

WASTE REDUCTION & RECYCLING REPORT

Community Diversion Rate

A diversion rate compares the amount of material that was recycled or composted compared to the total waste generated by the community. Fort Collins tracks trends in the community by measuring diversion rates as well as per-capita volumes of trash generated.

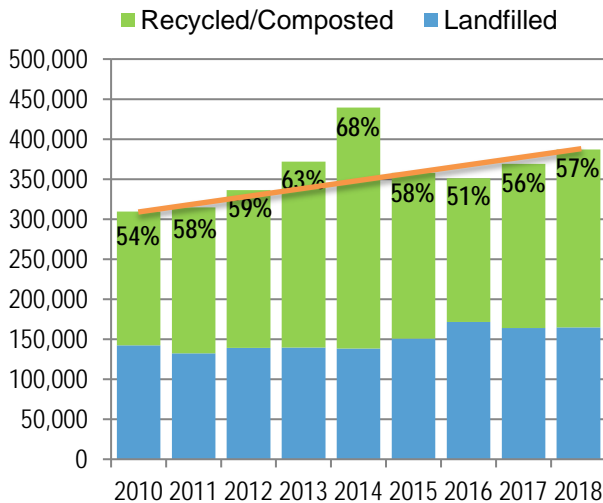
Fort Collins' overall Community-wide Diversion Rate includes all residential, commercial, and industrially-generated trash and recyclable materials. The Fort Collins Community Diversion Rate in 2018 was 57.4%.

Drivers for change in Community Diversion Rate from 2017 – 2018

- More concrete was recycled at the City of Fort Collins Crushing Facility
- Less soil was sent for alternative daily cover at the landfill and was instead reused
- More material was landfilled from municipal operations
- Wood recycled decreased

Details are included in the text on page two.

COMMUNITY DIVERSION RATES SINCE 2010



DIVERSION RATES BY SECTOR IN 2018

RESIDENTIAL	26.9%
COMMERCIAL / MULTI-FAMILY	28.1%
INDUSTRIAL	72.8%

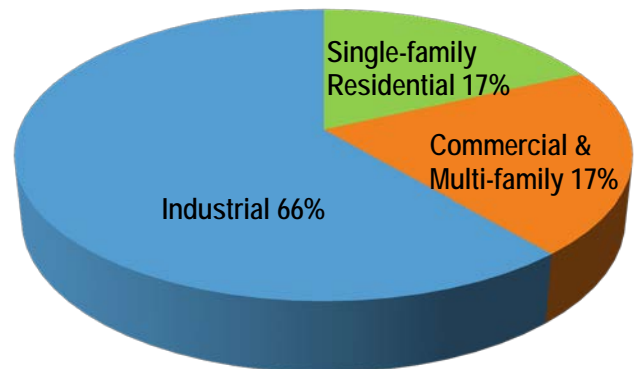
CHANGE IN COMMUNITY DIVERSION RATE FROM 2017 – 2018



CHANGE IN POUNDS OF LANDFILLED MATERIAL PER CAPITA PER DAY FROM 2017 – 2018



PERCENTAGE OF TOTAL COMMUNITY WASTE AND RECYCLING GENERATED BY SECTOR IN 2018



CHANGES IN 2018 COMMUNITY DIVERSION RATE

More Municipal Self-Hauled Materials

Materials landfilled by the City of Fort Collins' operations increased by 9,000 tons, driven by an increased number of active capital projects and maintenance work.

The Water Utilities continued to de-water and sort waste soil from operations/repair work for reuse. A project at Kingfisher Natural Area was able to apply 1,000 tons of recovered soil for restoration work. It was also used to fill Larimer County's gravel pit on Strauss Cabin Road; sold to the public at the Crushing Facility; and used as alternative daily cover at Larimer County Landfill.

Wood Recycling Changes

Hageman Earth Cycle, a local company that accepts wood and yard trimmings from the public to produce mulch and compost, barred oriented strand board (OSB) in 2018 because it reduces the quality of their end products. Lack of OSB diversion options impacted construction projects in Fort Collins and contributed to a 28% decrease in wood recycled compared to 2017.

City of Fort Collins' Crushing Facility

The Streets Department operates a Crushing Facility that accepts materials from the public as well as City operations. Concrete, porcelain, and asphalt are crushed and sold for use as road base, and dirt is screened and sold as fill dirt.

After equipment problems were resolved in 2017, 2018 totals for concrete processing returned to typical levels. Concrete recycling increased by 118% at the Crushing Facility in comparison with 2017.

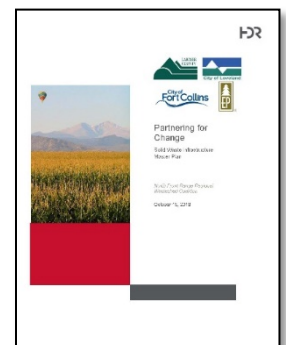
Residential Trash and Recycling Cart Sizes

Cart size	Residents subscribed	Change from 2017
32 gal trash cart	41%	↑ 4%
64 gal trash cart	38%	↑ 3%
96 gal trash cart	21%	↑ 9%
<hr/>		
32, 64 or 96 gal recycling cart	86%	0%
18 gal recycling tub	14%	0%
<hr/>		
64 or 96 gal yard trimmings collection cart	14%	↑ 8%

2018 PROGRAM UPDATES

Regional Wasteshed Planning

In 2018, planning efforts for future infrastructure to replace the Larimer County Landfill, which will reach capacity and close by 2024, continued to make progress. High levels of collaboration occurred among Larimer County, Fort Collins, Loveland, and Estes Park that included stakeholders, staff and elected officials.



