and increasingly sophisticated devices for sorting recycling materials.

FINDINGS

Following is a detailed analysis of the 2021 survey findings. Included are comparisons with data from previous CSWD Household Solid Waste surveys, as well as statistically significant findings determined in a cross-tabulation analysis of the 2021 data.

The final 2021 survey questionnaire, totaling 32 questions, was developed with and approved by CSWD. Most of the survey questions were the same as or similar to questions asked in previous surveys. In some cases, response choices were increased (e.g., from two choices, “Positive” and “Negative,” to a 7-point scale) to elicit more finely defined responses, ratings, etc. Additionally, recent research suggests that midpoint responses don’t necessarily mean that respondents don’t know or are avoiding making a choice. In fact, respondents that do select the midpoint, if forced to choose a side, such as in a 4-point scale, would not necessarily answer the question in the same way as other respondents that opted to choose a side. Being “neutral” is, in fact, a response and an opinion. Best practices suggest that middle alternatives should be provided and that they may be validly and reliably chosen by respondents. Forcing respondents to “take a side” may introduce unwanted variance or bias to the data.

Additionally, CSWD chose to omit some questions included in previous surveys and to add some new questions, such as those related to support for the District’s plan for financing a new recycling facility in Williston. Naturally, no comparisons with previous survey findings could be made for questions newly added to the 2021 questionnaire.

Public Perceptions and Opinions

This section addresses survey questions in which respondents were asked primarily about their perceptions, opinions, preferences, etc. regarding various trash and recycling issues and topics, rather than about their specific practices and behaviors. The latter are addressed in the *Trash Disposal and Recycling Practices* section.

Impression of Chittenden Solid Waste District (CSWD)

Respondents continue to report a positive impression of CSWD. The positive rating shows an increase from 84.3% in 2019 to 93.3% in 2021, which is likely somewhat smaller – but still high – due to changes in response choices offered in 2019. The 2021 survey removed “Not enough information” as a response choice, which had been selected by slightly more than 4% of the 2019 survey respondents.

IMPRESSION OF CSWD	2011	2013	2015	2017	2019	2021
Positive	70.4%	81.1%	81.1%	87.3%	84.3%	93.3%
Negative	0.7%	1.7%	1.5%	1.5%	2.2%	1.4%
Not enough information	9.0%	3.7%	5.7%	4.5%	4.4%	N/A
Don’t know/No opinion	19.7%	13.4%	11.7%	6.8%	9.1%	5.3%

Participants rated their overall impression of the Chittenden Solid Waste District using a scale of 1 to 7, with 1 meaning “Extremely negative” and 7 meaning “Extremely positive.” A significant majority, 93.3%, rated their impression as 5, 6, or 7, and the overall mean (the arithmetic average) was 5.90. Statistically significant positive ratings, with a mean of 6.02, came from individuals who have lived in Chittenden County longer than 5 years and from those residing in Region 3(Essex, Essex Junction, and Williston)

(mean =5.96) and Region 1 (Burlington, South Burlington, and Winooski) (mean = 5.94). No group reported statistically significant negative ratings. Among all 507 respondents, only 7 (1.4%) reported a negative impression of CSWD (i.e., rated it as 1, 2, or 3), and 27 (5.3%) reported having an impression that was neither negative nor positive (i.e., rated it as 4).

Views on Consolidation of Curbside Pickup Services

Support for a consolidated system of curbside pickup for trash and recycling materials increased considerably from 2019 to 2021, with support rates of 46.6% and 89.2%, respectively. One factor that may have contributed to higher support is greater public awareness of this type of system due to media coverage of consideration of this system by the cities of Burlington and South Burlington over the last few years. Additionally, the 2021 survey offered respondents a 7-point scale for indicating their level of support or opposition, while the 2019 survey offered only “support,” “oppose,” “not enough information,” and “don’t know/no response,” and the latter two options together represented nearly 27% of all responses in 2019.

CONSOLIDATED SYSTEM FOR TRASH & RECYCLING PICKUP SERVICES	2011	2013	2015	2017	2019	2021
Support	41.3%	43.4%	44.3%	42.3%	46.6%	89.2%
Oppose	37.6%	32.8%	38.1%	40.3%	26.7%	4.5%
Neither support nor oppose	N/A	N/A	N/A	N/A	N/A	6.3%
Not enough information	6.2%	6.2%	8.5%	5.8%	13.5%	0.0%
Don't know/No response	14.9%	17.6%	9.2%	11.8%	13.2%	0.0%

The question was presented as follows:

Many other communities (including some in Vermont) have chosen to assign routes to specific haulers through a bidding process, so that only one hauler provides services to a given neighborhood. This type of system can reduce costs for the hauler and customer, reduce air and noise pollution, reduce the impact of trucks on the roads, and improve neighborhood safety. 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?

Respondents were asked to identify their level of opposition toward or support for this type of system on a scale of 1 to 7: (1) Strongly oppose; (2) Oppose; (3) Somewhat oppose; (4) Neither support nor oppose; (5) Somewhat support; (6) Support; or (7) strongly support.

A significant majority, 89%, supported this type of system, with 15% selecting “Strongly support” (rating of 7), 49% selecting “Support” (rating of 6), and 25% selecting “Somewhat support” (rating of 5). The overall mean was 5.62. The strongest levels of support were reported by individuals residing in Region 1 (Burlington, South Burlington, and Winooski), with 75% choosing “Strongly support” or “Support,” and by individuals who have lived in Chittenden County longer than 5 years, with 70% choosing those top two support levels. No group reported statistically significant opposition to this type of system.

Support for a consolidated system of curbside pickup for food scraps also increased considerably from 2019 to 2021, with support rates of 54.2% and 91.5%, respectively. The most likely factor contributing to

higher support is Vermont’s Act 148, which took effect July 1, 2020. The law bans the disposal of food scraps into landfills and requires solid waste haulers to offer pickup services for food scraps to residents in buildings with four or more units.

CONSOLIDATED SYSTEM FOR FOOD SCRAPS PICKUP SERVICES	2017	2019	2021
Support	55.5%	54.2%	91.5%
Oppose	31.3%	20.3%	2.4%
Neither support nor oppose	N/A	N/A	6.1%
Not enough information	5.3%	7.4%	0.0%
Don’t know/No response	5.5%	18.1%	0.0%

As discussed above, respondents used the same 7-point scale to identify their level of opposition toward or support for this type of system only for curbside collection of household food scraps: (1) Strongly oppose; (2) Oppose; (3) Somewhat oppose; (4) Neither support nor oppose; (5) Somewhat support; (6) Support; or (7) Strongly support.

Individuals supporting this type of system being used only for household food scraps increased somewhat to 92%, with 22% selecting “Strongly support” (rating of 7), 52% selecting “Support” (rating of 6), and 18% selecting “Somewhat support” (rating of 5). The strongest levels of support were reported by individuals residing in Region 5 (Bolton, Jericho, Underhill, and Westford), with 81% choosing “Strongly support” or “Support,” followed by Region 1 (Burlington, South Burlington, and Winooski), with 76% choosing those top two support levels. No group reported statistically significant opposition to this type of system.

Support for Funding of New Williston Facility

CSWD plans call for replacement of the current recycling facility in Williston through a funding plan that would require voter approval. To examine residents’ willingness to approve the plan, the survey included some background information with the question, as follows:

Chittenden Solid Waste District (CSWD) needs to replace its almost 30-year-old recycling facility in Williston, where blue-bin recyclables are sorted and prepared for market. The new facility will be more efficient and effective, saving time, money, and energy. It will also increase the number of things that can be recycled.

CSWD will need voter approval to borrow approximately 18 million dollars to build the new facility. The bond would not increase your taxes. CSWD would pay back the loan over 20-25 years with a modest increase in the fee charged to haulers that bring recyclables to the facility. The private hauling companies could pass the cost on to their customers. The cost to the average household is estimated to be less than 50 cents per month.

Do you think you would vote to allow CSWD to borrow money for this project?		
ALLOW CSWD TO BORROW FUNDS	Number of Respondents	Percentage
Yes	311	61.3%
No	41	8.1%
Not enough information	34	6.7%
No opinion	121	23.9%
Total	507	100.0%

Among the most frequently cited reasons for supporting the building of a new recycling facility in Williston was the environmental benefits. Most of these comments referenced the overall benefits of recycling, such as preserving natural resources, reducing air and water pollution and greenhouse gas emissions, etc. With regard to the facility itself, respondents cited the increased efficiency and items that can be recycled, as well as the innovative financing plan that results in a low cost to the public.

- *It's a simple way to preserve our natural resources and protect our clean air and water.*
- *The main reason I would support this project is that it is innovative and environment friendly.*

In a noteworthy juxtaposition to the most common reason for supporting the project, one of the common reasons for opposing the project was respondents' belief that recycling doesn't have any positive impact on the environment. Others noted that there have been many trash and recycling projects in the past that were unsuccessful in the long term. A few respondents felt the cost was too high and/or that it would increase their personal cost for trash disposal.

- *In the beginning people take interest, but gradually they left and do not support, so a few people can't do much in these type of projects.*
- *There are many recycle and trash projects that have already took place and none of them were successful.*
- *I kind of like it but I don't have enough money to support it at this moment.*

A total of 34 or 7% of the respondents said they didn't have enough information about the project to decide whether they would support it. The majority of these respondents wanted to know more about the overall concept and how it will be implemented, as well as details on the budget and cost, logistics, and the main objective/goal of the project.

- *I would like to know in detail what the project will help in and what will it do.*
- *Cost, savings, environmental impact.*

There appears to be a correlation between respondents having a favorable impression of CSWD and their willingness to vote in favor of the measure allowing CSWD to borrow money to build a new facility in Williston.

