

City of Austin



**A Report to the
Austin City Council**

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AUDIT REPORT

Zero Waste Audit

November 2013



REPORT SUMMARY

Austin Resource Recovery (ARR) has adopted a comprehensive plan to achieve the City's zero waste goals. However, ARR does not have access to all citywide waste information to enable them to fully measure and report progress toward meeting established zero waste goals. Also, ARR is currently reporting waste diversion based on residential waste information only, which presents an incomplete view of Austin's progress toward citywide zero waste goals.

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GOVERNMENT AUDITING STANDARDS COMPLIANCE

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.

AUDIT TEAM

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November 2013



Audit Report Highlights

Why We Did This Audit

This audit was conducted as part of the Office of the City Auditor's (OCA) Fiscal Year (FY) 2013 Strategic Audit Plan.

What We Recommend

The ARR Director should implement a mechanism to account for waste information outside City control and access to be able to report complete information related to established zero waste goals. The Director should also ensure that all information related to established zero waste goals is clearly and accurately reported including categories of waste not currently captured and measured.



For more information on this or any of our reports, email oca_auditor@austintexas.gov

ZERO WASTE AUDIT

Mayor and Council,

I am pleased to present this audit on the City's zero waste efforts.

BACKGROUND

In 2009, the City Council approved a zero waste goal of 90% diversion by 2040, and adopted interim milestone diversion rates, with the Austin Resource Recovery (ARR) Master Plan adopting accelerated interim goals for the department to achieve 90% zero waste by 2030. As of FY 2012, ARR reported 38% diversion of materials collected from ARR customers, which include curbside garbage and recycling, waste collected at the Household Hazardous Waste center, and yard/brush trimmings that are recycled or reused.

In the ARR Master Plan, "zero waste" means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them.

OBJECTIVE AND SCOPE

The objective of the audit was to evaluate if the City's zero waste efforts are measurable, achievable, and meeting established goals.

The audit scope included a review of ARR waste diversion activities and related records from October 2010 to March 2013.

WHAT WE FOUND

ARR has adopted a comprehensive plan to achieve the City's zero waste goals. However, ARR does not have access to all citywide waste information to enable them to fully measure and report progress toward meeting established zero waste goals. Currently, the City has access to approximately 25% of citywide waste information and anticipates receiving access to more, but not all, information by mid-year 2015. Also, ARR is currently reporting waste diversion based on residential waste information only, which presents an incomplete view of Austin's progress toward citywide zero waste goals.

We appreciate the cooperation and assistance we received from Austin Resource Recovery staff during this audit.

Kenneth J. Mory, City Auditor

BACKGROUND

In 2009, the City Council passed Resolution 20090115-050, which adopted a Zero Waste Strategic Plan and goal to divert 90% of waste generated in Austin from landfills by the year 2040 (see Exhibit 1 for associated policy priorities). The Zero Waste Strategic Plan was incorporated into the Austin Resource Recovery (ARR) Master Plan adopted in December 2011. The ARR Master Plan adopted accelerated interim goals for achieving the City's zero waste goals: 50% by 2015, 75% by 2020, 85% by 2025, and 90% by 2030.

EXHIBIT 1 Zero Waste Policy Priorities

<p>1. Lead by example: Evaluate departmental waste streams for baseline data and future monitoring within one year of adoption of the Plan. Within three years of adoption of the Plan, frame, develop and implement, where appropriate and feasible, waste diversion programs with input from City Departments.</p>
<p>2. Education and Enforcement: Consider and implement proactive education and enforcement methods for the Commercial and Multi-family Recycling regulations. Develop and present to City Council City Code amendments as necessary to require recycling at all commercial enterprises and multi-family residences and include them in the stakeholder process. The proposed City Code amendments should become effective in phases over a three year period.</p>
<p>3. Industry Outreach: Reach out to institutions, industrial facilities, and manufacturers, to encourage them to adopt and implement zero waste goals.</p>
<p>4. Removal of Organic Material from Landfill: Promote composting to remove organic material and compostables from landfills, which is necessary to reduce methane and carbon emissions. First, identify the best strategies to promote on-site composting at work and home. Second, evaluate infrastructure for residential curbside, commercial, and institutional composting; develop strategies to increase composting capacity; and implement a pilot curbside composting program when composting capacity is available.</p>

SOURCE: Zero Waste Strategic Plan, Gary Liss and Associates, December 2008

According to the Zero Waste International Alliance (ZWIA), zero waste is “a goal that is ethical, economical, efficient, and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all wasted materials are designed to become resources for others to use.” In the ARR Master Plan, “zero waste” means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. The plan also notes that implementing zero waste will eliminate all discharges to land, water, or air that are a threat to planetary, human, animal, or plant health.