In December 2018, Larimer County adopted a master plan for regional solid waste infrastructure, calling for Larimer County to build a new landfill and transfer station for trash, a new recycling center for construction and demolition debris, composting facilities for both food and yard waste, and improvements to the Materials Recovery Facility.

Response to Recycling Market Changes

In 2017-2018, reduced international demand for recyclable commodities (particularly from China) significantly impacted Fort Collins and other communities throughout the US. To help respond to dramatically altered conditions for the industry, Fort Collins' strategies focus on



- 1) Updated education that emphasizes the basics of how to recycle properly and prevent “contamination” in curbside recycling.
- 2) On-site recycling assistance provided by the City at no charge to businesses and apartment complexes
- 3) Commitment to the triple bottom line benefits of recycling that serve the long-term interests of the community (e.g., greenhouse gas emissions reductions), even when markets are troubled
- 4) Encouraging thoughtful purchasing decisions such as avoiding low-value plastic products that no longer have recycling markets and the use of durable or reusable goods.

Grocer Composting

The Community Recycling Ordinance, adopted in 2016, requires all grocers to compost. In line with the requirements, all grocers in Fort Collins subscribed to composting services for their food scraps by the end of 2017.

Many documented drastic reductions in material landfilled from their stores, resulting in reduced levels of trash service that saved both on costs and the amount of space dedicated to trash. Some stores chose to no longer devote space to a trash compactor due to small trash volumes; while others reported reducing trash collection frequency nearly in half.



Improvements in staff morale were even attributed to composting programs, and grocers continued to work actively with food banks to donate usable food.

Construction & Demolition Recycling: Building Code Changes

During 2018, a period of rapid development in Fort Collins, more than 11,000 tons of material from construction and demolition (C&D) sites were recycled, resulting in a 29.6% diversion rate for that industry sector.

Updated Building Code

New building code requirements were adopted in 2018 that expanded C&D recycling requirements to include all new structures and additions over 2,500 square feet.



Shingle Requirements

New building codes were also adopted requiring use of UL2218 Class 4 asphalt shingles, which are rated to survive most hailstorms.



The new code, which represents a preventative approach to waste, will reduce the amount of future asphalt-shingle waste generated in Fort Collins. Currently shingles create approximately 8,500 tons of waste yearly, representing a significant portion of the waste stream.

Enclosures: Land Use Code Updates

Fort Collins' Land Use Code for trash and recycling enclosures was updated in 2018 to ensure safer and more efficient access for both the trash/recycling haulers and users of waste enclosures.

The code changes prescribe adequate space for recycling bins in enclosures and increased stormwater protection through new requirements for waste cooking-oil collection.



In addition, the Land Use Code now requires all new buildings in Fort Collins designed to use a trash chute to also install a recycling chute.

Timberline Recycling Center

Operated by the City, the Recycling Center completed its second full year of operations at the Timberline Rd. site in 2018. The east side of the facility, where conventional types of recyclables are accepted, continued to receive about 340 visitors daily, consistent with the previous 14 years' levels of use at this location and the previous location on Riverside Ave.

Volumes and numbers of visits to the Hard-to-Recycle-Materials Yard on the west side of the facility grew during the second year of operations as more people became familiar with new services offered.

Two special events were well attended, collecting 263 mattresses/box springs, 1,888 pounds of bulky/rigid plastics, 1,600 pounds of shredded paper, and nearly 3,000 pounds of books.

City WRAP (Waste Reduction & Recycling Assistance Program)

During 2018, City staff worked with more than 40 businesses and apartment complexes to start or improve their recycling programs, impacting approximately 6,700 individuals (residents and employees) who received increased education and/or access to recycling.

Recycling Ambassadors Volunteer Program

A Recycling Ambassadors volunteer program that was created in 2017 grew during 2018, with 22 active Ambassadors who donated time at the Timberline Recycling Center (TRC), answering questions and helping elderly or disabled visitors unload their recyclables.

In 2018, Ambassadors contributed more than 780 hours of their time. Between tours at the TRC, presentations to the community, and tabling at outreach events, the City's Waste Reduction and Recycling staff and volunteers interacted with more than 2,800 residents.



Definitions and Notes

Non-industrial diversion rate: includes waste generated by single-family residential, multi-family residential, and commercial sectors.

Industrial diversion rate: includes materials such as waste generated by City government operations, concrete and asphalt recycled at crushing facilities, construction and demolition waste, brewery wastes, and biosolids that are land-applied.

Community diversion rate: the combined total of industrial and non-industrial wastes – provides an overall view of waste generation and waste diversion for the entire community.

