



# *Diversion Rates & Disposal Data*



**COLORADO**  
Department of Public  
Health & Environment



# Reporting Methods and Requirements

## Regulatory Requirement to Report Data Annually

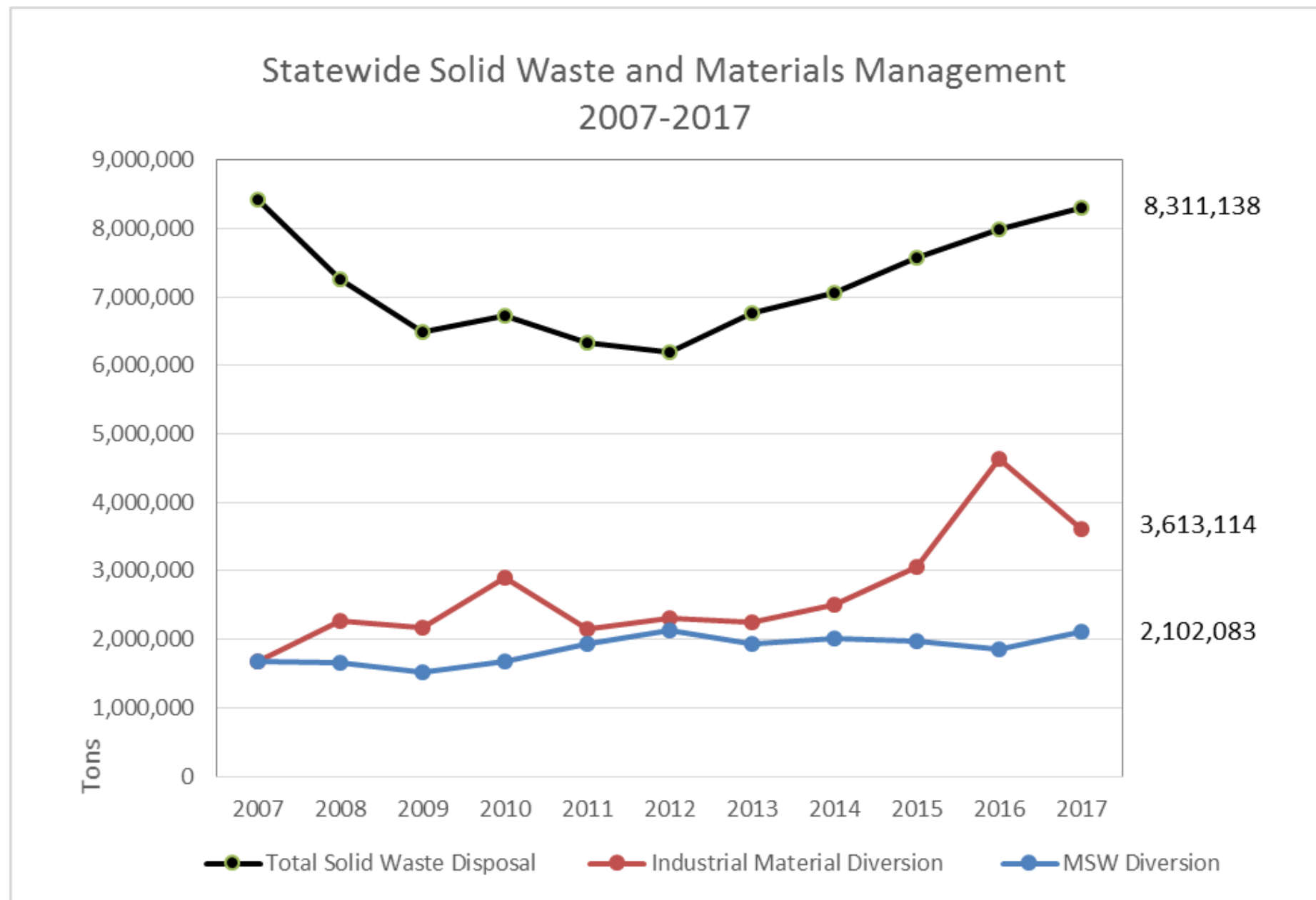
- 65 Landfills
- 170 Recycling Facilities (MRF, Industrial, End User)
  - Confidential Business Information Clause
  - Only report aggregated data
- 30 Composting Facilities / 1 Anaerobic Digester

## Voluntary Reports

- Exempt Material Processors - Concrete, Scrap Metal, Ag.
- Out of State Recyclers - e-waste, broker direct

