
DENVER RECYCLES

2019 ANNUAL REPORT



INTRODUCTION

Denver Recycles is a program of Denver Solid Waste Management (DSWM) in the Department of Transportation and Infrastructure (formerly Denver Public Works). Denver Recycles staff assists DSWM in overseeing the City's recycling and composting services, and supports education for all waste services. The following report summarizes the recycling, composting and other diversion activities in Denver for 2019.

Services Offered

Denver Recycles offers a no-fee opt-in recycling collection service to all residents living in single family homes and buildings with seven or fewer units, and an opt-in fee-based compost collection service. DSWM has an intergovernmental agreement with Denver Public Schools (DPS) to provide trash and recycling services to all DPS schools and facilities and composting service to a portion of DPS schools. DSWM also provides trash and recycling collection to City and County municipal facilities, compost collection to a small portion of these facilities and supports Parks and Recreation's recycling program. Additionally, Denver Recycles provides, coordinates, contracts and/or manages the following services in the City:

- Recycling education and communication
- Recycling drop-off center
- Appliance collection and recycling
- Electronics recycling events and drop-off discounts
- Household hazardous waste collection
- LeafDrop
- Learn to Compost classes
- Master Composter training program
- Mulch Giveaway & Compost Sale
- Treecycle
- Waste hauler licensing

DSWM does not provide services to multi-family units with 8 or more units, commercial businesses/properties, institutional generators, Denver International Airport or Denver Arts and Venues.

2019 Highlights

- ❖ *Denver Recycles diverted **54,169 tons** of materials from the landfill in 2019.*
- ❖ *Participation in the City's residential recycling program **increased to 96%** of all eligible households.*
- ❖ *The **number of households enrolled in the Denver Composts program increased by 26%** and the tons of organic materials composted increased by 20%.*
- ❖ ***8,400 bags of Denver's Own EcoGro Compost** were sold at Denver Ace Hardware stores.*
- ❖ *Graffiti crews removed more than **1,380,000 ft² of graffiti** around the city.*

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DENVER'S RECYCLING RATE

DSWM/Denver Recycles tracks the tons of materials landfilled, recycled, composted, and otherwise diverted through its services and programs.

In 2019, DSWM recycled and composted a total of 54,167 tons of materials; achieving a 23.9% recycling and composting rate¹. Each eligible household generated an average of 2,499 total pounds of materials, recycled and composted 597 pounds of materials, and threw 1,902 pounds of materials in the trash. There was a 0.6% increase in the residential landfill tonnage, a 3% increase in recycled tonnage, and a 16% increase in compost tonnage in 2019 as compared to 2018.

Figure 1 displays the detailed breakdown of the tons of material landfilled and recycled/composted in 2019.

Figure 1: Tons Generated, Recycled/Composted and Landfilled in 2019

Categories	Tons
Residential Landfill	172,593
Residential Recycling	41,756
Residential Composting ²	9,846
E-cycle Coupons	78.9
E-cycle Events	22.2
Abandoned E-waste	2.4
Recycle Your Holiday Lights	2.2
LeafDrop	622
Appliance Collection	122
HHW Collections	29.6
Treecycle ³	186
Backyard Compost ⁴	1,500
'Other' Recycling	0
Totals	
Total Landfill	172,593
Total Recycled and Composted	54,167
Total Generated	226,760
Percentages	
% Landfilled	76.1%
% Recycled and Composted	23.9%

¹ The term 'Recycling and Composting Rate' includes *all* material diverted from the landfill in the City of Denver. Figure 1 displays all the materials included in the Recycling and Composting Rate calculation.

² Total comprised of residential tonnages and tonnages brought to the Cherry Creek Drop-off.

³ Estimate based on number of trees collected and average dry weight of a Christmas tree.

⁴ Estimate based on number of Denver households assumed to be backyard composting.

Figure 2 displays waste tonnages from residential homes (7 units or less) in 2019.

