CH
06/24/2010
Item No. 66

A RESOLUTION 2010-06-24-0038R

ADOPTING THE SOLID WASTE MANAGEMENT DEPARTMENT 10 YEAR RECYCLING AND RESOURCE RECOVERY PLAN FOR RESIDENTIAL AND COMMERCIAL RECYCLING SERVICES RESULTING IN A RECYCLING RATE OF 60% OF ALL MATERIAL COLLECTED BY 2020.

* * * * *

WHEREAS, consistent with the objective of the City to create a more sustainable society, the Solid Waste Management Department, in coordination with other City Departments, and citizen focus groups, developed a community-wide Ten Year Recycling and Resource Recovery Plan for Residential and Commercial Services, "Creating a Pathway to Zero Waste"; and

WHEREAS, the strategic goals of the Ten Year Recycling and Resource Recovery Plan are to ensure that all single-family and multi-family residents have access to recycling programs, to improve recycling opportunities for businesses, and to recycle 60% of the single family residential waste stream; and

WHEREAS, this ordinance adopts and implements the community-wide Ten Year Recycling and Resource Recovery Plan for Residential and Commercial Services as a guidepost to attaining zero waste in San Antonio; **NOW THEREFORE,**

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The Ten Year Recycling and Resource Recovery Plan for Residential and Commercial Services developed by the Solid Waste Management Department is hereby adopted for the purpose of implementation by the City Of San Antonio. A copy of the Plan is attached as **Exhibit "A"** and made a part hereof and incorporated herein for all purposes.

SECTION 2. This resolution shall be effective immediately upon passage by eight or more affirmative votes; otherwise, it shall be effective on the tenth day after passage.

PASSED and APPROVED this 24th day of June, 2010.

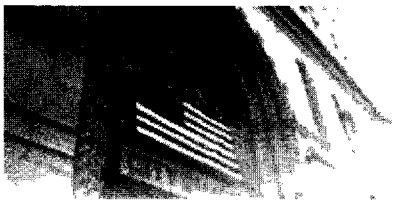
M A Y O R
Julián Castro

ATTEST:

Leticia M. Vacek, City Clerk

APPROVED AS TO FORM:

for Michael D. Bernard, City Attorney



Request for COUNCIL ACTION

City of San Antonio

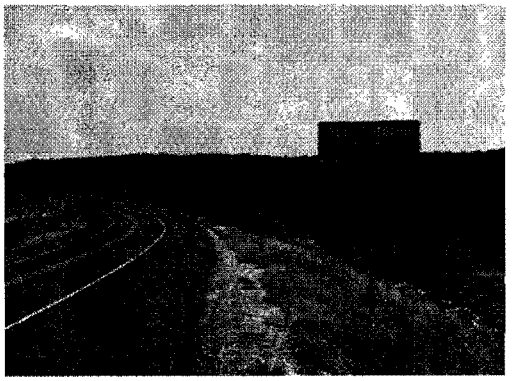
Agenda Voting Results - 66

Name:	7, 8, 9, 10, 11, 12, 13, 14, 16, 19, 20, 21, 22, 25, 26A, 26B, 26C, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42A, 42B, 43, 44, 47, 49, 51, 52, 53, 54, 55, 57, 58, 59, 61, 62A, 62B, 63, 64, 66
Date:	06/24/2010
Time:	03:30:59 PM
Vote Type:	Motion to Approve
Description:	A Resolution adopting the Solid Waste Management Department 10 Year Recycling and Resource Recovery Plan for Residential and Commercial Recycling Services resulting in a recycling rate of 60% of all material collected by 2020. [Peter Zanoni, Assistant City Manager; David W. McCary, CPM, Director, Solid Waste Management]
Result:	Passed

Voter	Group	Not Present	Yea	Nay	Abstain	Motion	Second
Julián Castro	Mayor	x					
Mary Alice P. Cisneros	District 1		x			x	
Ivy R. Taylor	District 2		x				
Jennifer V. Ramos	District 3		x				
Philip A. Cortez	District 4		x				
David Medina Jr.	District 5		x				
Ray Lopez	District 6		x				x
Justin Rodriguez	District 7		x				
W. Reed Williams	District 8		x				
Elisa Chan	District 9		x				
John G. Clamp	District 10		x				

PROPOSED
10 YEAR RECYCLING AND RESOURCE RECOVERY PLAN
FOR RESIDENTIAL AND COMMERCIAL SERVICES

SWMD
CITY OF SAN ANTONIO
SOLID WASTE MANAGEMENT



"Creating a Pathway to Zero Waste"

City of San Antonio
Solid Waste Management Department

EXHIBIT A

June 24, 2010

Contents

Solid Waste Management Department
10 Year Recycling and Resource Recovery Plan
Community Focus Group

June 24, 2010

To the Honorable Mayor and City Council:

In keeping with the responsibilities outlined and relayed to us by Solid Waste Management Department staff, we, the Community Focus Group, submit to you the 10 Year Recycling and Resource Recovery Plan included herein.

The purpose of the focus group meetings was to have members endorse the vision, goals, and strategic priorities included within this plan.

This report provides an overview of current Department recycling and resource recovery efforts for the City of San Antonio and provides goals to better develop a comprehensive research and outreach project for recycling and resource recovery. In summary, the strategic plan highlights a 60% residential recycling rate as the City's set goal for 2020. This goal will be achieved through improved recycling education and outreach, expanded recycling collection programs that would collect various types of materials, the creation of waste reduction and recycling incentives, and implementation of policies that would improve commercial recycling. The 10 Year goal takes into account:

- Community preference of recycling education before mandates
- Current and future availability of funding
- Time required to implement prioritized recycling programs
- Developing a recycling plan that best fits the interests and values of the community

The plan closes with details on how the progress of the plan will be implemented over the course of the given timeline and how action steps will be monitored. We endorse this plan and its contents as they relate to the best interests of our community and our environment.

Respectfully,

Armando Cortez – District 3
Andrew Solano – District 6
Bill Bourne – District 5
Booker Arradondo – District 2
David & Carolyn Wells – District 9
Delfino & Mary Acosta – District 4
Diana Arevalo – District 2
Diane Lang – District 5
Erin Zayko – Mayor's Office
Heather DeGrella – Mayor's Office
Hollis & Linda Sundberg – District 8
Jack Elder – District 3
Jim Casey – District 9
Jim Dye – District 8
Joan Korte – District 1
Joe Barfield – District 1
Steve Temple – District 10
Ted Guerra – District 7
Ted Ritchie – District 6

Executive Summary

Executive Summary

Creating a Pathway to Zero Waste

Zero waste requires a perception change. It is a change in how businesses create products, how people use products, and how the solid waste management industry processes the discarded material. The underlying goal of zero waste is that all discarded material can be re-used or recycled back into nature or into the production cycle. The Plan establishes the first steps for San Antonio to ultimately become a zero waste community.