OBJECTIVE, SCOPE, AND METHODOLOGY

The Zero Waste Audit was conducted as part of the Office of the City Auditor's (OCA) Fiscal Year 2013 Strategic Audit Plan, as presented to the City Council Audit and Finance Committee.

Objective

The objective of the audit was to evaluate if the City's zero waste efforts are measurable, achievable, and meeting established goals.

Scope

The audit scope included a review of ARR waste diversion activities and related records from October 2010 to March 2013.

Methodology

To accomplish our audit objectives, we performed the following steps:

- researched zero waste industry practices, contracts, budgets, and relevant legislation;
- evaluated other zero waste planning and implementation efforts for comparison to Austin;
- interviewed key ARR management and staff with responsibilities related to zero waste;
- analyzed and documented the zero waste measurement process used by ARR;
- observed ARR curbside garbage and recycling collection and disposition process;
- tested a sample of daily garbage and recycling reports to determine the accuracy and completeness of the diversion reporting process; and
- evaluated risks related to information technology and fraud, waste, and abuse relevant to the audit objective.

AUDIT RESULTS

Austin Resource Recovery (ARR) has adopted a comprehensive plan to achieve the City's zero waste goals. However, ARR does not have access to all citywide waste information to enable them to fully measure and report progress toward meeting established zero waste goals. Currently, the City has access to approximately 25% of citywide waste information and anticipates receiving access to more, but not all, information by mid-year 2015. Also, ARR is currently reporting waste diversion based on residential waste information only, which presents an incomplete view of Austin's progress toward citywide zero waste goals.

Finding 1: In order to achieve the City of Austin's zero waste goals, ARR has adopted a comprehensive plan that is aligned with the efforts of other entities pursuing zero waste goals.

In order to assess the achievability of the City's zero waste goals, we evaluated the ARR Master Plan as well as the plans in five municipalities¹ that also have comprehensive waste reduction or diversion strategies. We identified twenty common program components used by other municipalities to encourage or mandate waste diversion. These components are categorized as individuals, multi-family properties, commercial entities, construction and demolition, local governments, and special or public events.

We found that, at present, ARR has implemented 12 of the 20 common program components. According to the ARR Master Plan, an additional six components are planned for implementation by 2015. The two components not planned in Austin are landfill bans on the disposal of commercial recyclable or compostable items and construction and demolition waste. Exhibit 2 outlines categories and program components in place, planned, and not planned by ARR as compared to the program components in place in the five municipalities. In addition, the ARR Master Plan states that it is "designed to be a living document with implementation steps, annual reports and program assessments every five years." ARR staff indicated that any adjustments to the plan following the five-year assessments would go through a public process.

¹ Municipalities with more mature programs are San Francisco, CA; Seattle, WA; and Portland, OR. Two municipalities with newer programs are San Antonio, TX and Mecklenburg County, NC.

EXHIBIT 2
ARR Zero Waste Plan Program Components as Compared to Other Municipalities

Waste Diversion/Reduction Program Components	Austin, TX	San Francisco, CA	Seattle, WA	Portland, OR	San Antonio, TX	Mecklenburg County, NC
Residential Waste Diversion						
Curbside recycling requirement	Implemented	x	x	x	x	x
Food waste/Composting	Implemented ¹	x	x	x	x	
Bulky item collection	Implemented	x	x	x	x	
Household hazardous waste collection	Implemented	x	x	x	x	
Pay-as-you-throw cart fees	Implemented	x	x	x		
Multi-Family Waste Diversion						
Recycling Requirement	Implemented	x	x	x	x	x
Food waste/Composting	Planned	x	x	x		
Commercial Waste Diversion						
Recycling Requirement	Implemented ²	x	x	x		x
Food waste/Composting	Implemented ³	x	x	x		x
Plastic Bag Ban	Implemented	x	x	x		
Single-Use Container (Styrofoam) ban	Planned	x	x	x		
Ban on Disposal of Recyclable/Compostable Items	Not Planned	x	x			x
Local Government Waste Diversion						
Recycling Requirement in Municipal Facilities	Implemented ⁴	x	x	x	x	x
Purchasing Provisions/Preferences to Reduce Waste	Planned	x	x	x	x	x
Construction/Demolition Waste Diversion						
Recycling Requirement	Planned	x	x	x		
Ban on Disposal of C&D Related Waste into landfill	Not Planned	x	x			
Public/Special Events Waste Diversion						
Recycling Requirement	Planned	x	x		x	
Food Composting Available	Planned	x	x	x		
Other Waste Diversion Activities						
Penalties/fines assessed for not diverting waste	Implemented ⁵	x	x	x		
Community Education and Awareness Programming	Implemented	x	x	x	x	x
Total Components Implemented	12	20	20	17	9	8

