

# 2022 Waste Diversion & Disposal Report

JON DORWART  
Board of Commissioners Meeting  
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## Purpose of Diversion Report

- Track & evaluate programs
- Fulfill State reporting requirements
- Provide information for communications



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## Solid Waste Metrics

- Diversion rate:  $\text{Diverted} / (\text{Diverted} + \text{Disposed})$
- Disposal rate: Lbs/Capita/Day Disposed
- Recovery rate: % of targeted, divertible material recovered
- Environmental impacts: GHG emissions saved



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## 2022 Highlights

- Total solid waste generation (disposed) down 0.1%
- MSW: tons disposed decreased 2.5% & tons diverted increased by 2.6%
- C&D: tons disposed increased to highest in ten years & tons diverted was slightly lower than normal but 2.1% higher than 2021
- MSW diversion rate remained high at 55%
- Recovery rate for mandatory recyclables decreased very slightly



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## Data & Comparisons to 2021

### MSW DISPOSED

- 2021: 86,853 tons  
2022: 84,716 tons  
Down 2.5%
- 2021: 2.74 lbs/cap/day  
2022: 2.67 lbs/cap/day



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## Data & Comparisons to 2021

### MSW DIVERTED

- 2021: 100,670 tons  
2022: 103,337 tons  
Up 2.6%
- 2021: 3.18 lbs/cap/day  
2022: 3.26 lbs/cap/day



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## Data & Comparisons to 2021

### MSW DIVERTED (continued)

- Significant increases in food residuals, glass, clean wood diverted
- Significant rebound in amount of scrap metal diverted
- Decrease in diverted textiles and paper



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## Data & Comparisons to 2021

### MSW DIVERTED (continued)

- McNeil Generating Station took in 74% of clean wood
- ODF now takes clean wood from CSWD facilities – about 26% of total this year
- Increased food residuals likely due to mandatory organics separation
- Decreased paper and textiles likely due to post pandemic correction



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## Data & Comparisons to 2021

### MSW DIVERSION RATE

- Diverted/(Diverted + Disposed)
- 2021: 53.7%
- 2022: 55.0%



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## Data & Comparisons to 2021

### MSW DIVERSION RATE (continued)

- US 2018: 32%
- Vermont 2022: 34%
- Seattle 2020: 54%
- San Francisco FY21: 51%
- Portland Metro 2021: 47%



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## Data & Comparisons to 2021

### MSW DIVERSION RATE (continued)

- Maximum diversion rate: 81.1%  
(tons diverted + tons disposed that are **currently divertible**)/(tons diverted + total tons disposed)



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## GHG Emissions Reduction

### MSW RECYCLABLES & ORGANICS DIVERTED

- 175,000 MTCO<sub>2</sub>E reduced
- Equivalent to taking 37,000 cars off the road



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## Data & Comparisons to 2021

### C&D DISPOSED

- 2021: 33,177 tons  
2022: 35,237 tons  
Up 6.2%
- 2021: 1.05 lbs/cap/day  
2022: 1.11 lbs/cap/day



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## Data & Comparisons to 2021

### C&D DIVERTED

- 2021: 84,703 tons  
2022: 86,491 tons  
Up 2.1%
- 2021: 2.67 lbs/cap/day  
2022: 2.73 lbs/cap/day



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## Data & Comparisons to 2021

### C&D DIVERTED (continued)

- Asphalt and concrete recycling close to 2021 (85,870 tons vs. 81,500 in 2021)
- Diversion rate decreased slightly to 71.1% from 71.9% in 2021
- Many large ongoing construction/demolition projects



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## Data & Comparisons to 2021

### C&D DIVERSION RATE

- 2021: 71.9%  
2022: 71.1%
- Maximum 2022 diversion rate: 79.4%



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## Data & Comparisons to 2021