General Commodity	Sub-category	Individual Commodity		Amount Received	Remaining On-site (end of year)	Amount Sent Off-site	Location Recyclables are Sent Off-Site to: (Facility Name, State)	Unit of Measure
<b>Paper</b>			Total:	0	0	0		
	Paper (All Mixed)			0	0	0		
	Cardboard (& Paperboard)			0	0	0		
<b>Metals</b>			Total:	0	0	0		

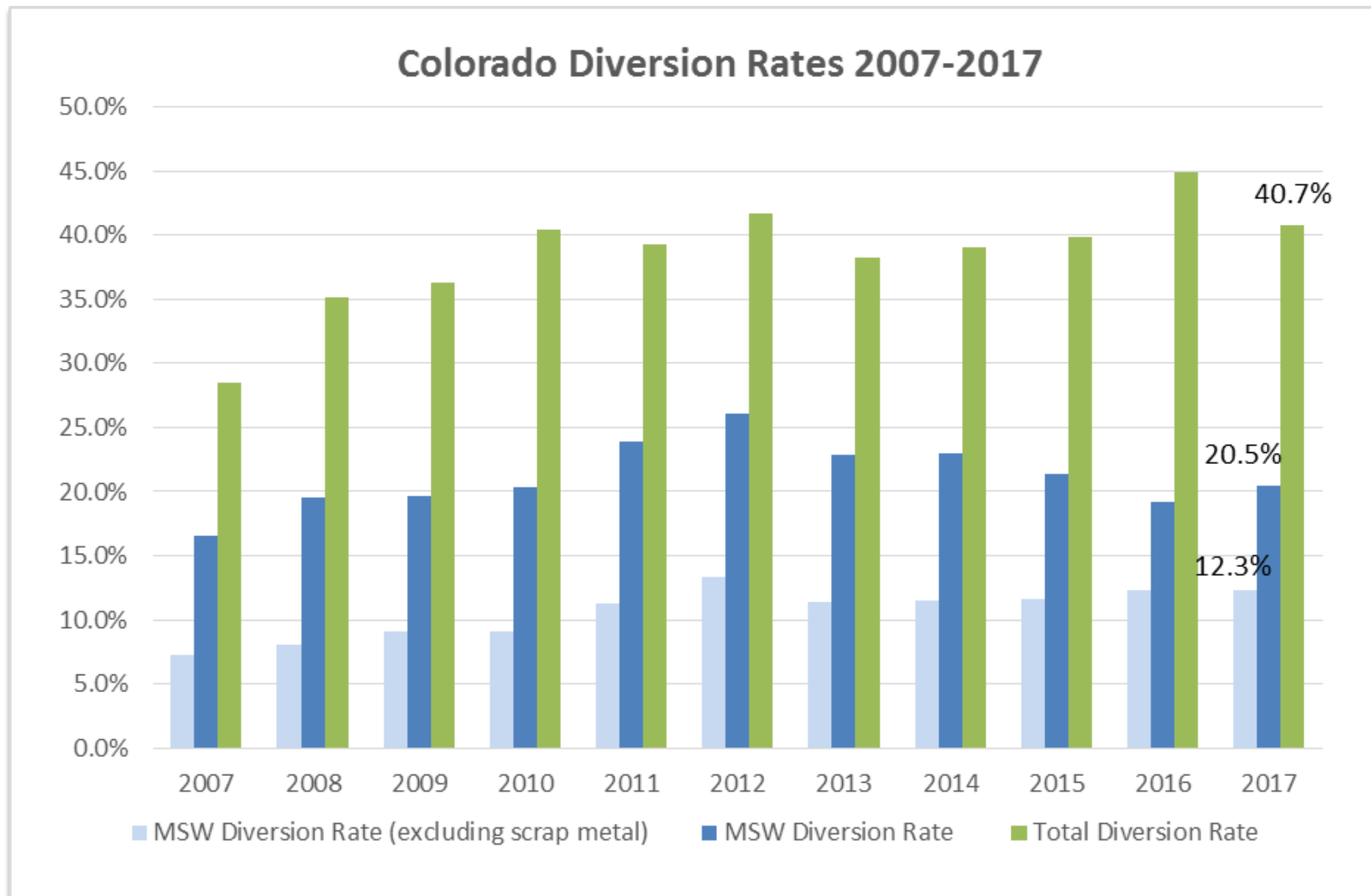
# How much is recycled & composted in Colorado?



