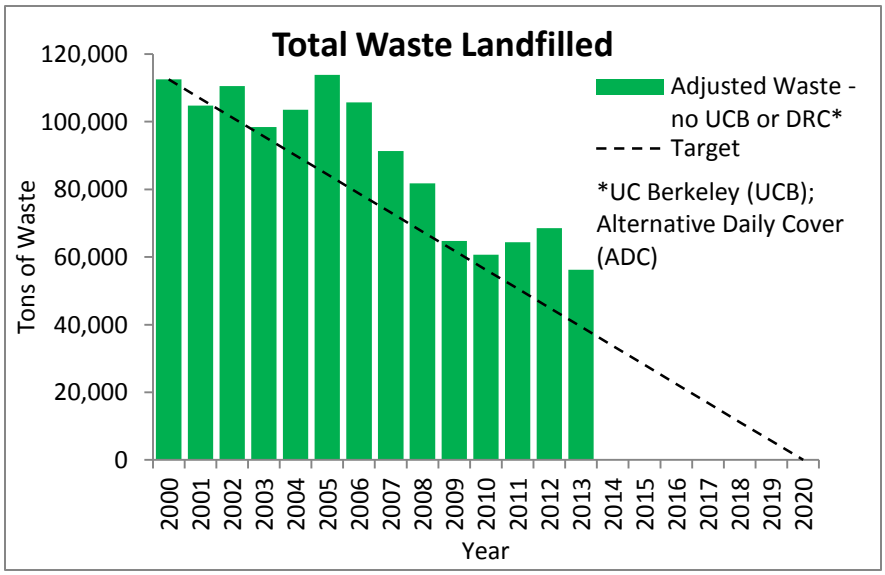
Berkeley Climate Action Plan: Tracking our Progress
Waste Reduction & Recycling – Total Landfilled

Performance metric: Annual waste disposal in Berkeley

Target: Meet Berkeley's Zero Waste goal by eliminating materials sent to landfills by the year 2020.

Zero Waste means that all discarded material is recycled, composted, or reused. None is sent to the landfill.

Status: Since 2000, the amount of solid waste sent to landfills from the Berkeley community dropped by approximately 50%, from 112,498 tons in 2000 to 56,189 tons in 2013. Solid waste disposal decreased 18% between 2012 and 2013.



The community-wide reduction in waste disposal since 2000 translates into a reduction in per capita waste disposal from 6.4 to 2.9 lbs/person/day.

The total amount of waste disposed from Berkeley sources represents about 5.7% of the county-wide waste stream. The single largest source of waste originating in Berkeley is food waste, which represents about 14% of Berkeley's total waste sent to the landfill. Greenhouse gas emissions from Berkeley landfill waste disposal decreased 59% since 2000.

Why is this metric important?
Achieving zero waste is an essential component of reducing global warming emissions. Monitoring and reporting this metric helps the community to gauge the efficacy of services designed to reduce waste disposal and to track annual progress toward our Zero Waste goal.

Resources and assistance for community members
The City of Berkeley's Zero Waste Division website provides information on the refuse and recycling services offered by the City.

CalRecycle (www.calrecycle.ca.gov), the State's Department of Resources Recycling and Recovery, provides a variety of data on waste disposal and recycling within California and information on waste reduction.

Data sources and technical notes
The total tons of solid waste disposed are provided by CalRecycle. For cities within Alameda County, CalRecycle gets these data from StopWaste.org. StopWaste.org obtains these data through reports from each facility within Alameda County that receives solid waste, including the Berkeley Transfer Station. Berkeley's food waste data is from the 2008 Alameda County Waste Characterization Study from StopWaste.org. The waste disposal totals do not include "Alternative Daily Cover" (ADC). ADC is placed on the surface of the landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.

The population data used by CalRecycle to calculate per capita waste disposal are provided by the California Department of Finance. Waste disposal per capita per day in Berkeley is calculated by dividing the total tons of solid waste disposed from Berkeley sources per day (including residential, commercial, and industrial waste and commercial & demolition debris) by Berkeley's total population.