Figure 2: Denver Residential Waste Generation in Tons

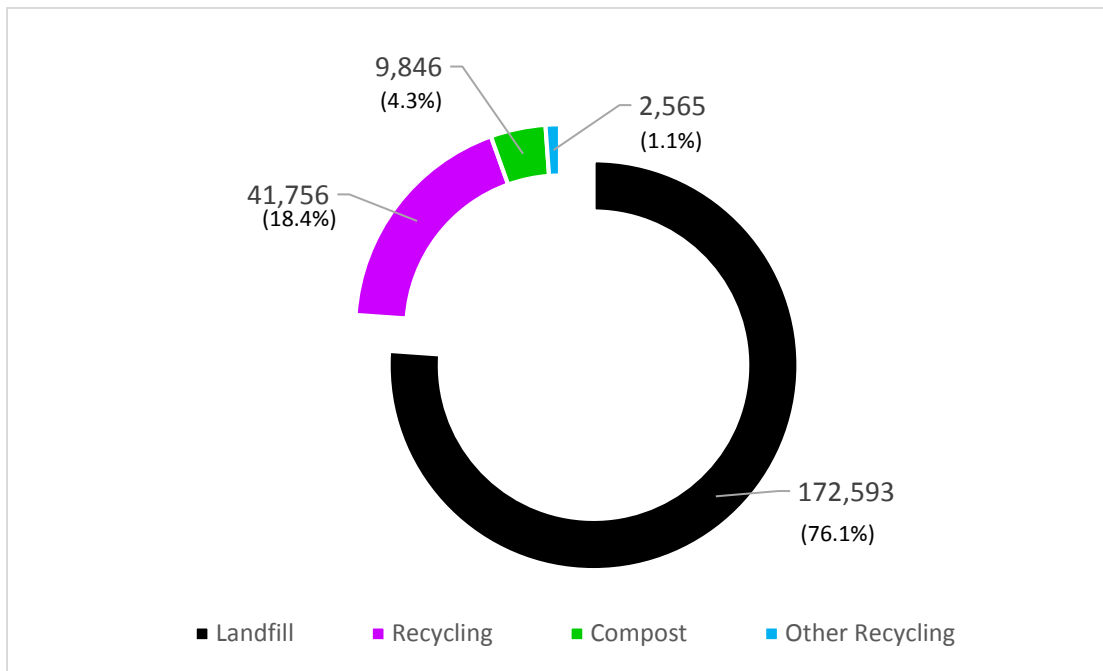
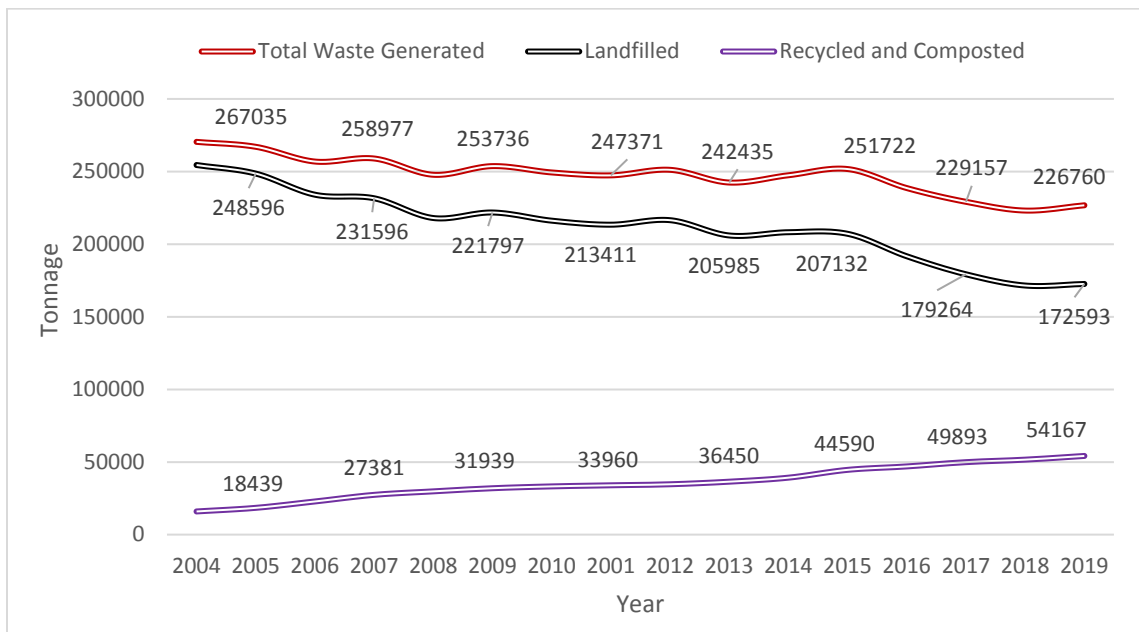


Figure 3 displays Denver’s residential waste generation, material landfilled, material recycled, and material composted since 2004.