*The department shall collect information and data on recycling, solid waste, and solid waste diversion. HB 07-1288*

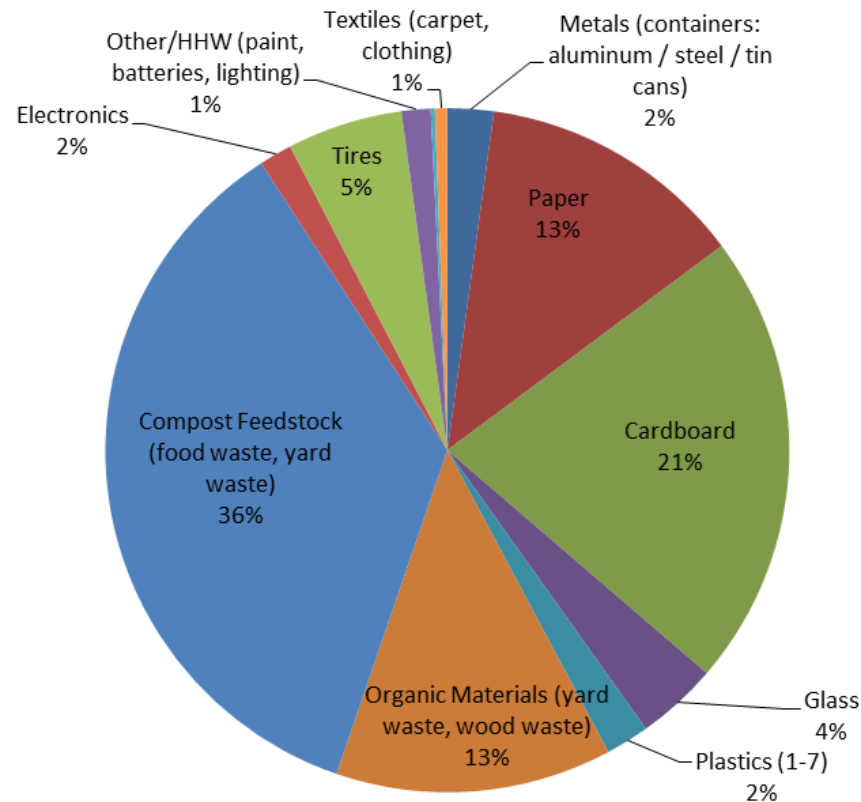
# Various Ways to Measure & Report

Statewide Waste Diversion: 12%, 20% or 41%?



