



THE STATE OF
RECYCLING
IN COLORADO

2017

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Eco-Cycle is one of the nation's oldest and largest nonprofit recyclers. The organization's mission is to identify, explore, and demonstrate the emerging frontiers of sustainable resource management through the concepts and practices of Zero Waste. We believe in personal and community action to transform society's throw-away ethic into environmentally-responsible stewardship.

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THE STATE OF RECYCLING IN COLORADO

EXECUTIVE SUMMARY

Colorado may have a green reputation, but when it comes to trash, the truth is that our state is one of the most wasteful in the nation. Colorado recycles only 12 percent of its waste, much less than the national average of 34 percent.¹

And while many Coloradans place a high value on conservation, more than 40 percent of residents do not recycle regularly.² For many, recycling and composting just isn't available as a convenient service like trash, and Colorado lacks the financial incentives to encourage more participation, two of the biggest reasons why Colorado's recycling rates are among the lowest in the nation.

Curbside recycling is one of the best strategies to make recycling more convenient and significantly boost recycling rates, yet only one in four Colorado residents automatically receives curbside recycling along with their trash service. The majority of residents have to go out of their way to find a company to provide the service, if it is even offered. Nearly 40 percent of Colorado counties do not offer any curbside recycling programs, and seven counties have neither recycling drop-off centers nor curbside collection.³

The situation gets even worse when it comes to composting. Organic materials that can be composted—food scraps, grass clippings, and other yard waste—comprise about half of the materials sent to landfills in Colorado, yet only 15 counties have composting facilities to recover these materials.⁴

1

COLORADO'S RECYCLING GOALS

| Diversion goals | 2016 | 2021 | 2026 | 2036 |
|------------------|------|------|------|------|
| Front Range | | 32% | 39% | 51% |
| Greater Colorado | | 10% | 13% | 15% |
| Statewide | 12% | 28% | 35% | 45% |

The good news is that Colorado took a big step forward in 2017 by adopting its first statewide recycling goals, which put the state on the path to match the national average within a decade. Prior to that Colorado was one of only 12 states that did not have any statewide goals.⁵

The new goals send an important signal that Colorado is serious about increasing its recycling rate and building a new recycling economy.

RECOMMENDATIONS

These key recommendations would help Colorado achieve its recycling goals while creating jobs, reducing climate pollution, conserving resources and bolstering our local economies:

- **Collect better data.** You cannot improve what you cannot measure. It's time for municipalities and counties to require regular reporting on how much of the local waste stream is recycled, composted, and landfilled.
- **Expand curbside residential recycling.** Curbside recycling service should be available in every Front Range community and in larger rural areas to provide the most convenient access to recycling.
- **Establish financial incentives, such as volume-based pricing.** Communities that reward residents (and businesses) that recycle and compost by charging them less for trash service see significant increases in participation in recycling programs.
- **Increase recycling access for apartments and businesses.** Apartments and businesses produce nearly 60 percent of the waste in Colorado, yet most lack recycling services. All residents deserve convenient access to recycle and compost, both at work and at home.
- **Develop more composting infrastructure and services.** About 50 percent of Colorado's trash is organic material such as food scraps and yard waste that could be composted. Colorado should invest in composting infrastructure and develop more convenient drop-off centers and curbside collections to turn these materials into nutrient-rich soil amendments.

HOW DO CITIES AND COUNTIES STACK UP?

Waste and recycling are overseen mostly at the city and county level, rather than by the state, so meeting the new goals is going to take teamwork, with commitment and cooperation at the local level and with significant support at the state level.

Unfortunately, most Colorado cities and about half of Colorado counties do not measure their recycling rates because they do not collect any data.

Only four Colorado cities track their full recycling and trash data, including what's collected from households and businesses: Aspen, Boulder, Fort Collins, and Lyons. In addition, two cities, Durango and Vail, track their overall community recycling rate but do not separately track their residential and commercial recycling rates.