- When asked to rate their overall impression of CSWD on a scale of 1 to 7, with 1 meaning "extremely negative" and 7 meaning "extremely positive," 473 of the 507 respondents (93.3%) reported a positive impression of 5, 6, or 7. Among those 473 respondents, 295 (62.4%) said they would vote in favor of the measure, 33 (6.9%) said they would not, 31 (6.5%) needed more information, and 114 (24%) had no opinion.

Rating of Trash and Recycling Services

Respondents' rating of their trash and recycling services has remained consistently high throughout the survey's history. On a scale of 1 to 10, with 10 being the highest rating, mean ratings have ranged no more than 0.6%, with a high of 8.9 reported in 2013 and a low of 8.3 in the 2021 survey. These slight differences are not statistically significant.

SERVICES RATING	2011	2013	2015	2017	2019	2021
Mean response	8.9	8.9	8.8	Not Asked	8.5	8.3

Participants were asked to rate their household trash and recycling services on a scale of 1 to 10, with 1 meaning "Terrible" and 10 meaning "Excellent." A significant majority, nearly 79%, rated their services as 8, 9, or 10, and the overall mean was 8.31. Statistically significant positive ratings came from individuals who have lived in Chittenden County longer than 5 years (mean = 8.45) and from those who own their homes (mean = 8.37). Additional positive ratings slightly exceeding the mean came from individuals residing in Region 1 (Burlington, South Burlington, and Winooski) and Region 3 (Essex, Essex Junction, Williston) (means = 8.38 and 8.36, respectively). The lowest rating overall, with a mean of 8.11, came from individuals who rent their homes.

Importance of Selected Factors Concerning Collection Services

Respondents were asked to rate the importance of four factors related to collection services: cost of services, impact of trucks on local roads, reducing the number of trucks to improve safety of neighborhoods, and the ability of households to choose their own hauler. Each item was rated using a scale of 1 to 7, with 1 meaning "Extremely unimportant" and 7 meaning "Extremely important."

Cost

A significant majority, 96%, rated the importance of cost of services as 5, 6, or 7, and the overall mean was 5.90. Individuals who have lived in Chittenden County longer than 5 years showed statistically significant ratings of importance, with a mean of 6.02. No group reported statistically significant ratings of low importance.

How important to you is the cost of trash and recycling services?		
COST OF SERVICES	Number of Respondents	Percentage
1 - Extremely unimportant	5	1.0%
2 - Unimportant	0	0.0%
3 - Slightly unimportant	2	0.4%
4 - Neither unimportant or important	13	2.6%
5 - Slightly important	80	15.8%
6 - Important	320	63.1%
7 - Extremely important	87	17.2%
Total	507	100.0%

Impact of Trucks on Local Roads

A significant majority, 95%, rated the importance of reducing the impact of trucks on local roads as 5, 6, or 7, and the overall mean was 6.05. Individuals who have lived in Chittenden County longer than 5 years and those residing in Region 1 (Burlington, South Burlington, and Winooski) showed statistically significant ratings of importance, with a mean of 6.16 for each group. No group reported statistically significant ratings of low importance.

How important to you is reducing the impact of trucks on local roads?		
REDUCING IMPACT OF TRUCKS ON LOCAL ROADS	Number of Respondents	Percentage
1 - Extremely unimportant	2	0.4%
2 - Unimportant	0	0.0%
3 - Slightly unimportant	7	1.4%
4 - Neither unimportant or important	17	3.4%
5 - Slightly important	75	14.8%
6 - Important	242	47.7%
7 - Extremely important	164	32.3%
Total	507	100.0%

Reducing the Number of Trucks to Improve Safety of Neighborhoods

A significant majority, 94%, rated the importance of improving neighborhood safety by reducing the number of trash and recycling trucks as 5, 6, or 7, with an overall mean of 5.88. As was found in the previous truck-related questions, individuals who have lived in Chittenden County longer than 5 years and those residing in Region 1 (Burlington, South Burlington, and Winooski) showed statistically significant ratings of importance, with means of 5.98 and 6.04, respectively. No group reported statistically significant ratings of low importance.

How important to you is improving neighborhood safety by reducing the number of trash and recycling trucks?		
REDUCING NUMBER OF TRUCKS TO IMPROVE NEIGHBORHOOD SAFETY	Number of Respondents	Percentage
1 - Extremely unimportant	2	0.4%
2 - Unimportant	3	0.6%
3 - Slightly unimportant	5	1.0%
4 - Neither unimportant or important	19	3.7%
5 - Slightly important	114	22.5%
6 - Important	234	46.2%
7 - Extremely important	130	25.6%
Total	507	100.0%

Ability to Choose Own Hauler

A significant majority, 90%, rated the importance of being able to choose their own hauler for curbside trash and recycling services as 5, 6, or 7, and the overall mean was 5.89. Statistically significant ratings of importance were reported for individuals residing in Region 1 (Burlington, South Burlington, and Winooski) (mean = 6.06), those who have lived in Chittenden County longer than 5 years (mean = 6.02), and those who own their homes (mean = 5.94). No group reported statistically significant ratings of low importance.

It should be noted that the high rating of importance regarding the ability to choose one’s own hauler appears to contradict the high level of support voiced for a consolidated collection system. In the questionnaire, these four questions preceded the question about consolidated collection, so it is possible that the detailed explanation of a consolidated system and its benefits essentially reduced the importance of choosing one’s own hauler. Responses to open-end questions indicate some interest in having a voice in the decision of selecting a hauler for consolidated collection. This could take the form of a public comment period, series of (virtual) town meetings, including a public representative on the selection panel, etc.

How important is it to you for households to be able to choose their own hauler for curbside trash and recycling services?		
ABILITY TO CHOOSE OWN HAULER	Number of Respondents	Percentage
1 - Extremely unimportant	3	0.6%
2 - Unimportant	3	0.6%
3 - Slightly unimportant	6	1.2%
4 - Neither unimportant or important	38	7.5%
5 - Slightly important	98	19.3%
6 - Important	198	39.1%
7 - Extremely important	161	31.8%
Total	507	100.0%

Suggestions for Improving Trash and Recycling Services in Chittenden County

An open-end question asked respondents how trash and recycling services in the county could be improved. Many of respondents' comments fell into two categories:

Communications and increasing public awareness

- Conducting public workshops, including specific workshops aimed at children, older adults, etc.
- Organizing/promoting programs at schools.
- Identifying communities where recycling bins are underused and involve community leaders in a local campaign
- When recycling events are planned, choosing easily accessible locations and putting up signage, posters in the areas, etc.
- Increasing number of recycling events, including organic recycling
- Establishing and publicizing recycling goals and achievements, and showing how achievements benefit residents and businesses
- Using easy-to-understand metrics for success, e.g., amount of recycling month to month, year to date, diversion from landfills, etc.
- Explaining the positive effects of the recycling supply chain.

Increasing availability of recycling containers in public areas

- Adding community drop-off locations
- Placing recycling bin next to every trash bin in parks, public facilities, transportation stops, etc.

Additionally, several comments suggested ideas for improving the overall trash and recycling system:

- Conduct a waste audit, sustainability review, etc.
- Develop incentives/rewards program for recycling; cash-back program for certain items, etc.
- Use of automated collection containers in public areas, other new technology – e.g., bins with sensors that remotely monitor the fill level can help determine optimal schedules for collection in specific public areas
- Keep track of how facilities and events perform and ensure adequate facilities to meet community demand
- Expand facility hours so public can use after work, on weekends, etc.
- Simplify recycling into two categories: blue-bin items and special items
- Reuse old office supplies by establishing an upcycle station – e.g., these could be placed at drop-off centers to make it easy for residents to place reusable items – from staplers to office furniture – there instead of in trash or general recycling; CSWD could also implement campaign to encourage businesses to establish their own upcycle stations as a method of reducing procurement costs for office supplies
- Consider a collection co-op to pool materials and increase recycling; work with neighboring towns to pool materials, increase efficiencies of scale

Finally, there were a few comments specifically suggesting that plastic water bottles should be eligible for recycling, indicating that there remains a segment of the population that is unclear about items that can and cannot be recycled.

Preferred Communication Methods

Respondents were asked how they preferred to receive new information about trash, recycling, and composting in Chittenden County, and to choose as many responses as applicable. Overall, there was an increase in every means of communication except the use of flyers/brochures/direct mail, which decreased significantly, from 40.7% in 2019 to 29.0% in 2021. While the top three preferences were for media that might be considered traditional – newspaper, email, and television – it is likely that respondents have moved toward accessing newspapers and television digitally on smartphones, tablets, etc., in keeping with this well-documented nationwide trend. An increased preference for digital media is also evidenced by respondents’ selection of social media, specifically Facebook, as their fourth most preferred information source.

Respondents also showed increased preferences for CSWD information sources, including its website, hotline, and newsletter (*The Digest*). It should be noted that in 2019, this was asked as an open-end question rather than respondents being provided with a list of communication methods; therefore, respondents in 2019 may not have fully identified all their preferred methods.

