

Audit Report

Austin Resource Recovery's Recycling and Composting Education

September 2025



Austin Resource Recovery (ARR) is responsible for meeting the City's Zero Waste Goal. This goal aims to divert 90% of the City's waste away from the landfill by 2040 through composting, recycling, and other means. The City is not on track to meet this goal. While education is not the only tool the City has to increase its diversion rate, we found ARR has opportunities to improve its messaging and education efforts that may help the City meet its goals. The department is not prioritizing its efforts based on impact to the City's Zero Waste Goal. Additionally, we found that there is inconsistent recycling and composting messaging by the City and by private waste haulers operating in Austin.

Austin Resource Recovery's Recycling and Composting Education

Objective

To determine the effectiveness of Austin Resource Recovery's recycling and composting education efforts.

What We Found

The City of Austin is committed to diverting 90% of waste away from landfills and incinerators by 2040. However, the City is not on track to meet this goal.

The primary ways the City diverts its waste is through the collection of recycling and composting. Austin Resource Recovery (ARR) is the City department responsible for meeting this goal. Education is one tool the department uses to increase the percentage of waste diverted from landfills. ARR has taken steps to educate the public on composting and recycling. However, the department is not prioritizing its efforts based on potential impact on the City's diversion rate. Specifically, educational projects and funding are spread throughout the department's divisions, limiting the Public Information & Marketing Division's ability to effectively pursue or prioritize educational campaigns. Further, many of the department's educational campaigns lack specific and measurable goals. Without these goals, ARR cannot effectively plan its educational efforts to help the City achieve its Zero Waste Goal.

Additionally, we found that there is inconsistent recycling and composting messaging across the City and its private waste haulers. Specifically, recycling and composting bins and signs vary in appearance across the City. ARR cannot ensure other departments use standardized colors, signage, and education messaging on their waste collection bins. Additionally, ARR collaborates with some but not all of its private waste haulers to share consistent recycling and composting messaging.

Without a strong plan, data, or consistent messaging, ARR cannot determine if it is using staff and funding appropriately or if its current educational efforts are effective.

What We Recommend

ARR should focus its educational efforts on the areas that can have the biggest effect on the City's diversion rate, measure the impact of its educational efforts, and coordinate educational messaging, bins, and signs across the City and private waste management companies.



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Cover: Austin Recycles Facebook Page

Objective

To determine the effectiveness of Austin Resource Recovery's recycling and composting education efforts.

Background

Austin is one of many cities trying to reduce the amount of waste sent to the landfill. In 2009, Austin became the first city in Texas to adopt a Zero Waste Strategic Plan. In doing so, the City set a "Zero Waste Goal" defined as diverting 90% of waste away from landfills and incinerators by 2040.

Exhibit 1: The City is working to become zero waste by 2040



Source: Austin City Auditor review of the City's Zero Waste goal and associated plans over time, March 2025.

According to Austin Resource Recovery, "Zero waste is a philosophy that goes beyond recycling, to focus first on reducing trash and reusing products and then recycling and composting the rest."

Austin Resource Recovery (ARR) is the City department responsible for meeting this goal. To measure the diversion rate, ARR looks at the amount of waste that is kept out of the landfill through recycling,¹ composting,² or other methods. ARR has worked to increase its diversion rate by offering new services and educating the public about them. The plan also identified other measures that can help show the City's progress towards meeting its goal, such as lowering total waste created per capita.

Based on these measurements, the City is not on track to reach its Zero Waste Goal. ARR's annual report for fiscal year 2024 shows that Austin's diversion rate was 37%. This rate is less than ARR's diversion rate of 39.81% a decade earlier. Likewise, ARR's 2023 Comprehensive Plan shows that the per capita disposal rates for ARR-hauled material have been stagnant over the past decade. According to ARR's data, residents created 4.0 pounds of waste per person per day in both 2014 and 2022, the most

¹ ARR accepts paper, cardboard, metals, glass, and hard plastics in recycling bins.

² ARR accepts food scraps, food-soiled paper, yard trimmings, and natural fibers in composting bins.

recent year in the report. Still, Austin appears to be doing better than many of its peers. As seen in Exhibit 2, Austin's diversion rate is higher than peer cities like Denver, Minneapolis, San Antonio, and Dallas. However, we note that cities calculate diversion rates differently. For example, some cities' diversion rates include diverted waste that private haulers manage (e.g., commercial, multifamily properties). Other cities, including Austin, only include data from City-managed waste in its calculations.