The vision of achieving zero waste in San Antonio is structured within the Plan as three key vision statements:

- Establish a culture where discarded materials are viewed as resources instead of waste
- Residents and businesses benefit from reducing waste and by recycling used materials
- Residents and businesses have convenient access to recycling programs

10 Year Recycling and Resource Recovery Goals

- Ensure that all single-family and multi-family residents have access to convenient recycling programs
- Improve recycling opportunities for businesses
- Recycle or divert 60% of the single-family residential waste stream

Department Overview

Historically, the central role of the Solid Waste Management Department (the Department) has been to provide San Antonio single-family residential customers with weekly garbage and recycling services, including dead animal collection and bi-annual collection of residential brush and bulky items. The Department currently serves approximately 340,000 homes. The Department also provides limited commercial and litter basket waste collection in the downtown area.

Since 2006 the Department has methodically worked towards improving the efficiency and structure of existing services by converting from a manual based garbage and recycling collection service to an automated collection service. The three-and-one-half-year long conversion process provided residents and City facilities at least one 96-gallon cart for weekly recycling collection services. Material collected from the curbside recycling program is transported to Greenstar-N.A., the current contracted processor. The automated conversion program improved residential recycling by making the program easier to understand and more convenient. Since the beginning of the automated conversion program in 2006, recycling has increased more than three-fold, from 22,000 tons to 86,000 tons in 2010.

Strategic Priorities

The success of the automated collection program establishes a strong foundation for improving residential recycling and for expanding recycling programs to other sectors within the City. Consequently, the 10 Year Recycling and Resource Recovery Plan focuses on improving recycling at multi-family properties, at businesses, and within homes. For example, while all residents living in single-family homes have access to recycling through the City's curbside recycling program, many San Antonio residents living in apartments and condominiums do not have convenient access to recycling. The Plan provides a roadmap for partnering with property owners and waste haulers to ensure that all residents can participate in recycling. Additionally, the Plan outlines strategies that will reinforce recycling in the workplace by assisting businesses to implement cost-effective recycling and waste reduction programs. Strategies designed to improve the City's residential recycling program include financial incentives, expanded outreach, and new recycling programs. The strategic priorities and examples of activities for each area are highlighted below:

- **Improve Recycling Education & Outreach**

  Examples:

  - Multi-Family Recycling: Provide onsite recycling training and design services for property managers and employees
  - Commercial Recycling: Develop a business recycling resource center
  - Residential Recycling: Design a recycling neighborhood block group program

- **Create Waste Reduction & Recycling Incentives**

  Examples:

  - Multi-Family Recycling: Assist property owners to develop cost-effective recycling programs that target revenue-generating commodities
  - Commercial Recycling: Develop an exploratory group to identify business opportunities for recycling
  - Residential Recycling: Implement Pay-As-You-Throw pricing

- **Expand Programs and Revise City Code to Increase Recycling**

  Examples:

  - Multi-Family Recycling: Develop policies that ensure that all residents living in multi-family complexes have access to convenient recycling programs
  - Commercial Recycling: Revise city municipal code to regulate recycling collection at commercial businesses
  - Residential Recycling: Design an organics recycling program

Overview of Planning Process

Community Involvement: Multi-Family Recycling

The Department does not provide recycling collection services to multi-family complexes and businesses. Consequently, stakeholder perspective is a critical component of the Plan. In 2009, the Department organized a multi-family recycling focus group consisting of private waste haulers, property owners, complex managers, and tenants. The focus group identified key design issues for a comprehensive recycling program at multi-family residential properties. Following the adoption of the Plan, the Department will begin working with the focus group to begin designing a recycling policy that effectively addresses these issues:

1. Managing cost transfer to tenants for recycling programs
2. Providing effective recycling education & outreach to employees and tenants
3. Reviewing space limitations for recycling collection infrastructure
4. Designing a pragmatic implementation schedule

Community Involvement: Residential & Commercial Recycling

The Department worked with the residential community by developing a focus group to gauge public perspective in assessing and prioritizing programs. The Department requested City Council members and the Mayor to select two individuals to attend and participate in the focus group. The Department held two orientation meetings to make certain that all selected members were given an opportunity to meet the Department key staff members, give members the chance to meet and greet one another as well as become familiar with solid waste operations and the concept of zero waste. Moreover, members were provided with resource materials. Consultants led discussions, provided technical insight and built endorsement. Focus group members met seven times over a three month period, starting in December 2009 and ending in March 2010 and these meetings averaged between 1 ½ to 2 hours in length.

Consultant: R.W. Beck

Focus group sessions were facilitated by two specialists from consultant company, R.W. Beck. R.W. Beck has provided consulting services to solid waste, waste/waste water, energy, and financial institutions for more than 65 years. The company currently operates 23 offices across the nation and has completed project work in 50 countries. R.W. Beck assisted the Focus Group in reviewing the design, cost, and impact of potential resource recovery programs.

Development of Plan

The purpose of assembling a focus group was to discuss proposed initiatives and programs within the 10 Year Recycling and Resource Recovery Plan and to explore and more holistically understand how residents perceive current recycling efforts and proposed programs. After all programs had been covered by R.W. Beck, focus group members were re-familiarized with all

programs and asked to prioritize potential resource recovery programs for the City of San Antonio while considering what the relative rate impact of each program and what the potential for waste diversion would be. Of all programs outlined through the meeting, the focus group identified the following as top priorities:

1. Education and Outreach (top priority)
2. Rewards Programs
3. Organics Recycling
4. Pay-As-You-Throw
5. Legislative Advocacy

The 10 Year Goal of recycling 60% of the material the Department collects is based on research conducted by the Department coupled with the feedback received from the Focus Group members. Specifically, the 10 Year residential recycling goal is based on estimates of how similar recycling programs and policies have impacted comparative cities' recycling rates. Throughout the process, specific themes were identified by the Focus Group that also helped to establish the foundation for the 60% Recycling Goal. These major themes included:

- Community preference of recycling education before mandates
- Current and future availability of program funding
- Time required to implement prioritized recycling programs
- Developing a recycling plan that best fits the interests and values of the community

Sessions

Meeting	Topics/Objectives
Orientation	Introduce Focus Group members and key staff members and the consultant, R.W. Beck Become familiar with solid waste operations and zero waste concept Provide focus group members with resource material
Meeting 1/13/2010	Outreach and Education Programs, Community Based Recycling Incentive Programs
Meeting 1/27/2010	Organics Recycling
Meeting 2/10/2010	Pay-As-You-Throw Pricing/Residential Ordinances

Meeting 2/17/2010	Influencing Other Organizations
Meeting 2/24/2010	Review of all Programs & Program Prioritization Activity
Meeting 3/10/2010	Final Meeting: Plan Endorsement

Focus Group Feedback

The following table summarizes focus group member perceptions exchanged during the focus group meetings.