BEST WAY TO COMMUNICATE CSWD INFORMATION	2013	2015	2017	2019	2021 ¹
Newspaper (including digital, e.g., on news apps)	14.6%	10.2%	11.5%	9.3%	43.0%
Email	21.3%	27.4%	32.0%	28.9%	41.4%
Television (news, PSAs, apps such as YouTube)	6.5%	4.0%	4.8%	6.9%	41.4%
Facebook	0.7%	1.5%	1.3%	1.7%	31.2%
Flyer/brochure (printed and mailed)	43.9%	42.5%	55.8%	40.7%	29.0%
CSWD website	13.6%	5.2%	3.5%	8.1%	28.4%
Friends/family/neighbors	3.5%	0.0%	1.5%	2.2%	27.2%
Radio (including local podcasts, VPR)	4.7%	2.7%	3.0%	3.2%	24.7%
CSWD email newsletter (<i>The Digest</i>)	0.0%	0.0%	0.0%	10.0%	18.7%
CSWD hotline	3.5%	0.0 %	0.0%	1.7%	18.2%
Drop-off center	7.9%	1.0%	2.0%	3.7%	15.8%
Twitter	0.2%	1.0%	0.5%	0.5%	15.6%
Front Porch Forum	5.7%	4.2%	2.8%	5.9%	14.4%
Hauler	4.5%	2.5%	1.5%	2.0%	13.0%
Text me	0.0%	0.0%	0.3%	1.7%	7.5%
Phone call	0.7%	17.2%	1.8%	0.0%	0.0%
Other	2.5%	4.5%	1.6%	0.7%	0.0%
Don't know/No response	11.2%	4.0%	4.5%	5.6%	0.0%

¹In 2021, asked to select all that apply.

Residents in Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George) showed a statistically significant preference for the top three communication vehicles, as well as radio. Facebook was also a popular information source among residents of Region 1 (Burlington, South Burlington, and Winooski), Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George), and Region 5 (Bolton, Jericho, Underhill, and Westford).

Trash Disposal and Recycling Practices

This section addresses survey questions in which respondents were asked about their household practices and behaviors related to trash disposal and recycling.

Use of Trash and Recycling Services

The survey results clearly show that respondents are using a greater mix of disposal and recycling methods than in 2019. The largest change is seen in the percentage of respondents reporting the use of only curbside pickup or dumpster, decreasing from 70.8% in 2019 to 28.2% in 2021. This reduction of nearly 43% reflects a 28% increase in those using both curbside and drop-off methods, as well as 11.8% of respondents reporting that they dispose of household trash and recycling by bringing it to work. It is possible that this change is because the 2019 survey was conducted completely by phone, while the vast majority of surveys in 2021 were completed online, which enabled the respondents to see all response options at the same time. Therefore, many curbside customers who use drop-off centers for special wastes, such as yard trimmings, food scraps, scrap metal, etc., may have also selected drop-off center in 2021 because they saw it on the list, even though they use a hauler for their regular trash and recycling.

Other possibilities for this shift from solely using curbside pickup in 2019 to a combination of curbside and drop-off in 2021 could be attributed to Vermont's Act 148 taking effect July 1, 2020 which bans food scraps from the landfill, coupled with the impact of COVID-19. As individuals continued to work remotely from home, more trash, recycling and food scraps were being generated by homes and less by businesses. According to the Solid Waste Association of North America residential trash was up by as much as 25% during the pandemic.

SERVICE(S) USED FOR TRASH & RECYCLING	2011	2013	2015	2017	2019	2021
Both curbside and drop-off	0.0%	0.7%	0.7%	4.8%	3.2%	31.6%
Curbside pickup/dumpster	68.4%	65.8%	71.1%	66.0%	70.8%	28.2%
Drop-off center/dump/landfill	30.3%	30.8%	25.9%	28.3%	23.0%	28.4%
Bring to work	0.0%	0.7%	1.2%	0.8%	0.0%	11.8%
Other	0.2%	0.5%	1.0%	0.0%	0.0%	0.0%
Don't know/No response	1.0%	1.5%	0.0%	0.0%	2.9%	0.0%

Methods for handling trash and recycling were nearly evenly divided among use of curbside pickup (28.2%), drop-off center (28.4%), and both (31.6%). The use of both curbside pickup and drop-off was highest among residents in Region 1 (Burlington, South Burlington, and Winooski) and Region 5 (Bolton, Jericho, Underhill, and Westford). Region 3 (Essex, Essex Junction, and Williston) residents reported the highest use of curbside pickup alone, while Region 2 (Colchester and Milton) residents reported the highest use of drop-off alone. Individuals living in the county for longer than 5 years were significantly more likely to use both curbside and drop-off than those who had lived there less time.

The vast majority of respondents identified the drop-off center located in their community or in a nearby community as the one they use. For example:

- The Burlington drop-off center is clearly the most frequently used, followed by the South Burlington center, with 40% of all respondents identifying these two centers as the ones they

use. Looking at the respondent residence data, 93.7% of Burlington respondents who use a drop-off center or both curbside and drop-off selected the Burlington facility and 98.3% of South Burlington respondents who use a drop-off center or both curbside and drop-off selected the South Burlington facility.

- Among residents living in CSWD Region 3 (Essex, Essex Junction, and Williston), over half (56.3%) use the Essex drop-off center and 35.9% use the Williston center.

A small percentage of respondents living in communities with a drop-off center reported that they use a different center. For Region 1 (Burlington, South Burlington, and Winooski) respondents, this may be because the Burlington facility only accepts food scraps. Other possible reasons for all respondents are that the center they use is located in the community where they work, or some other factor making another center particularly convenient for them.

In what town is the drop-off center you use?		
TOWN / CITY	Number of Respondents	Percentage
Burlington	106	24.0%
Colchester	48	10.9%
Essex	46	10.4%
Hinesburg	31	7.0%
Milton	27	6.1%
Richmond	23	5.2%
South Burlington	70	15.9%
Underhill	34	7.7%
Williston	45	10.2%
Other - please specify:	7	1.6%
Don't know	4	0.9%
Total	441	100.0%

Cost of Trash and Recycling Services

The mean cost for household trash and recycling services in Chittenden County is \$38.46 monthly. Residents in Region 1 (Burlington, South Burlington, and Winooski) and Region 5 (Bolton, Jericho, Underhill, and Westford) have significantly higher costs (\$40.52 and \$40.17, respectively) than residents of other CSWD regions, and renters have higher costs than homeowners (\$41.37 and \$37.52, respectively). Some of the renters (8.0%) noted that the costs for household trash and recycling services are included in their rent.

Use of Drop-Off Centers

A significant majority of respondents (85.2%) who have curbside pickup services continue to report use of drop-off centers for special types of waste, such as leaves, wood, electronics, motor oil, used clothing, old furniture, scrap metal, batteries, or appliances. This figure rose from 81% in 2019.

CURBSIDE CUSTOMERS ONLY	2011	2013	2015	2017	2019	2021
Yes	73.8%	68.3%	83.6%	78.8%	81.0%	85.2%
No	25.1%	30.6%	16.1%	21.2%	17.0%	14.8%
Don't know/No response	1.1%	1.1%	0.3%	0.0%	2.1%	0.0%

Renters, individuals living in the county for less than 5 years, and residents in Region 1 (Burlington, South Burlington, and Winooski) and Region 3 (Essex, Essex Junction, and Williston) report the highest use of drop-off centers for special wastes, while residents in Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George) and Region 5 (Bolton, Jericho, Underhill, and Westford) reported the lowest use of drop-off centers for this purpose. Somewhat surprisingly in light of there being a drop-off center in Milton, residents in Region 2 (Colchester and Milton) reported a lower-than-expected use (71%) of any drop-off center for special wastes.

Waste Diversion at Home

Respondents were asked what their household does with recyclables, such as bottles, cans, cardboard, and paper, and to choose as many responses as applicable. When the 2021 percentages of total responses are compared with 2019 percentages, the percentage of those that used a combination of diversion options increased significantly. This may be because the 2019 survey was conducted completely by phone, while the vast majority of surveys in 2021 were completed online, which enabled the respondents to see all response options at the same time.

The increase in respondents who reported placing at least some of their recyclables in the trash may be at least partially attributable to the pandemic, in that some people were reluctant to go to drop-off centers, as well as the fact that some drop-off centers were closed for several months. Additionally, as noted above, the 2019 survey was conducted using phone interviews only, while the 2021 survey was conducted with the majority (88%) of the surveys completed online on a computer or mobile device, including smartphones. As noted in the 2019 survey report – and widely documented in the literature regarding survey modes – some people do not want to admit that they engage in wasteful or socially undesirable behavior, even to a stranger, which may have affected the results for questions regarding waste management activities. This is often referred to as a social desirability bias. Research has shown that respondents typically are more truthful when answering these types of questions in online surveys.

RECYCLABLES MANAGEMENT	2015	2017	2019	2021¹	2021²
Curbside pickup	57.2%	53.7%	39.2%	17.8%	57.2%
Drop-off at designated recycling sites	25.4%	28.5%	38.5%	16.4%	56.8%
Return/donate for deposit	0.0%	8.7%	2.9%	7.1%	18.5%
Put in trash	11.7%	5.7%	9.1%	8.7%	25.3%
Combo of diversion options	3.2%	0.0%	4.2%	33.5%	N/A
Combo of diversion with disposal	1.7%	2.2%	2.7%	16.6%	N/A
Other	0.7%	1.1%	0.5%	0.0%	0.0%
Don't know/No response	0.0%	0.2%	2.9%	0.0%	0.0%

¹Percentage of responses.

²Percentage of respondents who selected response. Half of respondents used more than one option.

Among the 25% of respondents who reported that they put at least some recyclables in the trash, residents in Region 2 (Colchester and Milton) and Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George) engaged in this practice to a significantly higher extent (35% and 32%, respectively) than residents in other regions, as did individuals living in the county for 2 years or less (43%). CSWD may wish to consider implementing a targeted communications effort in these regions.

Yard Trimmings

Respondents were asked what their household does with yard trimmings, such as leaves and grass clippings, and to choose as many responses as applicable. In 2021, as with recyclables, the vast majority of respondents indicated they used a combination of diversion options or a combination of diversion options with some disposal to manage their yard trimmings. This was not the case in 2019. This difference is likely the result of the change from an all-telephone survey to a mostly online survey, which enabled the respondents to see all response options at the same time, as noted earlier.

