City of Austin
Zero Waste Master Plan

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Zero Waste Leadership

What is Zero Waste???

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 discarded materials are designed to become resources for others to use. 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. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.

Zero Waste International Alliance

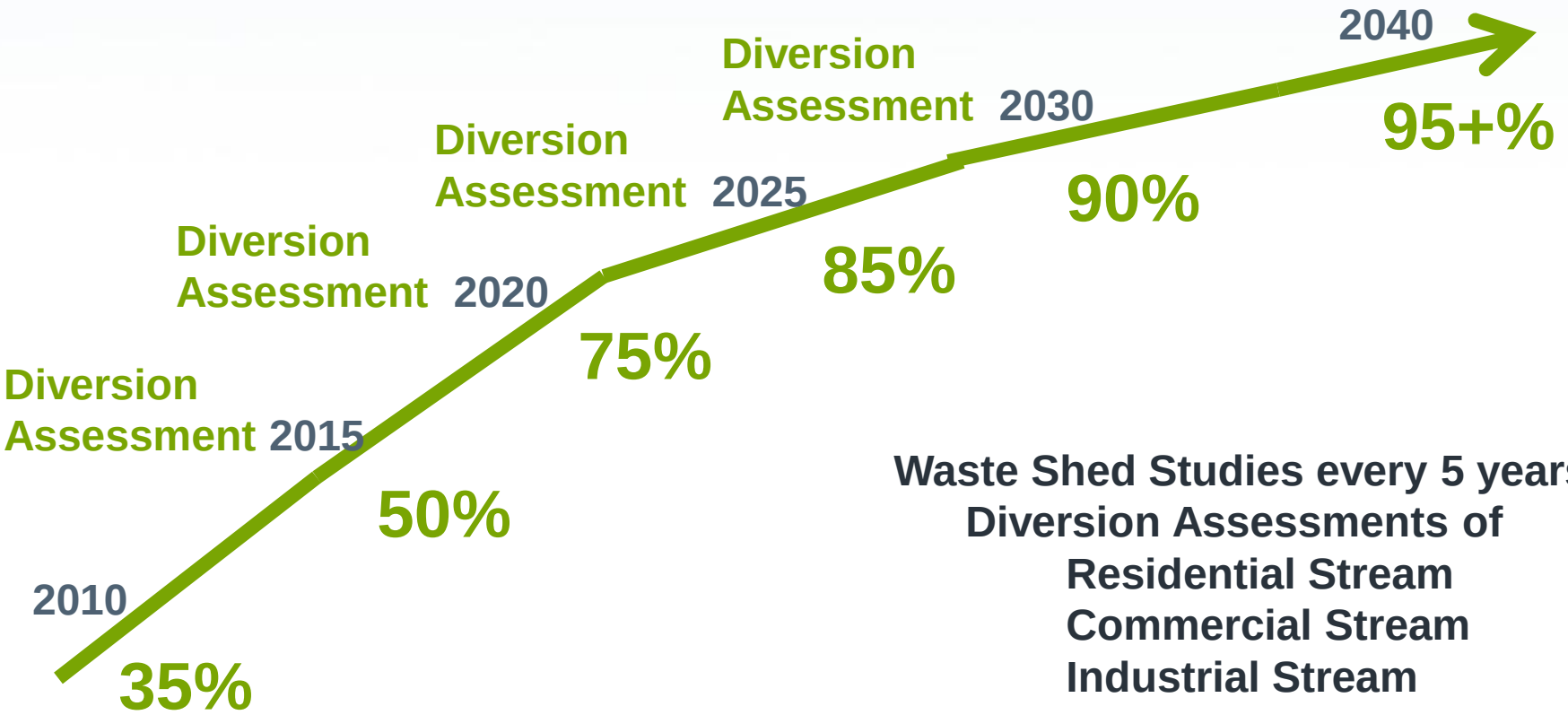
Municipal Implementation of Zero Waste

Zero Waste as a municipality goal requires:

- A Diversion Goal and Target Date
- Establishing Benchmark Goals
- "Aggressive" & "Universal" Recycling
- Organics (with food waste) Collection
- Waste Reduction Actions (smaller carts)
- Reuse Collection / Redistribution
- Community & Business Partnerships
- Extensive Public Education/Awareness

Long-term Commitment – It's a Journey!