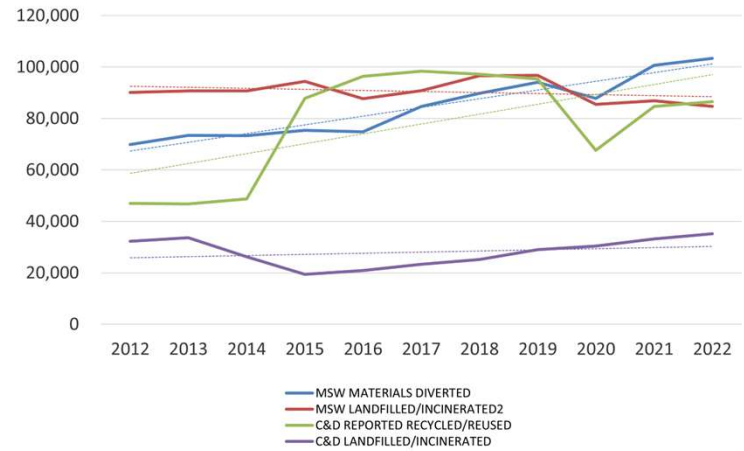
### ALTERNATIVE DAILY LANDFILL COVER

- 2021: 11,357 tons
  - 2022: 15,309 tons
- Up 34.8%



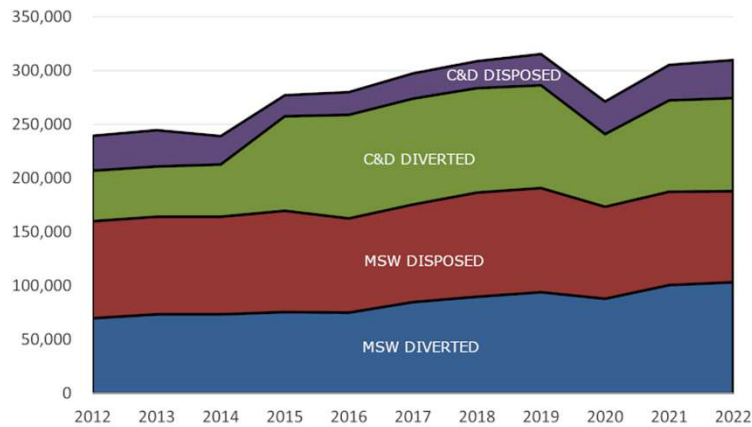
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### TONS DIVERTED & DISPOSED



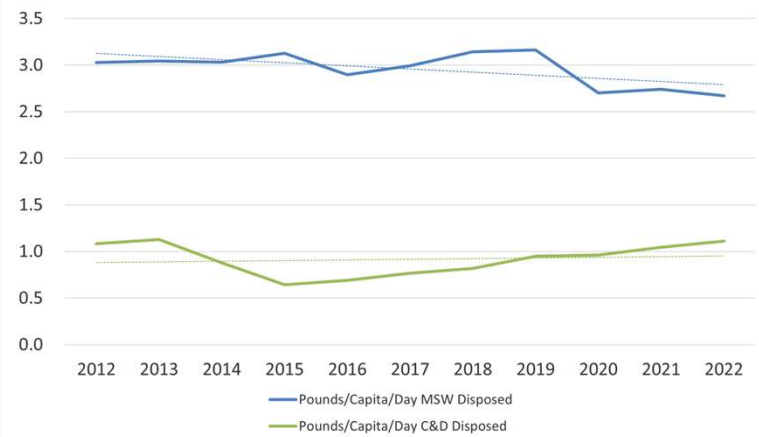
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### TONS DIVERTED & DISPOSED

