

State of Resource Management



Phoenix

Gainesville

Boston

Denver

Philadelphia

Newark

Baltimore

Richmond

Dallas

Overview



City	Residential pick-up	Commercial pick-up	Recycling Reg.	Zero Waste Plan
Phoenix, AR	Municipal	Private Hauler	Encouraged, not required.	Imagine Phoenix
Gainesville, FL	Municipal Pay-as-you-throw program	Private Hauler	Required for commercial. Optional for residential -waste collection comes with 2 recycling bins.	In process
Boston, MA	Municipal	Private Hauler - must provide recycling.	Required for both. Businesses & Industry producing more than 1 ton of food waste must compost.	In process
Denver, CO	Municipal	Private Hauler	Encouraged, not required.	In Process
Philadelphia, PA	Municipal	Private Hauler – must provide recycling.	Required for both commercial and residential.	Zero Waste and Litter Cabinet Action Plan
Newark, NJ	Municipal	Private Hauler – must provide recycling.	Required for both commercial and residential.	Newark Sustainability Action Plan 2013
Baltimore, MD	Municipal	Private Hauler	Required for residential, but not stringently enforced.	Zero Waste Maryland
Richmond, VA	Municipal	Private Hauler	Encouraged + incentivized, not required.	RVAgreen 2050
Dallas, TX	Municipal	Private Hauler + Municipal (at a competitive rate)	Encouraged, not required. Working on a commercial/multifamily recycling ordinance	Dallas Zero Waste Plan 2040

Phoenix
AR

Current State of Recycling

- Commercial businesses and multi-family apartment buildings of more than 5 units are not serviced by the municipal and must use private haulers.
- Residents and multi-family buildings of less than 5 units are serviced by the city 2x/week – single-stream recycling and garbage each collected 1x/week.
- Recycling is encouraged, not required.

The Results

- The city sends 1 million tons of waste to landfills annually.
- 45% of residential waste sent to landfill is compostable – food and yard waste.



What's Recyclable In Phoenix?

TOP 10 IN THE BIN

1. CARDBOARD
2. PAPER
3. FOOD BOXES
4. MAIL
5. BEVERAGE CANS
6. FOOD CANS
7. GLASS BOTTLES
8. JARS (GLASS & PLASTIC)
9. JUGS
10. PLASTIC BOTTLES WITH CAPS ON

DON'T PLACE THESE IN THE BLUE RECYCLING BIN.
Instead...

- PLASTIC BAGS AND WRAPS
take to the grocery store to be recycled
- ELECTRONICS
bring it to the next Household Hazardous Waste and Electronics event
- TEXTILES AND CLOTHING
donate to resale stores

Reimagine Phoenix
Transforming Lives. One Recyclable at a Time.

To learn more about Phoenix recycling:
phoenix.gov/publicworks/residential-recycling
or call 602-262-7251

Municipal Solid Waste Program Fees



Current Rate: \$26.80/month
One 96-gallon Landfill Container
One 96-gallon Recycle Container



Green Organics Curbside: Additional \$5/month
96-gallon Green Organics Container for yard waste



Save as You Reduce and Recycle (Say R&R)
Savings of \$3/month
Downsize Landfill Container from a 96-gallon to a 65-gallon



Recycle, Landfill and Green Organics Container
\$31.80/month



**Recycle, Landfill and Green Organics Container
(with Say R&R):** \$28.80/month

Short-term Plan

Reimagine Phoenix

- **To increase their diversion rate to 40% by 2020 (currently at 20%).**
- Strategies:
 - Improve Solid Waste Services.
 - Increase Education & Community Outreach.
 - Established the Resource Innovation and Solutions Network (RISN) in partnership with the Walton Sustainability Solutions Services at Arizona State University to promote better solid waste practices for businesses.

Long-term Plan

2050 Environmental Sustainability Goals

- To become a zero waste city by 2050 by applying a Circular Economy strategy.
- The plan will look further to increase recycling with commercial establishments. One of this being the [Green Business Leader](#) certification:
 - Businesses receive recognition for providing recycling to their employees and customers.
 - The goal is to encourage businesses to recycle in exchange for free marketing with the city as well as recognition as being sustainable.

