

WASTE REDUCTION & RECYCLING REPORT

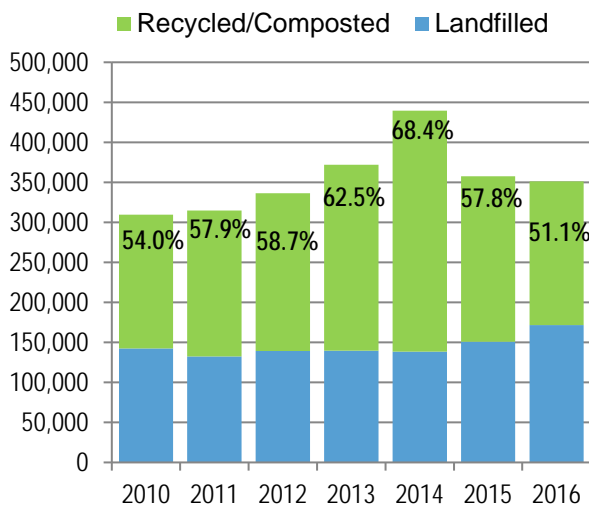
Community Diversion Rate

A diversion rate compares the amount of material that was recycled or composted compared to the total waste generated by the community. It is useful for tracking trends in the community related to waste generation.

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 2016 was 51.1%.

Based on the 2016 population of 161,000 residents, Fort Collins generated 5.27 pounds of landfill-bound material per person per day (in 2015, per capita trash generation was 5.22 pounds per day).

COMMUNITY DIVERSION RATES SINCE 2010



CHANGE IN COMMUNITY DIVERSION RATE FROM 2015 – 2016



Drivers for change in Community Diversion Rate from 2015 – 2016

- Increased amount of material landfilled, especially municipal self-hauled items
- Less material recycled at the City of Fort Collins Crushing Facility

Details are included below in the report text.

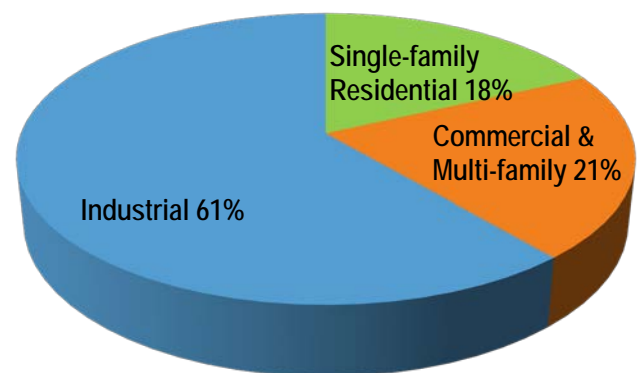
DIVERSION RATES BY SECTOR IN 2016

RESIDENTIAL 29.5%

COMMERCIAL / MULTI-FAMILY 34.1%

INDUSTRIAL 70.9%

PERCENTAGE OF TOTAL COMMUNITY WASTE AND RECYCLING GENERATION BY SECTOR FOR 2016



Residential Trash and Recycling Cart Sizes

The residents of Fort Collins continued to reduce the size of their trash cans and increase the size of their recycling carts in 2016.

Cart size	Residents subscribed	Change from 2015
32 gal trash	38%	↑ 3%
64 gal trash	38%	↑ 4%
96 gal trash	22%	↓ 5%
32, 64 or 96 gal recycling cart	84%	↑ 4%
18 gal recycling tub	16%	↓ 1%

Municipal Self-Haul to Landfill

The amount of material landfilled by the City of Fort Collins municipal organization increased in 2016 due to an increased number of projects completed by the Fort Collins Utilities Stormwater crews.

The City of Fort Collins Utilities began a soils recovery project in 2011, to recycle wet soil mixed with rocks, asphalt, and organic debris generated from repairs to water pipes and from capital projects. Excavated materials are dried and screened. The screened material is then either taken to the City's Crushing Facility for sale to the public or is taken to the Larimer County Landfill for use as Alternative Daily Cover (ADC).

In 2016, 12,000 more tons of soil were sent to the Larimer County Landfill as Alternative Daily Cover (ADC) than in 2015 (for a total of 16,654 tons sent as ADC in 2016). Fort Collins does not include ADC as diversion in calculations (see note in the definitions section at the end of this report).

An analysis of processing options for soils will occur in 2017 – 2018 to evaluate the economic impacts as well as highest and best use for the soils generated by municipal operations.

City of Fort Collins Crushing Facility

The City of Fort Collins 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.

New equipment was purchased for the facility in 2016. There were difficulties getting the machinery to operate properly, which resulted in nearly four months of not being able to process material at normal capacity.

As a result, 30% less concrete and asphalt was processed and sold in 2016 than in 2015. Machinery challenges continued into 2017, which will likely impact the 2017 diversion rate as well. However, 50% more soil (9,000 tons) was processed in 2016 than in 2015.