YARD TRIMMINGS MANAGEMENT	2015	2017	2019	2021¹	2021²
Compost yard trimmings	26.6%	34.8%	29.9%	9.1%	47.5%
Leave on lawn or property	24.4%	15.8%	18.6%	2.6%	25.8%
Drop off yard trimmings	22.4%	16.8%	15.9%	6.3%	40.8%
Yard trimmings curbside/landscaper	4.2%	6.5%	10.6%	4.1%	27.6%
Put in trash	1.0%	2.0%	1.7%	9.5%	23.3%
Burn	0.7%	1.5%	2.2%	0.2%	12.4%
Don't generate	11.2%	7.5%	7.4%	3.8%	3.8%
Combo of diversion options	5.0%	9.5%	7.6%	39.8%	N/A
Combo of diversion with disposal ³	1.5%	3.3%	1.0%	24.7%	N/A

¹Percentage of responses.

²Percentage of respondents who selected response. Most respondents used more than one option.

³Disposal includes putting in trash and/or burning.

Overall, residents in Region 2 (Colchester and Milton) reported the highest rates for composting at home and for using a drop-off center for composting; however, they also reported the highest rate for putting at least some trimmings in the trash. As would be expected, homeowners reported a significantly higher rate than renters of burning at least some of their yard trimmings, and renters reported a significantly higher rate of having no yard trimmings to dispose of; no other significant differences between them were seen.

Food Scraps

Respondents were asked what their households do with food scraps and to choose as many responses as applicable. Looking at the 2021 responses compared with 2019, there was a significant drop in the percentage of residents putting all of their food scraps in the trash, as would be expected due to Vermont's Act 148 taking full effect July 1, 2020. A majority of respondents indicated they used a

combination of diversion options or a combination of diversion options with some disposal to manage their food scraps. This was not the case in 2019. This difference is likely the result of the change from an all-telephone survey to a mostly online survey, which enabled the respondents to see all response options at the same time.

An increase in the percentage of respondents reporting that they put at least some of their food scraps in the garbage disposal – from 16.9% in 2019 to 20.7% in 2021 – is likely due to the fact that this method does not violate Act 148, since it is typically handled at a wastewater treatment facility and not sent to a landfill. However, if use of this disposal method continues to increase, it could potentially cause problems for those treatment facilities. Consequently, this may be an area that would benefit from expanded public information efforts by CSWD.

FOOD SCRAPS MANAGEMENT	2015	2017	2019	2021¹	2021²
Compost food scraps	30.8%	40.5%	39.0%	12.6%	50.7%
Drop off food scraps	5.7%	6.8%	6.4%	4.3%	33.3%
Put down garbage disposal	10.9%	7.3%	10.0%	5.5%	39.8%
Set out for collection for composting	1.2%	6.3%	2.2%	3.7%	31.8%
Use for animal feed	0.7%	1.8%	2.9%	1.4%	11.2%
Put in trash	37.1%	19.8%	22.5%	11.4%	26.0%
Combo of diversion options	3.2%	7.0%	5.9%	46.4%	N/A
Combo of diversion with disposal	9.7%	10.0%	7.8%	14.6%	N/A

¹Percentage of responses.

²Percentage of respondents who selected response. Most respondents used more than one option.

Across all regions, residents in Region 5 (Bolton, Jericho, Underhill, and Westford) were least likely to dispose of food scraps by composting at home. Use of a composting hauler was highest among residents of Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George), Region 5 (Bolton, Jericho, Underhill, and Westford), and Region 1 (Burlington, South Burlington, and Winooski) (39%, 37%, and 33%, respectively).

Hazardous Waste

Respondents were asked what their household does with leftover hazardous products, such as chemicals, paint, automotive fluids, pesticides, batteries, fluorescent lamps, mercury-containing products, and to choose as many responses as applicable. A majority of respondents indicated they used a combination of options to manage their leftover hazardous products. This was not the case in 2019. This difference is likely the result of the change from an all-telephone survey to a mostly online survey, which enabled the respondents to see all response options at the same time.

Unfortunately, the percentage of respondents reporting that they disposed of at least some of these materials by pouring them down the drain increased considerably, from 0.0% in 2019 to 18.7% in 2021. As discussed above regarding disposal practices for other materials, two factors may have contributed to the increase in this unacceptable disposal method. It is possible that the pandemic accounted for some of this increase because it would be the easiest disposal method when people were forced to stay home. It is also possible that respondents were more truthful in their online responses to the 2021 survey than in their verbal responses to interviewers in the 2019 survey.

HOUSEHOLD HAZARDOUS PRODUCTS DISPOSAL	2011	2013	2015	2017	2019	2021¹	2021²
Drop-off center/CSWD	39.4%	39.6%	45.1%	29.6%	39.0%	15.8%	53.1%
Rover	20.9%	16.7%	7.9%	21.9%	10.5%	5.3%	32.9%
Environmental Depot	33.3%	30.3%	24.9%	24.0%	22.1%	7.5%	38.9%
Store/retailer	N/A	N/A	2.4%	0.3%	1.0%	1.8%	28.8%
Regular trash	0.9%	1.2%	3.1%	2.4%	2.5%	8.5%	21.5%
Down the drain	0.3%	0.0%	0.0%	0.0%	0.0%	0.6%	18.7%
Combination of above or Other	2.3%	7.7%	13.4%	16.2%	13.1%	60.6%	N/A
Don't know/No response	2.9%	4.3%	3.1%	5.6%	11.8%	0.0%	0.0%

¹Percentage of responses.

²Percentage of respondents who selected response. Most respondents used more than one option.

NOTE: CSWD could mean Rover or Environmental Depot. Drop-off center could mean Environmental Depot.

Region 5 (Bolton, Jericho, Underhill, and Westford) residents reported a statistically significant frequency of putting at least some of their leftover hazardous products down the drain, while Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George) residents had a statistically significant frequency of putting at least some of these items in their trash. Additionally, homeowners and county residents of 2 years or less were significantly more likely to use these two improper disposal methods. CSWD may wish to consider targeting these segments with added communication efforts to inform residents about the health and safety issues related to these two disposal methods.

Waste Diversion at Work

The percentage of respondents reporting the ability to recycle at work decreased from 2019 (90.6%) to 2021 (80.6%).

RECYCLING AT WORK	2011	2013	2015	2017	2019	2021
Yes	90.9%	94.9%	94.5%	92.3%	90.6%	80.6%
No	4.8%	3.7%	4.3%	6.2%	6.1%	18.6%
Don't know/No response	4.3%	1.4%	1.2%	1.5%	3.3%	0.8%

In contrast, the percentage of respondents reporting that their workplace collected food scraps for composting increased significantly, from 41.3% in 2019 to 78.1% in 2021. As referenced earlier, the most likely factor contributing to this increase is Vermont's Act 148, which took full effect July 1, 2020.

COMPOSTING AT WORK	2011	2013	2015¹	2015²	2017	2019	2021
Yes	24.5%	38.4%	40.6%	38.3%	45.3%	41.3%	78.1%
No	60.6%	57.4%	47.3%	50.2%	49.3%	47.4%	19.8%
Don't know/No response	14.9%	4.2%	12.1%	11.5%	5.5%	11.3%	2.1%

¹Of those who have access to a recycling program at work. In 2015, the question should have been asked of all who said they work in Chittenden County.

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

KEY CONCLUSIONS AND RECOMMENDATIONS FOR CONSIDERATION

The following is a summary of key conclusions from the respondents' responses to the CSWD 2021 Household Solid Waste Survey and recommendations for CSWD's consideration.

- Overall, residents continue to have a favorable view toward CSWD and its collection facilities and events, and continue to engage in such waste diversion behaviors as recycling and composting.
- While respondents are satisfied with their current trash and recycling services, a large majority supports a consolidated system for curbside pickup of trash and recycling and a slightly larger percentage supports a consolidated system for pickup of only food scraps. Both figures are significantly higher than reported in 2019.
- There appears to be a positive correlation between having a favorable view of CSWD and willingness to support a measure allowing CSWD to borrow money to build a new recycling facility in Williston. Opposition to this project is low and generally represents two viewpoints: a perception that previous recycling initiatives started off well but waned over time, and a perception that recycling is not effective, perhaps due to mixed messages about the effectiveness of recycling, especially plastic, in the media. Additionally, respondents who said they needed more information to make a decision wanted details on how the funds will be spent, how the new facility will be better, and how it will expand the types of materials that can be recycled, etc.
 - CSWD may want to consider for securing voter approval to include a widespread marketing campaign that emphasizes the new facility's benefits for residents such as acceptance of additional materials for recycling, etc.
 - The marketing communications could clarify that this is also a construction project to improve infrastructure with local jobs and funds staying in the community.
 - Show potential impact, such as estimated "before and after" data – average number of households served, the amount of items recycled (e.g., cardboard boxes, plastic bottles, aluminum cans, etc. preferably in numbers versus tons), overall savings in time, money and energy, etc. – that residents can easily understand and relate to.
- Approximately 40% of residents put at least some of their food scraps in their garbage disposal. While this method does not violate Act 148 – because the waste is typically handled at a wastewater treatment facility and not sent to a landfill – it could potentially cause problems for those treatment facilities if it continues to increase. Consequently, this may be an area that would benefit from expanded public information efforts by CSWD.
- For disposal of leftover hazardous waste products, most respondents use an appropriate method. However, 40% of residents pour at least some of them down the drain or put them in the trash. These practices were highest among Region 4 (Charlotte, Hinesburg, Huntington, Richmond, Shelburne, and St. George) and Region 5 (Bolton, Jericho, Underhill, and Westford) residents. CSWD may wish to consider targeting these areas with added communication efforts to inform residents about the health and safety issues related to these two disposal methods.