Austin Resource Recovery Master Plan:
Zero Waste Diversion Goals



Waste Shed Studies every 5 years
Diversion Assessments of
- **Residential Stream**
- **Commercial Stream**
- **Industrial Stream**

Public Planning Process

Council Adopted Zero Waste Goal	**January 2009**
Workshop 1 - Master Plan Scoping	August 2009
Workshop 2- Preliminary Research Report	August 2010
Workshop 3 – Needs Assessment Report	November 2010
Workshop 4 – Zero Waste Plan Elements	March 2011
Public Meetings & City Council Presentation	**April-Nov 2011**
City Council Adoption of Master Plan	**December 15, 2011**

Development of the Austin Resource Recovery Master Plan:

Major Stakeholders

- Citizens
- Neighborhood Associations
- Solid Waste Advisory Commission
- Sustainable Food Policy Board
- Environmental Board
- Business Chambers
- Haulers/Recyclers/Composters
- City Council

Development of the Austin Resource Recovery Master Plan:

Stakeholder Listening Forums

- Charettes
- Small Group Feedback Sessions
- Workshops & Presentations
- Commission and Board Meetings
- Business Chamber Discussions
- Website documents and discussion
- Social Media (Facebook, Twitter, etc)
- Speak Up Austin (web blog for input)

Components of the Austin Resource Recovery Master Plan:

Importance of the Austin Resource Recovery Master Plan

- Guiding principle for providing future services
- On-going Community input and support

Zero Waste Services Component

- Policies & Ordinances
- New Diversion Programs
- Infrastructure Development

Operational Component

- Operational efficiencies
- Inter-departmental infrastructure synergies
- Long-term program commitments

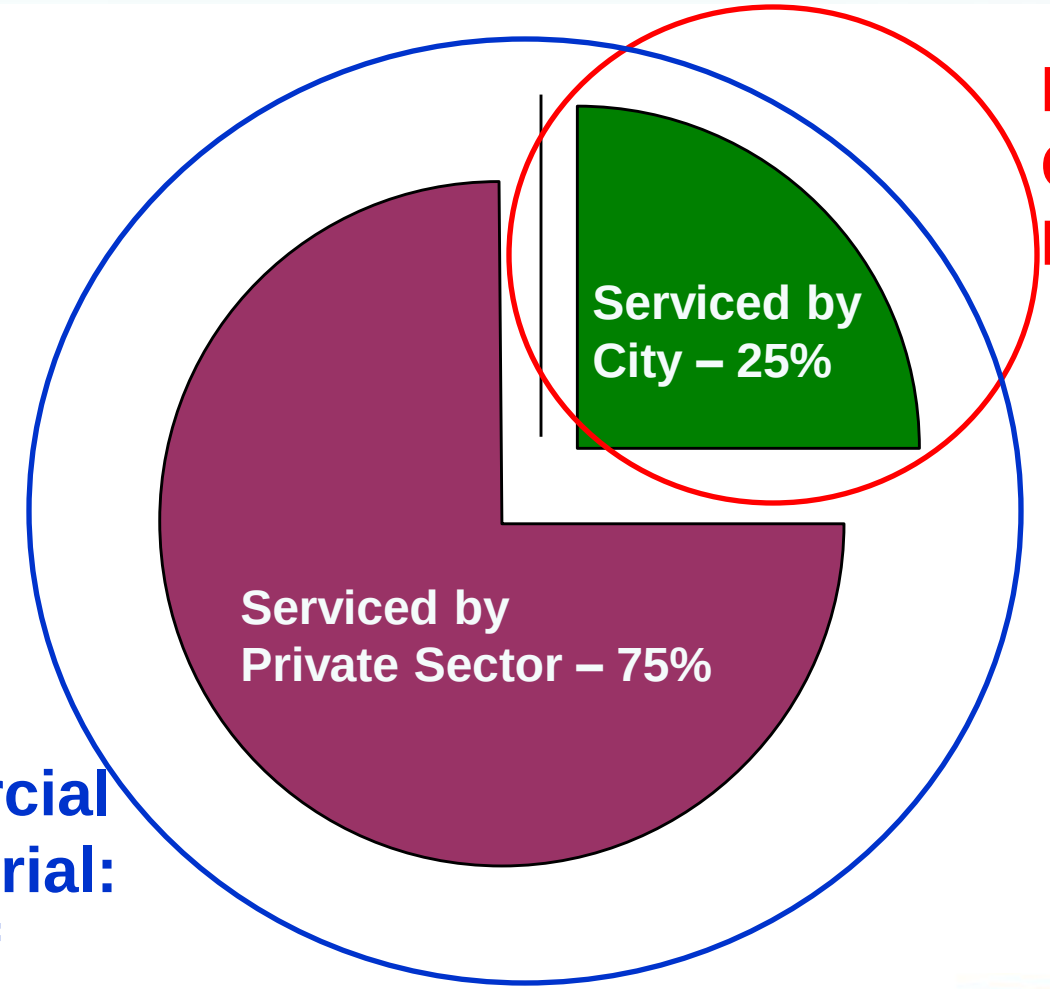
Austin Resource Recovery Master Plan: Topical Chapters