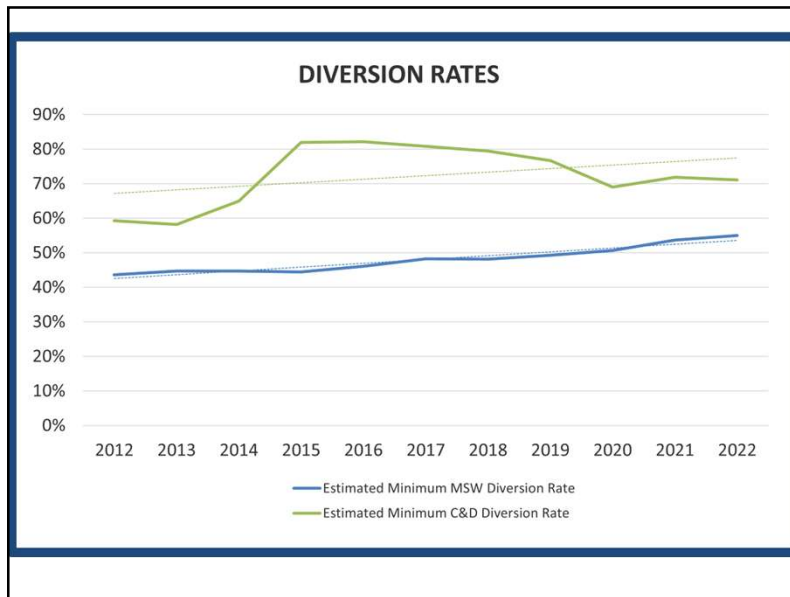


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### DISPOSAL RATES



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## Recovery Rates

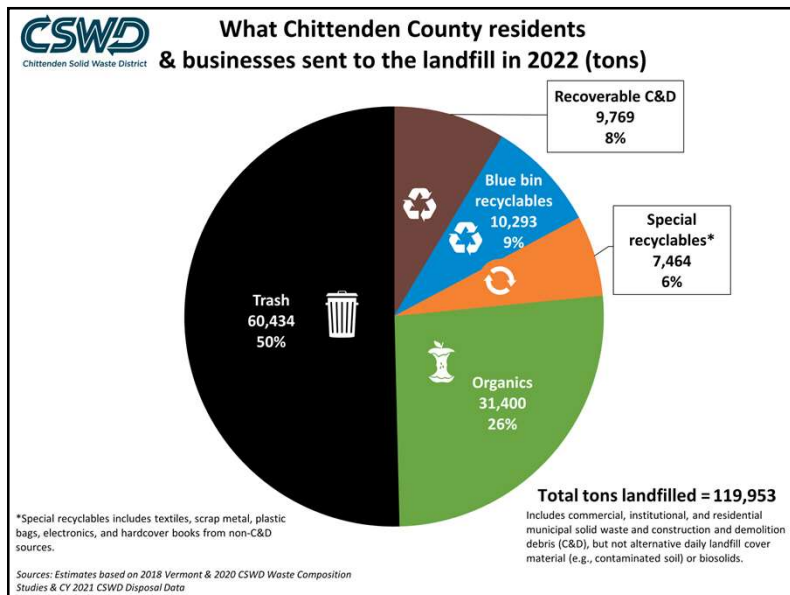
### BLUE BIN RECYCLABLES

- 2021: 81.5 %
- 2022: 82.8%

### MSW RECYCLABLES & ORGANICS

- 2021: 66.6%
- 2022: 67.8%

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#### CSWD WASTE DIVERSION TABLE FOR CALENDAR YEARS 2012-2022 Tons of CSWD Materials Disposed & Diverted from Disposal