- The preference for receiving CSWD information through a printed flyer, brochure, or other direct mail piece decreased considerably since 2019. Respondents are moving to the use of more electronic-based communications, including email, social media, and the use of apps.
- Most suggestions regarding improvements to trash disposal and recycling services by CSWD fell into two categories: increasing communications and public awareness and increasing availability of recycling containers in public areas. Respondents suggested a number of innovative strategies in these areas that CSWD may wish to explore, such as establishing upcycle stations at drop-off centers.
 - Other suggestions expressed customers' desire for more recycling events and increased facility hours, indicating that they want to participate in recycling but find it difficult.
 - A few comments indicated that some residents remain unclear about items eligible for recycling, particularly plastic bottles. CSWD may wish to feature brief reminders, tips, etc. regarding the basics of recycling in its various communication and outreach materials on an ongoing basis.
 - Many of the most effective public communication campaigns that promote recycling also highlight interesting facts that demonstrate the benefits of recycling – such as recycling a single aluminum can saves enough energy to power a television, computer, or Smartphone for a minimum of 3 hours. Relevant and engaging facts could be used for each of the recyclable categories CSWD wants to target, such as plastic bottles, or adapted to aid in the reduction of recycling contamination rates.

APPENDIX A: QUESTIONNAIRE AND RESULTS – 2021 SURVEY

The total number of survey respondents was 507. A few of the questions were directed at a particular segment of respondents based on their response to an earlier question, and these questions will show a smaller total of responses.

Question 1

What town or city do you live in?

Response	# Resp	%
Bolton, Bolton Valley, West Bolton	9	1.78 %
Burlington	112	22.09 %
Charlotte	14	2.76 %
Colchester	45	8.88 %
Essex	37	7.30 %
Essex Junction	12	2.37 %
Hinesburg	26	5.13 %
Huntington, Hanksville	3	0.59 %
Jericho, Jericho Center	9	1.78 %
Milton	24	4.73 %
Richmond, Jonesville	21	4.14 %
Shelburne	23	4.54 %
South Burlington	60	11.83 %
St. George	3	0.59 %
Underhill, Underhill Center	39	7.69 %
Westford	29	5.72 %
Williston	25	4.93 %
Winooski	16	3.16 %
Other - please specify:	0	0.00 %
Total	507	100.00 %

Question 2

For your regular household trash and recycling, do you have a hauler who provides curbside pickup, do you take your trash and recycling to a drop-off center - sometimes called "the dump," or do you dispose of it some other way? Please choose the response that best applies to your household. Please select one.

Response	# Resp	%
Curbside pickup/dumpster	143	28.21 %
Drop-off center/dump/landfill	144	28.40 %
Bring to work	60	11.83 %
Both curbside and drop-off	160	31.56 %
Other - please specify:	0	0.00 %
Total	507	100.00 %

Question 3

How much do you pay per month for your household trash and recycling service? Please select one.

Response	# Resp	%
Included in rent, condo fees, etc.	11	2.46 %
Nothing/zero	2	0.45 %
Less than \$10	1	0.22 %
\$10-\$14	20	4.47 %
\$15-\$19	21	4.70 %
\$20-\$24	36	8.05 %
\$25-\$29	46	10.29 %
\$30-\$34	40	8.95 %
\$35-\$39	23	5.15 %
\$40-\$44	60	13.42 %
\$45-\$49	93	20.81 %
\$50-\$54	65	14.54 %
\$55-\$59	15	3.36 %
\$60-\$64	9	2.01 %
\$65-\$69	2	0.45 %
\$70-\$74	2	0.45 %
\$75 or more	0	0.00 %
Other - please specify:	0	0.00 %
Don't know	1	0.22 %
Total	447	100.00 %

Question 4

On a scale of 1 to 10, with 1 meaning "Terrible" and 10 meaning "Excellent," how would you rate your household trash and recycling services? Please select one.

Response	# Resp	%
1 - Terrible	0	0.00 %
2	0	0.00 %
3	0	0.00 %
4	2	0.39 %
5	8	1.58 %
6	27	5.33 %
7	70	13.81 %
8	180	35.50 %
9	128	25.25 %
10 - Excellent	92	18.15 %
Total	507	100.00 %

Question 5

Do you or does someone else in your household ever take items other than regular trash and recycling to a drop-off center, such as leaves, food scraps, wood, electronics, motor oil, used clothing, old furniture, scrap metal, batteries, or appliances? Please select one.

Response	# Resp	%
Yes	380	74.95 %
No	127	25.05 %
Total	507	100.00 %

Question 6

In what town is the drop-off center you use? Please select one.

Response	# Resp	%
Burlington	106	24.04 %
Colchester	48	10.88 %
Essex	46	10.43 %
Hinesburg	31	7.03 %
Milton	27	6.12 %
Richmond	23	5.22 %
South Burlington	70	15.87 %
Underhill	34	7.71 %
Williston	45	10.20 %
Other - please specify:	7	1.59 %
Don't know	4	0.91 %
Total	441	100.00 %

Question 7

On a scale of 1 to 7, with 1 meaning "Extremely unimportant" and 7 meaning "Extremely important," how important to you is the cost of trash and recycling services? Please select one.

Response	# Resp	%
1 - Extremely unimportant	5	0.99 %
2 - Unimportant	0	0.00 %
3 - Slightly unimportant	2	0.39 %
4 - Neither unimportant or important	13	2.56 %
5 - Slightly important	80	15.78 %
6 - Important	320	63.12 %
7 - Extremely important	87	17.16 %
Total	507	100.00 %

Question 8

Using the same scale, with 1 meaning "Extremely unimportant" and 7 meaning "Extremely important," how important to you is reducing the impact of trucks on local roads? Please select one.

Response	# Resp	%
1 - Extremely unimportant	2	0.39 %
2 - Unimportant	0	0.00 %
3 - Slightly unimportant	7	1.38 %
4 - Neither unimportant or important	17	3.35 %
5 - Slightly important	75	14.79 %
6 - Important	242	47.73 %
7 - Extremely important	164	32.35 %
Total	507	100.00 %

Question 9

Using the same scale, with 1 meaning "Extremely unimportant" and 7 meaning "Extremely important," how important to you is improving neighborhood safety by reducing the number of trash and recycling trucks? Please select one.

Response	# Resp	%
1 - Extremely unimportant	2	0.39 %
2 - Unimportant	3	0.59 %
3 - Slightly unimportant	5	0.99 %
4 - Neither unimportant or important	19	3.75 %
5 - Slightly important	114	22.49 %
6 - Important	234	46.15 %
7 - Extremely important	130	25.64 %
Total	507	100.00 %

Question 10

Using the same scale, with 1 meaning "Extremely unimportant" and 7 meaning "Extremely important," how important is it to you for households to be able to choose their own hauler for curbside trash and recycling services? Please select one.

Response	# Resp	%
1 - Extremely unimportant	3	0.59 %
2 - Unimportant	3	0.59 %
3 - Slightly unimportant	6	1.18 %
4 - Neither unimportant or important	38	7.50 %
5 - Slightly important	98	19.33 %
6 - Important	198	39.05 %
7 - Extremely important	161	31.76 %
Total	507	100.00 %

Question 11

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 provides services to a given neighborhood. This type of system can reduce costs for the hauler and customer, reduce air and noise pollution, reduce the impact of trucks on the roads, and improve neighborhood safety. 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? Please select one.

Response	# Resp	%
Strongly oppose	2	0.39 %
Oppose	6	1.18 %
Somewhat oppose	15	2.96 %
Neither support nor oppose	32	6.31 %
Somewhat support	126	24.85 %
Support	248	48.92 %
Strongly support	78	15.38 %
Total	507	100.00 %

Question 12

Would you support this type of system for just curbside collection of household food scraps? Please select one.

Response	# Resp	%
Strongly oppose	1	0.20 %
Oppose	4	0.79 %
Somewhat oppose	7	1.38 %
Neither support nor oppose	31	6.11 %
Somewhat support	90	17.75 %
Support	264	52.07 %
Strongly support	110	21.70 %
Total	507	100.00 %

Question 13

What does your household do with household recyclables - for example, bottles, cans, cardboard, paper? Please select all that apply.

Response	# Resp	%
Put in my trash (curbside or drop-off)	128	25.25 %
Recycle at a drop-off center	288	56.80 %
Set out for recycling collection by my hauler or town	290	57.20 %
Return for deposit	94	18.54 %
Other - please specify:	0	0.00 %
Total # of Respondents	507	100.00 %

Question 14

What does your household do with leaves and yard trimmings, such as grass clippings? Please select all that apply.

Response	# Resp	%
Put in my trash (curbside or drop-off)	118	23.27 %
Leave on lawn or elsewhere on property	131	25.84 %
Compost at home	241	47.53 %
Bring to a drop-off center for composting	207	40.83 %
Set out for composting collection by my hauler	151	29.78 %
Removed by landscaper/maintenance company	140	27.61 %
Burn	63	12.43 %
Don't have any	19	3.75 %
Other - please specify:	0	0.00 %
Total # of Respondents	507	100.00 %

Question 15

What does your household do with food scraps? Please select all that apply.

Response	# Resp	%
Put in my trash (curbside or drop-off)	132	26.04 %
Put down garbage disposal	202	39.84 %
Compost at home	257	50.69 %
Bring to a drop-off center for composting	169	33.33 %
Set out for composting collection by my hauler	161	31.76 %
Use for animal feed	57	11.24 %
Other - please specify:	0	0.00 %
Total # of Respondents	507	100.00 %

Question 16

What does your household do with leftover hazardous products (e.g., chemicals, paint, automotive fluids, pesticides, batteries, fluorescent lamps, mercury-containing products)? Please select all that apply.