Programs	Focus Group Feedback
Education and Outreach	Members emphasized education and outreach before implementation of any type of mandate.
Incentive Based Programs	Members expressed an interest in designing incentive based programs that target communities, neighborhoods, and schools.
Organics Recycling Program	Focus Group members were asked to indicate their preferences towards various characteristics of an organics collection program. These characteristics included frequency of collection, payment method (i.e., city-wide versus subscription), and collection method. Results of this exercise clearly indicated the group's preferences regarding an organics collection program. In summary: ▪ Members prefer bi-weekly collection over weekly collection ▪ Members prefer a subscription-based program over City-wide program ▪ Members prefer seasonal collection over year round collection ▪ Members prefer curbside collection over an organic drop-off site

	Focus Group members were also asked to gauge the relative importance of City service and community statements as they relate to organic collection. Members considered the following and voted for those they felt were the most critical (with each member given ten votes).

Statement	Votes
Lowest cost for solid waste services for my household	40
Option to take organics to drop-off location instead of curbside collection	24
Fewer number of carts at my house	20
Neat appearance of my neighborhood during collection day	18
Opportunity to receive yard waste collection at the curb for my household	16
Ability to recycle my food scraps	15
Having dedicated cart for organics	2
Ability to set out my yard waste all year	1

Pay-As-You-Throw	Focus Group inclined towards having a tiered fee based program. They preferred a pricing mechanism in which there was a moderate discrepancy between fees. They recognized and supported the need to provide an equitable fee structure.
Influencing Other Organizations	Focus Group members believed businesses should be involved and encouraged to provide customers and employees recycling opportunities. Members do not want to see additional financial impact with the purpose of increasing participation and believe private haulers should provide recycling services. They also agree that there should be a resource/information center accessible to the community, and prefer education over inspection audit fees and fines.

R.W. Beck Facilitator Bios

Scott Pasternak

Mr. Scott Pasternak, a Senior Director with R. W. Beck, focuses on planning, financial, recycling and economic issues associated with the municipal solid waste industry. Mr. Pasternak has an extensive working knowledge of municipal solid waste planning and management issues. With 15 years of experience, he has conducted and managed multiple master plans, operations reviews, and financial feasibility studies for public sector solid waste clients. Mr. Pasternak joined Reed, Stowe & Yanke in January 2000, who was then acquired by R. W. Beck. Prior to joining R.W. Beck, Mr. Pasternak was employed at the Texas Natural Resource Conservation Commission (TNRCC) where he worked for the agency's solid waste planning and water quality programs.

Katie Wussow

Ms. Wussow specializes in feasibility and utility financial analysis, recycling program development, strategic planning, and procurement related to the solid waste and recycling industry. Prior to joining R. W. Beck, Ms. Wussow also worked as an Equity Research Analyst for Hester Capital Management, LLC in Austin, where she assisted with investment research by performing discounted cash flow analysis and other financial modeling.

Case for Zero Waste

Case for Zero Waste

San Antonio Waste Stream

Most of the used material generated by the residents of the San Antonio community could be reused or recycled. For example, used paper can be recycled as mulch, insulation, and cardboard. Recycled soda cans reduce the energy consumption required for aluminum manufacturing, and food waste and yard trimmings can be composted for garden soil. Of the waste collected from San Antonio residents each year, 82% of the total material collected winds up in a landfill and only 18% of it is recycled.

At an 18% recycling rate in January 2010, the City of San Antonio has the potential to significantly improve recycling. For example, the City recycled approximately 33,000 tons of paper; however, one study estimated that paper may comprise 34% or 173,400 tons of San Antonio's total annual residential waste stream. In other words, there may be more than 140,000 tons of recyclable paper being sent to area landfills annually. The same study estimated that yard waste may make up about 19% or 96,900 tons of the City's annual residential waste stream.

A nation wide public survey conducted by Maritz AmeriPoll identified the following as the three most common reasons that hinder individuals from recycling their waste:

1. Do not know how to recycle
2. Do not believe recycling is necessary
3. Recycling is time consuming

The current practice in San Antonio (and much of the world) is to extract resources from nature, use them once, and then bury the majority of them in a landfill where they are difficult to recover and reuse. Reluctance to seek out and acquire information regarding recycling and unwillingness to adopt recycling practices, based on the national survey mentioned above, is heavily based on misconstrued beliefs and assumptions about what recycling entails and requires on behalf of the individual. With the development of appropriated content, the proper approach and channels of communication, and by increasing efficiency and accessibility of recycling services and programs, recycling behaviors and perceptions can be reshaped to yield forth active awareness about the benefits of recycling and the need to recycle.

Benefits of Resource Recovery

Integral to the achievement and sustainment of higher recycling participation rates within the City of San Antonio are effective resource recovery programs and services that work towards conserving natural resources. Diverting waste from landfills and implementing recyclable

disposal processes have a positive impact both environmentally and economically. Some of the most critical outcomes of waste diversion include:

- Conservation of natural resources
- Pollution Reduction
- Much more cost effective to process recycled material than it is to harvest raw resources
- Less damage to biological habitats and water quality
- Decrease in the need for landfills, which in turn allows the City to avoid rising costs of solid waste disposal at landfills
- Less use of landfills will reduce the formation of byproducts that form in landfills, such as methane gas and leachate, which can potentially harm humans and animal habitats
- Less dependence on landfills, which drive down home values and harbor disease vectors
- Improves social well being
- Improves aesthetic appeal of communities by reducing litter
- Increase in material recovered through the curbside recycling program produces revenue for the City, which is then passed on to the resident through lower customer fees