- Zero Waste
- Sustainability
- Waste Reduction
- Reuse
- Recycling
- Materials Management
- Composting Organics
- Household Hazardous Waste
- Disposal Management

Austin Resource Recovery Master Plan: Topical Chapters

- Greening Special Events
- Recycling Economic Development
- Citizen and Community Partnerships
- Private/Public Partnerships
- University Partnerships
- City Departmental Partnerships
- Pilots and Demonstration Projects
- Policies & Ordinances
- Metrics and Measurements
- Financial Models

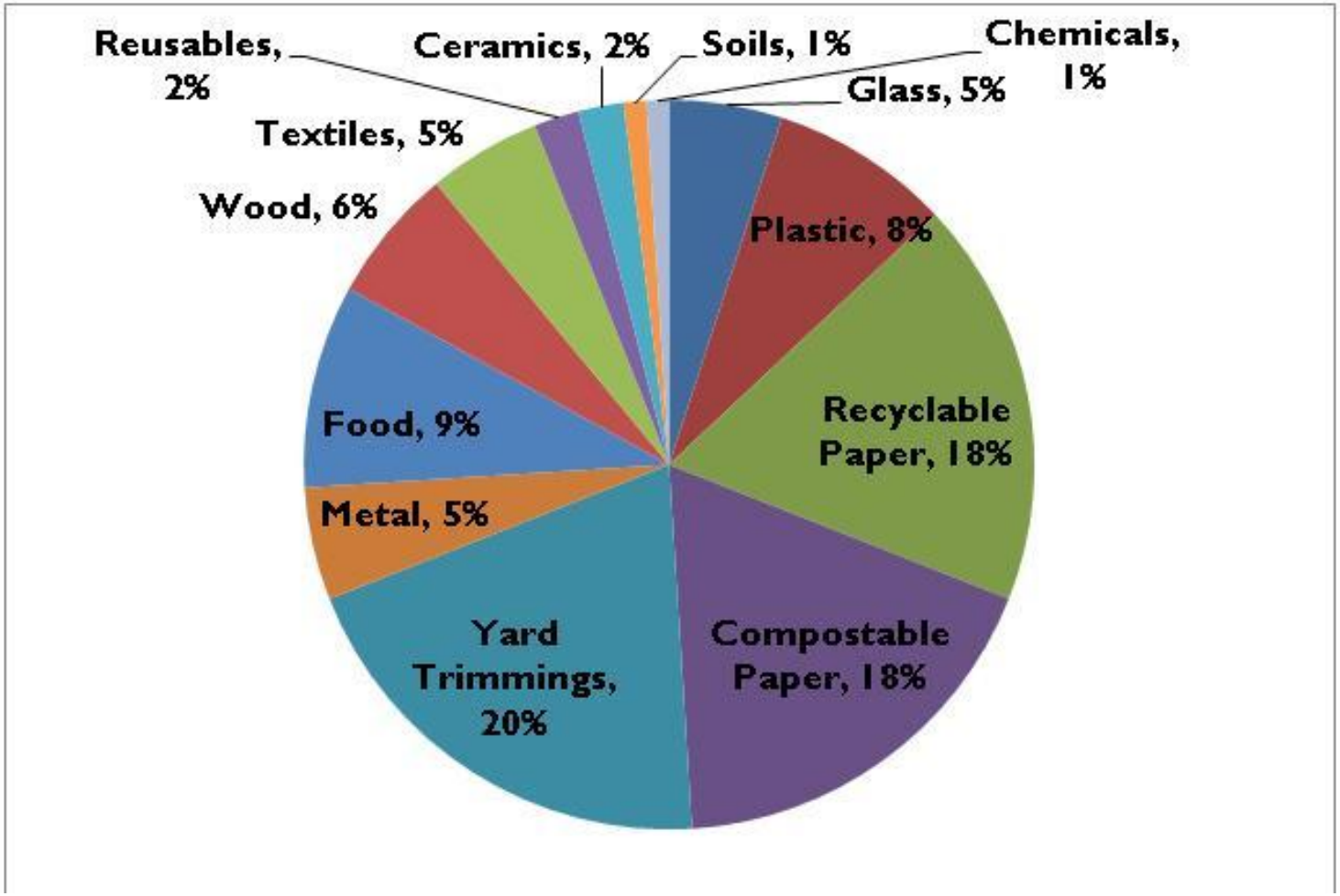
Austin Resource Recovery Master Plan:
Distribution of Collection