Equipment challenges resulted in less concrete and asphalt recycled in 2016.

Timberline Recycling Center

In August 2016, the Timberline Recycling Center opened to the public. This center includes an “everyday recyclables” area (including bottles, cans, paper, cardboard etc.) that is open to the public seven days a week during daylight hours for no charge. The City’s former drop-off center had also collected these materials at a site near Prospect Rd. and Riverside Ave. in Fort Collins.

The Timberline Recycling Center includes an additional hard-to-recycle yard, which accepts items such as electronics, batteries, yard trimmings, and porcelain, among other items. There is a \$5 fee for use of the site, which is operated by Waste-Not recycling, under contract with the City.

This expansion of recycling availability in Fort Collins will serve as a platform for accepting more recyclables as regional and local markets continue to develop.



The new Timberline Recycling Center

WRAP (Waste Reduction & Recycling Assistance Program)

The Waste Reduction and Recycling Assistance Program (WRAP) continued to serve the community in 2016. WRAP provides resources to apartment complexes and businesses in Fort Collins to start or improve their recycling programs. Since its inception in early 2012, over 23,000 residents or employees have been impacted by WRAP. In 2016, WRAP reached an additional 5,500 individuals by providing educational materials or assistance.

Community Recycling Ordinance

In 2015, the City engaged in a project focusing on new policies needed to meet Fort Collins’ 2020 Road to Zero Waste Goal of diverting 75% of the community’s materials from landfill disposal.

After extensive work with Fort Collins’ haulers and the community, the Community Recycling Ordinance was passed unanimously by Fort Collins City Council in September of 2016. The following changes were included in the ordinance:

- Haulers must provide the option of weekly collection of yard trimmings to single-family residences from April to November, for a separate fee, starting April 2017
- Haulers are able to include a service surcharge on their residential trash / recycling bill of up to 25% the cost of the 32-gallon trash service, effective immediately
- Grocers generating over 32 gallons per week of compostable food scraps must have compost collection by the end of 2017
- Haulers must provide recycling to businesses and apartment complexes in Fort Collins, for a separate fee, by the end of 2020.

Fort Collins City Council requested that staff return within one year to provide options for expanding compost collection for residents of single-family homes and restaurants.

Regional Wasteshed Planning

Spurred by the Larimer County Landfill being anticipated to reach capacity in 2025, Fort Collins, Estes Park, Loveland and Larimer County partnered to create the North Front Range Regional Wasteshed Planning Coalition.

In 2016, the Coalition leveraged grant funds from the Colorado Department of Public Health and the Environment to produce a report of long-term waste management and diversion, and conducted public engagement including a county-wide survey and four public forums.

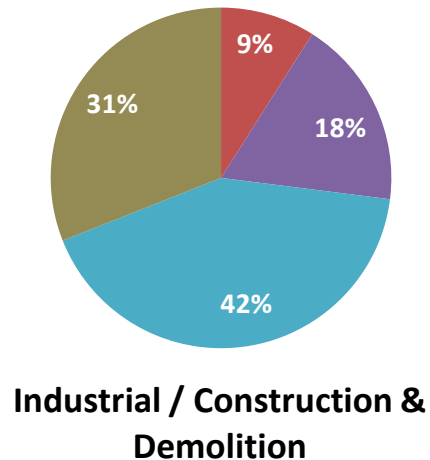
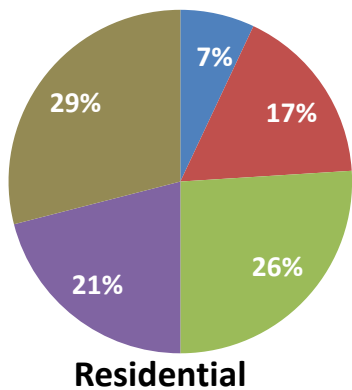
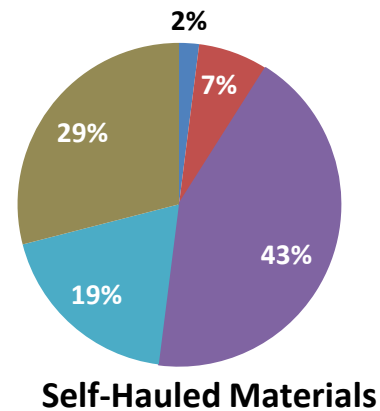
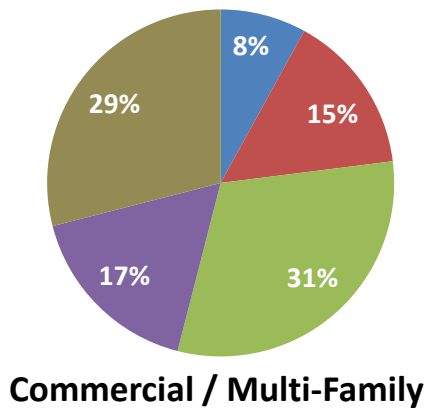
During the next 3-4 years, the Coalition will develop recommendations by 2019 for the future of sustainable materials management in the North Front Range.