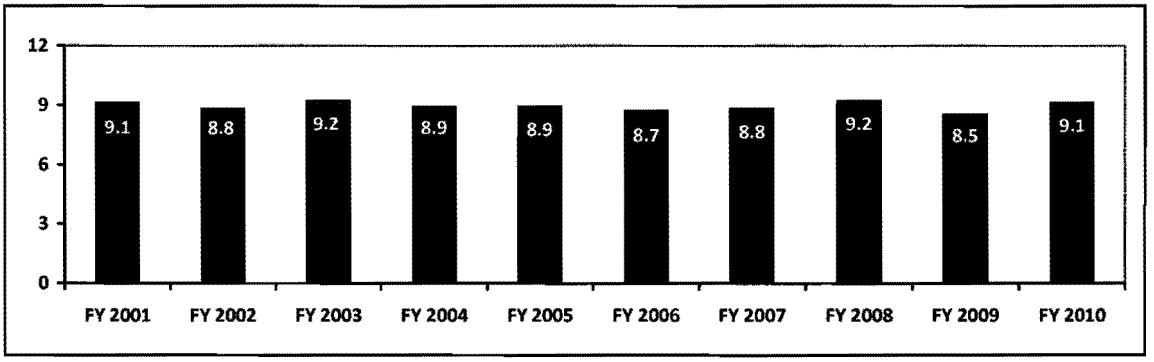
Current Recycling Programs

Current Recycling Programs

Single-Family Residential Waste Stream

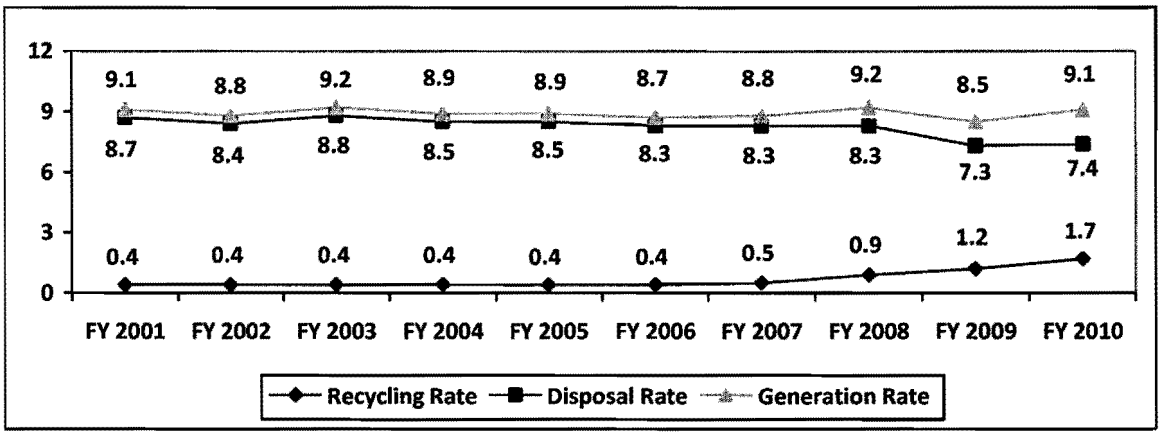
The typical single-family household in San Antonio generates approximately nine pounds of discarded waste every day (see figure below). Various factors may impact the waste generation rate including local economic conditions, changes to the weight or composition of materials in the waste stream, and policies that encourage waste reduction.

Generated Pounds of Waste per Household per Day, FY 2001 – FY 2010



While single-family waste generation rates have remained fairly constant since FY 2001, waste disposal and recycling rates have been impacted by the conversion to automated collection and single-stream recycling service. Specifically, single-family recycling rates have improved from 0.4 pounds per household per day in FY 2001 to 1.7 pounds day in FY 2010. Conversely, disposal rates have decreased from 8.7 pounds per household per day to 7.4 pounds per household per day over the same time period.

Waste Generation, Disposal, and Recycling Rates, FY 2001 – FY 2010



One of goals of the 10 Year Recycling and Resource Recovery Plan is to recycle or divert 60% of the single-family residential waste stream. Using an adjusted average single-family residential waste generation rate from FY 2001 – FY 2010 as a baseline for the 10 Year Plan, the 60% goal will increase the household recycling rate to 5.5 pounds per day and reduce household disposal rates to 3.6 pounds per day.

10 Year Plan Waste Disposal and Recycling Target Measures

	FY 2010	FY 2020 Goal	% Change
Disposed Waste per Household per Day	7.4 pounds	3.6 pounds	-51%
Recycled or Diverted Material per Household per Day	1.7 pounds	5.5 pounds	224%
Generated Waste per Household per Day	9.1 pounds	9.1 pounds	0%
Recycling (Diversion) Rate	**18%**	**60%**	

Curbside Residential Recycling

The Department operates a single-stream recycling program which accepts a variety of material including paper, cardboard, glass, tin, aluminum, and plastics #1 through #7. Residents and city facilities receive at least one 96-gallon cart for weekly recycling collection service. Collected material from the curbside recycling program is transported to Greenstar-N.A., the current contracted processor. The impact of the curbside recycling program on the Department's resource recovery rate and the avoided landfill costs are illustrated below.

Resource Recovery Impact: Curbside Recycling, FY 2009

Material	Tonnage	Pounds per Household	Resource Recovery Impact[1]
Newspaper	29,829	183	5.8%
Mixed Paper	2,913	18	0.6%
Cardboard	7,888	48	1.5%
Glass	10,419	64	2.0%
Tin	1,525	9	0.3%
Aluminum	632	4	0.1%
Plastic	5,186	32	1.0%
Total	**58,392**	**358**	**11.4%**

[1] Represents percentage of total waste collected by the Department

Avoided Landfill Costs & Generated Revenue: Curbside Residential/City-Facility Recycling Program, FY 2009

Material	Avoided Landfill Costs	Net Revenue from Sale of Recyclable Commodities
Newspaper	$623,426	$699,663
Mixed Paper	$60,882	$20,575
Cardboard	$164,859	$167,186
Glass	$217,757	$(367,284)
Tin	$31,873	$(13,921)
Aluminum	$13,209	$311,686
Plastic	$108,387	$309,135
Residual	$304,158	$(513,009)
Total	**$1,524,551**	**$614,031**

Brush Recycling

The Department operates the Bitters Brush Recycling Center which processes residential brush, Christmas trees, and commercial brush into coarse and fine mulch. Residents are encouraged to separate brush material from bulky items during their semi-annual curbside brush collection. Clean residential brush material is collected by department crews and transported to the brush recycling center. Private vehicles and contractors can drop off their material at the brush recycling center for $23.50 and $25.00 per ton respectively. The impact of the curbside recycling program on the Department's resource recovery rate and the avoided landfill costs are illustrated below.

Resource Recovery Impact: Brush Recycling, FY 2009

Source	Tonnage	Resource Recovery Impact
Residential	10,330	2.0%
Contractor	2,373	0.5%
City Department	2,164	0.4%
Other	190	0.1%
Total	**15,057**	**3.0%**

The table below lists the avoided landfill costs and generated revenue from tipping fees and fine mulch sales at the brush recycling center for FY 2009.