Residential: Circle of Direct Control

Commercial & Industrial: Circle of Influence

Austin Resource Recovery Master Plan: Materials Management



Based on information from CAPCOG, Regional Solid Waste Management Plan 2002- 2022, February 9, 2005, pg. 10, and Austin Zero Waste Strategic Plan, December 4, 2008, pgs. 5-6 (partitioned "other" category into textiles, reusables, ceramics, soils & chemicals). Paper & Compostable Paper split into 2 separate categories

Austin Resource Recovery Department Master Plan

Sustainability

Zero Waste Synergy with Sustainability Efforts

- Waste Reduction Targets
- Green Purchasing
- Carbon Footprint Reduction
- Routing Efficiencies
- CNG and Alternative Fuels

Waste Reduction and Reuse

Reuse and Repair Businesses

- Teacher Resource Centers
- Reuse Drop-off sites for reusables

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Recycling

Single-Stream Recycling Collection

- Long-Term Processing Contracts
- Add materials to Single Stream Program
- Provide 96 gal and 64 gal blue containers
- Transition from biweekly to weekly (2017)

Organics

Single-Stream Organics Collection

- Residential Backyard Composting
- Collect yard trimmings in 96 & 64 gal carts
- Adding food scraps and compostable paper
- Compost Grade Classification System

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Household Hazardous Waste

- Expanded Saturday and Daily Hours
- Battery Retail take-back program
- Enlarged door-to-door collection
- Pharmaceutical Take-back program
- North HHW Service Site

Disposal Management

- Post-Closure Care of City Landfill
- Methane Gas Capture
- Solar Farm
- Eco-Industrial Park

Austin Resource Recovery Department Master Plan

Other Core Services & Special Events

- *Reuse Austin:* Bulk Collection / Reuse
- *Clean Austin:* Litter Collection
- *Storm Ready Austin:* Storm Debris Mgmt

- Downtown Alley Flushing
- Street and Boulevard Sweeping
- Dead Animal Collection
- Community Clean Ups with KAB
- City Sponsored Events Diversion Activities

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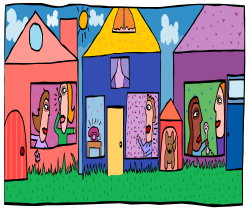
Recycling Economic Development