Tracking our progress: Review Climate Action Plan performance metrics at www.cityofberkeley.info/climate

Berkeley Climate Action Plan: Tracking our Progress
Waste Reduction & Recycling – Residential

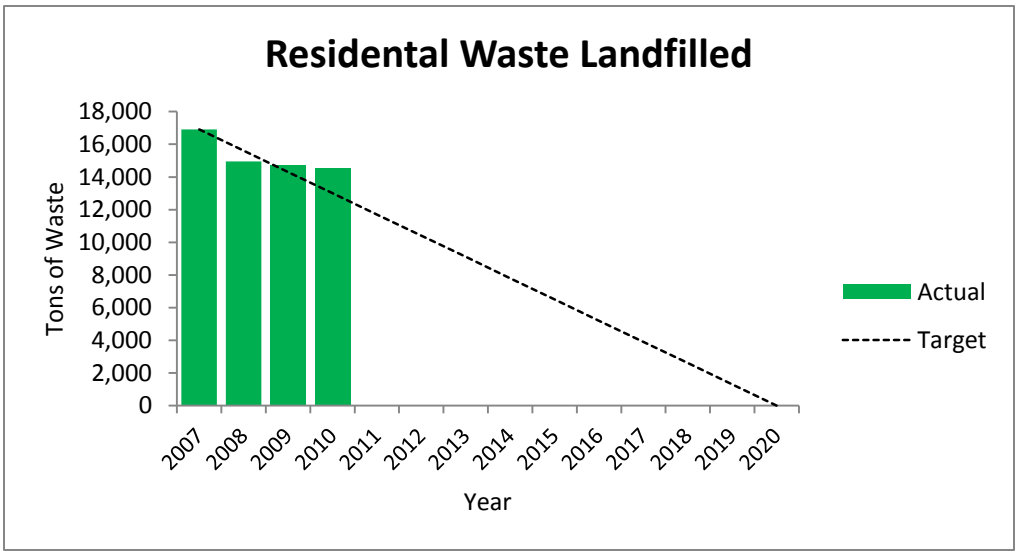
Goal: Increase residential recycling, composting, and source reduction

Performance metric: Amount of residential waste landfilled, recycled, and composted

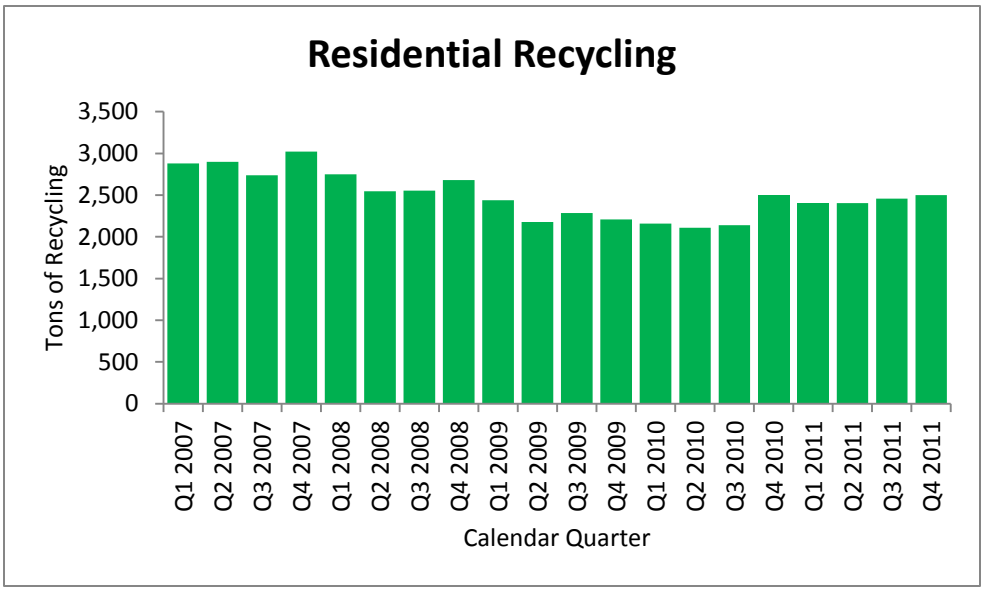
Target: Meet Berkeley's Zero Waste goal by eliminating all materials sent to landfills by the year 2020.