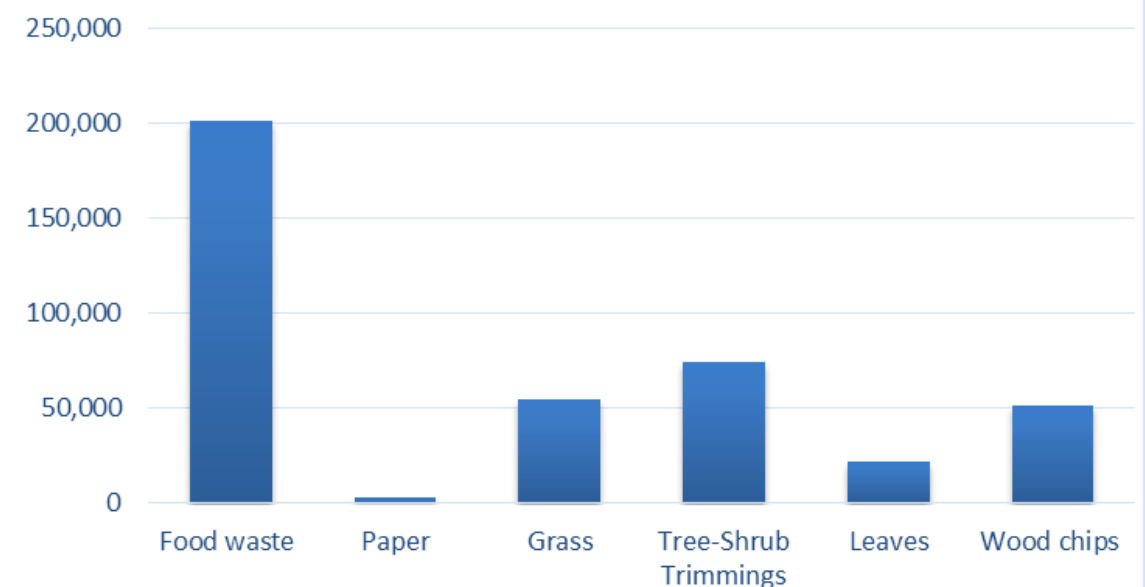
# Composition of MSW Recycled Materials

2017 MSW Materials- Diversion by Weight



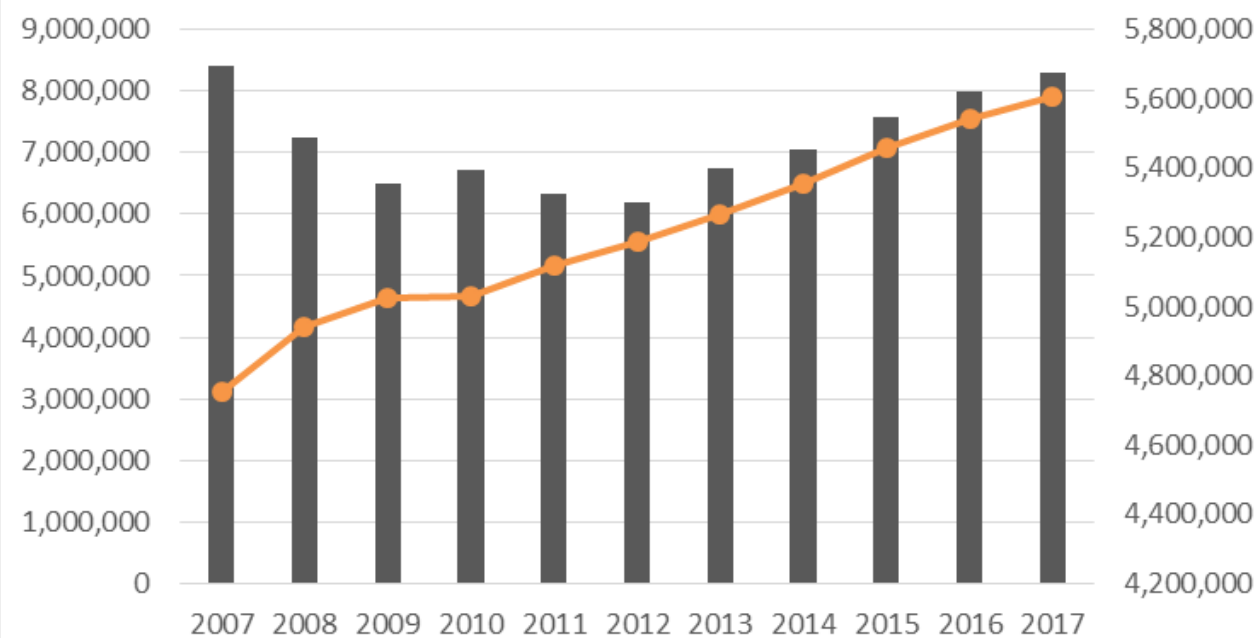
Material Recycled	2016	2017	% Change
Metal (containers)	21,455.1	24,873.8	15.93%
Paper	172,764.8	144,416.3	-16.41%
Cardboard	270,830.9	245,345.3	-9.41%
Glass	22,241.0	43,964.0	97.67%
Plastics (1-7)	22,296.3	23,497.9	5.39%
Yard waste	138,269.0	149,159.4	7.88%
Compost Feedstock	289,195.0	406,472.0	40.55%
Electronics	21,727.0	17,783.0	-18.15%
Tires	110,177.5	62,312.6	-43.44%
Other/HHW (paint)	10,922.0	15,656.0	43.34%
Unsorted Recycling	2,576.8	2,272.4	-11.81%
Textiles	20,217.0	6,646.5	-67.12%
TOTAL	1,102,672.4	1,142,399.2	3.60%

MSW Feedstocks for Composting (2017)