Figure 3: Denver’s Residential Waste Generation, Landfill, Recycling, and Composting Tonnages 2004 - 2019



COLLECTION PROGRAMS

Denver Recycles

Denver Recycles collects single stream recycling in 35, 65 or 95-gallon carts from eligible Denver residential households (7 units or less) every other week. This is a no-charge service to Denver residents.

By the end of 2019:

- The City operated 26 recycling routes five days a week.
- 175,062 of the 181,460 eligible households in the City had signed up for recycling service; yielding a 96% participation rate.
- Each participating household set out approximately 472 pounds of recycling; an average of 18.1 pounds per collection or 9.1 pounds per week.

Denver Composts

Denver Composts is an opt-in fee-based service that collects residentially generated organic material including yard debris, food scraps and non-recyclable paper on a weekly basis in 65 or 95-gallon carts. The fee for this service is \$29.25 per quarter, or \$9.75 per month.

By the end of 2019, Denver Composts:

- Provided service to 22,690 households on 12 collection routes; this is a 26% increase in participation from 2018.
- Collected 9,749 tons of organic materials; a 20% increase in tonnage collected from 2018.
- Each participating household diverted approximately 859 pounds of organics in 2019; an average of 16.5 pounds of organics per week.



In Spring of 2019, Denver Solid Waste Management also implemented a new partnership with A1 Organics and Ace Hardware Stores to offer finished compost made from the food scraps and yard debris collected in Denver's green compost carts. Bags of Denver's Own EcoGro™ Compost were made available for sale at Denver Ace Hardware stores for \$6.99 per bag. This effort, among others, helps to ensure that Denver is helping to close the compost loop.

Denver Public Schools

DSWM has an intergovernmental agreement with Denver Public Schools (DPS) to collect trash, recycling and compost from eligible schools and facilities that serve more than 90,000 students. DSWM provides recycling services to 170 different school sites, campuses and administrative offices, and Denver Recycles staff offers assemblies, training, and technical assistance to DPS students and staff, and provides classroom recycling containers and posters for these school programs. In 2019, Denver Recycles estimates that:

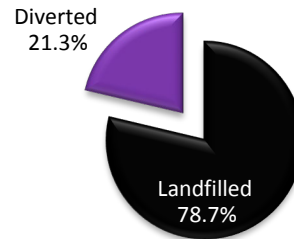
- 7,280 tons of trash were collected⁵ from 170 DPS facilities.
- 1,569 tons of recyclables were diverted⁶ by 170 DPS facilities.
- 402 tons of organics were diverted⁶ by 44 DPS schools.

Figure 4 displays the DPS diversion data for 2019, and Figure 5 displays the diversion rate for DPS.

Figure 4: Denver Public Schools 2019 Diversion Data

Category	Tons	Pounds per Student per Year
Landfilled	7280	162
Recycled	1,569	34.9
Composted	402	8.9
Diversion rate	21.3%	n/a

Figure 5: DPS Diversion Rate



Denver Facilities

Municipal Facilities: In 2019, Denver Recycles provided recycling collection service to 199 municipal buildings and compost collection to 53 municipal buildings, including the new 911 operations building. This is a 36% increase in buildings participating in the compost collection program.

Denver Fire Department: Denver Recycles added compost collection to 9 fire stations for a total of 29 stations in 2019. This was a 43% increase in participation from 2018, and the average recycling and composting rate for these fire stations was 63%. Denver Recycles and the Denver Fire Department are working towards expanding the compost collection program to the final three Denver fire stations by the beginning of 2020.

Zero Waste Ambassador Program: Additionally, City employees continue to volunteer to improve and maintain recycling and composting efforts in City office buildings through Denver Recycles' Zero Waste Ambassador (ZWA) program. The ZWA program covers 5 municipal buildings with a total of 26 ambassadors. ZW Ambassadors have established a Terracycle program for foil-lined packaging and personal care packaging at 3 of the 5 buildings, and ambassadors began sharing weekly food waste messaging with employees in these 5 buildings.