Avoided Landfill Costs / Generated Revenue: Brush Recycling, FY 2009

Material	Avoided Landfill Costs	Net Revenue From Bitters Brush Recycling Center
Brush Recycling	$314,691	$214,169
Fine Mulch Sales	$0	$43,901
Total	**$314,691**	**$258,070**

Other Recycling Programs

The Department also provides household hazardous waste (HHW) recycling services and metals recycling. The HHW program allows residents to safely recycle and dispose of paint, used oil, batteries, antifreeze, as well as a variety of other environmentally hazardous material. Approximately 75% of the material collected by the Department through the HHW program was recycled in FY 2009. Tonnage and resource recovery impact information for the HHW and metals recycling program in FY 2009 is detailed below.

Resource Recovery Impact: HHW and Metals Recycling, FY 2009

Material	Tons Recycled	Resource Recovery Impact
HHW	489	0.1%
Metal	91	0.0%

Resource Analysis

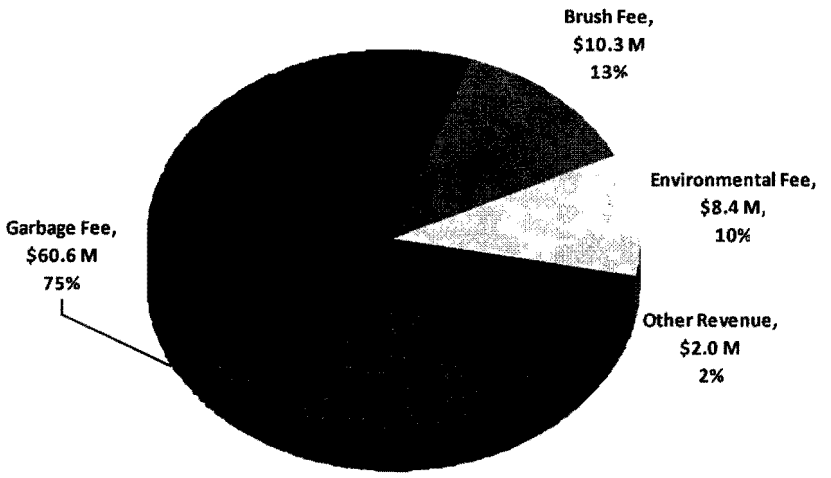
Resource Analysis

An overview of the Solid Waste Management Department's funding sources and how those funds are allocated describes some of the constraints and opportunities to develop new recycling and resource recovery programs.

Source of Funds

In FY 2010 budgeted revenues for the Solid Waste Management Department totaled $81.2 million. The Department is primarily funded through monthly Garbage, Brush, and Environmental Fees charged to Solid Waste Management Department and CPS Energy customers. These three fees comprised 98% of all revenue sources in FY 2010. Additional revenues are collected from Waste Hauler Vehicle Permit Fees, Brush Recycling Fees, and the sale of mulch and recyclable material.

Source of Budgeted Funds by Revenue Type, FY 2010



The revenue the City receives through its curbside recycling program is based on three factors:

- The tons of recyclable material collected by City crews
- The fee assessed by the City's recycling processor, Greenstar-N.A.
- The market value of various types of recycled commodities including: newspaper, mixed office paper, old corrugated cardboard, plastic, used beverage containers, and steel cans

Through its long term contract with Greenstar-N.A., the City shares the revenue generated by the sale of recycled commodities with the processor. Based on the commodity, the City receives between 50% and 100% of the market value of the material. The City is then assessed a processing fee of $35.25 per ton for all material unloaded by City crews at Greenstar-N.A.'s processing facility. The City's multi-year contract with Greenstar-N.A. establishes price floors and a fixed percent of the market value for specific recycled commodities to hedge against

market volatility. The table below details the recycling revenue for the first seven months of FY 2010.

Recycling Revenue, Oct 2009 – Apr 2010

Commodity	Commodity Pricing ($ per Ton)	Gross Revenue	Processing Cost	Net Revenue	Equivalent Customer Monthly Rate Impact
Newspaper	$91	$1,471,435	$(567,066)	$904,369	$0.38
Mixed Paper	$101	$436,458	$(152,094)	$284,364	$0.12
Cardboard	$120	$773,517	$(227,841)	$545,676	$0.23
Glass	$0	$0	$(301,225)	$(301,225)	$(0.13)
Steel	$72	$100,600	$(49,431)	$51,169	$0.02
Aluminum	$679	$289,671	$(15,036)	$274,635	$0.12
Plastic	$155	$584,717	$(132,990)	$451,727	$0.19
Residual	$0	$0	$(410,560)	$(410,560)	$(0.17)
Total	**$69**	**$3,656,398**	**$(1,856,243)**	**$1,800,155**	**$0.76**

While solid waste-related customer fees support the majority of the Department's annual operating expenditures, revenue generated from the sale of recyclable commodities is used to offset some of these expenses. Consequently, as recycling participation increases or as the market for recyclable commodities improves, the Department uses the recycling revenue to maintain a competitively low customer fee. The table above illustrates the equivalent customer monthly customer rate impact of recycling revenue from October 2009 though April 2010. As illustrated by the table above, revenue generated from the sale of recyclable commodities from October 2009 through April 2010 has produced revenue equivalent to $0.76 of the monthly customer fee.

Use of Funds by Service Type

The Department's annual expenditures are divided among several services including curbside garbage collection, curbside recycling collection, brush/bulky collection, brush recycling, and household hazardous waste collection. The Department is also responsible for maintaining the

City's nine closed landfills, managing environmental programs (asbestos abatement), and funding the City's Office of Environmental Policy. The Department also incurs annual indirect costs for budget, finance, and human resource services through the City's General Fund.

Curbside Garbage Collection

Each solid waste customer in San Antonio receives weekly curbside or alley garbage collection. In FY 2009, the Department spent $32.6 million on curbside garbage collection. Approximately 50% of the annual costs or $16.2 million were allocated towards personnel and equipment costs. These costs include the salaries and benefits of solid waste collectors, drivers, and district managers as well as the costs for fuel, repair, and equipment replacement. The Department spent nearly $6.9 million or 21% of FY 2009 garbage collection costs on disposal fees at three privately-owned area landfills. The three-and-one-half-year conversion to automated collection has required substantial capital investment in collection trucks and carts. Total debt service and direct purchase costs for automated trucks and carts (used for curbside garbage collection) totaled $7.3 million in FY 2009. Finally, the Department incurs expenses for customer billing services, contracted collection, safety equipment, and other supplies totaling $2.2 million in FY 2009. Of these costs, billing services and contracted collection represented 92% of annual expenses.