To be eligible for the Green Business program, your business must:

- Be located within Phoenix city limits
- Provide recycling to your employees and customers. (Composting is optional and a bonus.)
- Subscribe to an adequate recycling and landfill hauling service
- Provide the City of Phoenix with quarterly metrics on the percentage of waste your business is diverting from the landfill

Composting Initiatives

Certified Clean Green Program (Businesses)

- Provides savings on tipping rates to businesses such as landscapers and gardeners who drop off green waste at the transfer stations.
- “The [Certified Clean Green Program](#) diverts green organic waste that can be turned into compost, mulch or possible fuel, and keep them out of the landfills.”
- To become certified, businesses must attend a small training session in order to learn proper ways to sort and bring their green waste.

Curbside Organic Container (Residential)

- The 27th Avenue Composting Facility was launched this spring and has the initial capacity to process up to 55,000 tons annually. This is expected to increase to 220,000 in the near future.
- For an addition of \$5 a month, they can have an additional brown bin for [curbside green organics collection](#). However, this can be partially offset with the option for residents to downsize current large trash container to a medium size for a saving of \$3 monthly.

Other Initiatives

ECO Stations

- Multi-family units, which are not offered municipal recycling pick-up, are encouraged to take their recyclables to one of the 9 ECO Stations in Phoenix.
- They can also drop recyclables off at the North Gateway Transfer Station or the 27th Avenue Transfer Station.

Eco Stations can be found in the following locations:

Park	Address
Deer Valley Park	19602 North 19 th Ave
Paradise Valley	17642 North 40 th Street
Sweetwater Park	13230 North 44 th Place
Steele Park	300 East Indian School Road
Washington Park	6655 North 23 rd Ave
Pecos Park	17010 South 48 th Street
Desert West	6602 West Encanto Blvd
Esteban Park	3345 East Roeser Road
Margaret T. Hance Park	67 W Culver St

Recognition

Cities4ZeroWaste Award

- As of Dec. 2017, Phoenix is recognized at the C40 Cities Bloomberg Philanthropies Award ceremony for their Reimagine Phoenix.



References

1. City of Phoenix. “Terms and Conditions for Solid Waste”. 2017. Retrieved from <https://www.phoenix.gov/publicworks/garbage/terms>.
2. City of Phoenix. “Disposal & Landfill Services”. 2017. Retrieved from <https://www.phoenix.gov/publicworks/garbage>.
3. City of Phoenix Public Works Department. “Garbage and Recycling Collection Standards and Guidelines”. 2007. Retrieved from <http://www.recycletogether.com/sites/default/files/venues/Phoenix%20-%20Garbage%20and%20Recycling%20Collection%20Standards.pdf>.
4. City of Phoenix. “Chapter 27 Solid Waste”. Retrieved from <http://www.recycletogether.com/sites/default/files/venues/Phoenix%20-%20Chapter%2027%20Solid%20Waste%20Codes%20and%20Ordinances.pdf>.
5. Recycle Together. “Model City Profile: Phoenix”. 2017. Retrieved from <http://www.recycletogether.com/cities/arizona/phoenix-Arizona>.

Gainesville

FL

Current State of Recycling

Gainesville City Commission's Vision for 2030

- “Gainesville will be a vibrant city in a healthy economic, social and environmental relationship with our region, where we each live in a safe and supportive community near recreation, wilderness, shopping and our schools and jobs.”
- A vision that seems to mainly focus on renewable energy, water conservation, land use, green building, green economy, accessibility to nature, and healthy food system.
- In 2009, Gainesville became the first in the nation to introduce a solar feed-in tariff, which supplied electricity to more than 1,400 homes from the 18 megawatts solar projects as of 2014.

Recycling Initiatives

Commercial

- All commercial properties including apartment/condo complexes are required by the City to recycle.
- Currently, a commercial business is only allowed to dispose 15% of their waste to landfill.
- Failure to follow the ordinance would result in up to 500\$ fine and/or imprisonment according to [Section 1-9](#).

Residential

- Municipal Pay-As-You-Throw Program charges \$137.59/year for a 35 gallon toter, which comes with 2 recycling bins.
- [Resources](#) are available only to provide residents with instruction on how to recycle specific items at the curb-side or drop off, but recycling not required of residents.
- Current recycling rate is 3-4%.