2

OVERALL DIVERSION RATES IN COLORADO CITIES

| CITY | RESIDENTIAL | COMMERCIAL | OVERALL |
|---------------------------|-------------|-------------|-------------|
| Colorado statewide | | | 12% |
| Boulder | 53 % | 37 % | 40 % |
| Lyons | 35 % | 32 % | 33% |
| Fort Collins | 30 % | 34 % | 32 % |
| Aspen | 39 % | 11 % | 17 % |
| Durango | -- | -- | 30 % |
| Vail | -- | -- | 24 % |

Better data collection is key to moving recycling forward in Colorado. With accurate data that is updated regularly, municipalities and counties can:

- Measure the effectiveness of policies and programs.
- Discover new opportunities to increase recycling at businesses and apartment complexes.
- Compare progress with peer cities to improve performance.
- Identify the best opportunities to start new or expand existing programs and services.
- Demonstrate the benefits of recycling by converting the amount of material recycled into larger benefits, such as reductions in greenhouse gas emissions, new jobs created, and other economic and environmental benefits.

HOW CITIES COMPARE AT HOUSEHOLD RECYCLING

Curbside recycling for single-family homes is an important first step when it comes to improving recycling rates at local and state levels. Yet only 15 Colorado cities automatically provide households with a recycling cart. This means recycling is truly convenient for only one out of every four Colorado households.

For residents in 25 Colorado counties, curbside recycling is not an option at all, and drop-off centers are few and far between.

While recycling data and rates are limited, the 18 Front Range cities that are tracking how much single-family households are recycling deserve a lot of credit for collecting data. Curbside recycling is available in all of these communities and haulers are required to provide data to the cities so they can track their recycling progress. Or, in the case of a few cities, the city itself provides recycling and trash services, and tracks their own data internally.

COMPARING RESIDENTIAL RECYCLING RATES IN FRONT RANGE CITIES¹

| CITY | RESIDENTIAL RECYCLING RATE |
|-------------------|----------------------------|
| Loveland | 61 % |
| Boulder | 53 % |
| Louisville | 48 % |
| Lafayette | 38 % |
| Longmont | 35 % |
| Golden | 34 % |
| Lyons | 33 % |
| Fort Collins | 30 % |
| Greenwood Village | 28 % |
| Superior | 22 % |
| Denver | 20 % |
| Sheridan | 18 % |
| Thornton | 18 % |
| Lone Tree | 17 % |
| Commerce City | 16 % |
| Arvada | 13 %* |
| Northglenn | 11 % |
| Westminster | 11 %* |

**Data is estimated*

¹ We apologize to any city that was missed from this list. We attempted to contact as many of Colorado's largest 100 cities as possible for data. Please contact us to be added to the list for future tracking.

WHAT FRONT RANGE CITIES WITH THE HIGHEST RATES HAVE IN COMMON

Loveland, Boulder, and Louisville are recycling nearly 50 percent or more of the materials discarded by households. This means that they are on track to meet or exceed the state's new recycling goals. Here are three key elements of their success that can be easily replicated in many parts of Colorado:

1. Curbside recycling is automatically provided to every household that has trash service, making it easy for residents to participate. Only 15 cities in Colorado automatically provide each resident with a recycling cart. Cities that do so collect 100 pounds more recycling per household on average than those where residents have to subscribe to their own recycling service.⁷
2. Financial incentives to recycle and compost more are provided through volume-based pricing. Trash service is charged based on volume where the less trash a resident produces, the less they pay. For example, Loveland residents can choose a 17-gallon trash cart for only \$3 per month, compared to \$18 per month for a 95-gallon trash cart.⁸
3. Curbside compost collection services and convenient drop-off locations for leaves, branches, and grass clippings are provided. Boulder and Louisville both automatically provide every resident with curbside composting collection for yard debris and food scraps. Loveland offers a convenient weekly yard debris collection service in the summer and a free, year-round drop-off location. Only seven Front Range cities offer curbside collection of yard debris and/or food scraps.⁹

How about the rest of the Front Range cities not on this list? The remaining 40 or so Front Range cities do not measure their recycling rates or report any recycling data. That's not to say that they are making no effort to recycle, but that they are not collecting data and sharing it publicly.

RECYCLING IN MOUNTAIN AND RURAL AREAS

While less than 20 Front Range cities track their recycling rates, the trend is slightly better for mountain and rural areas where six cities and 30 counties have at least taken a one-time measure of their recycling rates in the last five years. This is largely thanks to recent grant funding from the Colorado Department of Public Health and Environment (CDPHE) through the Recycling Resources Economic Opportunity Act. Many of these studies have also included waste audits to see what materials are left in the trash after the recyclables have been removed as well as identifying opportunities for improvement.