MATERIALS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	% CHS 21-22	% CHS 12-22
<b>MSW Materials Diverted &amp; Disposed<sup>1</sup></b>													
Paper <sup>2</sup>	23,024	24,439	23,085	26,303	26,743	35,199	36,723	35,213	35,348	43,211	35,724	-17.3%	33.0%
Plastic	1,614	1,660	1,608	1,708	1,705	1,908	2,250	2,232	2,400	2,328	2,381	2.4%	32.2%
Other	2,096	4,148	4,504	3,899	3,907	3,764	3,614	3,420	3,521	3,389	3,377	37.3%	33.6%
Aluminum Cans & Foil	314	338	623	900	994	915	962	725	764	727	699	-1.9%	28.5%
Single-Stream Recyclables/Composite Materials	0	0	3,951	0	0	0	28	1	36	74	43	-41.9%	100.0%
Estimated Share of Reclaimed Bottle Bill Material	4,587	4,447	4,402	4,506	4,521	4,551	4,599	4,599	4,577	4,581	4,574	-0.2%	-0.3%
Estimated Additional Commercial	4,905	4,935	4,955	5,011	5,024	NA	NA	NA	NA	NA	NA	NA	NA
<b>TOTAL PAPER, CONTAINERS, &amp; PACKAGING</b>	<b>36,540</b>	<b>40,187</b>	<b>43,788</b>	<b>48,208</b>	<b>48,394</b>	<b>64,266</b>	<b>68,169</b>	<b>66,180</b>	<b>67,474</b>	<b>84,040</b>	<b>67,799</b>	-18.4%	33.4%
Estimated Background Composting/On-site Management	10,932	11,788	11,876	11,852	11,983	11,983	11,653	11,744	12,901	11,652	11,673	0.0%	20.8%
Wood <sup>3</sup>	6,260	7,740	5,843	7,813	5,820	9,201	7,439	9,254	5,512	5,854	5,481	-6.5%	28.2%
Reported & Estimated Yard Trimmings	5,235	4,390	4,374	4,633	5,153	5,179	5,155	5,603	5,244	4,360	3,975	-8.9%	-21.3%
Food Residuals & Non-recyclable Paper	2,072	3,302	3,870	4,474	3,684	5,914	10,811	12,118	10,775	14,051	15,717	40.2%	86.7%
<b>TOTAL ORGANICS</b>	<b>29,072</b>	<b>27,220</b>	<b>28,123</b>	<b>28,008</b>	<b>28,974</b>	<b>38,008</b>	<b>40,791</b>	<b>40,791</b>	<b>38,924</b>	<b>54,938</b>	<b>55,847</b>	38.3%	47.8%
TEXTILES	880	842	877	1,020	1,002	1,174	1,309	1,480	880	2,029	1,375	-39.1%	68.2%
SCRAP METAL	3,277	3,484	3,007	3,127	3,238	4,261	3,303	3,386	3,494	2,943	3,074	73.0%	35.4%
HAZARDOUS WASTE	87	121	142	133	71	109	107	186	301	86	82	-1.0%	18.3%
ELECTRONICS	1,025	899	884	816	777	795	486	446	440	443	479	26.9%	-18.2%
OTHER <sup>4</sup>	1,560	853	1,24	1,24	1,24	1,24	1,24	1,24	912	912	775	-15.9%	-46.7%
<b>MSW MATERIALS DIVERTED</b>	<b>69,860</b>	<b>73,088</b>	<b>73,088</b>	<b>73,088</b>	<b>73,088</b>	<b>86,679</b>	<b>86,679</b>	<b>86,679</b>	<b>86,679</b>	<b>108,638</b>	<b>108,638</b>	24.6%	33.0%
Netton Landfilled/Incinerated <sup>5</sup>	90,173	96,751	96,868	96,868	96,868	96,868	96,868	96,868	96,868	96,868	96,714	-0.2%	-0.4%
Pounds/Capita/Day MSW Landfilled	3.35	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	0.0%	0.0%
Pounds/Capita/Day MSW Diverted	3.03	3.04	3.03	3.13	3.09	2.99	3.14	3.14	2.91	2.91	2.97	2.5%	-15.4%
Estimated Minimum MSW Diversion Rate	45.7%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	0.0%	0.0%
<b>C&amp;D Materials Diverted &amp; Disposed</b>													
C&D REPORTED RECYCLED/REUSED	47,022	46,831	48,788	87,789	96,354	96,404	97,181	95,404	97,458	94,763	96,461	2.1%	45.4%
C&D LANDFILLED/INCINERATED	32,268	31,433	29,293	25,827	25,827	23,100	23,178	20,885	18,408	15,177	15,237	-6.2%	4.4%
Pounds/Capita/Day C&D Diverted	1.58	1.57	1.58	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	0.0%	42.1%
Pounds/Capita/Day C&D Landfilled	1.40	1.33	1.28	1.10	1.10	0.98	0.98	0.91	0.80	0.66	0.66	-26.4%	-26.4%
Estimated Minimum C&D Diversion Rate	59.3%	58.2%	60.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	0.0%	0.0%
<b>MSW &amp; C&amp;D Combined</b>													
TOTAL MSW & C&D LANDFILLED/INCINERATED <sup>6</sup>	122,442	128,184	126,161	112,779	108,091	114,228	112,605	105,683	105,683	108,045	108,951	-0.1%	-2.1%
Pounds/Capita/Day MSW & C&D Diverted	5.03	5.03	5.03	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	0.0%	34.4%
Pounds/Capita/Day MSW & C&D Landfilled	4.11	4.17	4.11	3.91	3.77	3.59	3.76	3.56	3.11	3.06	3.08	-0.5%	-6.7%
Estimated Minimum MSW & C&D Diversion Rate	48.8%	49.2%	51.1%	58.2%	58.2%	58.2%	58.2%	58.2%	58.2%	58.2%	58.2%	0.0%	0.0%
<b>Other Disposal</b>													
Alternative Daily Landfill Cover	9,831	9,060	7,052	16,927	12,254	21,813	7,485	7,485	7,485	13,957	15,309	34.8%	37.1%
<b>POPULATION ESTIMATES</b>													
CHS Resident Population	154,971	156,432	156,963	156,963	156,963	156,963	156,963	156,963	156,963	156,963	156,963	0.0%	0.0%
CHS Seasonal Population <sup>7</sup>	3,085	3,085	3,085	3,085	3,085	3,085	3,085	3,085	3,085	3,085	3,085	0.0%	0.0%
TOTAL POPULATION	158,056	159,517	160,048	160,048	160,048	160,048	160,048	160,048	160,048	160,048	160,048	0.0%	0.0%

<sup>1</sup>Year 1 CSWD Solid Waste Management Ordinance data reporting requirement implemented in 2015, additional quantities of materials disposed by businesses directly to markets for composting, recycling, animal feed, etc. are included beginning with that year.

<sup>2</sup>Beginning in 2021, the use of District portion of MSW composted at the MSW and the use of District portion of MSW disposed at CSWD Drop-off Centers are subtracted from Total MSW Landfilled/Incinerated; the use of District portion of non-recyclable C&D at Reclaim Recycling Facility and CSWD Drop-off Centers is subtracted from Total C&D Landfilled/Incinerated; and the use of District portion of hazardous materials disposed at CSWD Drop-off Centers is subtracted from Paper. Year that is used to report each year is noted in parentheses.

<sup>3</sup>The bulk of wood used reported each year is wood processed at the Burlington Electric Department Wood Depot. Wood is processed into wood chips and potentially moved to the University of the Medical Generating Station. It is on the transfer date that tons are reported. Consequently, large quantities processed in one year may be counted in the next year.

<sup>4</sup>In 2012, the total includes 652 tons of material that were removed from a yard sale in Milton.

<sup>5</sup>The seasonal population is calculated following the instructions provided by the Vermont Department of Environmental Conservation Solid Waste Program in the document titled, "Disposal Data for SWAP Reports."

<sup>6</sup>Some columns may not add up to totals due to rounding.

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