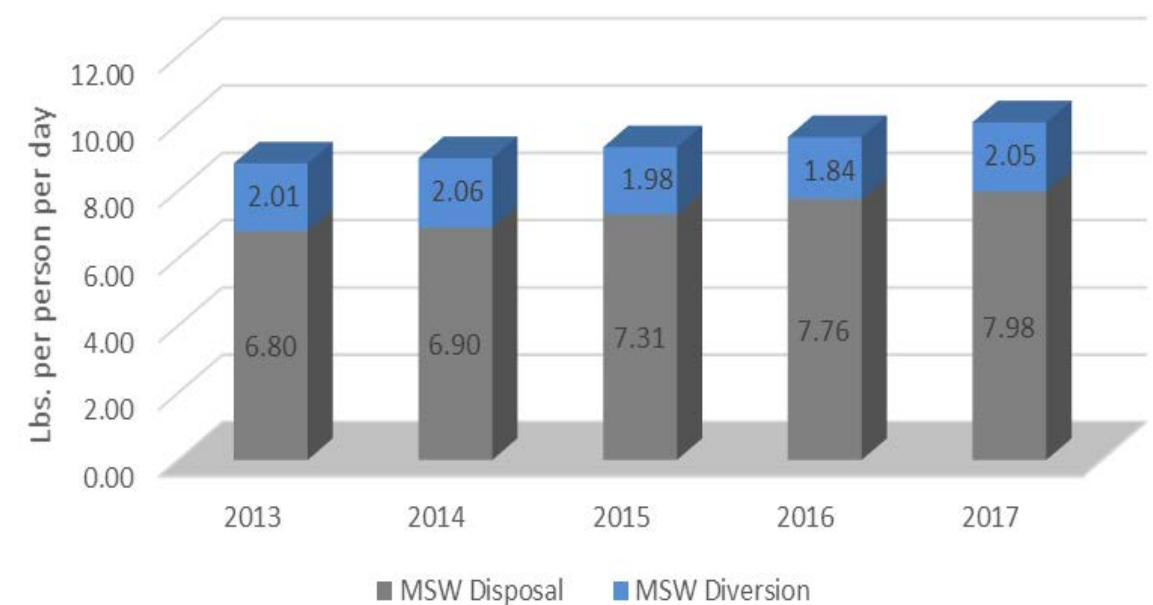


# *Is the increasing disposal rate due to population growth?*

Waste Disposal and Population Growth

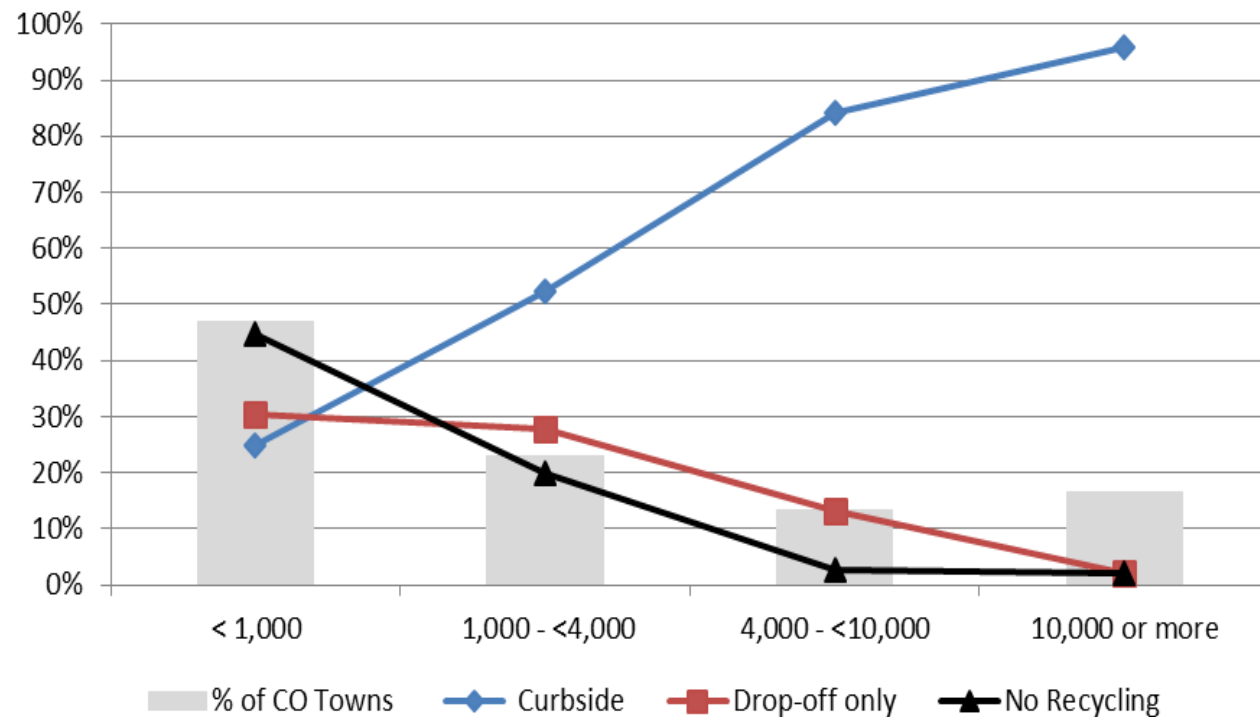


Per Capita Waste Generation in Colorado

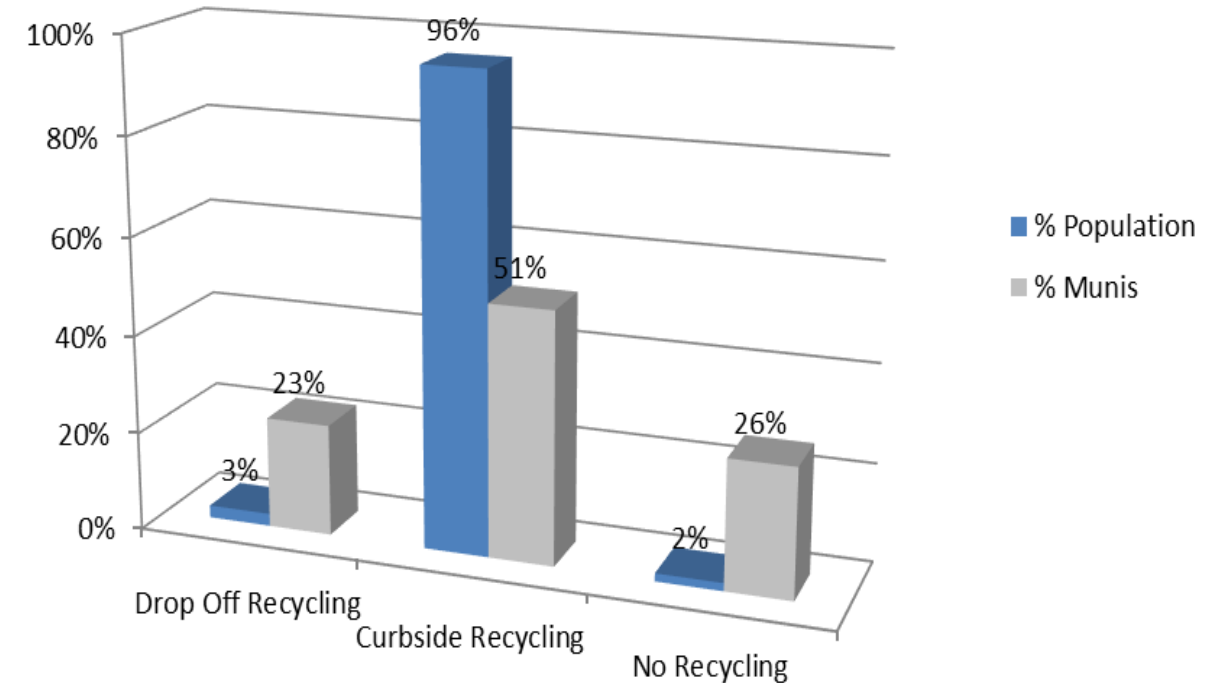


# Is access to residential recycling the primary issue to address?

**Access to Residential Recycling by Municipality Population Size**



**Access to Residential Recycling in Municipalities Statewide**



Municipalities	w Curbside	w Drop-off only	w No Recycling
< 1,000	33	40	59
1,000 - <4,000	34	18	13
4,000 - <10,000	32	5	1
10,000 or more	45	1	1
Total municipalities	144	64	74

# *Are tipping fee rates in Colorado the primary barrier to increasing diversion?*

Colorado average tipping fee “gate rate” (per ton)

- 2018 average: \$40.28

EREF Analysis of MSW LF Tipping Fees (April 2018):

- National average \$55.11
- Region 8 average: 43.47
  - Wyoming \$74.02
  - South Dakota \$50.18
  - North Dakota \$45.61
  - Colorado \$41.36
  - Montana \$32.06
  - Utah \$30.19



# Local Level Diversion Rates



# Improving Diversion Data



BURNS & MCDONNELL

IN ASSOCIATION WITH



## COLORADO INTEGRATED SOLID WASTE & MATERIALS MANAGEMENT PLAN

PREPARED FOR

Colorado Department of Public Health and Environment

June 2016

1. Adopt waste diversion goals
2. Revise Landfill reporting requirements
3. Develop resources & provide assistance at the local level data

## Resolution of the Solid and Hazardous Waste Commission to Adopt Statewide and Regional Municipal Solid Waste Diversion Goals for Colorado

**WHEREAS**, Colorado Revised Statutes 30-20-100.5 (II) declares that “State and local efforts must be focused toward the reduction of the volume and toxicity of the waste stream. Realistic waste reduction goals should be established and state and local solid waste management goals should strive to achieve such goals through source reduction, recycling, composting, and similar waste management strategies”; and

**WHEREAS**, the Colorado Solid and Hazardous Waste Commission (“commission”) is vested with the authority to regulate solid wastes within the State of Colorado, and has promulgated, and will continue to promulgate, regulations and policies pertaining to solid waste generation, handling, recycling, storage, treatment and disposal within the State of Colorado; and