Curbside Recycling Collection

Similar to curbside garbage collection, each customer receives weekly recycling service. Expenses for the curbside recycling collection program totaled $25.7 million in FY 2009. Because the Department uses automated collection trucks for both garbage and recycling service, personnel and equipment costs for recycling collection are similar to the costs of garbage collection. Because the Department sends the recyclable material to its recycling processor, it does not incur any disposal costs for the curbside recycling program. Conversion costs accounted for 28% or $7.3 million of annual recycling operating costs in FY 2009.

Brush & Bulky Item Collection

The Department provides every solid waste customer semi-annual brush and bulky item collection. Total expenses for this program were approximately $12.1 million in FY 2009. Of these expenses, roughly three-quarters or $8.8 million was allocated to personnel and equipment costs. The Department incurred $1.9 million in disposal costs for the brush program in FY 2009. Other costs include customer billing services, contracted collections, brush schedule notifications, and contracted temporary labor.

Other Services

The Department also provides or funds brush recycling, household hazardous waste collection, landfill maintenance, environmental management, and environmental policy programs. Expenses for these programs totaled $4.5 million in FY 2009. Approximately 63% or $2.9

million was allocated for personnel and equipment costs. Professional contracting services for household hazardous waste processing, environmental policy planning, and environmental management programs totaled $1.2 million in FY 2009.

Indirect Costs

Indirect costs include expenses from the Office of the Director, special projects, and transfers to other City funds. In FY 2009 these costs totaled $13.3 million or 15% of annual expenditures. Personnel costs for administrative and management positions accounted for $4.1 million of indirect cost in FY 2009. Other costs include transfers ($4.1 M), equipment ($1.4 M), and capital expenses ($128k). The majority of costs related to outreach material, office supplies, facility rent, and environmental billing services are allocated to the Office of the Director. These costs totaled $3.0 million in FY 2009.

Revenue and Expenditure Trends

Recycling Revenue

As the national economy continues to recover, demand for recycled commodities should increase and, as a result, revenue from recycling should increase. Additionally, recycling tonnage should continue to increase as solid waste customers become more familiar with the City's recycling program.

Disposal Costs

The rising costs of solid waste disposal at landfills are another economic motive to expand resource recovery programs. In FY 2009 approximately 10% or $8.7 million of the Solid Waste Management Department's operating budget was spent disposing the 420,000 tons of solid waste sent to area landfills (see table below). Currently, San Antonio benefits from having relatively inexpensive, long-term contracts with three area landfills; however, as available landfill space decreases, disposal costs will continue to rise. The disposal costs and landfill availability for some cities comparable to San Antonio have already reached a critical point. The Miramar Landfill, which is operated by the City of San Diego, is expected to close between 2011 and 2013. The City of San Jose's three major landfills will reach capacity between 2020 and 2025.

Area Landfill Contract Information

Landfill Name	Owner	Contract Terms	FY 2010 Disposal Fee ($ per Ton)	Expected Remaining Life
Tessman Landfill	BFI/Allied Waste	Sept 30, 2025	$20.55	55 Yrs
Covel Gardens	Waste Management	June 4, 2025	$18.19	74 Yrs
TDS	Texas Disposal Systems	Sept 30, 2030	$26.82	26 Yrs

Trends in Recycling Programs

Trends in Recycling Programs

In order to make progress towards zero waste, cities and businesses have used a series of resolutions, initiatives, and ordinances in order to initiate change. Common organizational policies include purchasing only recycled paper, mandating double-sided copies, changing building practices, and forming partnerships with not-for-profit organizations that promote zero waste practices.

Many organizations will revisit their internal operating procedures and change the nature of the services they provide. For example, cities and counties may begin providing a recycling program where they didn't previously. Many add yard waste collection or collection of all organic materials to be composted. Some have changed their fee structures or offered grants to businesses or other organizations who improve their recycling habits. Municipalities will also work with local organizations to create zero waste programs like the City of Seattle's "Use-It-Again" yard sale program and its "Take It Back Network." These programs all help improve the amount of recovered resources.

To better grasp an idea of what other cities comparable with San Antonio are currently doing to enhance their resource recovery efforts, the following section outlines specific programs adopted by local governments.

Financial Reward Programs for Recycling

Many cities comparable to San Antonio have begun conducting RecycleBank pilot programs including the cities of Phoenix, Houston, Plano, Chicago, and Albuquerque. RecycleBank is an awards-based program that provides coupons and discounts for entertainment, groceries, and other products to residents who choose to recycle. The RecycleBank program tracks curbside recycling participation using GPS equipment on collection trucks or radio frequency identification (RFID) tags on recycling carts. Based on preliminary modeling, it is estimated that curbside recycling would increase by 400 pounds per customer per year with RecycleBank within three years of implementation and would also generate revenue from avoided landfill costs as a result of waste diversion. Holding waste generation rates constant, the program is estimated to increase the Department's resource recovery rate by 10% within three years of implementation.

Volume Based Pricing

With a Pay-As-You-Throw program (PAYT), residents have the option of choosing between different garbage bin sizes. Residents are charged each month based on the amount of waste they generate. As residents begin to reduce the amount of waste they throw away as a result of the program, they can request a smaller bin to reduce their monthly solid waste fee. With this kind of fee structure, residents can save money by recycling more or by reducing the amount of

waste they generate; those who recycle and divert waste from the landfills are rewarded with a lower solid waste bill.

Approximately 26% of U.S. communities use a PAYT program for solid waste collection. In Texas, some cities including Austin, Fort Worth, and Plano provide PAYT collection services to their residents. Two years after the implementation of the PAYT program, the City of Fort Worth increased its waste diversion rate from less than 6% to 21%. In San Jose, CA, residents were provided 32-gallon, 64-gallon, 96-gallon, or 128-gallon carts for weekly garbage collection. Today, 87% of single-family residents use the 32-gallon cart for garbage collection, and the City achieved a 60% waste diversion rate in 2006.

Yard Waste Recycling

Cities like Albuquerque, Austin, Seattle, and Mesa, AZ provide yard waste recycling. Yard waste and other organic material may comprise as much as 30% of the municipal solid waste stream. Yard waste recycling programs have increased across the country over the past twenty years. In 1991, the national yard waste recycling rate was estimated at 12%. In 2007, the U.S. Environmental Protection Agency estimated that 64% of the waste tonnage from yard trimmings was recycled. Cities have created or expanded yard waste recycling programs due to a variety of factors including:

- Increased public awareness and acceptance of recycling
- Significant impact of yard waste recycling on resource recovery rates
- Relatively low cost of yard waste compost operation
- Simple technology required for yard waste compost operation
- High compost quality from yard waste

In 2008, Austin diverted 16% of its residential waste stream from landfills through its yard trimmings programs; in Seattle yard waste and food waste programs diverted over 68,000 tons of material or 26% of the residential waste stream from landfills; in Mesa, AZ participation from residents helped divert over 17,000 tons or approximately 10% of the residential waste stream from the landfill.