Long-term Plan

Recommendations for the City to Move Towards Zero Waste

- The City of Gainesville currently does not have a Zero Waste Program. However, a community-led initiative had created the [Recommendations for the City to Move Towards Zero Waste Report](#) as of Oct. 2017. The recommendation is backed by two city commissioners, Adrian Hayes and Harvey Ward.
- The five key areas of improvement are:
 1. **Commercial** – introduce organic waste recycling, reduce landfill allowance to 10%, equip dumpsters with lids (reduce including cost of rainwater), uniform commercial bins.
 2. **Multi-family** – make recycling mandatory for multi-family to increase recycling above 3-4% (current rate).
 3. **Residential** – create compost program, mandatory recycling, and pilot bin program.
 4. **Municipal** – create office of sustainability, education program, and partnerships.
 5. **C&D** – Incentivize construction and demolition source separation and recycling.

References

1. City of Gainesville. “Code Ordinances City of Gainesville, Florida.” Retrieved from https://library.municode.com/fl/gainesville/codes/code_of_ordinances?nodeId=PTICHLA_ARTIIIAD_3.01CHOF.
2. <http://ecocyclesolutionshub.org/location/mandatory-recycling-gainesville-florida-usa/>
3. Alachua County Recycles. “Let’s Talk Trash: Recycling and Trash Disposal Guide”. 2017. Retrieved from <http://www.alachuacounty.us/depts/solidwaste/documents/1-19-2017-acwc%20let's%20talk%20trash%20brochure%20edited.pdf>.
4. Alachua County. “Pay-As-You-Throw Program”. 2014. Retrieved from <http://www.alachuacounty.us/depts/solidwaste/residential/curbside/pages/payt.aspx>.

Boston

MA

Current State of Recycling

Commercial & Municipal Waste Ban

- The MassDEP enforced the waste ban in 1990, which counts for both residential and commercial properties.
- The following are banned from being disposed in landfill:
 - Recyclable products: Paper, cardboard, GMP, leaf and yard waste.
 - C&D materials.
 - Hazardous and universal waste.
 - Bulk waste & metal.
 - E-waste.
- Effective of 2008, all commercial waste haulers are required to offer single-stream recycling services. Failure to do so will result in penalties up to \$300 per day. If the load of banned materials exceed 30% upon inspection, it will be considered a “failed load” and penalties apply.

State Regulation

Commercial Organic Waste Ban

- The statewide commercial food waste disposal ban regulations went into effect on Oct. 1, 2014.
- “The ban requires any entity that disposes of at least one ton of organic material per week to donate or repurpose the useable food. Any remaining food must be shipped to an anaerobic digestion facility, where it is converted to clean energy or sent to composting and animal-feed operations.” (Greenovate Boston, 2014).

Recycling Penalties

Large Residential Building (6+ units)

- \$150 – 300 per day.

Private Commercial Waste Haulers

- \$150 fine for the first violation.
- \$300 fine for second violation.
- Permit revoked on third violation.

Material Recovery Facilities

- Up to \$25,000 per day for each violation.

Long Term Plan

Boston's Climate Action Plan

- The overall goal for Boston's Climate Action Plan is to reduce GHG emission by 25% by 2020 and become carbon neutral by 2050.
- **Strategies:**
 - Greenovate Boston is the latest report for Boston's Climate Action Plan released in 2014.
 - Carbon Free Boston is their action plan to become carbon neutral by 2050.
 - Climate Ready Boston is a resiliency plan to prepare the city for natural disasters in the face of climate change.
 - Zero Waste Boston is a recently proposed plan to make Boston a zero waste city. The mayor has commissioned a technical study of Boston's waste management as of this year. This is definitely a potential for Great Forest to become involved.

Resources

for Businesses and Industry

- RecyclingWorks, a recycling assistance program in partnership with MassDEP, developed [a food waste estimation guideline](#) for businesses and institutions to determine if they are required to compost.
- [On-Site Systems for Processing Food Waste Report](#) provides a good cost-benefit analysis overview for commercial food waste technologies: non-biological systems, in-vessel dry composters, and biological liquefaction.
- [WasteWise](#), sponsored by the EPA and MassDEP, is a voluntary free program for businesses and institutions. The program provides technical assistance to reduce waste, allow members to be part of the WasteWise network, and gain recognition for their environmental efforts.
- BDC Capital works with MassDEP to provide [Recycling Loan Funds](#) for businesses looking to reduce their waste.