SOURCE: OCA analysis of waste diversion or reduction program components of other municipalities, October 2013

Notes:

¹ Austin's program is a voluntary rebate program at present. San Antonio is currently offering composting on a subscription basis.

² Per the Universal Recycling Ordinance (as of October 1, 2013), multi-family properties with more than 50 dwelling units and offices/institutions exceeding 75,000 square feet are required to provide recycling services on-site. Other commercial properties will be phased in each year until 2017 when all commercial properties in the City will be required to provide on-site recycling services.

³ Per the Universal Recycling Ordinance (Effective October 1, 2016), food service establishments that serve non-prepackaged food, are required to hold a food permit, and occupy at least 5,000 square feet will be required to recycle compostable materials. All food service establishments of any size meeting the stated criteria will be required to recycle compostable materials by 2017.

⁴ Applies to City of Austin facilities only.

⁵ There are fines in place for commercial and multi-family properties only.

Finding 2: ARR does not have access to all citywide waste information to enable them to fully measure and report progress toward meeting established zero waste goals.

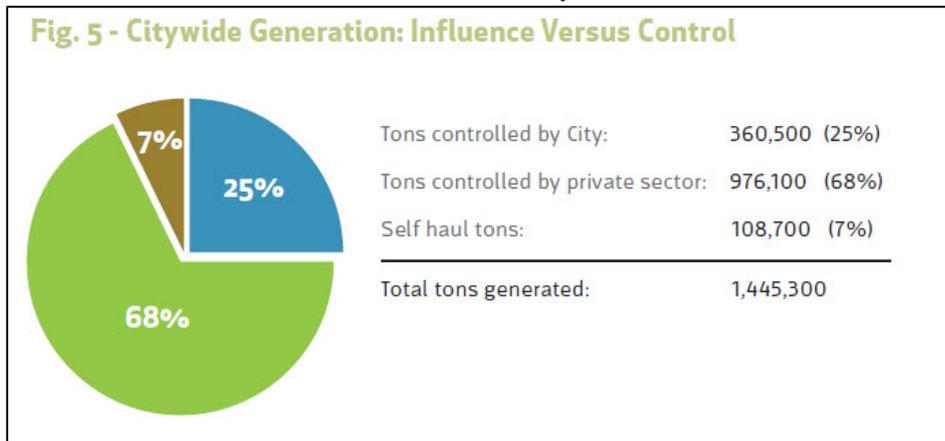
The ARR Master Plan states that the “[d]epartment’s diversion goals are based on the citywide generation of discarded materials, including materials generated by residents, commercial businesses, industries, institutions, and visitors” and involves “all resource and waste streams generated from within the City boundaries, regardless of who collects and hauls the material.” Currently, the City has access to approximately 25% of citywide waste information. The City anticipates receiving access to approximately 60% of citywide information by mid-year 2015. The remaining information (approximately 15%) remains outside City control and access.

City Control

As of 2009, a waste composition study estimated that ARR directly controls approximately 25% of waste materials generated in the City. The types of waste under ARR control include garbage, recycling, brush/yard trimming, bulky items, and household hazardous waste collection for single-family residences (and some small businesses in residential areas). The remaining 75% of waste materials generated in the City are controlled by the private sector or self-hauled by individuals (see Exhibit 3).