Response	# Resp	%
Put in my trash (curbside or drop-off)	109	21.50 %
Bring to Environmental Depot/Depot	197	38.86 %
Bring to Rover	167	32.94 %
Bring to drop-off center	269	53.06 %
Bring to a store	146	28.80 %
Put down the drain	95	18.74 %
Don't have any	14	2.76 %
Other - please specify:	0	0.00 %
Total # of Respondents	507	100.00 %

Question 17

Do you currently work outside the home in Chittenden County? Please select one.

Response	# Resp	%
Yes	242	47.73 %
No	265	52.27 %
Total	507	100.00 %

Question 18

Are you able to recycle at work? Please select one.

Response	# Resp	%
Yes	195	80.58 %
No	45	18.60 %
Don't know	2	0.83 %
Total	242	100.00 %

Question 19

Does your workplace collect food scraps separate from trash for composting? Please select one.

Response	# Resp	%
Yes	189	78.10 %
No	48	19.83 %
Don't know	5	2.07 %
Total	242	100.00 %

Question 20

Chittenden Solid Waste District (CSWD needs to replace its almost 30-year-old recycling facility in Williston, where blue-bin recyclables are sorted and prepared for market. The new facility will be more efficient and effective, saving time, money, and energy. It will also increase the number of things that can be recycled.

CSWD will need voter approval to borrow approximately 18 million dollars to build the new facility. The bond would not increase your taxes. CSWD would pay back the loan over 20-25 years with a modest increase in the fee charged to haulers that bring recyclables to the facility. The private hauling companies could pass the cost on to their customers. The cost to the average household is estimated to be less than 50 cents per month. Given this information, do you think you would vote to allow CSWD to borrow money for this project? Please select one.

Response	# Resp	%
Yes	311	61.34 %
No	41	8.09 %
Not enough information	34	6.71 %
No opinion	121	23.87 %
Total	507	100.00 %

Question 21 (Open-ended)

What is the main reason you would support this project? Please type in your response.

Response	# Resp	%
Various responses	311	100.00 %
Total	311	100.00 %

Question 22 (Open-ended)

What is the main reason you would not support this project? Please type in your response.

Response	# Resp	%
Various responses	41	100.00 %
Total	41	100.00 %

Question 23 (Open-ended)

What additional information would you like to receive about the project? Please type in your response.

Response	# Resp	%
Various responses	34	100.00 %
Total	34	100.00 %

Question 24

How would you prefer to receive new information about trash, recycling, and composting in Chittenden County? Please select all that apply.

Response	# Resp	%
Drop-off center	80	15.78 %
Hauler	66	13.02 %
Newspaper	218	43.00 %
Television	210	41.42 %
Radio	125	24.65 %
Friends/family/neighbors	138	27.22 %
CSWD hotline	92	18.15 %
CSWD website	144	28.40 %
Flyer/brochure in the mail/direct mail	148	29.19 %
Email	210	41.42 %
CSWD email newsletter (The Digest)	95	18.74 %
Front Porch Forum	73	14.40 %
Facebook	158	31.16 %
Twitter	79	15.58 %
Text me	38	7.50 %
Other - please specify:	0	0.00 %
Total # of Respondents	507	100.00 %

Question 25

What is your overall impression of the Chittenden Solid Waste District? Please use the scale of 1 to 7 below, with 1 meaning "Extremely negative" and 7 meaning "Extremely positive." Please select one.

Response	# Resp	%
1 - Extremely negative	4	0.79 %
2 - Negative	1	0.20 %
3 - Slightly negative	2	0.39 %
4 - Neither negative nor positive	27	5.33 %
5 - Slightly positive	96	18.93 %
6 - Positive	297	58.58 %
7 - Extremely positive	80	15.78 %
Total	507	100.00 %

Question 26 (Open-ended)

How could trash and recycling services in Chittenden County be improved? Please type in your response.

Response	# Resp	%
Various responses	507	100.00 %
Total	507	100.00 %

Question 27

In which of the following age brackets do you fit? Please select one.

Response	# Resp	%
18 to 24	48	9.47 %
25 to 34	88	17.36 %
35 to 44	146	28.80 %
45 to 54	100	19.72 %
55 to 64	55	10.85 %
65 to 74	41	8.09 %
75 to 84	21	4.14 %
85 or older	6	1.18 %
Prefer not to answer	2	0.39 %
Total	507	100.00 %

Question 28

What is the highest level of education that you have completed? Please select one.

Response	# Resp	%
Less than 9th grade	2	0.39 %
Some high school	11	2.17 %
High school graduate/GED	31	6.11 %
Some college	49	9.66 %
Associate degree	62	12.23 %
Bachelor's degree	181	35.70 %
Graduate or professional degree	169	33.33 %
Prefer not to answer	2	0.39 %
Total	507	100.00 %

Question 29

Do you own or rent your home? Please select one.

Response	# Resp	%
Own	377	74.36 %
Rent	128	25.25 %
Other - please specify:	1	0.20 %
Prefer not to answer	1	0.20 %
Total	507	100.00 %

Question 30

How long have you lived in Chittenden County? Please select one.

Response	# Resp	%
Less than 1 year	2	0.39 %
1-2 years	35	6.90 %
3-5 years	107	21.10 %
Longer than 5 years	361	71.20 %
Don't know	2	0.39 %
Prefer not to answer	0	0.00 %
Total	507	100.00 %

Question 31

Which of the following ranges best describes your combined annual household income? Please select one.

Response	# Resp	%
Less than \$10,000	3	0.59 %
\$10,000 to \$14,999	11	2.17 %
\$15,000 to \$24,999	17	3.35 %
\$25,000 to \$34,999	21	4.14 %
\$35,000 to \$49,999	30	5.92 %
\$50,000 to \$74,999	49	9.66 %
\$75,000 to \$99,999	117	23.08 %
\$100,000 to \$149,999	150	29.59 %
\$150,000 to \$199,999	75	14.79 %
\$200,000 or more	33	6.51 %
Prefer not to answer	1	0.20 %
Total	507	100.00 %

Question 32

What is your gender? Please select one.

Response	# Resp	%
Male	246	48.52 %
Female	258	50.89 %
Non-binary	3	0.59 %
Prefer not to answer	0	0.00 %
Total	507	100.00 %

APPENDIX B: RESPONDENT DEMOGRAPHICS AS COMPARED TO CENSUS – 2021 SURVEY

The following tables show key demographics for the survey respondents. For comparison purposes, estimates from the U.S. Census are also shown where available.

What town or city do you live in?			
TOWN/CITY	Number of Respondents	Percentage	Census
Bolton, Bolton Valley, West Bolton	9	1.8%	0.7%
Burlington	112	22.1%	26.2%
Charlotte	14	2.8%	2.3%
Colchester	45	8.9%	10.5%
Essex	37	7.3%	6.7%
Essex Junction	12	2.4%	6.6%
Hinesburg	26	5.1%	2.9%
Huntington, Hanksville	3	0.6%	1.2%
Jericho, Jericho Center	9	1.8%	3.1%
Milton	24	4.7%	6.6%
Richmond, Jonesville	21	4.1%	2.5%
Shelburne	23	4.5%	4.7%
South Burlington	60	11.8%	11.9%
St. George	3	0.6%	0.4%
Underhill, Underhill Center	39	7.7%	1.9%
Westford	29	5.7%	1.3%
Williston	25	4.9%	6.0%
Winooski	16	3.2%	4.5%
Other	0	0.0%	0.0%
Total	507	100.0%	100.0%

Do you own or rent your home?			
HOME OWNERSHIP	Number of Respondents	Percentage	Census
Own	377	74.4%	62.4%
Rent	128	25.2%	37.6%
Other	1	0.2%	0.0%
Prefer not to answer	1	0.2%	0.0%
Total	507	100.0%	100.0%

How long have you lived in Chittenden County?		
NUMBER OF YEARS	Number of Respondents	Percentage
Less than 1 year	2	0.4%
1-2 years	35	6.9%
3-5 years	107	21.1%
Longer than 5 years	361	71.2%
Don't know	2	0.4%
Total	507	100.0%
Note: Census data not available for comparison.		

What is your gender?			
GENDER	Number of Respondents	Percentage	Census
Male	246	48.5%	49.3%
Female	258	50.9%	50.7%
Non-binary	3	0.6%	0.0%
Prefer not to answer	0	0.0%	0.0%
Total	507	100.0%	100.0%

In which of the following age brackets do you fit?			
AGE RANGE	Number of Respondents	Percentage	Census
18 to 24	48	9.5%	18.0%
25 to 34	88	17.4%	18.0%
35 to 44	146	28.8%	14.9%
45 to 54	100	19.7%	14.4%
55 to 64	55	10.8%	15.4%
65 to 74	41	8.1%	11.2%
75 to 84	21	4.1%	6.8%
85 or older	6	1.2%	1.4%
Prefer not to answer	2	0.4%	0.0%
Total	507	100.0%	100.0%

Which of the following ranges best describes your combined annual household income?			
ANNUAL HOUSEHOLD INCOME	Number of Respondents	Percentage	Census
Less than \$10,000	3	0.6%	6.2%
\$10,000 to \$14,999	11	2.2%	3.5%
\$15,000 to \$24,999	17	3.4%	4.6%
\$25,000 to \$34,999	21	4.1%	7.1%
\$35,000 to \$49,999	30	5.9%	9.8%
\$50,000 to \$74,999	49	9.7%	17.3%
\$75,000 to \$99,999	117	23.1%	13.6%
\$100,000 to \$149,999	150	29.6%	18.7%
\$150,000 to \$199,999	75	14.8%	9.1%
\$200,000 or more	33	6.5%	10.3%
Prefer not to answer	1	0.2%	0.0%
Total	507	100.0%	100.0%

What is the highest level of education that you have completed?			
EDUCATION LEVEL	Number of Respondents	Percentage	Census
Less than 9th grade	2	0.4%	3.1%
Some high school	11	2.2%	3.6%
High school graduate/GED	31	6.1%	18.5%
Some college	49	9.7%	14.9%
Associate degree	62	12.2%	8.5%
Bachelor's degree	181	35.7%	29.2%
Graduate or professional degree	169	33.3%	22.2%
Prefer not to answer	2	0.4%	0.0%
Total	507	100.0%	100.0%

APPENDIX C: KEY CROSS TABULATIONS – 2021 SURVEY

A series of cross tabulations were created and provided to CSWD that looked at each question and cross referenced by seven key factors including: 1) CSWD Region, 2) Home Ownership (Own or Rent), 3) Number of Years Living in Chittenden County, and key demographics including 4) Age, 5) Gender, 6) Education Level, and 7) Income Level.