Food Waste Recycling

Similar to yard waste, food waste represents a significant portion of the single-family residential waste stream. A 2003 waste study prepared for the City of Phoenix indicated that food waste and compostable yard waste comprised appoximately 45% (17% and 28% respectively) of the total single-family residential waste stream. Consequently, cities and counties have developed food waste collection programs and composting operations to divert this material from landfills

Food waste recycling is typically co-collected with a yard waste collections program. The material is transported to composting facilities, and depending on the quality of the compost, can be marketed to commercial businesses, school districts, and transportation agencies. Food waste recycling programs can include a variety of material including vegetables, fruits, and soiled paper. Cities and counties that operate large-scale composting programs may also accept dairy products and meats.

Multi-Family & Commercial Recycling

Local governments can influence and regulate recycling collection in multi-family complexes and in businesses to improve recycling. Common strategies include rebates, credits, hauler requirements and property requirements. Rebates and credit programs partially or completely offset recycling collection costs to residents and property owners. Typically, these programs require participating multi-family complexes to recycle a certain number or types of materials to be eligible for the credit. Additionally, complexes and businesses are required to submit a recycling plan that outlines educational outreach to residents, collection type, container type, and collection frequency.

Local governments have also developed policies that require private waste haulers to provide recycling collection to multi-family complexes and to businesses. While such a policy will typically increase disposal fees for property owners and employers, it is designed to ensure that all residents and employees have access to a recycling program. Private hauler requirements may include exclusions for properties and businesses due to size and space limitations outlined within an ordinance. General requirements of a private hauler recycling ordinance include providing containers to multi-family complexes and businesses, providing recycling educational material, and reporting to the local government on program performance.

Recycling ordinances may also require multi-family complex property owners and businesses to offer recycling services. Local governments adopting a mandatory commercial/multi-family ordinance may require entities to submit a recycling plan and to provide containers to residents and employees. Additionally, owners may be required to provide educational material, contract with a recycling hauler, and submit proof of compliance to the local government.

Legislative Action

Many cities have moved beyond improving their services and have begun mandating how waste is generated and handled. Existing ordinances include the ban of certain types of waste materials (i.e. yard waste) or a ban on selected recyclables from the garbage bin, requiring certain amounts of material to be recycled or reused in building and remodeling projects, and requiring new buildings to meet certain standards for energy efficiency and recycling capability.

When organizations begin to mandate resource recovery behavior through ordinance, they are usually well along the path to a zero waste system.

Legislative advocacy holds the potential to effectively increase waste diversion and promote sustainable resource management practices. There is a wide array of bills about how state and federal regulation exist to help reduce waste generation. The following discusses three options that have the potential to positively impact the City of San Antonio's efforts of waste reduction.

- **Container Deposit Law**
  Container deposit laws were created by the beverage industry as a means of guaranteeing the return of their glass bottles to be washed, refilled and resold. Retailers pay a deposit to the distributor for each can or bottle purchased and consumers pay the deposit to the retailer when buying the beverage. Consumers return empty beverage containers to a retail store, redemption center or a reverse vending machine, where the deposit is refunded. The retailer recoups the deposit from the distributor, plus an additional handling fee in most U.S. states. The handling fee, which generally ranges from 1-3 cents, helps cover the cost of handling the containers. Bottle bills create a privately-funded collection infrastructure for beverage containers and make producers and consumers (rather than taxpayers) responsible for their packaging waste. Bottle bills are currently in effect in 11 states, and 10 additional states have ongoing campaigns to add a bottle bill. Beverage containers constitute almost 5% of the waste stream.

- **Disposal Bans**
  Disposal ban ordinances prohibit the disposal of designated materials such as aluminum cans, metals, and yard waste. In addition, these ordinances can prohibit disposal facilities, such as landfills and transfer stations, from accepting prohibited materials for disposal. Disposal ban ordinances are commonly enacted in conjunction with a mandatory recycling ordinance. Enforcement mechanisms generally include audits, and/or required reporting. Penalties generally include warnings, fines, and loss of permit or license to do business.

- **Product Stewardship**
  The concept of product stewardship is designed to shift product waste costs from government funded and ratepayer financed waste diversion to producers. It is intended to reduce public costs and drive improvements in product design that promote environmental sustainability. Current product stewardship laws tend to focus around particular products rather than general rules for all producers.

Strategic Priorities

Recycling Strategic Priorities

This resource recovery plan and the strategic priorities outlined herein are some of the steps that can be taken in the next ten years to begin improving the way San Antonio residents perceive, create, and dispose of waste. These steps will not only increase recycling and resource recovery practices, but they will also decrease the total amount of waste generated per capita.

a. Vision Statement: San Antonio residents and businesses have access to programs that enable them to reduce waste and recycle their used materials

Strategic Priority: Expand programs and revise City code to increase recycling

Rationale: Expanding resource recovery programs at homes, businesses and institutions will provide residents with greater accessibility to recycle.

i. Objective: All residents in multi-family complexes can participate in convenient recycling programs
   (1) Activity: Revise City municipal code to require private waste haulers and multi-family complex property owners to provide recycling services

ii. Objective: Create policies and programs that increase commercial recycling
   (1) Activity: Expand city recycling collection services to small businesses and institutions
   (2) Activity: Revise City municipal code to regulate recycling collection at commercial businesses

iii. Objective: Improve residential organics recycling program
   (1) Activity: Design a brush separation enforcement mechanism
   (2) Activity: Design a yard waste recycling program
   (3) Activity: Improve the City's backyard composting program
   (4) Activity: Design a food waste recycling program

b. Vision Statement: San Antonio residents and businesses benefit from reducing waste and by recycling used material

Strategic Priority: Create waste reduction and recycling incentives

Rationale: Recycling rewards programs provide a direct financial benefit to residents who choose to participate. Additionally, as participation improves, residents receive greater rewards.

i. Objective: Standardize multi-family complex recycling programs
   (1) Activity: Require recycling plans from multi-family complexes

ii. Objective: Commercial recycling programs are measured and recognized
   (1) Activity: Develop an exploratory group to identify commercial recycling opportunities and activities
   (2) Activity: Develop standardized baseline to gauge commercial recycling
   (3) Activity: Develop a business rewards and recognition program
   (4) Activity: Explore the effectiveness of disposal bans and container deposit laws at the state level though the City's Intergovernmental Relations department

iii. Objective: Residents receive incentives to recycle and to reduce waste
   (1) Activity: Implement Pay-As-You-Throw garbage pricing
   (2) Activity: Provide a recycling rewards/rebate program
   (3) Activity: Develop an annual neighborhood grants program

c. Vision Statement: Establish a culture where discarded materials are viewed as resources instead of waste