References

1. City of Boston. “An Ordinance Regarding Recycling Requirements for Waste Haulers”. 2009. Retrieved from https://www.cityofboston.gov/images_documents/Commercial%20Trash%20Hauler%20Ordinance_tcm3-10117.pdf.
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3. <http://www.mass.gov/eea/agencies/massdep/recycle/regulations/waste-bans.html>.
4. Boston Municipal Research Bureau. “Bureau Update: Boston Moves to Single-Stream Recycling on July 1”. 2009. Retrieved from <http://bmr.org/wp-content/uploads/2014/10/Recycling609.pdf>.
5. <http://www.mass.gov/eea/agencies/massdep/recycle/reduce/commercial-institutional-and-agricultural-composting.html>.
6. <http://www.mass.gov/eea/agencies/massdep/recycle/reduce/>.

Denver
CO

Current State of Recycling

- Municipal picks up for residents living in single-home or multi-family homes of seven or fewer units. Recycling is not mandatory and composting costs an additional \$10.
- Private haulers pick up commercial waste and multi-family buildings of eight or more units. Property managers and landlords are not required to offer recycling services.
- Businesses generate an estimated 55% of Denver's solid waste.

The Results

- Residential recycling rates: 18%.
- Residential composting rates: 4%.
- 50 million pounds of food waste from restaurants in landfill annually.

Long Term Plan

A Master Plan for Managing Solid Waste in the Mile High City (2010)

- Increase residential recycling rate to 35% by 2020.
- Increase diversion of commercial organic waste by requiring collection from “full-service restaurants with 10+ employees.”
- **Standardization of Refuse Collection** — facilitates the diversion success of the options.
- **Citywide Household Composting (Organics) Collection & Growth in Recycling** — 34,600 tons diverted.
- **Further Reduce LIP Collections/Explore Eliminating Refuse Overflow Collections** — 7,100 tons diverted.
- **Add New Drop-Sites** — 4,100 tons diverted.
- **Expand Household Hazardous Waste (HHW) Collection and Add Latex Paint Collection**

References

- City of Denver. "A Master Plan for Managing Solid Waste in the Mile High City". 2017.
- City of Denver. Trash and Recycling Resources. 2017. Retrieved from <https://www.denvergov.org/content/denvergov/en/trash-and-recycling/resources.html>.
- Eco-Cycle. "Zero Waste Denver". 2016. Retrieved from <http://www.ecocycle.org/take-action/denver>.
- <http://www.denvergov.org/content/denvergov/en/trash-and-recycling/recycling/business-and-multi-family-recycling.html>.

Philadelphia

PA

Current State of Recycling

- Mandatory recycling for residential and commercial since 1994.
- As of 2016, all newly constructed residential buildings must install food waste grinders.
- Section 10-724 of Philadelphia Code requires commercial buildings to establish recycling services and educate employees and customers about recycling.
- All commercial properties must complete [the Commercial Solid Waste & Recycling Plan](#) and distribute the recycling plan to tenants and employees one every 6 months.
- Penalty up to \$500/day if failure to follow recycling plan.

The Results

- Residential recycling rates: 20%.
- Commercial recycling rates: 45.4%.
- 400,000 tons of organic waste sent to landfill annually.
- Only 22% of commercial buildings have established a Commercial Recycling Plan.

Long-term Plan

Zero Waste & Litter Cabinet Action Plan

- To reduce waste generation and increase waste diversion by 90% by 2035, while using the remaining 10% as waste to energy (WTE).
- Strategies:
 - Reduce and divert waste from multi-family units and commercial buildings through the Building Waste Audit Program.
 - Reduce and divert waste from events.
 - Engage and educate the public.
 - Explore organic waste collection.
- 2018 Goal includes establishing a Commercial Building Waste Audit.

Resources

1. [CleanPHL.org](#) acts as a primary online portal that contains organizational resources, engagement opportunities, and information to address litter abatement.
2. [Recycle Bank Program](#) in collaboration with the Waste Watchers program incentivize residents to recycle and learn about sustainability by providing online points that can be exchanged for deals and coupons.
3. The [Commercial Recycling Toolkit](#) provides a thorough guideline on how commercial properties can implement a recycling program in Philadelphia.
4. The [City-wide Litter Index](#) captures areas of Philadelphia where litter conditions have been surveyed. The map is categorized by the department that conducted the survey.