The following two special cross tabulations were requested by CSWD and look at the relationship between: 1) drop-off center used by the town or city where the respondent lives, and the 2) overall impression of CSWD by the respondent's support of CSWD borrowing money for a new recycling facility.

Drop-off Center Used by the Town or City Where the Respondent Lives

DROP-OFF CENTER USED	TOTAL	TOWN OR CITY WHERE THEY LIVE																	
		BOLTON, BOLTON VALLEY, WEST BOLTON	BURLINGTON	CHARLOTTE	COLCHESTER	ESSEX	ESSEX JUNCTION	HINESBURG	HUNTINGTON, HANKSVILLE	JERICO, JERICO CENTER	MILTON	RICHMOND, JONESVILLE	SHELBURNE	SOUTH BURLINGTON	ST. GEORGE	UNDERHILL, UNDERHILL CENTER	WESTFORD	WILLISTON	WINOOSKI
TOTAL ANSWERING	441	8	95	12	42	32	8	24	3	9	21	17	13	59	2	31	26	24	15
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Burlington	106	4	89	1	-	-	-	-	2	2	-	-	3	1	2	-	-	-	2
	24.0%	50.0%	93.7%	8.3%	-	-	-	-	66.7%	22.2%	-	-	23.1%	1.7%	6.5%	-	-	-	13.3%
Colchester	48	1	1	3	38	1	-	-	-	-	1	-	1	-	-	-	1	-	1
	10.9%	12.5%	1.1%	25.0%	90.5%	3.1%	-	-	-	-	4.8%	-	7.7%	-	-	-	3.8%	-	6.7%
Essex	46	-	1	3	2	31	5	-	-	-	-	-	2	-	-	-	-	-	2
	10.4%	-	1.1%	25.0%	4.8%	96.9%	62.5%	-	-	-	-	-	15.4%	-	-	-	-	-	13.3%
Hinesburg	31	-	1	2	1	-	-	23	1	-	-	1	1	-	-	-	-	1	-
	7.0%	-	1.1%	16.7%	2.4%	-	-	95.8%	33.3%	-	-	5.9%	7.7%	-	-	-	-	4.2%	-
Milton	27	-	-	3	1	-	-	-	-	2	18	-	-	-	-	-	2	-	1
	6.1%	-	-	25.0%	2.4%	-	-	-	-	22.2%	85.7%	-	-	-	-	-	7.7%	-	6.7%
Richmond	23	-	-	-	-	-	-	1	-	2	1	16	1	-	-	-	1	-	1
	5.2%	-	-	-	-	-	-	4.2%	-	22.2%	4.8%	94.1%	7.7%	-	-	-	3.8%	-	6.7%
South Burlington	70	-	3	-	-	-	-	-	-	1	-	-	1	58	1	1	-	3	2
	15.9%	-	3.2%	-	-	-	-	-	-	11.1%	-	-	7.7%	98.3%	50.0%	3.2%	-	12.5%	13.3%
Underhill	34	-	-	-	-	-	-	-	-	1	-	-	3	-	-	28	2	-	-
	7.7%	-	-	-	-	-	-	-	-	11.1%	-	-	23.1%	-	-	90.3%	7.7%	-	-
Williston	45	-	-	-	-	-	3	-	-	-	1	-	1	-	1	-	14	20	5
	10.2%	-	-	-	-	-	37.5%	-	-	-	4.8%	-	7.7%	-	50.0%	-	53.8%	83.3%	33.3%
Other - please specify:	7	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-
	1.6%	37.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.4%	-	-
Don't know	4	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	-	1
	0.9%	-	-	-	-	-	-	-	-	11.1%	-	-	-	-	-	-	7.7%	-	6.7%

Overall Impression of CSWD by the Respondent's Support of CSWD Borrowing Money for a New Recycling Facility

IMPRESSION OF CSWD	OVERALL	SUPPORT FOR CSWD TO BORROW MONEY FOR NEW FACILITY			
	TOTAL	YES	NO	NOT ENOUGH INFORMATION	NO OPINION
TOTAL ANSWERING	507	311	41	34	121
	100.0%	100.0%	100.0%	100.0%	100.0%
Top 3 Boxes (5-7)	473	295	33	31	114
	93.3%	94.9%	80.5%	91.2%	94.2%
Top 2 Boxes (6-7)	377	244	22	18	93
	74.4%	78.5%	53.7%	52.9%	76.9%
7 - Extremely positive	80	47	4	6	23
	15.8%	15.1%	9.8%	17.6%	19.0%
6 - Positive	297	197	18	12	70
	58.6%	63.3%	43.9%	35.3%	57.9%
5 - Slightly positive	96	51	11	13	21
	18.9%	16.4%	26.8%	38.2%	17.4%
4 - Neither negative nor positive	27	13	7	2	5
	5.3%	4.2%	17.1%	5.9%	4.1%
3 - Slightly negative	2	1	1	-	-
	0.4%	0.3%	2.4%		
2 - Negative	1	-	-	1	-
	0.2%			2.9%	
1 - Extremely negative	4	2	-	-	2
	0.8%	0.6%			1.7%

2021 Household Solid Waste Survey Results

NANCY PLUNKETT
Board of Commissioners Meeting
April 27, 2022



1

Purpose

- Quantify residents' waste management behaviors
- Obtain a measure of public's perception of current waste management system
- Provide information on public opinion on potential changes to the system
- Information helps guide future facility, program, and policy decisions



2

Survey Type

- Previous surveys conducted by phone only
- Hoped to increase participation by younger residents and renters and reduce social desirability bias
- Respondents chose whether to complete online or on the phone
- Reading potential responses online may prompt fuller or different responses to certain types of questions



3

Sample

- 507 respondents
- 95% confidence level with an estimated +/- 4.4% margin of error
- 88% completed online



4

Public Perception & Opinions

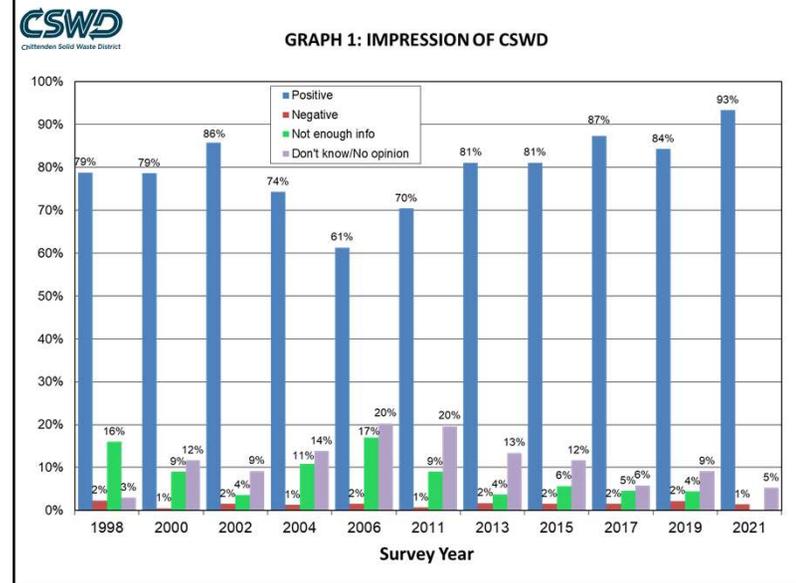
Impression of CSWD

Impression of CSWD	%
Extremely negative	< 1%
Negative	< 1%
Slightly negative	< 1%
Neither negative or positive	5%
Slightly positive	19%
Positive	59%
Extremely positive	16%

+ 2021 2019
 93% 84%
 - 1% 2%



5



6

Suggestions for improving trash and recycling services:

- Increase education on:
 - What is recyclable
 - How to prepare recyclables
 - What are benefits of diversion
 - What happens to our waste
 - How we are doing



7

Suggestions for improving trash and recycling services:

- Increase emphasis on reuse & waste reduction
- Increase availability of recycling containers in public areas
- Consolidate curbside collection
- Use latest technology
- Expand hours at DOCs
- Increase school outreach
- Provide incentives