Exhibit 2: Austin's diversion rate is higher than some of its peers

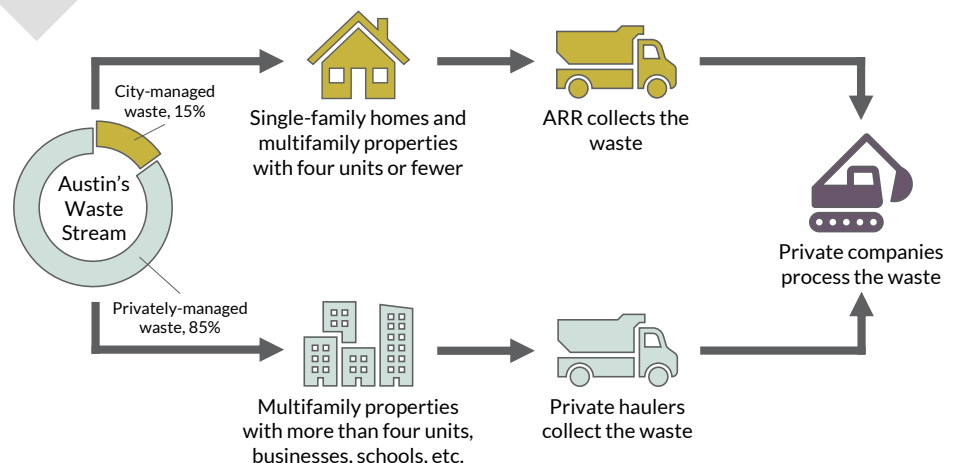
City	Recently Published Diversion Rate	Year
Los Angeles	76.4%	2025
Phoenix	38.4%	2025
Austin	37%	2024
Denver	35%	2020
Minneapolis	34.5%	2023
San Antonio	33%	2024
Dallas	20%	2022

Source: Austin City Auditor research of peer city diversion rates and rates reported in ARR's Fiscal Year 2024 Annual Report, March 2025.

"Austin's current waste management landscape does not allow ARR to accurately measure progress toward its Zero Waste Goal." – ARR's 2023 Comprehensive Plan.

The primary ways the City diverts its waste is through recycling and composting. ARR collects residential curbside trash, recycling, compost, and provides on-demand services for other items. It also runs the City's Recycle and Reuse Drop-Off Center. Residents can drop off hazardous waste, Styrofoam, and other materials at this facility to be recycled or properly disposed. Private waste haulers collect and process waste from most multifamily properties, commercial businesses, schools, and other institutions. In total, the City manages roughly 15% of the waste produced in Austin. The remaining 85% is collected and processed by private waste management companies. Exhibit 3 shows that most of Austin's waste is collected and managed by private waste haulers.

Exhibit 3: The majority of Austin's waste stream is collected and managed by private waste haulers



Source: Austin City Auditor review of information reported in ARR's 2023 Comprehensive Plan, March 2025.

All ARR's customers can divert the same materials, but recycling and composting rules may vary between residences and businesses that contract with private waste haulers. To help ensure consistency and access to recycling and composting across Austin, the City passed a Universal Recycling Ordinance. This ordinance sets minimum recycling and composting requirements for commercial business owners, multifamily properties, and food-permitted businesses serviced by private companies. However, not all businesses are required to offer composting, and the City may issue waivers to businesses and property owners that struggle to meet other requirements such as determining type and amount of waste generated. This may make it hard for ARR to conduct citywide education about waste diversion.

What We Found

Summary

Austin Resource Recovery (ARR) is responsible for meeting the City's Zero Waste Goal. This goal aims to divert 90% of the City's waste from the landfill by 2040 through composting, recycling, and other means. The City is not on track to meet this goal. While education is not the only tool the City has to increase its diversion rate, we found ARR has opportunities to improve its education efforts that may help the City meet its goals. The department is not prioritizing its efforts based on impact to the City's Zero Waste Goal. Additionally, we found that there is inconsistent recycling and composting messaging across the City and its private haulers.

Finding 1

ARR conducts educational outreach but does not base efforts on impact.

ARR is conducting educational outreach to the community

In 2023, ARR updated its comprehensive plan. This plan identified both short-term and long-term goals related to education, as seen in Exhibit 4.

Exhibit 4: Education goals identified in ARR's 2023 Comprehensive Plan

Short-Term (0 – 5 Years)	Long-Term (5+ Years)
(1) Develop an annual campaign focused on building specific zero waste behaviors.	(1) Expand community engagement to support multifamily residents.
(2) Conduct outreach aimed at increasing the community's understanding of zero waste.	(2) Engage limited English proficiency communities.
(3) Launch additional social media platforms.	(3) Create route-specific, material-specific messaging.

Source: Austin City Auditor review of information reported in ARR's 2023 Comprehensive Plan, March 2025.

ARR received multiple awards for their community outreach and marketing campaigns on recycling and composting in 2022 and 2023.