EXHIBIT 3

Most of the Waste Generated in the City is Outside of ARR Control



SOURCE: Austin Resource Recovery Master Plan, December 2011

ARR measures waste diversion using the following formula:

$$\frac{\text{Total Diverted Tons}}{\text{Total Diverted Tons} + \text{Total Disposed Tons}}$$

“Total diverted tons” includes all discarded materials that were successfully diverted from being sent to the landfill through activities including reuse, recycling, and composting. “Total disposed tons” is all discarded materials sent to landfills. ARR collects data on other City-controlled diversion activities (such as items self-hauled to the City’s Reuse Center), but does not include these in current measures since the corresponding landfill rate is unknown. At present, this calculation is based on the 25% of waste information accessible and measurable under “City control.” The 75% of waste information outside City control is not currently accessible and, therefore, not included in the diversion calculation.

Anticipated City Access (Universal Recycling Ordinance (URO))

During the course of this audit, the City Council approved negotiation and execution of a contract that would establish an online data collection and reporting database. According to ARR estimates, this third-party database should provide ARR with access to approximately 80% of the waste information that is currently outside City control (or 60% of citywide waste information). Access to this information should allow ARR to measure approximately 85% of all citywide waste and enable them to more accurately report progress towards meeting established waste diversion goals.

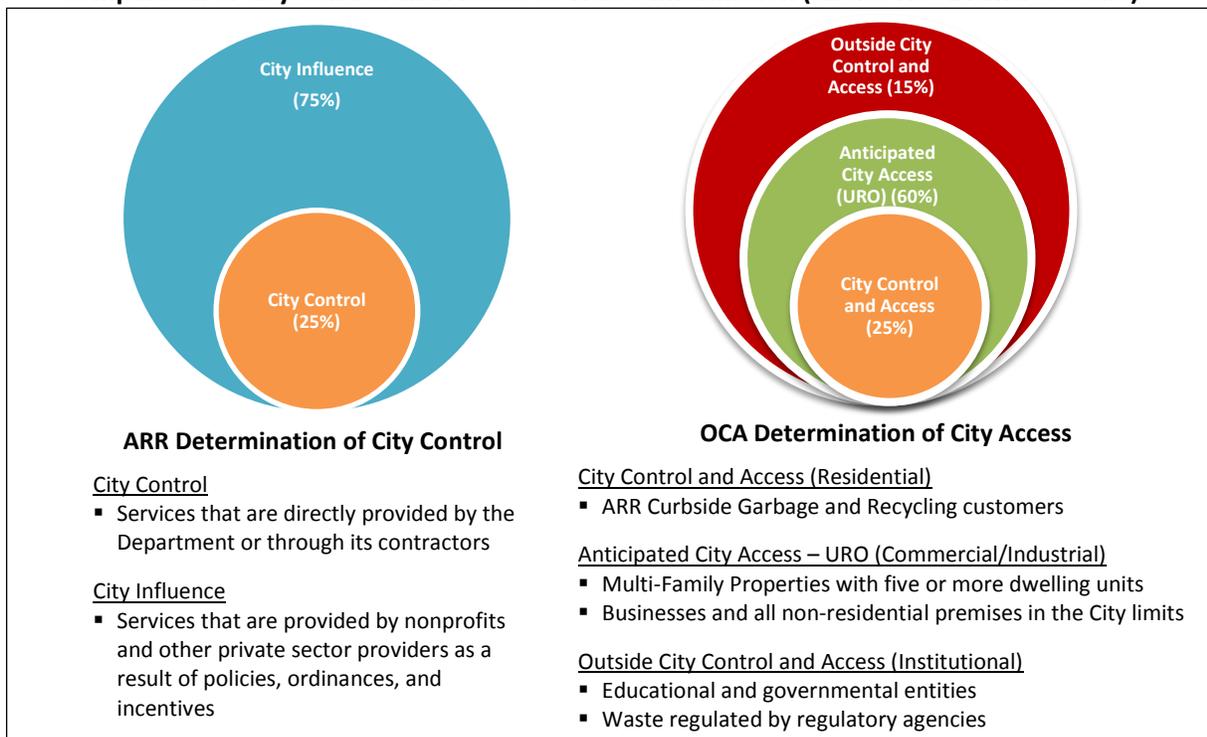
Outside City Control and Access

The third-party database will not facilitate access to all citywide waste information needed to measure and report complete results. ARR staff indicated some institutional (education and government) facilities in the City limits are not subject to and cannot be compelled to follow City ordinances related to zero waste. These facilities include buildings owned by the Austin Independent School District, counties in the City limits, the State of Texas including the University of Texas, and the Federal government. Also, ARR may not be able to account for special waste streams governed by state and federal regulatory agencies. ARR staff indicated that they intend to pursue agreements with these entities to encourage their participation in providing waste information.