Eliminating landfill material requires source reduction and waste diversion from all users, residential and commercial. The City supports solid waste diversion from its residents by providing voluntary curbside recycling and compostable material collection. Recent recycling and compost program expansions and education efforts aim to increase participation for both single-family and multifamily residents.

Status: The quantity of waste generated in Berkeley single-family homes and small multifamily buildings (4 units or less) that is sent to landfills has dropped each year between 2007 and 2010 (latest data available), although not at the rate currently targeted to meet the City's Zero Waste goal. Total Berkeley residential waste sent to landfills in 2007 was 16,910 tons and in 2010 this figure dropped 14% to 14,523 tons. The reduction in landfilled material can be attributed to reduced consumption, in conjunction with the national recession beginning in fall 2008, and increased reuse and waste diversion into recycling and composting programs.



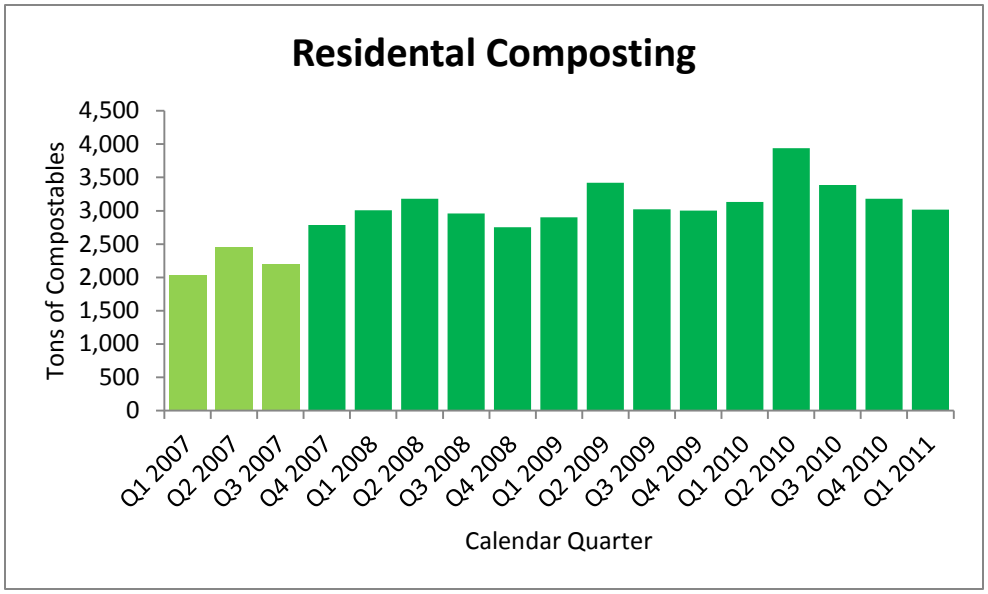
The residential recycling trends in Berkeley since 2007 show declines in the annual quantity of recyclable materials collected (data includes amount of recyclables collected from buildings with 9 dwelling units or less).



The amount of residential recyclables collected decreased from 11,536 tons in the first quarter of 2007 to 9,762 tons in 2011. These data include recyclables collected through the curbside recycling program, which is administered by the Ecology Center through a contract with the City, and a portion of the recyclables taken by residents to the Community Conservation Center's buyback and drop-off programs.

The residential curbside recycling program accepts glass, cans, #1 and #2 plastic bottles, newspaper, mixed paper, cardboard, and brown bags. In the fall of 2010, the City and the Ecology Center initiated a new residential recycling cart program in place of the previous blue bin collection system. Following this change, Berkeley's

residential curbside recycling increased by 20% in the 4th quarter of 2010 as compared to the 4th quarter of 2009 and reversed a downward trend that had been in place for over a year (see residential recycling graph above).