ARR is conducting educational outreach to meet the short-term and long-term goals outlined in the Comprehensive Plan and educate the community about recycling and composting. The department conducts social media campaigns, community events, community surveys, and works with volunteers. ARR also contracts with a local non-profit to provide education on zero waste initiatives to thousands of K-12 students each year. In addition, ARR's website contains detailed information about its work and diversion opportunities. The website also includes a game to teach users how best to dispose of waste. Much of ARR's material is available in multiple languages.

Further, in 2010, the City adopted the Universal Recycling Ordinance (URO) to ensure tenants, residents, and employees in Austin's commercial and multifamily waste streams have access to recycling. The ordinance was expanded to require diversion of compost for food-permitted businesses and multifamily properties. ARR manages compliance with the URO and

provides educational resources for businesses and multifamily properties to post at their sites. ARR management said that while the City does not play a direct operational role in waste collected by private haulers, it can influence outcomes through policies like the URO.

ARR's overall efforts appear to follow guidance put out by the National League of Cities and align with efforts made by peer cities. However, there are still areas for improvement.

ARR is not consistently prioritizing educational efforts

Although ARR is conducting educational outreach to meet the short-term and long-term goals outlined in the Comprehensive Plan, ARR is not consistently prioritizing educational efforts by impact on the City's Zero Waste Goal.

In 2024, ARR staff created a spreadsheet that identified potential education and communication they could work on for the year. This list contained roughly 90 projects and campaigns. Staff said they did not have the resources to effectively do all the projects and expected to select projects from that list to work on over the year. However, department leadership asked them to work on the entire list of projects. Staff expressed concern that as a result, many projects were not going to receive the needed attention and resources.

In addition, it was unclear how staff were going to prioritize time and effort between projects. Over 90% of projects were labeled as either "standard," "important," or "critical" to complete this year. Of those, almost two-thirds were expected to have a medium or high impact on the Zero Waste Goal. Staff state they would like the direction to be clearer in terms of which educational topics and campaigns the Public Information & Marketing team should prioritize. Ideally, ARR's divisions would use the Comprehensive Plan to guide its projects and educational efforts. However, the plan does not specifically outline how each division's efforts are supposed to move them towards the City's Zero Waste Goal.

ARR should focus on the programs that have the biggest impact on the landfill – ARR volunteers.

ARR uses a project management tool to help plan, track, and manage its educational projects and campaigns. Staff across different ARR divisions can fill out a form through the tool to request the PIO and Marketing Division's assistance with marketing campaigns. The tool also includes a field to assign priority to projects, but staff said they do not use this feature because all projects are a priority.

ARR has metrics for its education campaigns, and it works with ARR Public Information & Marketing to set strategic goals every year. However, some of ARR's educational efforts lack measurable goals or ways to measure impact. For example, ARR does not have any reliable metrics that track if its recycling and composting education efforts are improving the City's diversion rate or goals that state how many people it would like to reach each quarter. While ARR records information like the number of views across its social media accounts, the number of views across its webpages, and the number of guests in attendance at an in-person event, these

statistics do not show whether ARR's efforts changed anyone's behavior. Even for these metrics, ARR does not have goals to know whether posts, webpages, and events are getting the attention expected. Without measurable goals, ARR cannot effectively plan or prioritize its educational efforts to help the City achieve its Zero Waste Goal.

ARR performs waste composition studies twice a year, which report the top items and contamination rates for recycling and compost among ARR-managed waste. This data could reflect changes in behavior by comparing contamination rates over time; however, since the studies are done only twice a year and not before and after specific campaigns, ARR staff said they cannot use the data to reliably evaluate campaign success. In addition, ARR's 2023 Comprehensive Plan states that it plans to "commission for a waste characterization study to measure Austin's citywide per capita disposal rate every 3 years to measure progress and set appropriate goals related to disposal." Currently, the most recent data came from a 2020 study. Regular updates will better allow ARR to see shifts in resident behavior and measure the success of its efforts. This data will also help ARR prioritize projects based on impact to the Zero Waste Goal.

Lastly, ARR reported that its budget for education is about \$2.9 million dollars for fiscal year 2025, and almost \$2 million of this funding is allocated to the PIO and Marketing Division. We found that ARR codes the rest of its education budget under various categories across different divisions, including about \$380,000 for an educational services contract. Not having education costs in one line item or concentrated in one division may make it harder for ARR coordinate and prioritize education efforts.

Finding 2

ARR does not coordinate recycling and composting messaging across the City or with private waste haulers.