8

Support for consolidated collection

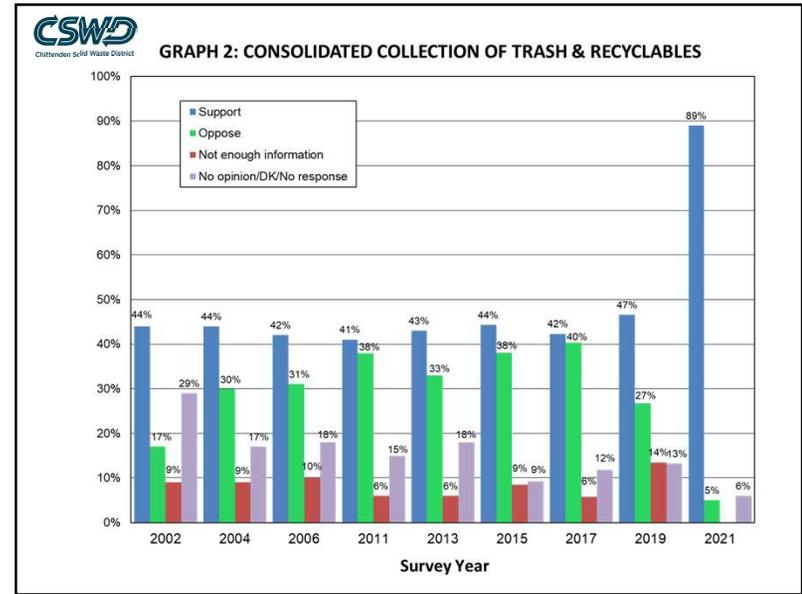
Trash & recyclables

Consolidated collection – T&R	%
Strongly oppose	< 1%
Oppose	1%
Somewhat oppose	3%
Neither support or oppose	6%
Somewhat support	25%
Support	49%
Strongly support	15%

2021 2019
 + 89% 47%
 - 5% 27%




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Support for consolidated collection

Food Scraps

Consolidated collection – Food	%
Strongly oppose	< 1%
Oppose	< 1%
Somewhat oppose	1%
Neither support or oppose	6%
Somewhat support	18%
Support	52%
Strongly support	22%

2021 2019
 + 92% 54%
 - 2% 20%




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MRF Bond

Support

- 61% support
- 8% oppose
- 7% not enough info
- 24% no opinion




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Main reason for support

- Environmental benefits
- Increased efficiency
- Additional items accepted
- Low cost to public/good investment
- Old facility needs to be replaced
- Increased recycling/reduction in landfilling



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Main reason for non-support

- Need more information
- Not sure it is needed
- Cost



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Information wanted

- More details on the project including timing & location
- Quantified benefits & environmental impacts
- Budget details



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Trash Disposal & Recycling Service

Type of regular service

Service Type	2021	2019
Curbside pickup	28%	71%
Drop-off center	28%	23%
Bring to work	12%	0%
Both curbside & drop-off	32%	3%



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Potential reasons for change

- Change in survey type
- Curbside customers included “special recyclables” in their definition of “regular trash & recycling”
- Curbside customers included food scraps in their definition of “regular trash & recycling”



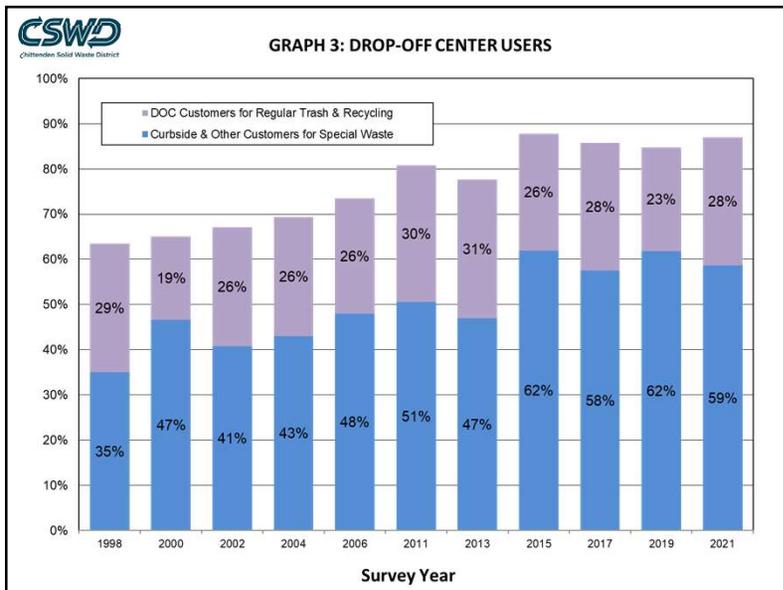
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Use of DOCs for special recyclables

- 81% of curbside customers
- 87% of all use DOCs for some purpose



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Rating of Trash & Recycling Service

Scale of 1-10
 1 = Terrible
 10 = Excellent



	2021	2019
Average rating	8.3	8.5
DOC	8.4	8.4
Curbside	8.2	8.5
Combo	8.4	NA
Work	8.3	NA



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Waste Diversion at Work

Recycling collection

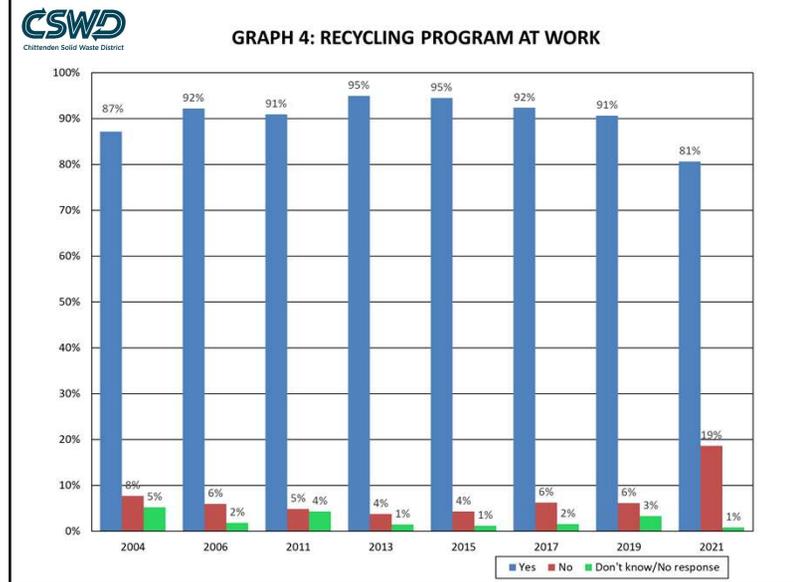
- 81% said employer has recycling program

Food scraps collection

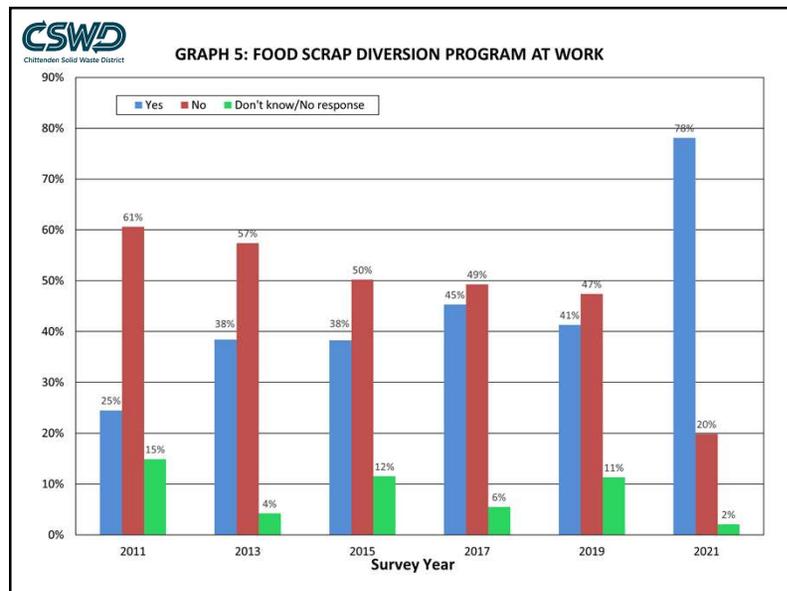
- 78% said employer has compost program



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Waste Diversion at Home

Recycling participation

	2021	2019
Recycle	75%	85%
Recycle some, trash some	16%	3%
Put recyclables in trash	9%	9%

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Yard trimmings management

	2021	2019
Divert all from disposal - compost, leave on lawn, drop-off, curbside pickup, landscaper	62%	83%
Don't generate	4%	7%
Combination of diversion with some disposal	25%	1%
Burn or put in trash	10%	4%



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Food scraps management

	2021	2019
Divert all from disposal - compost, garbage disposal, drop-off, curbside pickup, and/or animal feed	74%	66%
Combination of diversion with some disposal	15%	8%
Put in trash	11%	23%



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HHW disposal method

	2021	2019
Divert all from disposal - Depot, Rover, DOC, store	60%	87%
Combination of diversion with some disposal	28%	<1%
Trash	9%	3%
Down drain	<1%	0%



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Communications

Preferences	2021	2019
Newspaper	43%	9%
E-mail	41%	29%
Television	41%	8%
Facebook	31%	2%
Flyer in the mail	29%	41%
CSWD's website/internet	28%	8%
Friends/family/neighbors	27%	2%
Radio	25%	3%



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Conclusions

- CSWD facilities & programs enjoy high participation
- Residents are satisfied with trash & recycling service
- Most residents use appropriate methods to manage their waste streams



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- Residents support residential consolidated collection of trash, recycling & food scraps
- CSWD should continue to support municipalities interested in considering consolidated collection
- If consolidated collection is pursued, benefits should be well-communicated



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- Strong support for a MRF bond
- The benefits, financial details, & environmental impact of the project should be communicated before vote



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- Most residents have a positive impression of CSWD
- They want increased communications
- Marketing efforts should continue to focus on digital media



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- Newer residents should be targeted with info on proper management of materials
- All residents & businesses should continue to be reminded about what materials should not go in the trash or down the drain