According to a 2008 waste characterization study conducted by StopWaste.org, organic material and yard waste is approximately 48% of the single-family residential waste stream in Berkeley. To divert this material from the landfill, the City offers curbside pick-up of compostable materials. In the fall of 2007 the City's collection of yard waste (plant materials) was expanded to also include all food scraps, food-soiled papers, and compostable plastics. On an annual basis the residential composting program (for buildings of 1-4 units) has increased its collections by nearly 40% between 2007 (8,446 tons) and 2010 (13,642 tons). On a quarterly basis, the expanded service in the 4th quarter of 2007 led to an increased collection of almost 600 tons of compostable material compared to the previous quarter. A spring 2010 survey by StopWaste.org found that most Berkeley households participate in the curbside composting program and that 47% of participants include food scraps.

Why is this metric important?
Achieving zero waste is an essential component of reducing global warming emissions. Monitoring and reporting this metric helps the community to gauge the efficacy of services designed to reduce waste disposal and to track annual progress toward our Zero Waste goal.

Resources and assistance for community members:
City of Berkeley's Solid Waste Management Division (www.ci.berkeley.ca.us/ContentDisplay.aspx?id=4034) Provides information on the refuse and recycling services offered by the City.

The Ecology Center (www.ecologycenter.org/recycling) provides detail on the curbside recycling program.

CalRecycle (www.calrecycle.ca.gov) The State's Department of Resources Recycling and Recovery provides a variety of data on waste disposal and recycling within California and information on waste reduction.

Data sources and technical notes:
The amount of residential waste landfilled is calculated by weighing and recording the rear loader City of Berkeley refuse truck loads as they arrive at the Berkeley Transfer Station. These trucks collect refuse from 1-4 unit residential buildings, but may also collect small amounts of commercial waste, depending on the neighborhood and truck route. The residential compostable material is also collected by the City of Berkeley (in separate trucks) and includes material primarily from 1-4 unit residential buildings with some additional material from commercial properties on the same truck routes.

The residential recycling values are estimates based on two factors: the weights of the Ecology Center truck collections from residential buildings of 9 units or less and 50% of the weight of recycling drop-offs at the Community Conservation Center's buyback and drop-off programs. The 50% of the Community Conservation Center is a proxy for the amount that is likely to be attributable to Berkeley residential sources (including materials that may have been poached from the curbside recycling carts).

All data was tallied and reported by the City's Solid Waste Management Division.

Tracking our progress: Review Climate Action Plan performance metrics at www.cityofberkeley.info/climate

Berkeley Climate Action Plan: Tracking our Progress
Waste Reduction & Recycling – Commercial

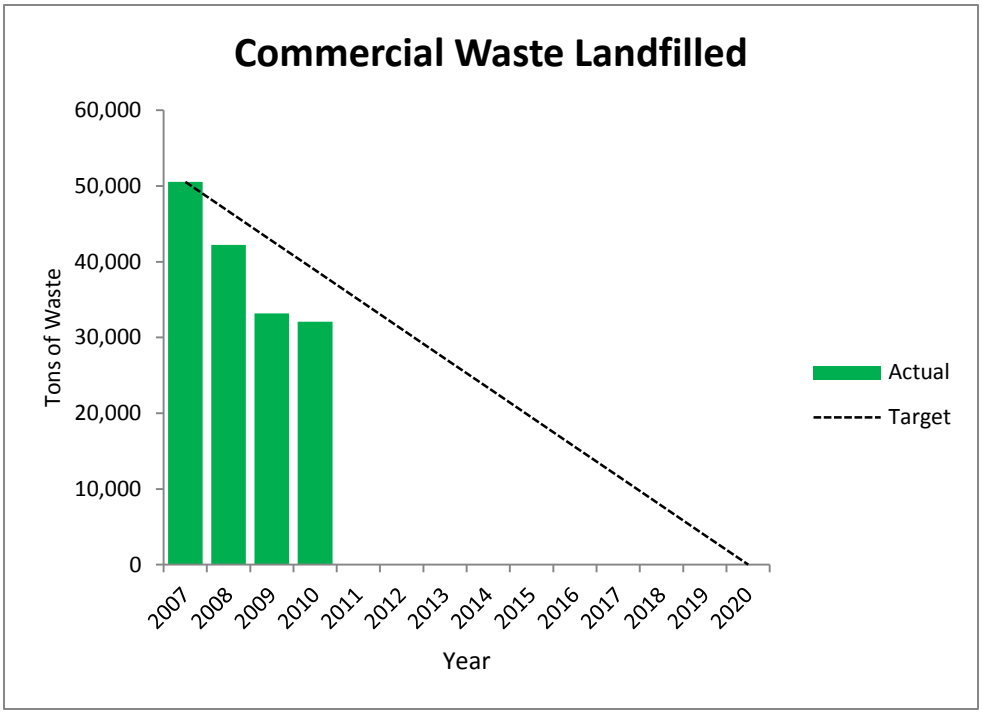
Goal: Increase commercial recycling, composting, and source reduction