⁵ Estimates based on the size and average weight of the trash containers and the number of tips per year.

⁶ Estimates based on the size and average weight of the recycling and organics containers and the number of tips per year.

Parks Recycling

Denver Recycles continued its partnership with Denver Parks and Recreation to provide Berkeley Park, Cheesman Park, City Park, Congress Park, Rocky Mountain Lake Park, Sloan’s Lake Park, and Washington Park with a total of thirty-five purple recycling dumpsters. The program diverted over 74 tons of recyclables in 2019.



Hauler Licensing

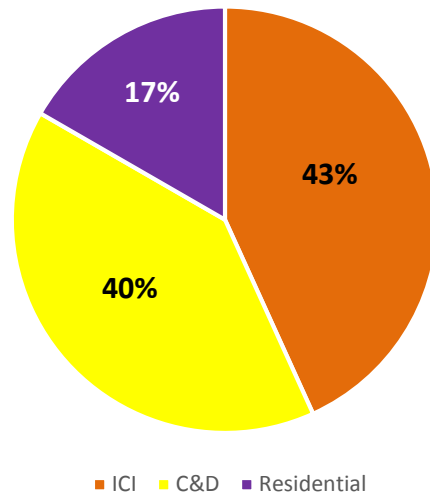
In 2019, licensed haulers collected almost 1,133,000 tons of waste; over 810,000 tons were sent to the landfill and over 276,000 tons were recycled and composted. The construction and demolition debris (C&D) sector generated 48% of the waste reported through the hauler licensing program and the institutional, commercial, industrial, and multifamily-residential (ICI) sector generated 52% of the waste reported through the hauler licensing program.

Figure 6 displays the detailed breakdown of the tons of C&D and ICI material landfilled and recycled/composted in 2019. Figure 7 displays total waste generation from residential homes (7 units or less), the C&D sector, and ICI sector in 2019.

Figure 6: Tons Generated, Recycled/Composted, and Landfilled by C&D and ICI sectors in 2019

Category	Tons
Construction/Demolition (C&D) Landfill	432,115
C&D Recycling/Composting	113,118
Institutional/Commercial/Industrial (ICI) Landfill	378,552
ICI Recycling/Composting	209,033
Totals	
Total Landfill	810,667
Total Recycled and Composted	322,151
Total Generated	1,132,818
Percentages	
% Landfilled	71.6%
% Recycled and Composted	28.4%

Figure 7: Total Waste Generated in Denver by Sector in 2019



OTHER COLLECTIONS, SPECIAL EVENTS, AND NEW INITIATIVES

Denver Recycles provides services beyond the residential, school, and facility collection programs. These services, events, and programs are described briefly below:

- **Appliance Collection:** The City contracts with a private company to provide a ‘no-cost’ appliance collection and recycling service to eligible residents. In 2019, the program collected 2,042 appliances and diverted an estimated 122 tons of materials from the landfill.
- **Automatic Recycle Cart Delivery:** In 2019, Denver Recycles continued automatic recycle cart delivery to Denver residents that were not subscribed to the recycling program. This program helps increase collection efficiencies and increase the diversion of recyclables from the landfill. By the end of the 2019, approximately 8,500 recycle carts were delivered to residents in the North Central, South East, and South West portions of Denver.
- **City-wide Education Campaign:** From June through December 2019, Denver Recycles, along with Ground Floor Media, created and implemented a city-wide education campaign focusing on raising awareness and increasing affinity for Denver Recycles programs, demonstrating the benefits of recycling and ease of participation in the recycling program, and increasing recycling participation among Denver residents. The campaign included community engagement, social media posts, radio advertisements, digital audio advertisements, Google and FB advertisements, bus shelter advertisements, truck signs, newsletter articles, and local television news stories.
- **Collection Schedule Reminder and Waste Sorting Game:** By the end of 2019, 81,679 residential collection reminders had been created (727 of those in Spanish) and 22,564 “Denver Trash and Recycling” smartphone apps had been downloaded. The Waste Sorting Game had been played 9,153 times.
- **Drop-Off Recycling Center:** The Cherry Creek Recycling Drop-Off, is co-located at the Cherry Creek transfer station (7301 E. Jewell) and accepts single stream recyclables, yard debris, food scraps and other organic materials from Denver city residents. In 2019, the site serviced over 63,000 residents (8% increase from 2018) and averaged 1,189 vehicles per week. These residents dropped off over 454 tons of recyclable material and over 97 tons of compostable material.
- **Education and Outreach:** Annually, Denver Recycles mails the WasteWise publication to all eligible households in the City with the aim of outlining service guidelines and promoting recycling, composting and special programs available to residents. The 2018 newsletter was sent to more than 178,000 residents and promoted keeping the recycling stream clean. Denver Recycle staff continued to give presentations in DPS schools and conducted employee engagement education workshops and training sessions. Denver Recycles also continued to send out the monthly *Recycling Roundup* newsletter to registered neighborhood organizations, local papers, and city council offices.