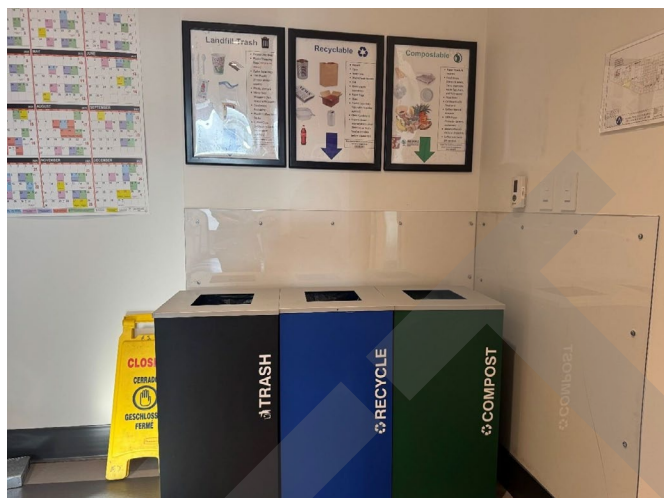
The United States Environmental Protection Agency recommends organizations use consistent and clear labels, signs, symbols, and messaging to reduce confusion about composting and recycling. However, we found that there is inconsistent messaging throughout the City.

Inconsistent signs and bins across the City

ARR only controls residential curbside bins. Other City departments are responsible for the waste bins at their facilities. For example, the Austin Public Library manages waste bins in the City's libraries, the Parks and Recreation Department manages waste bins at the City's parks, and the Building Services Department manages waste bins at many City buildings, including City Hall.

In 2024, ARR worked with other City departments to develop guidelines for "Zero Waste at City Facilities." Guidelines include labeling waste containers in English and Spanish, using blue containers for recycling and green containers for compost, and posting signs with pictures above indoor containers showing which materials should be collected in each bin. However, the guidelines do not have clear implementation dates, and ARR does not have the authority to make other departments comply.

Exhibit 5: These waste bins at the City's Aviation Administration building follow the Zero Waste at City Facilities guidelines



Source: Austin City Auditor observations at the City's Aviation Administration Building, July 2025.

We found that City facilities do not consistently follow these guidelines. While we found examples of bins that were colored and labeled according to the guidelines, as seen above in Exhibit 5, more often we did not. At times, the City does not even provide consistent messaging within the same facility. This may lead to confusion and increased contamination. For example, both bins in Exhibit 6 were found in the Carver Branch Library. The bins are different colors, different sizes, and lack recommended signage. Both feature the universal “chasing arrows” recycling symbol. However, one of them is green, suggesting it may be a compost bin. The other bin was hidden behind a traffic cone, suggesting it may not currently be in use.

Exhibit 6: Inconsistent messaging within the same City facility



Green-colored bin featuring a recycling symbol



Red-colored bin featuring a recycling symbol

Source: Austin City Auditor observations at Carver Branch Library, Summer 2025.

Similar inconsistencies can be seen throughout the City. As seen in Exhibit 7, some waste bins, like those at Roy G. Guerrero Colorado River Metropolitan Park and Branch Park, use colors that align with ARR's residential waste bins. However, others, like those in City Hall, do not. Additionally, none of the bins in these examples contain pictures or other information to help users know which materials should be recycled and which must be thrown away.

Exhibit 7: Waste bins vary in design across the City



Recycling and trash bins at
Roy G. Guerrero Colorado
River Park



Recycling and trash bins at
City Hall by Council Chambers



Recycling and trash bins at
Branch Park




Source: Austin City Auditor observation of a receptacle at Roy G. Guerrero Colorado River Park, City Hall, and Branch Park, Spring 2025.

Most people, even those that care, don't understand what to recycle and compost. – ARR volunteers.

Austin has experienced significant growth in population and tourism since the City initially committed to the Zero Waste Goal in 2005. According to the 2022 American Community Survey, roughly 32% of Austin's population is from another state. Rules and guidance about what can and cannot be recycled, composted, or thrown away may vary across cities and states. Clear and consistent messaging is especially important for new residents and visitors who are not familiar with Austin's recycling and composting opportunities.

Exhibit 8 provides an example of the different messaging residents receive across cities. For example, in the City of Los Angeles, California, people can recycle empty paint cans and wire hangers but are told to throw away batteries. This guidance does not apply in Austin. In Austin, empty paint cans must be thrown away. While there are ways to divert wire hangers from the landfill, they cannot be put in a recycling bin because they can mess up the machines that sort our recycled material. The City explicitly directs residents and visitors to not throw away batteries because they can start fires. While batteries cannot be recycled in a normal bin, the City provides multiple ways to divert them, including on-demand pickup for residential customers, disposal at the Recycling and Reuse Center, and collection bins at all the City's public libraries.

Exhibit 8: Cities have different rules for how to dispose of certain items

Item	Austin Guidance	Dallas Guidance	Denver Guidance	Los Angeles Guidance	San Antonio Guidance
Empty Paint Cans 	Trash	Recycle	Recycle	Recycle	Household hazardous waste
Wire Hangers 	Reuse	Trash	Trash	Recycle	Trash
Batteries 	Household hazardous waste	Household hazardous waste	Household hazardous waste	Trash	Household hazardous waste

Source: Austin City Auditor research of disposal rules in Austin and peer cities, June 2025.