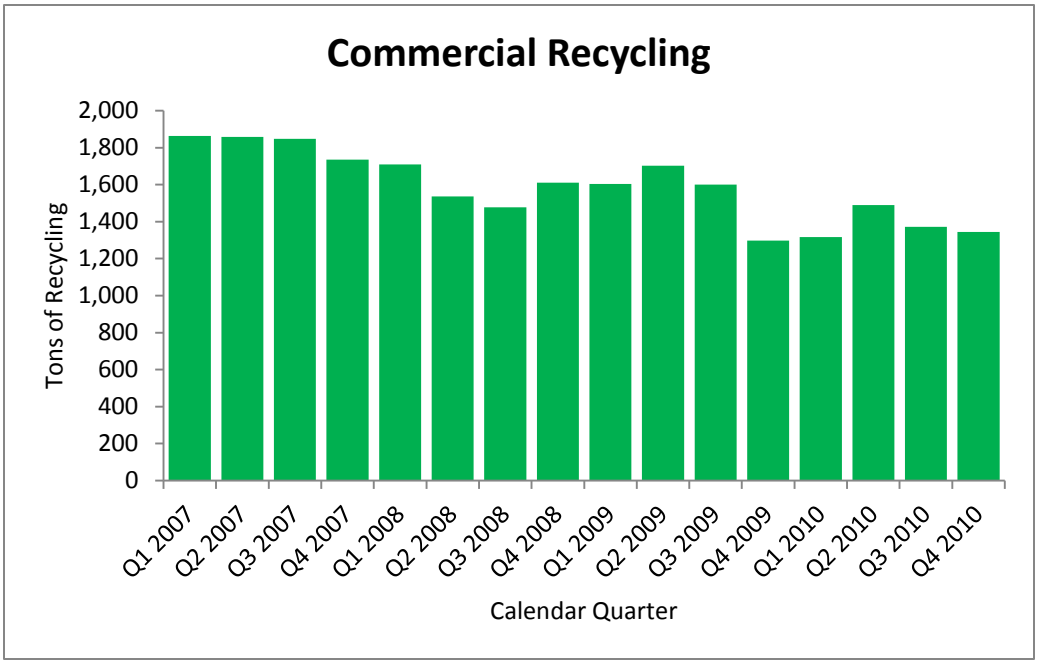
Performance metric: Amount of commercial waste landfilled, recycled, and composted

Target: Meet Berkeley's Zero Waste goal by eliminating materials sent to landfills by the year 2020.

Eliminating landfill material requires source reduction and waste diversion from all users, residential and commercial. The City supports solid waste diversion for commercial businesses by providing recycling and compostable material collection.