- **Electronics Recycling:** Upon request, Denver Recycles provides E-cycle Coupons to Denver residents (one per resident per year) which allows residents to drop off electronics for recycling at the City's contracted electronics recycling vendor (Blue Star) at a discounted rate. In 2019, 1,620 E-cycle Coupons were redeemed for use (16% increase from 2018) which resulted in 72.9 tons of electronic material responsibly recycled by Denver residents. Additionally, Denver Recycles partnered with Blue Star to host two electronics collection events in 2019 which collected and recycled 22.2 tons of electronics from 350 residents.

- **Great Denver Cleanup:** In 2019, Denver SWM hosted this annual Spring event at 3 city facilities (Roslyn, Cherry Creek Transfer Station, and Roslyn) and 1 DPS high school (North High School). During this event, DSWM collected 32 tons of trash, 12.1 tons of compostables, 10 tons of household recyclables, 4.2 tons of scrap metal, 2 tons of large rigid plastic, and 139 mattresses for recycling.



- **Gove Compost Demonstration Site.** In 2019, Denver Recycles continued to maintain the Gove Compost Demonstration Site which actively showcases a wide variety of backyard composting systems and techniques throughout the growing season.
- **Household Hazardous Waste:** In 2019, 29.6 tons of household hazardous waste was collected from Denver residents by the City's contractor, WM/Curbside, of which 61% was recycled. Home collection appointments totaled 997 and facility drop off appointments totaled 141.

- **Keep Denver Beautiful and Denver Partners Against Graffiti:** Keep Denver Beautiful (KDB) coordinated and/or supported 190 clean-up projects throughout the City with the help of 2,386 volunteers accumulating over 10,500 volunteer hours. Our graffiti crews removed 1,380,666 ft² of graffiti.

- **LeafDrop:** LeafDrop collections were held at six sites on Saturdays and Sundays in November and at three weekday sites from October through December. In total, 6,708 cars dropped off bags of leaves, and 622 tons of leaves were composted in 2019. Denver Recycles continued its partnership with Denver Ace Hardware stores to promote the use of compostable brown paper lawn and leaf bags. In total, 82,530 paper bags were given away which is an 8% increase over the number of bags distributed in 2018. Denver Recycles also increased its education messaging encouraging residents to use compostable paper lawn bags instead of plastic bags which resulted in approximately 70% of leaves brought to LeafDrop in 2019 were in paper bags.



- **Learn to Compost Classes:** Denver Recycles partnered with Denver Urban Gardens to host 30 free *Learn to Compost* classes from May through mid-October. A total of 377 people attended these classes in 2019.
- **Master Composter Training Classes:** In 2019, Denver Recycles once again partnered with Denver Urban Gardens (DUG) to offer the Master Composter Training program. A total of 29 volunteers completed the 40-hour training and 40-hour giveback requirements. Master

Composter volunteers donated a total of 1,536 hours of outreach. Volunteers taught *Learn to Backyard Compost* classes at the Gove Compost Demonstration Site, led garden-based compost classes at community gardens, provided backyard composting information to Denver residents at farmers' markets, the Denver Zoo, and other community events. Volunteers also led workshops at Denver schools and offices.

- **Mulch Giveaway & Compost Sale:** In 2019, Denver Recycles hosted this annual Spring event at the Havana Nursery site with four additional satellite “dig-your-own” mulch sites. In total, an estimated 5,000 yd.³ of mulch was distributed to residents for free, 3,043 bags of compost were sold (an 8% increase from 2018), and 2,565 ft.³ of bulk compost was sold. A total of 780 vehicles visited the Havana site on the event day.