References

1. City of Philadelphia. “Philadelphia Zero Waste and Litter Cabinet: September 2017 Progress Report”. 2017. Retrieved from <http://cleanphl.org/wp-content/uploads/2017/10/2017-Progress-Report.pdf>.
2. City of Philadelphia. “Zero Waste & Litter Cabinet Action Plan”. 2017. Retrieved from http://cleanphl.org/wp-content/uploads/2017/07/Zero_Waste_and_Litter_Action_Plan.pdf.
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4. <http://www.philadelphiastreet.com/zero-starts-with-one/>
5. <http://planphilly.com/articles/2017/02/06/composting-in-philadelphia-where-we-are-and-where-we-are-going>
6. http://www.philadelphiastreet.com/images/uploads/resource_library/RegsMay2013.pdf

Newark

NJ

Current State of Recycling

- Both residential and commercial properties are required to recycle in the State of New Jersey under the Recycling Act of 1987.
- The 217th Legislature passed in February 2017 requires the establishment of a State food waste reduction goal of 50% by 2030.

The Results

- The State of New Jersey collected roughly 15 million tons of recyclables with Newark contributing nearly 400,000 tons to the overall load (approx. 2.6%) in 2015.
- A minimum of \$2,500 per violation involving commercial or trade waste.

Long-term Plan

Newark Sustainability Action Plan 2013

- Includes 6 priorities in air quality, energy, recycling & materials management, stormwater management, GHG emission, and healthy food access.
- **Priority 3: Recycling and Materials Management**
 - Develop and implement a Newark Zero Waste Strategy.
 - Double city-wide municipal recycling rate from 2010 levels.
 - Develop strategies for waste reduction and increased recycling at commercial and institutional facilities.
 - Expand waste reduction and diversion for food and organics.
 - Develop and implement a Construction and Demolition Waste Recycling Ordinance.
 - Develop and implement an Electronics Recycling program.
 - Grow and attract green businesses that upcycle waste materials.

Resources

1. [Association of New Jersey Recyclers](#) is a non-profit network that provides education and advocacy resources for recycling in New Jersey.
2. [New Jersey Department of Environmental Protection's](#) Recycling Information provides information on residential, business & industry, government & schools, and e-waste recycling.

References

1. City of Newark. Sustainability. 2017. Retrieved from <https://www.newarknj.gov/viewer/sustainability>.
2. City of Newark. Code of Ordinances. Retrieved from <http://clerkshq.com/Content/Newark-nj/Books/Code/NewarkT15.htm>.
3. The State of New Jersey. “2015 Recycling Final Report”. Retrieved from http://www.state.nj.us/dep/dshw/recycling/stat_links/2015finalreport.pdf.
4. The State of New Jersey DEP Recycling Information. “NJ Statewide Mandatory Source Separation and Recycling Act”. Retrieved from http://www.state.nj.us/dep/dshw/recycling/recy_act_link.htm.
5. The State of New Jersey. “Senate, No. 3027 State of New Jersey 217th Legislature”. 2017. Retrieved from http://www.njleg.state.nj.us/2016/Bills/S3500/3027_11.HTM/.

Baltimore

MD

Current State of Recycling

- The Maryland Recycling Act (MRA) requires counties and Baltimore City to recycle 20% (population under 150,000) and 35% (population over 150,000) of waste produced.
- The Universal Recycling Law of 2010 established a waste reduction goal of 60% and recycling rate of 55% by 2020.
- Commercial waste and multi-family buildings with 10+ units are picked up by private haulers. They are not required to recycle.

The Results

- No data on commercial waste.
- Maryland residents recycled 45.4% of MRA waste in 2012.
- Baltimore residents recycled 33.6% of MRA in 2014.
- Administrative penalty of up to \$10,000/day but not exceeding \$100,00 in total.

Long-term Plan

Zero Waste Maryland by 2040

- Major goals include increase mandatory county recycling rates, implement multi-family recycling, quantify level of business recycling, adopt universal recycling, and phase in a disposal ban on commercial and institutional organics by 2020.

Baltimore 10 Year Solid Waste Management Plan

- As required by the Maryland Recycling Act, Baltimore was required to establish a solid waste plan for 2013 - 2023.
- Key issues include reducing waste, promoting sustainable solid waste operations, and ensuring disposal system continues to serve the city's best interests.
- No major addresses on commercial waste.

Resources

1. [Maryland DEP's Waste Diversion page](#) has great resources on residential and commercial waste diversion.
2. [MD Recycles](#) is a website established by the Northeast Maryland Waste Disposal Authority that provides resources on residential and commercial waste hauling.