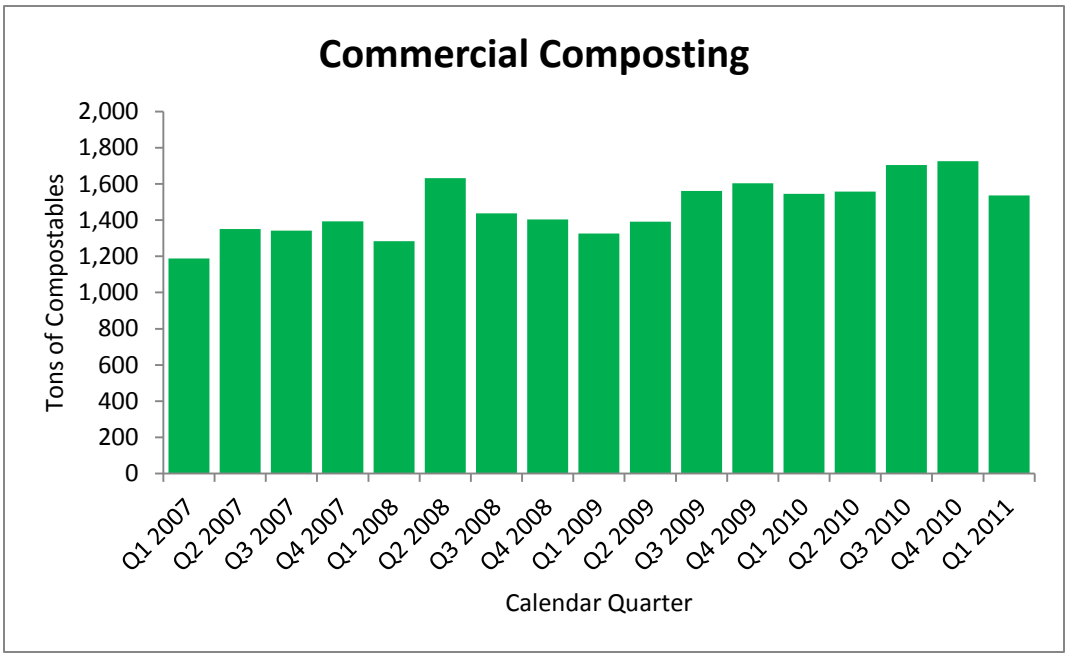
Status: The quantity of waste landfilled from Berkeley's commercial sources decreased each year between 2007 and 2010 (latest data available) and is currently ahead of schedule to reach the Zero Waste target in 2020. In 2007, landfilled waste attributable to Berkeley's commercial businesses, including multifamily buildings (5 or more dwelling units) and non-profit institutions, totaled 50,543 tons. By 2010, this waste stream dropped by 36% to 32,096 tons. The reduction in landfilled material can be attributed to reduced consumption and production associated with the national recession beginning in fall 2008, and increased reuse and waste diversion into recycling and composting programs.





The amount of recyclables collected from Berkeley's commercial sources (including residential buildings of 10 units or more) declined each year between 2007 (7,306 tons) and 2010 (5,523 tons). Berkeley businesses may elect to use the City of Berkeley or other haulers for their recycling services. The City recycling program accepts glass, cans, #1 and #2 plastic bottles, newspaper, mixed paper, cardboard, and brown bags. Commercial recycling figures include both City and franchise collections.

Composting among Berkeley's commercial businesses has gained momentum with increases in compost collection every year between 2007 and 2010. Annual compost collections from Berkeley's commercial sector totaled 6,534 tons in 2010. The City of Berkeley offers the collection of compostable materials from commercial businesses at a reduced rate. Compostable materials include food scraps, plant debris, paper napkins, cups and wrappings, waxed cardboard, and unpainted wood scraps such as shipping crates. Participating in the compost collection program can help a commercial business become recognized as a Bay Area Green Business.



Why is this metric important?
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Resources and assistance for community members
City of Berkeley's Zero Waste Division (www.ci.berkeley.ca.us/ContentDisplay.aspx?id=4034) Provides information on the refuse and recycling services offered by the City.

CalRecycle (www.calrecycle.ca.gov) The State's Department of Resources Recycling and Recovery provides a variety of data on waste disposal and recycling within California and information on waste reduction.

StopWaste.org (www.stopwaste.org) Working to reduce the waste stream in Alameda County, this organization has services and resources for businesses on recycling and minimizing waste.

Data sources and technical notes
The amount of commercial waste landfilled is calculated by weighing and recording the City of Berkeley refuse truck loads that service commercial establishments as they arrive at the Berkeley Transfer Station. In addition, Berkeley businesses that separate dry rubbish may opt to use one of three commercial franchised haulers: Recology East Bay (formerly Norcal Waste Services of Alameda County), Republic Services, and Waste Management. The weight of the refuse collected by these franchised haulers is added to the City's values to create a total value of the waste landfilled from Berkeley commercial businesses.