Note about *Alternative Daily Cover (ADC)*: Each day, landfills are legally required to cover the day's contents with soil or another approved material. Various materials can be used as ADC, including wood, drywall or yard waste. Because many of these materials have "higher and better" uses, the City does not include ADC as diversion in its calculations, unlike some other entities, including the State of California.

Notes about Appendix 1 (detailing Fort Collins' waste and recycling):

- data are updated over time as new information becomes available or new methodologies emerge. Appendix 1 is updated yearly, which may result in the data in this appendix not matching the initial report.
- Yellow-shaded boxes are included in the Non-Industrial (MSW) totals
- Orange-shaded boxes are included in the Industrial totals.

Data Updates in 2018

- A City Environmental Compliance Inspector position that was created in 2017 is now responsible for monitoring Construction Waste Management Plans and reports. This change enabled the City to begin improving data about C&D waste in 2018, including material disposed of by non-licensed haulers such as demolition companies. For the first year, data from demolition companies are included in the Fort Collins Community Diversion Rate calculations in 2018. These data showed more material recycled (mostly concrete and wood) than material landfilled.
- With adoption of new hail-resistant standards for asphalt shingles in 2018 will come requirements for roofers to report the amount of material they landfill, information that will be available for 2019.

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2018 Fort Collins Community Waste & Recycling Summary

Recyclables	
Residential Curbside Recycling	Tons
Single-stream	8,452
Curbside Total:	8,452
Multifamily & Commercial Recycling	
Commercial single-stream	5,974
Multi-family single-stream	612
Paper Mix (ONP, OMX, etc)	96
Office paper	1
Corrugated Cardboard	1,253
Glass	1,594
Commingled containers (aluminum, steel, glass, plastic)	386
Multi-Family & Commercial Total:	9,917
Drop-off Centers	
Corrugated cardboard	658
Paperboard, low-grade paper	0
Mixed Paper	395
Commingled containers	138
Glass	352
White Office Paper	4
Hard-to-recycle items from Timberline Recycling Center	86
Drop-off System Total:	1,633
Other Recyclables	
Electronics	191
Plastic bags / shrink wrap	17
Textiles	0
Total Other:	208
TOTAL MSW RECYCLING TONS	20,210
Industrial Recyclables	
Scrap metal (ferrous) -- iron, steel	25,061
Concrete	40,838
Asphalt	61,517
Other aggregate / soil	37,063
Total Industrial Recycling Tons	164,479
TOTAL RECYCLING TONS	184,689

Organics	
Residential / Commercial Organics	Tons
Food Waste (Residential)	0
Food Waste (Commercial)	1,318
Yard Waste (Residential)	3,857
Yard Waste (Commercial)	7,052
Total MSW Organics	12,227
Industrial Organics	
Spent brewery grain	419
Wood waste (Commercial)	14,243
Other organics (Industrial)	4,801
Biosolids	1,983
Total Industrial Organics	21,446
TOTAL ORGANICS TONS	33,672

Landfill	
Tons of Solid Waste Landfilled	Tons
Residential	48,119
Multi-family	3,633
Commercial	43,684
Industrial	63,517
Alternative Daily Cover (soils used to meet landfill cover needs)	5,924
TOTAL LANDFILL TONS	164,877

Recycling Participation	
Customer Type	% of Customer w Recycling
Residential	96%
Residential yard trimmings collection	13%
Multi-family	75%
Commercial	63%
Industrial	13%
Total customers with recycling	93%

Non-Industrial Totals (MSW)	Residential	Commercial	Overall	Lbs / Capita / Day
Total Landfill	48,119	47,316	95,436	3.07
Total Organics Composted	3,857	8,370	12,227	0.39
Total Recycling	10,085	10,125	20,210	0.65
PAYT Source Reduction "tons"	3,724	n/a	3,724	0.12
Total Disposed	65,785	65,811	131,596	4.24
Diversion Rate	22.5%	28.1%	25.4%	
Diversion Rate w/ Source Reduction	26.9%	n/a	27.5%	

Industrial Totals	Tons	Lbs/Cap/Da
Total Landfill	63,517	2.05
Total ADC	5,924	0.19
Total Organics Composted	21,446	0.69
Total Recycling	164,479	5.30
Total Disposed	255,366	8.23
Diversion Rate	72.8%	
Diversion Rate, ADC as diversion	75.1%	

Combined Totals	MSW	Industrial	Overall	/Day
Total Landfill	95,436	63,517	158,953	5.12
Total ADC	n/a	5,924	5,924	0.19
Total Organics Composted	12,227	21,446	33,672	1.08
Total Recycling	20,210	164,479	184,689	5.95
PAYT Source Reduction	3,724	n/a	3,724	0.12
Total Disposed	131,596	255,366	386,962	12.47
Diversion Rate, no Source Reduction	25.4%	72.8%	57.0%	
Diversion Rate with PAYT Source Reduction	27.5%		57.4%	
Diversion Rate with PAYT Source Reduction, ADC as diversion			58.9%	

single stream recycling totals reduced by 12.9% to account for contamination (and trash totals increased commensurately)