**WHEREAS**, the 2016 Colorado Integrated Solid Waste & Materials Management Plan developed recommended waste diversion goals at the state and local levels for the next twenty years; and

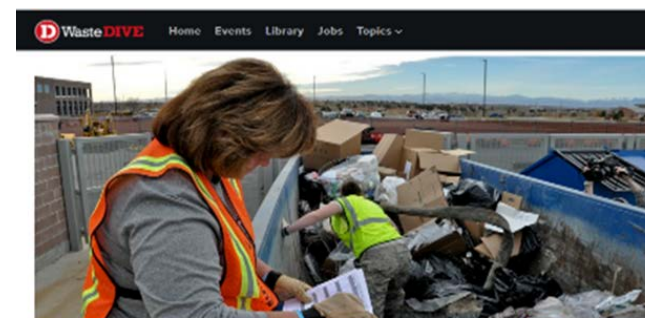
**WHEREAS**, the commission recognizes the importance of adopting the waste diversion goals to establish realistic waste reduction goals and to encourage the development of additional recycling capacities as more particularly described in Exhibit A, attached hereto and incorporated herein; and

**WHEREAS**, after due consideration of the above, the commission wishes to adopt the following resolution:

In accordance with the above recitals, the commission adopts the waste diversion goals as recommended in the 2016 Colorado Integrated Solid Waste and Materials Management Plan.

### Colorado Municipal Solid Waste Diversion Goals

Diversion Goals	2016	2021	2026	2036
Front Range	NA	32%	39%	51%
Greater Colorado	NA	10%	13%	15%
Statewide	19%	28%	35%	45%



BRIEF

### Colorado sets statewide diversion goals for the first time

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PUBLISHED  
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#### Dive Brief:

- The Colorado Solid and Hazardous Waste Commission voted on Aug. 15 to [adopt a resolution](#) that sets statewide diversion rate goals for the first time. According to the Colorado Department of Public Health and Environment (CDPHE), the state's diversion rate has hovered around 19% for about a decade.
- The state will now strive to hit 28% by 2021, 35% by 2026 and 45% by 2036. The resolution also set different local targets, with lower rates for rural counties and higher targets for about a dozen more urban "Front



# MSW vs Industrial Landfill Tonnage

December 4, 2017

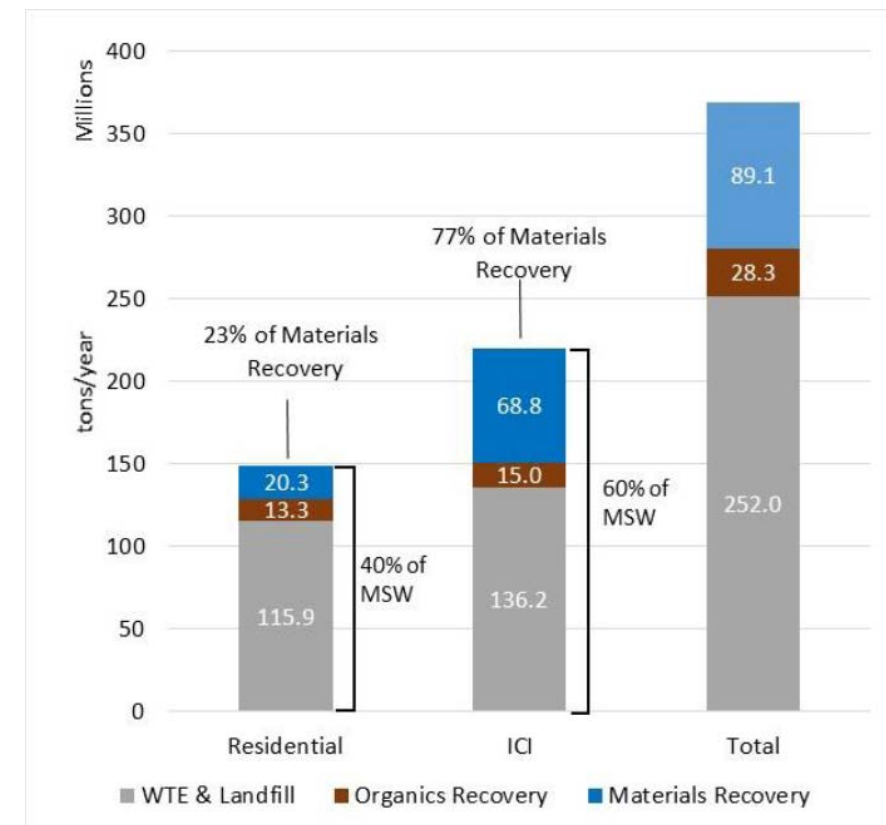
Re: Notification on Revisions to the Solid Waste User Fee Form

Dear Solid Waste Landfill Owner or Operator,

Beginning in calendar year 2018, the Solid Waste and Materials Management Program is requesting that solid waste landfill operators begin to report their waste receipts in two categories: Municipal Solid Waste “MSW” and Industrial Solid Waste.