Based on these studies, here is how Colorado's mountain and rural areas compare:



CURBSIDE RECYCLING IS AVAILABLE IN ALL THESE COMMUNITIES AND HAULERS ARE REQUIRED TO PROVIDE DATA TO THE CITY TO TRACK THEIR PROGRESS ON RECYCLING.

COMPARING RECYCLING RATES IN MOUNTAIN AND RURAL COLORADO*

| MOUNTAIN/RURAL AREA | OVERALL DIVERSION RATE |
|---|------------------------|
| Pitkin County | 40 % |
| City of Aspen | 39 % |
| Larimer County | 35 % |
| City of Durango | 30 % |
| Town of Vail | 24 % |
| Routt County | 24 % |
| Summit County | 23 % |
| Ouray and San Miguel County | 20 %** |
| San Luis Valley Counties: Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache | 18 % |
| Eagle County | 17 % |
| Southwest Colorado Counties: Archuleta, Dolores, La Plata, Montezuma, San Juan | 14 % |
| Grand County | 14 % |
| City of Grand Junction | 13 % |
| El Paso and Teller County | 11 % |
| City of Fruita | 10 % |
| Yuma County | 10 % |
| City of Montrose | 9 % |
| Southeast Counties: Bent, Otero, Crowley | 6 % |
| Huerfano County | 4 %** |
| Baca County | 1.3 %** |
| Las Animas County | 1.3 %** |
| Garfield County | 1 %** |
| Rio Blanco County | < 1 %** |
| UAACOG Counties: Chaffee, Custer, Fremont, Lake | Report in progress |
| Pueblo County | Report in progress |

*Several counties joined for regional waste studies and are listed together as a region.

**Data is estimated.

NEXT STEPS

Colorado set a new vision to boost recycling rates and build a new recycling economy when it committed to statewide recycling goals. Now municipalities, state agencies, businesses, educators, and residents must all work together to achieve these goals. Better data collection is a clear first step, followed by providing curbside recycling for every single-family household on the Front Range and in larger rural areas, and setting the right financial incentives to reward participation in recycling and composting.

BETTER DATA COLLECTION

The new 2017 Colorado Integrated Solid Waste and Materials Management Plan outlines several recommendations to improve data collection, including better tracking of recycling and waste facilities at the state level, and technical assistance for cities and counties to improve their data collection, methods, and quality.

The cities with the best data require reporting from haulers on recycling, composting, and waste. These cities are models for the rest of the state, sharing best practices on how to effectively address inconsistencies, geographical estimates, and other uncertainties inherent in the data.



CURBSIDE RECYCLING FOR ALL SINGLE-FAMILY HOMES

One of the most effective ways to increase recycling is to make it convenient, and curbside recycling is king when it comes to convenience. Communities that automatically provide a recycling cart to residents recycle more than 100 pounds more per household on average per year than those who require residents to opt-in to recycling services.¹⁰

Only 15 cities representing 24 percent of Colorado residents automatically provide a recycling cart to every household as part of their trash service: Boulder, Denver, Lafayette, Louisville, Longmont, Golden, Montrose, Loveland, Sheridan, Thornton, Northglenn, Frederick, Dacono, Commerce City, and Superior.

Providing every resident on the Front Range, as well as residents of the larger mountain and rural towns, with curbside recycling collection should be a priority if the state is to meet its recycling goals. Cities have three options to ensure all residents have convenient curbside recycling service:

- The city runs its own curbside collection, such as in Longmont.
- The city contracts with one or more haulers to provide the service, as in Lafayette.
- The city requires all trash companies to provide recycling services as part of their business license, as in Boulder.

USING FINANCIAL INCENTIVES TO INCREASE RECYCLING

In Colorado, households have traditionally been charged a fixed fee for unlimited trash collection. By contrast, volume-based pricing, also known as unit pricing or Pay-As-You-Throw (PAYT), treats trash as a utility, just like electricity and water—those who use more pay more, and those who generate less trash pay less. When residents pay directly for their waste disposal services, they are provided a financial incentive that encourages them to recycle and compost more and generate less waste to begin with.

Volume-based pricing is one of the single, most effective strategies for decreasing waste generation and increasing recycling. By 2006, more than 7,100 communities nationwide had volume-based pricing, covering about 25 percent of the U.S. population. On average, these communities typically generate 49 percent less waste than communities without volume-based pricing.¹¹

Volume-based pricing is prevalent in dozens of Colorado communities and can be adopted statewide to create the right financial incentives to recycle and compost more.