References

1. Maryland Department of the Environment. “Zero Waste Maryland: Maryland’s Plan to Reduce, Reuse and Recycle Nearly All Waste Generated in Maryland by 2040”. December 2014. Retrieved from http://mde.maryland.gov/programs/Marylander/Documents/Zero_Waste_Plan_Draft_12.15.14.pdf.
2. http://publicworks.baltimorecity.gov/sites/default/files/10%20Year%20Solid%20Waste%20Management%20Plan%20w%20Appendices_0.pdf.
3. Department of Legislative Service. “Solid Waste Management and Recycling in Maryland”. January 2017. Retrieved from <http://mde.maryland.gov/programs/Marylander/Pages/ZeroWastePlan.aspx>.

Richmond

VA

Current State of Recycling

- Effective July 2006, residential and multi-family units of less than 100 persons in Virginia must have to meet a 15% recycling mandated level. Commercial businesses must meet the 25% recycling rate.
- The City of Richmond received a \$560,000 private/public recycling grant from The Recycling Partnership in 2015 to purchase new recycling carts, expand outreach and education to increase recycling.

The Results

- Recycling rate in Virginia was 42.6% in 2016 while curbside recycling created less than 8% diversion rate in the City of Richmond.
- Penalty of \$50 per day for failure to remove recycling bin from City property after last scheduled pick up.

Municipal Solid Waste Program Fees

- Garbage Standard Rate: \$17.50/month.
- Recycling Rate: 1.69\$/month.



Long-term Plan

RVAgreen 2050

- The Roadmap to Sustainability was established as part of RVAgreen to reduce GHG emission by 80% by 2050.
- The roadmap has 55 initiatives within 5 focus areas: Economic Development, Energy, Environment, Open Space & Land Use, and Transportation.
- **Summary of their Solid Waste Management Plan:**
 - Expand recycling service to commercial & multi-family buildings of 4+ units in partnership with the Central Virginia Waste Management Authority.
 - Adopt a an Environmentally Preferable Purchasing (EPP) Policy that emphasize material reduction such as high recycled-content paper, products with less packaging, and sustainably sourced wood products.
 - Charge residents for trash by the bag or bin instead of the current standard fee of \$17.50 for garbage collection.

References

1. RVAgreen Sustainability Plan. Retrieved from <http://www.richmondgov.com/Sustainability/Reports.aspx>.
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Dallas
TX

Current State of Recycling

- In 2013, the City of Dallas rolled out a zero waste plan with the goal of diverting **40% of waste by 2020, 60% by 2030, and 85% of waste from landfill by 2040.**
- Currently, commercial businesses and multi-family apartment buildings are not required to recycle.
- The city provides single-family homes with 96-gallon rolling carts for trash and single-stream recycling for a flat rate of \$25/month.

The Results

- Recycling efforts remain at 20% because **83% of waste comes from apartments, commercial businesses, and C&D.**



Figure 25 Dallas set ambitious diversion goals for 2020, 2030, and 2040. The city will likely need a URO to attain even the first of three.

Long-term Plan

Dallas Zero Waste Plan 2040



Short-term Plan

Multi-family and Commercial Recycling Ordinance

- The City of Dallas announced early of this year that they will begin working on considerations for a Dallas Recycling Ordinance for multi-family and commercial building to take effect in 2019.
- **Recycling ordinance considerations include:**
 - Recycling service requirement for all property sizes with smaller properties (3-19 units) exempt.
 - Implement program over a span of four years starting with properties of 200+ units, 100-199 units, 20-99 units, and finally 3-19 units.
 - Establish Recycling dumpster screening requirement.
 - Update building code to include recycling space requirement.

Resources

1. The [DFW Zero Waste Alliance](#) is a coalition of recycling advocates that provides the latest recycling updates in Dallas and Fortworth.
2. The [Dallas City Hall](#) is the city's official Sanitation webpage with resources for residential and commercial recycling and garbage disposal.

References

1. HDR Engineering, Inc. “City of Dallas Local Solid Waste Management Plan 2011 – 2060”. 2013. Dallas City Hall. Retrieved from http://dallascityhall.com/departments/sanitation/DCH%20Documents/pdf/DallasLocalSWMP_Vol-I-II.pdf.
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