## 2018 Landfill Data (January to June)

58% MSW residential/commercial  
42% C&D/Industrial Waste



Demystifying MSW Recovery Rates, 2016

# 2018 Local Level Data Collection

CO City-County Diversion Data

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# Waste Composition Data

## RREO Regional Study Grant Projects

10 Rural Regional Studies- Waste Comp.  
3 Urban Regional Studies- Waste Comp.

2018 Waste Composition of Municipal Solid Waste Disposal				
MATERIAL	Rural County Avg.	Urban County Avg.	Colorado State Avg.	National Avg.
Glass Containers	3.7%	2.9%	3.5%	
Other Glass	0.8%	0.1%	0.7%	
<b>Total Glass</b>	<b>4.5%</b>	<b>3.0%</b>	<b>4.2%</b>	<b>5.1%</b>
Aluminum	1.0%	1.0%	1.0%	
Steel/Tin	1.3%	1.0%	1.2%	
Other Metal	2.5%	2.4%	2.5%	
<b>Total Metals</b>	<b>4.8%</b>	<b>4.3%</b>	<b>4.7%</b>	<b>9.5%</b>
#1 Bottles	1.9%	1.2%	1.7%	
#2 Bottles	1.5%	1.1%	1.4%	
Rigid #3-#7	1.3%	0.8%	1.1%	
Film, Bags & Wrap	3.4%	4.2%	3.5%	
Other Plastic	5.8%	4.1%	5.4%	
<b>Total Plastics</b>	<b>13.8%</b>	<b>11.4%</b>	<b>13.2%</b>	<b>18.9%</b>
Cardboard/Kraft	6.6%	6.2%	6.5%	
Newspaper	1.2%	2.2%	1.4%	
Office Paper	1.6%	1.4%	1.6%	
Chip/Paperboard	2.8%	1.6%	2.5%	
Junk Mail/Aseptics	1.5%	1.6%	1.5%	
Magazines	1.6%	1.2%	1.6%	
Other Paper	3.9%	5.7%	4.3%	
<b>Total Paper</b>	<b>19.3%</b>	<b>19.1%</b>	<b>19.2%</b>	<b>13.3%</b>
Food Waste	19.9%	12.5%	18.2%	22.0%
Yard Waste	10.1%	11.8%	10.5%	7.8%
Clean Wood	0.7%	1.6%	0.9%	8.0%
Other Organics	7.5%	7.9%	7.6%	
<b>Total Organics</b>	<b>38.1%</b>	<b>33.8%</b>	<b>37.1%</b>	<b>37.8%</b>
Textiles	5.8%	4.2%	5.4%	7.6%
Electronics	1.0%	2.2%	1.3%	
Batteries	0.3%	0.1%	0.2%	
Paint	0.0%	0.0%	0.0%	
Motor Veh Waste	1.0%	0.4%	0.8%	
C&D (non-industrial)	8.6%	8.4%	8.6%	
Other HHW/Special	2.1%	0.4%	1.7%	
<b>Total Other</b>	<b>18.1%</b>	<b>15.6%</b>	<b>17.5%</b>	<b>10.9%</b>
<b>Waste/Residue</b>	<b>1.5%</b>	<b>13.3%</b>	<b>4.2%</b>	<b>4.5%</b>
Recyclable			32.4%	46.8%
Compostable			37.1%	37.8%
Recoverable			26.4%	10.9%
Waste			4.2%	4.5%

For more information about regional studies funded by CDPHE, please visit the [RREO Program webpage](https://www.colorado.gov/pacific/cdphe/swreports)



# *Hazardous Materials & Waste Management Division*

## *2017 Annual Report*



1,802,794 million metric tons of carbon dioxide emissions were prevented, saving the equivalent emissions from over 379,535 cars. (3.995 million vehicles registered in CO)



The energy savings from waste diversion was equivalent to the energy used in 93,437 homes in one year.



The equivalent of 1.8 million barrels of oil and 9,666 railcars of coal was conserved through recycling and composting this year.





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**COLORADO**  
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