EXPANDING RECYCLING TO BUSINESSES AND APARTMENTS

Nearly 39 million U.S. residents live in multi-family complexes with five or more units. In Colorado, one-third of Denver's housing is multi-family complexes, and throughout Colorado, residents of apartments and condos are sorely lacking when it comes to access to, recycling services.¹² Most are not provided with recycling carts, leaving these residents feeling like second-class citizens. Colorado should provide all residents with equal opportunity to recycle and compost.

Recycling belongs not only at home, but also at work. Businesses produce 40 - 60 percent of the average municipal waste stream, creating an enormous opportunity to bolster Colorado's 12 percent recycling rate.¹³ Only four cities track business recycling rates, so a good place to start would be to expand data collection for businesses, and then work on providing better services and programs.

COMPOSTING INFRASTRUCTURE AND SERVICES



About 50 percent of the municipal waste stream statewide is organic material that could be composted, creating nutrient-rich soil amendments. Instead, these organic materials are dumped in landfills, where they break down and create methane, a potent greenhouse gas that contributes heavily to climate change.¹⁴

Yet in Colorado, composting infrastructure is lacking: Only 15 Colorado counties have composting facilities: Adams, Alamosa, Arapahoe, El Paso Garfield, Larimer, Mesa, Montezuma, Morgan, Pitkin, Routt, Summit, Washington, Weld, and Yuma.

Only seven Colorado cities provide curbside composting: Boulder, Denver, Golden, Lafayette, Louisville, Longmont, and Loveland.

Colorado should invest in composting infrastructure and develop more convenient drop-off centers and curbside collections for organic materials such as food scraps and yard waste. Compost provides many benefits, including improving soil health, increasing the soil's ability to absorb and store water, and reducing erosion.

WHY IS IT CHALLENGING TO MEASURE RECYCLING?

Trash and recycling are not like energy or water where there is a meter going to every home. Trash and recycling are collected based on volume, like a 32-gallon recycling cart or a 2-yard trash dumpster. Cities then have to convert volume to weight based on national averages. But we don't know if the container was $\frac{3}{4}$ or half empty, nor do we know if it was full of concrete that weighed a lot or full of plastic bags which weigh very little.

Additionally, recycling and trash trucks run many routes throughout a city to reduce driving time and maximize efficiency, which also helps to reduce their environmental impact. This means the truck might be crossing city lines, weaving in and out of Westminster, Arvada, and Broomfield, for example. Companies then have to estimate or take their best guess on how much material was picked up in each community. Or a given truck might be picking up both from apartments and businesses, so it can be hard to tease out how much comes from each sector.

While this report tried to compare apples to apples, there are many nuances when it comes to recycling data that make it difficult to draw precise comparisons between cities. Those cities that do collect data deserve big kudos for their efforts and for creating models for others to follow.

COLLECTING DATA IN OTHER WAYS

While many Colorado communities lack data on their overall recycling rate, that does not mean they are not measuring the positive impacts of their recycling programs. Most cities and counties do a great job at tracking recycling from community drop-off centers or special events, such as the Lafayette Peach Festival. Broomfield has good data on how much is recycled at its drop-off center and how much material is collected during spring cleanups for branches and leaves. Other communities, including Thornton, Grand Junction, and Montrose, track how many residents participate in their curbside recycling programs, another useful metric to measure success.

RECYCLING PROGRESS IN EVERY CORNER OF COLORADO

While lacking in data, Colorado is not lacking in effort with individuals, nonprofits, local governments, colleges and universities, and the private sector, all getting involved in different ways. Here's a snapshot of recycling programs that continue to bloom throughout Colorado:

- Denver fully transitioned to trash carts for each household instead of shared dumpsters. This reduced trash by an incredible 180 pounds per household each year.
- Terra Firma, a small family-owned recycling company in Trinidad, launched two new drop-off sites for rural residents of Stonewall and Weston.
- The Colorado Association for Recycling (CAFR) formed its first regional chapter, launching a chapter in Colorado Springs to help the region better coordinate its recycling efforts.
- The City of Boulder adopted a Universal Zero Waste Ordinance that requires access to recycling and composting services citywide -- at all residences, apartments, schools, offices, and stores. Boulder is the third city in the nation to do so.
- The Town of Vail now requires recycling at all businesses, homes, and apartments, making it the second city in the state to do so.
- Western State University in Gunnison adopted a Zero Waste goal for campus and students are looking at how to increase recycling in the community as well.