The recycling figures also represent a combination of the commercial sector recycling collected by the City of Berkeley, Recology East Bay, Republic Services, and Waste Management. The City of Berkeley offers recycling for Berkeley businesses and residential buildings of 10 units or more. Berkeley recycling services for smaller residential buildings are provided by The Ecology Center.

Data on compostable material are based on the weights of collections by the City of Berkeley from commercial businesses, such as restaurants, and residential buildings with over 5 units that participate in the program.

All data was tallied and reported by the City's Solid Waste Management Division.

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Berkeley Climate Action Plan: Tracking our Progress
Waste Reduction & Recycling – C&D Waste and Salvage Diversion

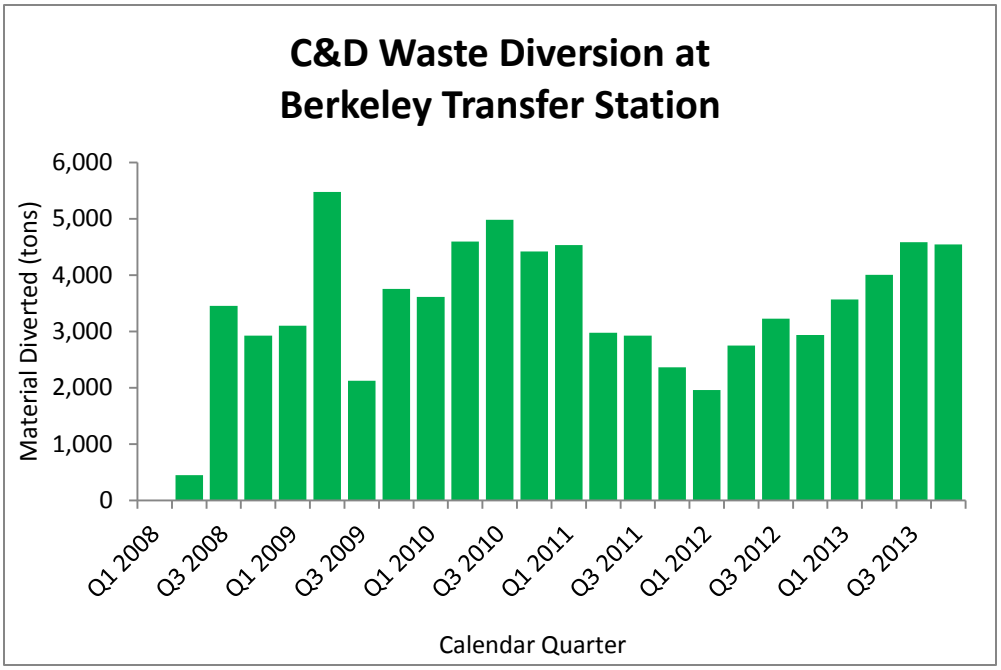
Goal: Increase recycling of construction and demolition (C&D) debris

Performance metric: Amount of C&D debris and salvage material diverted at Berkeley Transfer Station

Target: Meet Berkeley's Zero Waste goal by eliminating materials sent to landfills by the year 2020.

Eliminating landfill material requires source reduction and waste diversion from all sources. Construction and demolition (C&D) debris is a significant portion of the total waste stream, estimated at approximately 18% of the total in the City of Berkeley.

Status: In July 2008, the City of Berkeley initiated a construction and demolition (C&D) waste diversion program at the Berkeley Transfer Station. As a result of this initiative, over 79,000 tons of C&D waste has been diverted from landfills between 2008 and 2013. C&D material, such as wood, drywall, metal, concrete, and cardboard, is now identified and sorted at the Berkeley Transfer Station for recycling. Recycling C&D waste keeps it from ending up in the landfill, and also reduces the upstream energy consumption required to manufacture new construction materials.