Zero Waste Block Leaders are engaged residents, passionate about sustainability, that share information about recycling and composting in Austin.

In some situations, the City is not providing opportunities for people to divert their waste. For example, Exhibit 9 below shows a trash bin at Bartholomew District Park without any nearby bins for recycling or composting. As can be seen in the picture, park visitors are disposing of their waste, including recyclable material, in this trash bin. We surveyed ARR's volunteer "Zero Waste Block Leaders." In this survey, multiple respondents said that greater access to recycling and composting bins is needed across Austin. Not providing the public with convenient access to recycling and composting bins, especially in City-owned spaces, may lead people to believe that the City is not committed to waste diversion, or to question the importance of recycling and composting.

Exhibit 9: Lack of access to recycling and composting bins may undermine the City's waste diversion efforts



Source: Austin City Auditor observation of a trash receptacle at Bartholomew District Park in Austin, June 2025.

ARR inconsistently coordinates educational responsibilities with private waste haulers

The Environmental Protection Agency suggests that coordinated education and outreach between local governments and private waste haulers can improve the success of recycling and composting programs. This is especially important for the City of Austin where private waste haulers collect roughly 85% of the waste produced within the City. However, ARR does not regularly communicate with these private waste haulers to identify challenges and opportunities in its collection efforts or to coordinate educational efforts.

We reviewed the educational material produced by some of these haulers. Some have extensive efforts that include social media activity, educational content for local schools, and websites with information similar to the City's. Others provide little-to-no education. Regardless of the amount of education provided, representatives from these haulers confirmed that they do not generally coordinate their education efforts with the City. This is a missed opportunity for the City. Private waste haulers collect most of the waste in the City and see challenges and trends that may not be present with ARR's customers.

At times, this lack of communication and coordination may hurt the City's zero waste efforts. For example, the City's Universal Recycling Ordinance sets requirements related to recycling and composting for businesses and property owners serviced by private waste haulers. It is the business owner's or property owner's responsibility to hire private waste haulers to collect their recycling and compost. Currently, there are over 100 haulers licensed to collect landfill waste, recycling, and/or organics (compost) in Austin. To help businesses and property owners find a licensed hauler, the City provides the table in Exhibit 10 on its website:

Exhibit 10: List of private waste haulers licensed by the City

Hauler	Organic Diversion (Food Scraps)	Recycling	Landfill Trash
Balcones Recycling		X	
Break It Down	X	X	
Central Texas Refuse, Inc.		X	X
Efficient PM Solutions	X		
JJ's Waste & Recycling		X	X
GreenThumb Compost LLC	X		
Joe's Organics	X		
Moonshot Compost	X		
Organics "By Gosh"	X		
Texas Disposal Systems	X	X	X
Waste Connections	X	X	X
Waste Management	X	X	X

This list is provided without endorsement. Other providers may be available. Get the full list of [City of Austin Licensed Private Haulers](#). To add, delete, or correct listings please [email us](#).

Source: City of Austin Website, <https://www.austintexas.gov/urohaulers>, July 2025.

However, the information in this list does not always match information shared by the private waste hauler. For example, we reviewed a tool on one of the hauler's websites that helps users determine how to dispose of their waste. Although the hauler is licensed for "Organic Diversion (Food Scraps)," the hauler's tool says that "food scraps," "coffee grounds," and "compostable cutlery" should all be thrown in the trash.

Some of the private waste haulers also operate waste processing facilities such as recycling facilities, composting facilities, and/or landfills. The City contracts with some of these haulers to process the waste collected by ARR. We found that ARR does not have a standardized approach to communicating and coordinating educational messages with these private waste haulers. ARR appears to meet with one of its contractors monthly but does not consistently share data. ARR also hosts quarterly meetings with other contractors, but staff from those companies said they do not generally share data or coordinate education efforts.

Additionally, we reviewed the City's contracts with these companies and found inconsistent educational requirements. For example, one company pays ARR an educational fee to help cover the cost of educating customers as a part of its contract with the City while others have not agreed to this requirement.

Inconsistent guidance can lead to confusion about what can be recycled or composted and weaken public trust in the recycling and composting process. In our survey of Zero Waste Block Leaders, several respondents said that one of the challenges they face is convincing people that items they recycle are in fact recycled. By better coordinating efforts, residents, businesses, and customers could hear a more consistent message from ARR and private waste haulers. This would help everyone in Austin understand which materials can be recycled or composted, how to properly dispose of them, and why waste diversion is important.

Additional Observation

ARR does not appear to have effective internal communication

ARR's Public Information & Marketing Division is responsible for planning and executing educational campaigns for the entire department. However, some staff in this division shared that they are limited in their ability to prioritize work. Instead, they said their efforts were reactive to the immediate concerns of other ARR divisions, City departments, and stakeholders.