- **Multi-Family Recycling Pilot:** In late 2019, Denver Recycles implemented a three-month recycling pilot to help combat contamination in single-stream recycling in an apartment building in downtown Denver. During the pilot, Denver Recycles provided collection baskets to help ease the transportation of recyclables from apartments to building waste collection sites, and educational and outreach materials to residents. Pilot might be expanded to other multi-family buildings in Denver in 2020.
- **Refuse & Reuse Campaign:** In 2019, Denver Recycles kicked off its Refuse & Reuse campaign, with the goal of regularly informing residents of how to reduce their waste through refusing what they don't need and reusing what they already have. Some highlights included: Creating a Zero Waste grocery shopping PSA, establishing a partnership with Levitt Pavilion Denver to pilot a pint refill program at beginning of their 2020 event season, and designing new waste reduction web pages and an online pledge.
- **Social Media and Customer Service:** By the end of 2019, the Denver Recycles Facebook page had 4,620 'likes', the Denver Recycles Twitter account had 743 followers, and the Denver Recycles Instagram account had 648 followers. Customer Service fielded 135,499 calls, which is a 5% increase in call volume from 2018.
- **The Recycling Partnership (TRP) Grant:** Denver Recycles received a grant from TRP to develop and implement an education campaign focused on increasing recycling in 10 neighborhoods within Denver. Waste sort data showed that only two-thirds of all recyclables generated in an average Denver household were being placed in the purple recycle cart. Using this information, Denver Recycles created an education campaign asking residents to “Waste less, recycle more” which included billboard messaging, bus shelter messaging, and digital advertising.
- **Tire Collection Event:** In October of 2019, 875 tires were collected from Denver residents that participated in a DSWM sponsored one-day tire collection event at the Central Platte Campus.



- **Treecycle:** During the first two weeks of 2019, residents serviced by Denver SWM were instructed to set out their Christmas trees for collection as part of the annual Treecycle recycling event. A total of 20,694 trees were collected and mulched through the program. The estimated weight of the mulched trees was 186 tons.
- **Waste Tours:** In 2019, Denver Recycles launched a waste tour. Over the course of four tours, Denver Recycles staff educated nearly 200 residents and community/city leaders on how waste is managed in Denver. Participants viewed the city's landfill (Denver Arapahoe Disposal Site), the contracted compost facility (A-1 Organics), and the contracted recycling facility (Green For Life's Altogether Recycling Center).

PLANS FOR 2020 AND BEYOND

Denver Recycles will continue to follow the strategies outlined in the 2010 Master Plan for Managing Solid Waste in the Mile High City in the coming year. Specific initiatives planned for 2020 include:

- **Expand Organics Collection:** In 2020, Denver Recycles will work to fill our 12 compost collection routes and increase the quality of materials collected. We will also continue our partnership with the National Resource Defense Council (NRDC) and Certifiably Green Denver (CGD) to educate residents on the topic of food waste reduction. Denver Composts will order 13 new trucks in 2019 to allow for 2021 expansions. Denver Recycles will continue to work to increase the sale of EcoGro compost.
- **Expand and Improve Employee Recycling Programs:** Denver Recycles will continue to expand composting services to Denver Fire stations in 2020.
- **Fee on Disposable Bags:** In late 2019, the city of Denver passed a fee on disposable bags (Chapter 48, Article IX of Denver’s Revised Municipal Code) which places a \$0.10 fee on all disposable carryout bags provided at checkout at retail stores within the city of Denver starting July 1, 2020. DSWM will be responsible for overseeing implementation and compliance with this new regulation. (In early 2020, Denver City Council delayed the start of this fee until July 1, 2021)
- **Recycling Education:** Denver Recycles will continue to provide education and outreach to the public, DPS, municipal facilities, etc. to supply information on how to recycle and how to increase the amount of materials recycled and composted. Education is a key strategy to meet sustainable materials management goals.
- **Solid Waste Master Plan Update:** Denver Recycles received a Recycling Resources Economic Opportunity (RREO) grant through the Colorado Department of Public Health and the Environment (CDPHE). This grant will be used for updating the City of Denver’s Solid Waste Master Plan. Work on this plan is expected to be completed by Q3/Q4 2020.