In March 2011, the City modified its Construction and Demolition Ordinance to maintain consistency with the 2010 California Green Building Standards. As a result, all newly constructed buildings, building renovations valued over $100,000, and demolitions valued over $3,000, must divert 100% of asphalt, concrete, soil, and land clearing debris and 50% of other C&D debris from landfill disposal.

In addition to C&D materials, the City diverts architectural salvage material from landfills. Such materials currently include refrigerators, mattresses, electronics, carpet and padding, concrete, tires, and refuse carts and other miscellaneous rigid plastics. These materials are distributed to appropriate organizations such as Urban Ore and the Alameda County Computer Resource Center for recycling or reuse. The Berkeley Transfer Station diverts on average approximately 2,000 tons of salvage material every year.

Why is this metric important?
Achieving zero waste is an essential component of reducing global warming emissions. Monitoring and reporting this metric helps the community gauge the efficacy of services designed to reduce waste disposal and track annual progress toward our Zero Waste goal.

Resources and assistance for community members
City of Berkeley's Zero Waste Division website provides information on the refuse and recycling services offered by the City including information on C&D recycling.

StopWaste.org (www.stopwaste.org) works to reduce the waste stream in Alameda County. This organization has services and resources on recycling and minimizing waste including C&D debris.

Data sources and technical notes
The C&D debris and salvage material data reported here was all weighed and diverted at the Berkeley Transfer Station. As such, it does not include other C&D and salvage material that originated in Berkeley, but was taken to another recycling or recovery operation. In addition, some C&D debris and salvage material processed at the Berkeley Transfer Station may have originated from a source outside of Berkeley. All data was tallied and reported by the City's Solid Waste Management Division. Data detailing Berkeley's waste stream is available in the 2008 Alameda County Waste Characterization Study from StopWaste.org.

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Berkeley Climate Action Plan: Tracking our Progress
Waste Reduction & Recycling – Source Reduction

Goal: Expand efforts to eliminate waste at its source

Target: Meet Berkeley's Zero Waste goal by eliminating materials sent to landfills by the year 2020.

Status: Source reduction, or waste prevention, is the practice of minimizing the amount of waste (such as packaging) that will later need to be thrown in the trash, recycled, or composted. Eliminating waste before it is ever produced is the most effective and efficient means of waste reduction as it not only reduces the amount of waste sent to landfill but also reduces the energy required for upstream production processes and for downstream recycling and composting.

One example of a source reduction strategy recommended in the Berkeley Climate Action Plan is instituting a ban on single-use plastic bags and establishing a fee on paper shopping bags at Berkeley retail locations. This policy is designed to achieve waste reduction by minimizing use of disposable bags and encouraging the use of reusable bags. Of the 19 billion single-use plastic shopping bags that Californians use each year, fewer than 5% are recycled. Bags that are not properly disposed can end up in waterways and threaten wildlife. During the 2009 Coastal Cleanup over 3,500 plastic bags were collected from the Berkeley shoreline, qualifying Berkeley as one of the primary Bay Area "plastic bag hot spots" by the non-profit Save The Bay.

Bird trapped in plastic bag at Berkeley Aquatic Park

On January 25, 2012 the Alameda County Waste Management Authority, known as StopWaste.Org, adopted a Reusable Bag Ordinance banning single-use bags at check out at retailers selling packaged food countywide. This ordinance went into effect throughout Alameda County, including in Berkeley, on January 1, 2013.

Resources and assistance for community members:
http://www.reusablebagsac.org/ provides background and contact information regarding the Alameda County Reusable Bag Ordinance.

City of Berkeley's Zero Waste Division (www.ci.berkeley.ca.us/ContentDisplay.aspx?id=4034) Provides information on the refuse and recycling services offered by the City.

Ecology Center (www.ecologycenter.org/recycling) Offerings of this non-profit include the Berkeley Farmers' Markets, curbside recycling program, Farm Fresh Choice food justice program, EcoHouse, Climate Change Action programs, and an EcoCalendar of environmental community events.

StopWaste.Org (www.stopwaste.org) Working to reduce the waste stream in Alameda County, this organization has services and resources on recycling and minimizing waste.

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