WHY RECYCLE?

CLIMATE

Recycling is one of the fastest, most cost effective steps our community can take to fight climate change. For every one ton of materials we recycle, we save three tons of carbon emissions.

- Zero Waste strategies, such as recycling, composting and reuse, are among the fastest, most cost effective local solutions to reduce greenhouse gas emissions. By recycling just 10% more, Colorado could save more than 450,000 tons of carbon emissions annually, the equivalent of taking nearly 100,000 cars off the road every year.
- Applying compost to local soils can actually pull carbon down out of the atmosphere, becoming a valuable and cost-effective carbon sequestration tool. Boulder County is currently conducting a pilot to measure these savings for our local ecosystems.

SUSTAINABILITY AND ENVIRONMENTAL PROTECTION

Increased recycling protects our health and our environment. We live in a beautiful area and recycling is one of the most important ways we can protect our environment and conserve natural resources.

- Recycling is about so much more than just what you put in your bin. Your recyclables are sent to manufacturing companies to make new products. This means we don't need to drill for oil, cut down trees or mine for metals. Resource extraction and manufacturing can cause significant impacts to human health and the environment. Alternatively, by conserving natural resources, we protect wildlife habitat and biodiversity, avoid soil erosion and water pollution, and reduce greenhouse gas pollution that is driving climate change.
- Recycling keeps materials out of landfills, which pollute our air and water.

JOBS AND LOCAL ECONOMY

- Recycling creates 9 times more jobs than landfills per ton. As a state, CO employs more than 86,000 people in the reuse, recycling and remanufacturing industries.
- Increased recycling also means more money returned to our economy. In Colorado we throw away \$265 million worth of recyclable materials — aluminum, metals, cardboard, paper and plastics — every year. These materials are valuable commodities which could be sold for profit instead of buried in the ground.

WHY COMPOST?

Composting improves our local soils, conserves water, and reduces greenhouse gas emissions by reducing methane emissions at the landfill and removing carbon from the atmosphere when applied to local soils.

HEALTHY FOOD

Healthy soil creates healthy food. Compost suppresses plant diseases and pests and reduces or eliminates the need for chemical fertilizers. It promotes higher yields of agricultural crops.

SAVE WATER

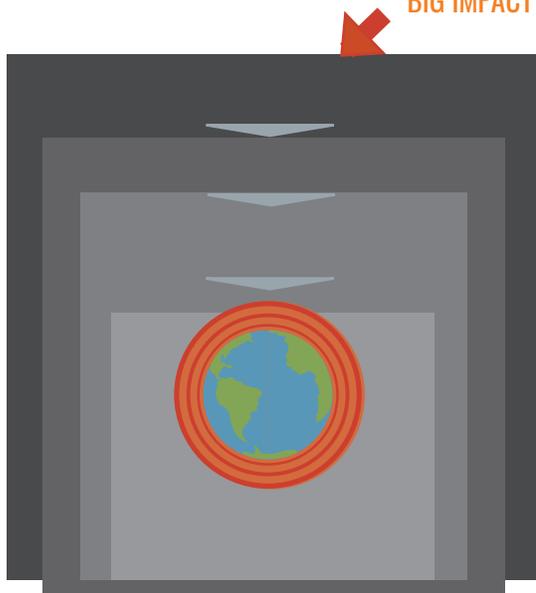
Healthy soil improves the ability for soil to hold water, so less is needed. It also reduces erosion.

HEALTHY CLIMATE

When landfilled, organic materials like food, yard waste and paper release methane, a greenhouse gas that traps 84 times more heat in our atmosphere than carbon dioxide (over the short term). When composted, these methane emissions are prevented, AND the healthier soil it creates actually pulls carbon from the atmosphere. Composting is one of the easiest actions a community can take to reduce greenhouse gas emissions.

THE CLIMATE BENEFITS OF COMPOSTING

WHERE YOU CHOOSE TO PUT YOUR FOOD SCRAPS, YARD DEBRIS AND OTHER ORGANIC MATTER HAS A BIG IMPACT ON OUR CLIMATE:



METHANE AND OTHER SHORT-LIVED CLIMATE POLLUTANTS HAVE CAUSED UP TO 40% OF GLOBAL WARMING.



WHEN APPLIED TO SOILS, COMPOST PULLS CARBON OUT OF THE ATMOSPHERE AND STORES IT IN THE GROUND.

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