Staff from the Public Information & Marketing Division reported that they are frequently excluded from project planning discussions and have communicated to management that they lack sufficient time to effectively plan and implement the volume of projects assigned to them. Ideally, ARR's 2023 Comprehensive Plan would guide ARR's projects and educational efforts. However, the plan does not specifically outline how each division's efforts are supposed to move them toward zero waste goals. As a result, staff report that education efforts produced by ARR's Strategic Initiatives Division, for example, are sometimes prioritized over topics selected by the Public Information & Marketing Division that may have a greater impact on ARR's goal.

Recommendations and Management Response

1

To measure the success of ARR's educational efforts and inform future efforts, the ARR Director should:

- Regularly evaluate educational projects, campaigns and priority levels, and set measurable goals for those projects identified as having a medium and high impact on the Zero Waste Goal.
- Evaluate projects and campaigns against stated goals to determine which education strategies are most effective and adjust efforts to make progress toward the Zero Waste Goal by:
 - Regularly comparing waste composition and contamination data.
 - Regularly evaluating marketing metrics (e.g., number of clicks, views, attendees).

Management Response: Agree

Proposed Implementation Plan:

Create monthly meetings with the Marketing Manager and the Executive Team.

By incorporating dedicated time on an agenda, the Director will have greater opportunity to provide feedback and evaluation of department priorities. This will be supplementary to opportunities that are already in place, such as the annual strategic planning, budget workshops, and monthly meetings with leadership from all divisions.

The 2023 update to the Zero Waste Comprehensive Plan identified the following goal:

“Conduct routine measurement of per capita disposal rate and capture rate, and track over time, aiming for continual improvement. Develop a system to calculate and track capture rates for specific routes and regions to allow for equitable education and response to residents and businesses.” See Chapter 5, Near-Term Goal 5.4 Zero Waste Comprehensive Plan.

ARR is currently working with The Recycling Partnership, who granted over \$600,000, to conduct a capture rate study. The study will involve doing a pre-intervention capture, an educational intervention, and a post-intervention capture. The department will follow the comprehensive plan goal to alternate per capita disposal and capture rate studies every year. This is in addition to existing metrics, such as the twice per year ARR self-audits that track waste composition and contamination. ARR regularly evaluates waste composition and contamination data. These data points inform public education and communication efforts, as well as measure progress and impact of those efforts.

Coordinate with the Communications and Public Information Office (CPIO) and other City departments in response to Council Resolution 20250522-055.

The resolution directs the City Manager to work with CPIO to identify key metrics of success to be used consistently across all City campaigns and communications initiatives. Following the analysis, CPIO will provide guidance and resources to all City communications staff on communications planning. Accordingly, ARR will coordinate and partner with CPIO on education strategies and track which are most effective to adjust efforts as needed in order to make progress toward the Zero Waste Goal.

Proposed Implementation Date: February 2026

2

To minimize recycling and composting confusion and maximize the reach of educational efforts, ARR should:

- Work with other departments that own and manage City of Austin recycling and composting bins to increase standardization in bin colors, signage, and education messaging.
- Add educational requirements or fees specific to supporting education efforts to the City's contract templates with private waste management companies.
- Meet regularly with private waste management companies to share data and coordinate recycling and composting education messaging.

Management Response: Agree

Proposed Implementation Plan:

Revisit City Facilities Guidelines Procedure and develop timelines for implementation.

The [Zero Waste at City Facilities \(ZWCF\) Guidelines Procedure](#) was approved in June 2024 and sets guidelines for departments to establish and maintain landfill diversion programs that align with the City's zero waste goal and ensure the City leads by example. To be fiscally prudent and avoid waste, department Zero Waste Leads establish departmental timelines based on attrition and replacement of infrastructure. ARR will partner with the Building Services Department (BSD) and other departments to meet these guidelines.

The ZWCF Guidelines Procedure goals include the following:

1. Ensuring recycling collection is available and set up with correct placement, color, and signage at all facilities ("Minimum Standards").
2. Encouraging composting collection.
3. Requiring each department to appoint a Zero Waste Lead to educate their department, implement zero waste initiatives, and initiate a departmental Green Team.
4. Avoiding the purchase of single-use plastic items (e.g., plastic water bottles, single-use service ware, or Styrofoam) for use by employees or the public at the City of Austin properties or facilities, except for emergencies.
5. Providing zero waste education to City employees through annual citywide training.

ARR staff conducts facility site assessments and has been working with facility managers and custodial supervisors to create compliance timelines. By the end of FY2026, ARR, BSD and other departments will work together to assess the current status of City facilities and produce an implementation timeline to bring all departments in compliance with the ZWCF Guidelines Procedure goals. The implementation timeline will likely span several years, much like the implementation of the new City brand. Staff is also working with the LEAD Office in Human Resources to create a standardized annual training for all employees. This is planned to be available and included for new employee orientation in FY2026. Resources currently available include the following: [Zero Waste at City Facilities webpage on Cityspace](#) or [Green Champions Teams Channel](#).