- Support Recovery/Reuse Small Businesses
- Support By-Product Synergies / Waste Pairings
- Business Waste Reduction Assistance Program
- Green Business Leaders Advisory Council
- Incentives to Attract Recycling Re-processors
- Eco-Industrial Park at closed landfill

Partnerships



- Community & Non-Profit Partnerships
- Regional Cooperation & Inter-local Agreements
- Public / Private Partnerships
- Education Institution Partnerships
- Research and Development Program

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Policies & Ordinances

- Universal Recycling and Composting Ord.
  - Phase 1 multifamily complexes, offices
  - Phase 2 retail, restaurants and industrial
- Green Event Recycling Ordinance
- Construction, Demolition, and Deconstruction
- Single Use Disposable Products / Packaging
- Refundable Deposit (Bottle Bill)

Incentives and Rewards

- Business Assistance and Recognition
- Composting & Events Rebate Programs
- Annual "Going to Zero" Awards Recognition
- Rate Structure Incentives – Reduced cart sizes

Austin Resource Recovery Master Plan: City Department Partnerships

- Austin Convention Center
- Austin Energy
- Austin Fire Department
- Austin Police Department
- Austin Water
- Aviation Department
- Communications and Technology Management
- Economic Growth and Redevelopment Services
- Fleet Services
- Government Relations Office

Austin Resource Recovery Master Plan: City Department Partnerships

- Health and Human Services Department
- Law Department
- Library Department
- Neighborhood Housing & Community Development Office
- Parks & Recreation Department
- Planning & Development Review Department
- Public Works Department
- Purchasing Office
- Transportation Department
- Watershed Protection

Austin Resource Recovery Master Plan: Learned Lessons

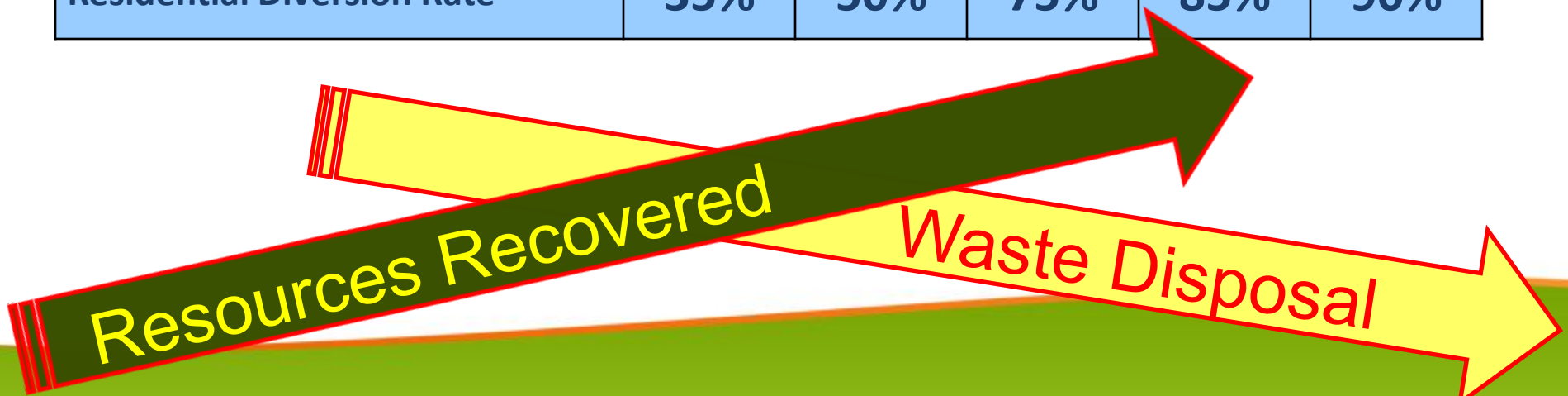
- Cultural Differences Require Different Approaches
- Varied Set Out Rates (85% to 10%)
- Customer Education – Varied Needs
- Container Labeling – Visual Graphics – Do's/Don'ts
- Routing Challenges with varied setouts
- Contamination Challenges
- Residuals = Customer Mistakes + MRF Inefficiencies
- Truck Styles – Automated vs. Semi-Auto Side-Loaders
- Container Sizing Needs – 18 Gal too Small!
  96 Gal too large? Recycling Cart Size vs. Trash Cart
- Convenience does not always yield higher participation