Exhibit 4 shows a comparison of City control and access to information from the citywide waste streams. The circles on the left mirror the figures in Exhibit 3 related to City control and access to waste information. The circles on the right represent the anticipated additional impact of the URO and third-party reporting database (60%) as well as the approximately 15% of waste information that remains outside direct City control and access.

EXHIBIT 4

Comparison of City Control and Access to Waste Information (Circles Not Drawn to Scale)



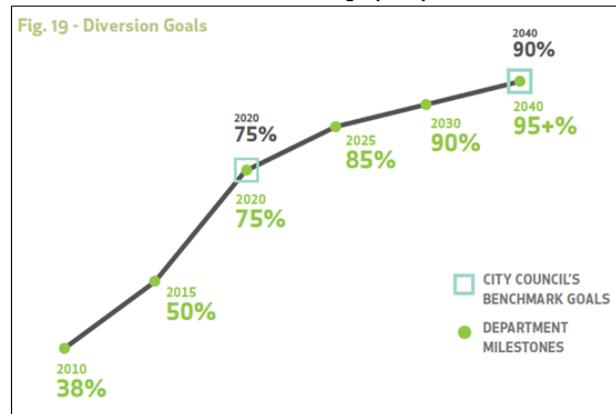
SOURCE: Austin Resource Recovery Master Plan, December 2011, and OCA analysis of City control and access to waste stream information (percentages are approximations), October 2013

Finding 3: ARR is currently reporting waste diversion based on residential waste information only, which presents an incomplete view of Austin’s progress toward citywide zero waste goals.

The ARR Master Plan states that annual progress updates “will allow the Department, City Manager, City Council, and residents to make informed decisions regarding how to proceed year to year based on economic conditions and available resources. Material diversion will also be calculated annually with available data. A full citywide diversion assessment will be contracted every five years, to measure progress toward the five-year benchmarks as well as the City Council adopted diversion goals.” According to ARR, the five year assessment will apply to three categories of waste generation: Residential (City control and access), Commercial/Industrial (subject to URO/City access), and Institutional (outside City control and access).

Since FY 2010, ARR has annually reported an approximate 38% diversion rate based on the waste information available (Residential). Also, the ARR Master Plan includes a chart showing the 38% figure along with the interim goals (see Exhibit 5). However, as noted above, these figures represent only 25% of citywide waste and only one of the three waste generation categories. While each category of waste generation has the same benchmark and milestone goals, there is a risk that reporting progress for only one of the three categories may be confusing or misrepresent actual progress relative to the citywide goals. Without a mechanism to access all citywide waste information, ARR is unable to measure and report complete waste information. However, in order to provide stakeholders the information they need, the status of each category of waste generation should be reported to improve transparency. For example, Exhibit 6 presents a current progress update for all categories of waste generation to clearly communicate the entire picture related to citywide zero waste progress. The first row (“Residential”) communicates the current ARR performance measure “percent of waste stream diverted by ARR curbside, reuse, and HHW operations” for the last three years. Rows two and three communicate that the information for these categories of waste is not currently available and that action is required to access and report this information.

EXHIBIT 5
Diversion Calculation and Goals Presented for Residential Category Only



SOURCE: Austin Resource Recovery Master Plan, December 2011

EXHIBIT 6

Reporting Status and Diversion Results for All Categories of Waste Generation

Category of Waste Generation	FY 2010	FY 2011	FY 2012
Residential (City control and access)	37.32%	38.57%	37.86%
Commercial/Industrial (subject to URO/City access)	Not Available	Not Available	Not Available
Institutional (outside City control and access)	Not Available	Not Available	Not Available

SOURCE: OCA analysis of the Austin Performance Measure Database and City control and access to waste stream information, October 2013

RECOMMENDATIONS

The recommendations listed below are a result of our audit effort and subject to the limitation of our scope of work. We believe that these recommendations provide reasonable approaches to help resolve the issues identified. We also believe that operational management is in a unique position to best understand their operations and may be able to identify more efficient and effective approaches and we encourage them to do so when providing their response to our recommendations. As such, we strongly recommend the following:

- 1. The Director of ARR should implement a mechanism to account for waste information outside City control and access to be able to report complete information related to established zero waste goals.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