Standardize education requirements in contracts.

While ARR does not support adding fees to contracted vendors in order to maintain low residential rates for services, ARR will work the Law Department and Procurement Office to add language in future solicitations and new contracts with vendors that will encourage participation in ARR's educational campaigns.

Continue meeting regularly with private waste management companies.

ARR staff meet with private waste management companies in the following ways:

- Stakeholder conversations. ARR's policy development team regularly engages with private waste management companies on issues related to the department, such as the Universal Recycling Ordinance, Construction and Demolition Recycling, Composting, etc.
- Zero Waste Advisory Commission meetings and committees. Private waste haulers engage with staff and commissioners through the regular monthly meetings of the commission and various committee meetings.
- Contract meetings. For private waste haulers contracted with the City, there are regular communications between all parties with meetings, phone calls, and emails. Staff and contracts discuss items such as education, continuity plans, where materials are being sent, and safety concerns.

ARR will continue to meet regularly with private waste management companies that have contracts to manage materials from ARR customers. Other private waste management companies have many other customers in jurisdictions outside the City of Austin with varied regulatory requirements, and as a result have varied educational messaging and efforts. ARR may share educational information with these companies; however, it may not be beneficial or impactful if their customers have different regulatory or program requirements. Nonetheless, ARR does have policies in place to influence materials generated by non-ARR customers (roughly 85% of all material generated in the city). This material primarily comes from commercial and multifamily properties. Materials from these properties are regulated through the Universal Recycling Ordinance (URO, Austin City Code Chapter 15-6). The property owner or business manager is responsible for meeting the recycling requirements, educating customers, and completing a diversion plan every year. Violations of the URO are a Class C misdemeanor, punishable by fines up to \$2,000 per day, per offense. The Zero Waste Advisory Commission (ZWAC) has a Universal Recycling Ordinance Committee required to meet on a quarterly basis to discuss the implementation and progress of the URO. Private waste management companies are key stakeholders and included in these meetings. Accordingly, the City will continue to enforce the URO and monitor compliance on commercial and multifamily properties as well as continue to participate in the ZWAC committee meetings to support the implementation of the URO.

Of note, most private waste companies share trend and anecdotal data with the City. Other data sources of information may be considered proprietary and typically not shared with any entity that is subject to the Texas Open Records Act.

Proposed Implementation Date: October 2026

Management Response



MEMORANDUM

TO: Kathie Harrison, Assistant City Auditor

THRU: Susana Carbajal, Assistant City Manager

FROM: Richard McHale, Director, Austin Resource Recovery Department *Richard McHale*

DATE: September 3, 2025

SUBJECT: Response to Austin Resource Recovery Recycling and Composting Education Audit

On August 11, 2025, the Office of the City Auditor shared a draft audit report evaluating Austin Resource Recovery's (ARR) efforts in recycling and composting education. ARR appreciates the opportunity to work with the Auditor's team and acknowledges the audit's finding that the city's diversion rate has remained relatively unchanged over the past decade. However, we respectfully disagree with the conclusion that this stagnation is due to ineffective recycling education. The solid waste industry is highly complex with various levels of interdependency, differing regulatory requirements, infrastructure availability, service availability, and consumer behavior. This memo outlines ARR's position, provides evidence of program effectiveness, and highlights broader systemic factors influencing diversion outcomes.

Clarification on Education Program Effectiveness

ARR maintains a robust and adaptive public education and marketing program. The program is informed by data from various sources, including regular waste composition audits, feedback from collection drivers, stakeholder input, and community priorities.

For each communication campaign, ARR staff develops a comprehensive marketing plan in collaboration with relevant departmental teams. These plans outline the campaign's objectives, target audiences, key messaging, call-to-action, tactics, budget, and performance metrics, along with a defined timeframe. Each plan undergoes a review and approval process by the appropriate divisions and the department's executive team. Upon completion, a performance summary is created to evaluate the campaign's effectiveness. This includes an analysis of communication assets, deployment strategies, and tactic-specific performance, as well as the overall impact based on available data. In addition to campaign-specific evaluations, ARR continuously monitors communication performance through monthly digital reports. These reports track website traffic, newsletter engagement, recollect usage, and social media analytics—providing insights into customer behavior and informing future strategy and content development. As presented, the draft audit report does not reflect the full scope or impact of these efforts.