Austin Resource Recovery Master Plan: Best Practices

- Smart Routing = Reduced Fuel Consumption
- Seek Operational Efficiencies – use savings for new program development
- Waste Composition Study to determine opportunities
- Curbside Participation + Capture Rate – Residuals = Recycling Diversion
- Pilots offer new thoughts and learned observations
- Negotiate Recycling Processing Agreement: Recycling Market Share Revenues - Processing Fees
- Zero Waste – Include Residential, Commercial & Industrial, Education & Government Institutions

Austin Resource Recovery Master Plan:
Residential Diversion Totals

Diversion Initiatives - CoA Controlled (tons)	FY10	FY15	FY20	FY25	FY30
Total Residential Diversion - Reuse, Recycling, Composting	135,000	200,000	330,000	412,250	477,000
Residential Waste Disposal	250,000	200,000	110,000	72,750	53,000
Residential Waste Generation (with population growth)	385,000	400,000	440,000	485,000	530,000
Residential Diversion Rate	35%	50%	75%	85%	90%



Austin Resource Recovery Master Plan: New Diversion Programs

New Diversion Programs	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Reuse Austin – Eco-Depots & Teacher Resource Center	$0	$400,000	$410,000	$415,000	$420,000	$425,000	$430,000	$435,000
Recycling – Multi-Family expansion, Central Business District, & C&D Recycling	$400,000	$500,000	$520,000	$540,000	$560,000	$580,000	$600,000	$620,000
Composting Organics – Food Waste Collection, Storm Ready Austin, & compost incentives	$400,000	$800,000	2,000,000	3,000,000	3,250,000	3,500,000	3,750,000	4,000,000
Household Hazardous Waste North Site	$0	$0	$875,000	$900,000	$925,000	$950,000	$975,000	$1,000,000
New Ordinances – Added Staffing & Resources	$85,000	$90,000	$95,000	$100,000	$105,000	$110,000	$115,000	$120,000
Special Events Diversion – new ordinance & services	$70,000	$75,000	$80,000	$85,000	$90,000	$95,000	$100,000	$105,000
Economic Development – Re-Made in Austin & Eco-Industrial Park	$100,000	$600,000	$600,000	$600,000	$600,000	$600,000	$350,000	$100,000
Communications – Public Education & Marketing	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000
Total Additional Expenses	$4,555,000	$5,965,000	$8,080,000	$9,140,000	$9,450,000	$9,760,000	$9,820,000	$9,880,000
Annual Disposal Savings	$4,800,000	$4,400,000	$4,000,000	$3,600,000	$3,200,000	$2,800,000	$2,400,000	$2,000,000
$ per Household per Month	$0	$0.68	$1.74	$2.30	$2.52	$2.73	$2.83	$2.91
Increase in Monthly Rates	$0	$0.68	$1.06	$0.56	$0.22	$0.21	$0.10	$0.08

Austin Resource Recovery Master Plan:

Pay-As-You-Throw Pricing Structure

2013/2014 Fees	Per Gallon Fee plus Base Rate	
Trash Cart Size	Gal Rate	Monthly Rate
24	$0.16 x 24 gallons Plus $9.50 Base Rate	$13.35
32	$0.16 x 32 gallons Plus $9.50 Base Rate	$14.60
64	$0.16 x 64 gallons Plus $9.50 Base Rate	$19.75
96	$0.25 x 96 gallons Plus $9.50 Base Rate	$33.50

Gallon Rate charged on trash can size – Bundled Rate for all services
Curbside Service includes trash, recycling, and organics collection

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Feedback, Questions, & Answers