Waste Characterization

Larimer County contracted with Sloan Vasquez consultants to perform a two-season waste characterization of materials received at the Larimer County Landfill. The City of Fort Collins leveraged this project to contract with Sloan Vasquez to conduct a similar two-season analysis of material coming from Fort Collins to the Larimer County Landfill.

Full results are posted at fcgov.com/recycling, and a summary of results is included below.

COMPOSITION OF MATERIALS LANDFILLED BY SECTOR



Legend	
Recyclable paper and cardboard	■
Recyclable plastics, glass, metal etc.	■
Food scraps & compostable wet paper	■
Yard trimmings & wood	■
Inerts (concrete, dirt etc.)	■
All other	■

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's 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 from 2016):

- data are updated over time as new information becomes available or new methodologies emerge. Appendix 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.

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2016 Fort Collins Community Waste & Recycling Summary

Recyclables	
Residential Curbside Recycling	Tons
Single-stream	9,275
Curbside Total:	9,275
Multifamily & Commercial Recycling	
Commercial single-stream	6,349
Multi-family single-stream	565
Paper Mix (ONP, OMX, etc)	331
Office paper	0
Corrugated Cardboard	1,521
Glass	1,831
Commingled containers (aluminum, steel, glass, plastic)	120
Multi-Family & Commercial Total:	10,718
Drop-off Systems	
Corrugated cardboard	461
Paperboard, low-grade paper	55
Mixed Paper	268
Commingled containers	145
Glass	364
Newspaper	135
Drop-off System Total:	1,426
Other Recyclables	
Electronics	77
Plastic bags / shrink wrap	183
Textiles	11
Total Other:	271
TOTAL MSW RECYCLING TONS	21,691
Industrial Recyclables	
Scrap metal (ferrous) -- iron, steel	24,061
Concrete	26,438
Asphalt	42,129
Other aggregate / soil	27,388
Total Industrial Recycling Tons	120,017
TOTAL RECYCLING TONS	141,708

Organics	
Residential / Commercial Organics	Tons
Food Waste (Residential)	0
Food Waste (Commercial)	1,361
Yard Waste (Residential)	4,393
Yard Waste (Commercial)	12,208
Total MSW Organics	17,962
Industrial Organics	
Spent brewery grain	2,918
Wood wastes (Commercial)	10,148
Diatomaceous earth	816
Unregulated solids (wastewater solids)	0
Biosolids	2,321
Total Industrial Organics	16,203
TOTAL ORGANICS TONS	34,165

Landfill	
Tons of Solid Waste Landfilled	Tons
Residential	44,701
Multi-family	3,169
Commercial	44,386
Industrial	62,662
Alternative Daily Cover (soils used to meet landfill cover needs)	16,654
TOTAL LANDFILL TONS	171,572

Recycling Participation	
Customer Type	% of Customer w Recycling
Residential	96%
Multi-family	65%
Commercial	50%
Industrial	9%
Total customers	90%

Non-Industrial Totals (MSW)	Residential	Commercial	Overall	Lbs / Capita / Day
Total Landfill	44,701	47,555	92,256	3.14
Total Organics Composted	4,393	13,569	17,962	0.61
Total Recycling	10,701	10,989	21,691	0.74
PAYT Source Reduction "tons"	3,588	0	3,588	0.12
Total Disposed	63,384	72,113	135,497	4.61
Diversion Rate	25.2%	34.1%	30.1%	
Diversion Rate w/ Source Reduction	29.5%		31.9%	

Industrial Totals	Tons	Lbs / Capita / Day
Total Landfill	62,662	2.13
Total ADC	16,654	0.57
Total Organics Composted	16,203	0.55
Total Recycling	120,017	4.08
Total Disposed	215,535	7.34
Diversion Rate	63.2%	
Diversion Rate, ADC as diversion	70.9%	

Combined Totals	MSW	Industrial	Overall	Capita /
Total Landfill	92,256	62,662	154,918	5.27
Total ADC		16,654	16,654	0.57
Total Organics Composted	17,962	16,203	34,165	1.16
Total Recycling	21,691	120,017	141,708	4.82
PAYT Source Reduction	3,588	0	3,588	0.12
Total Disposed	135,497	215,535	351,032	11.95
Diversion Rate, no Source Reduction	30.1%	63.2%	50.6%	
Diversion Rate with PAYT Source Reduction	31.9%		51.1%	
Diversion Rate with PAYT Source Reduction, ADC as diversion			55.9%	

single stream recycling totals reduced by 8% to account for contamination (and trash totals increased commensurately)