Management Response

Examples of Effective Education Initiatives

ARR conducts self-audits of recyclable and compostable material twice per year providing staff with data in waste composition and levels of contamination. Following a waste composition audit that revealed low food scraps in compost carts, ARR launched a targeted campaign with a goal of increasing food scraps. After targeted communication, the following audit demonstrated an increase in food waste capture to 11.98%, an increase from 7.41% and 9.38% in the previous two years. Similarly, ARR launched a targeted campaign to reduce recycling contamination. The industry average for contamination in the recycling stream is 25%. ARR had been close but under this rate for many years. Accordingly, ARR launched a campaign utilizing collection drivers to tag improper set outs and speak with customers. The following audit resulted in a 15.17% contamination rate, down from 16.8% the previous year.

Limitations of the Diversion Rate as a Metric

The diversion rate—typically defined as the percentage of waste materials diverted from landfills or through recycling or composting—is a widely used metric in solid waste management. However, it has become increasingly difficult to measure accurately and less reflective of program effectiveness over the past decade. Cities are increasingly looking at per capita waste generation, contamination rates, and upstream impact metrics to gauge progress toward zero waste. Below are few examples of significant changes in the industry which increase complexity of materials, consumption habits, and metrics. As a result, ARR has incorporated additional measures to track progress toward zero waste.

- *Lightweighting of Materials*
Manufacturers have significantly reduced packaging weights. For example, aluminum cans weighed about 25g in the 1990s but only about 13g today. Similarly, plastic bottles and other commodities have become lighter. This results in less recyclable material by weight, even if the number of items is the same.
- *Shift in Material Composition*
More products are made from multi-layered or composite materials that are difficult to recycle. Packaging trends are also shifting. For example, many glass products are being replaced with plastic. Recent shifts toward digital media created a reduction in paper from newspapers and magazines. These shifts from consumer product companies and manufacturers create significant shifts in recycling tonnage.
- *Upstream Efforts*
The diversion rate does not account for efforts upstream from recycling, such as reducing consumption, reuse, repair, and shared use, among other things. These efforts are better measured through per capita waste generation and disposal numbers. Efforts to change consumer consumption habits have a much greater impact on waste reduction than recycling.

Contextualizing the Zero Waste Goal

The City's Zero Waste goal, established in 2011, was based on assumptions that no longer reflect current realities. ARR's analysis shows that even with perfect recycling behavior, the maximum achievable diversion rate is approximately 65% due to changes in product design and material complexity and limited recyclability of multi-material packaging. The City of San Antonio, for example, has lower diversion goal of 60% to reflect these industry-wide shifts.

Management Response

In conclusion, ARR remains committed to transparency, innovation, and continuous improvement. ARR welcomes continued collaboration with the Auditor's Office and other stakeholders to refine metrics and enhance programs. Included in the management response, there is actionable progress by ARR that is already underway on the recommendations. Nonetheless, ARR believes that the stagnation in the diversion rate is not a reflection of ineffective education, but rather a result of broader industry trends and systemic limitations in how diversion is measured.

ARR appreciates the opportunity to provide this response and looks forward to working together to advance the City's Zero Waste goals.

cc: T.C. Broadnax, City Manager
CMO Executive Team
Corrie Stokes, City Auditor
Erika Brady, City Clerk
Mary Jane Grubb, Municipal Court Clerk
Judge Sherry Statman, Municipal Court

Scope

The audit scope included the Austin Resource Recovery's efforts to provide recycling and composting education programs to the public between the fiscal years of 2022 and 2024.

Methodology

To complete this audit, we performed the following steps:

- Researched best practices and relevant laws for recycling and composting education
- Reviewed plans, policies, procedures, and other documents related to recycling and composting education
- Reviewed City Council actions related to recycling and composting
- Interviewed staff from the Austin Resource Recovery
- Contacted member of the City's Zero Waste Advisory Commission and reviewed the Commission's recommendations related to recycling and composting
- Interviewed four contractors that provide recycling and composting services for the City
- Researched partnerships and volunteer programs ARR uses to educate the public about recycling and composting
- Reviewed performance measures, funding, and project information related to recycling and composting education
- Reviewed materials used to educate and engage with the public including social media posts specific to recycling and composting education
- Surveyed more than 100 Zero Waste Block Leaders to about their experiences and the City's diversion efforts. The response rate to the survey was roughly 57%.
- Researched recycling and composting programs in nine peer US cities including Dallas, TX; Fort Worth, TX; San Antonio, TX; Los Angeles, CA; Washington, DC; Boston, MA; Minneapolis, MN; Portland, OR; and Seattle, WA and compared to ARR's recycling and composting efforts
- Evaluated internal controls related to Austin Resource Recovery's recycling and composting education program
- Evaluated the risk of fraud, waste, and abuse related to Austin Resource Recovery's recycling and composting program

Audit Standards

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The Office of the City Auditor was created by the Austin City Charter as an independent office reporting to City Council to help establish accountability and improve City services. We conduct performance audits to review aspects of a City service or program and provide recommendations for improvement.

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