- 2. The Director of ARR should ensure that all information related to established zero waste goals is clearly and accurately reported including categories of waste not currently captured and measured.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

MANAGEMENT RESPONSE



To: Kenneth J. Mory, City Auditor

From: Bob Gedert, Director 
Austin Resource Recovery Department

Date: November 18, 2013

Subject: Management Response to Zero Waste Audit

The objective of the Zero Waste audit was to evaluate if the City's zero waste efforts are measurable, achievable, and meeting established goals. Austin Resource Recovery has adopted a comprehensive plan to achieve the City's zero waste goals, as documented in the ARR Master Plan that was adopted by City Council on December 15, 2011. We are pleased to accept this first audit of our Zero Waste efforts. The Auditor's staff performed a very thorough analysis of what components are required for a Zero Waste goal to be achieved.

In Finding 1 of this audit, the ARR Master Plan meets this expectation, and the audit finds the Department well underway in the implementation stages of 12 of the planned 20 elements. It is my desire to begin the implementation of all 20 elements by 2020.

Finding 2 notes the concern that "ARR does not have access to all citywide waste information to enable them to fully measure and report progress toward meeting established zero waste goals." This issue is being addressed, however I share the concern of the Auditor's Report. As Director, I am in Concurrence with the Finding. ARR plans to gather waste diversion information through the Hauler License tonnage reports and the Universal Recycling Ordinance data collection system. In addition, a full city-wide inventory of waste streams is planned for calendar year 2015, to determine if city-wide 50% diversion is attained.

Finding 3 notes the additional concern that "ARR is currently reporting waste diversion based on residential waste information only, which presents an incomplete view of Austin's progress toward citywide zero waste goals." This finding results in two issues of concern; how the information is reported to Austinites, and the added concern of Finding 2 that ARR has limited information about our city-wide measurement toward Zero Waste. I concur with this finding, and pledge to display the available data in a more accurate manner.

The sole measure toward Zero Waste that we have available data on is the Single-Family Residential diversion rate. As we work toward resolution of the collection of data for Commercial/ Industrial and Institutional waste streams, we will be better able to accurately report progress to our citizens in future years. As we progress, we will display all three categories of waste streams in our annual report.

Austin Resource Recovery staff are dedicated toward the achievement of Zero Waste, and remain committed to our mission. The Mission of Austin Resource Recovery is "to achieve Zero Waste by providing excellent customer services that promote waste reduction, increase resource recovery, and support the City of Austin's sustainability efforts." (Master Plan page 3)

ACTION PLAN

Zero Waste Audit

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
<p>1. The Director of ARR should implement a mechanism to account for waste information outside City control and access to be able to report complete information related to established zero waste goals.</p>	<p>Concur ARR will gather waste diversion information through the Hauler License tonnage reports and the Universal Recycling Ordinance data collection system. In addition, a full city-wide inventory of waste streams is planned for calendar year 2015, to determine if city-wide 50% diversion is attained. If data collection is limited due to resistance to reporting, ARR will request City Council support for a revision to existing ordinances to place financial penalties on non-compliance to waste tonnage reporting requirements.</p>	<p>Currently establishing data collection system via contract with third-party contractor. Throughout 2014, data from haulers and waste generators will be collected and analyzed.</p>	<p>Planned: 2014 reporting data collected and analyzed through three categories of waste generators. Planned: 2015 calendar year ARR will contract for a city-wide measurement survey encompassing all three types of waste generation.</p>
<p>2. The Director of ARR should ensure that all information related to established zero waste goals is clearly and accurately reported including categories of waste not currently captured and measured.</p>	<p>Concur ARR will report the city diversion progress in the next ARR Zero Waste Annual Report through three distinct categories: “Single-Family Residential”, “Commercial and Industrial” (including Multi-Family), and “Institutional” (including government, education and religious institutions). When all three measures are verified with sufficient data, an aggregate city-wide diversion percentage will also be reported, representing all waste streams generated within the City.</p>	<p>Effective immediately, measurement of diversion as reported monthly to ZWAC and reported to the community through the ARR Annual Report will reflect new descriptive language to clarify diversion measurement through three categories.</p>	<p>Underway: New descriptive language for clarification will be presented to ZWAC on January 8, 2014. Planned: 2013 Annual Report to be released in April 2014 will more accurately describe diversion progress in the three major categories.</p>