Strategic Priority: Improve recycling education and outreach

Rationale: Over the next year, the Department plans to expand its education and outreach programs by implementing and overseeing recycling education programs, coordinating outdoor recycling, and developing partnerships with community groups to facilitate stakeholders' discussion of other resource recovery programs.

i. Objective: Recycling programs are communicated effectively to residents in multi-family complexes
   (1) Activity: Assist property owners and private haulers to develop recycling education & outreach material
   (2) Activity: Provide onsite recycling training and design services to property managers and employees

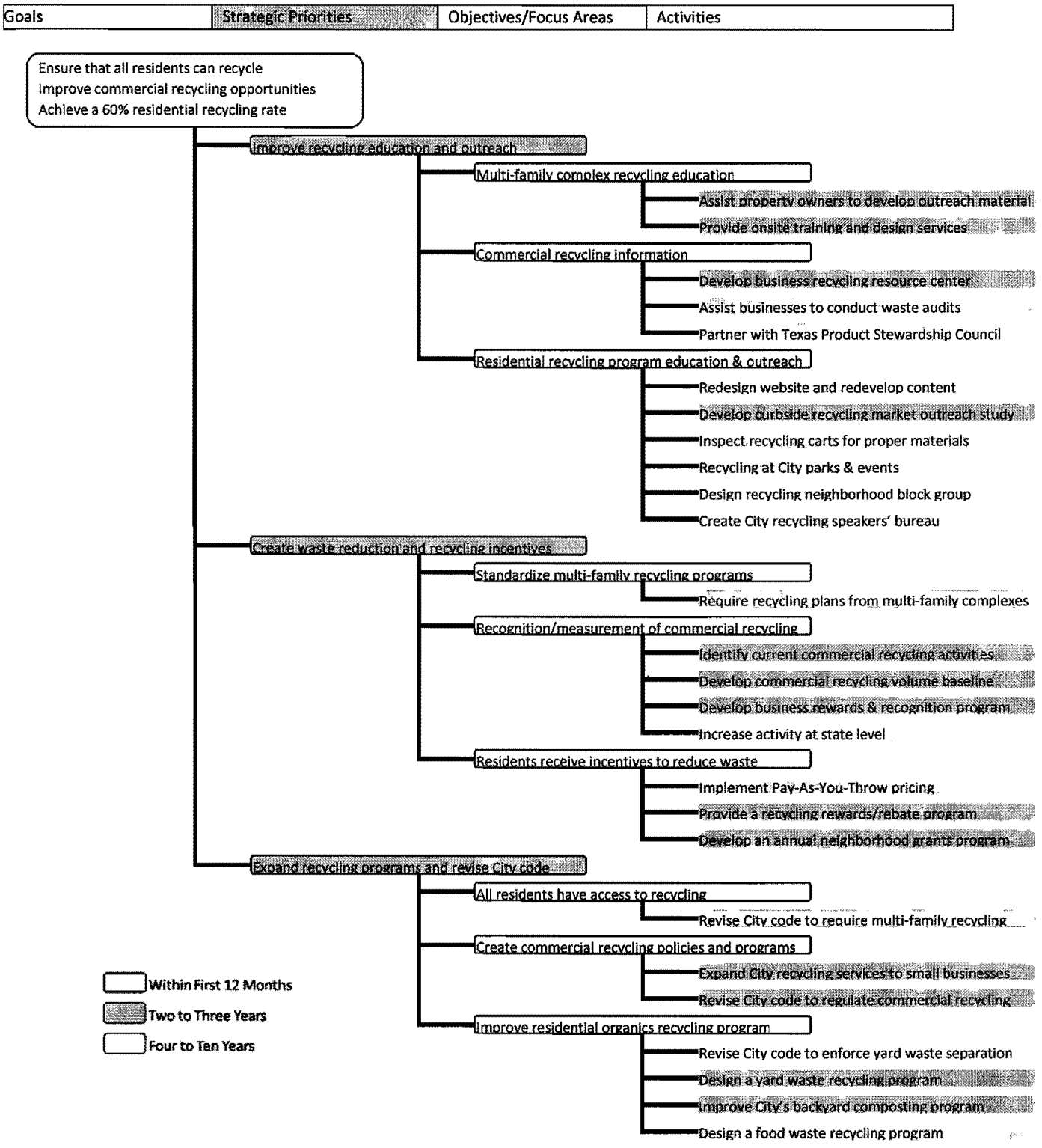
ii. Objective: Provide information on commercial recycling and waste reduction information to businesses

(1) Activity: Develop a business recycling resource center
(2) Activity: Assist businesses to identify recycling and waste reduction opportunities
(3) Activity: Partner with the Texas Product Stewardship Council to influence consumer product design and disposal methods of local businesses

iii. Objective: Updates to City's curbside recycling program are communicated effectively to residents and City employees
(1) Activity: Redesign website and redevelop online content
(2) Activity: Develop and implement curbside recycling market study
(3) Activity: Inspect recycling carts for proper material and provide instruction
(4) Activity: Provide recycling collection at all City parks, events, and community events
(5) Activity: Design a recycling neighborhood block group program
(6) Activity: Create a City recycling speakers' bureau

Strategic Priority Map

City of San Antonio
Solid Waste Management Department
Strategic Map: 10 Year Recycling and Resource Recovery Plan



Estimated Impact of Residential Recycling Programs

Program	Estimated Annual Operating Costs	Estimated Capital Costs	Estimated Recycling Rate Impact
Current Recycling Rate			**18%**
Education & Outreach	$0.25M - $1M		+2%
Yard Waste Collection	$17M - $22M	$30M - $38M	+15%
Pay-As-You-Throw Pricing	$5M - $7M	$10M - $15M	+15%
Food Waste Recycling	TBD	TBD	+10%
Recycling Rate Target			**60%**

Commercial/Multi-Family Recycling

The 60% target shown above focuses on single-family residential recycling only. The department will explore recycling volume baseline with the multi-family and commercial sectors to estimate the impact of various programs and policies on commercial/multi-family recycling rates.

Implementation and Monitoring

Implementation and Monitoring

The purpose of this plan is to establish a direction for the Department's recycling program. Equally critical to identifying the strategic priorities of the Department are the processes of implementation and monitoring. These processes will help secure that the Department not deviate from set goals or possibly need to reflect upon new data to better shape the details of the plan to meet goals in an effective and efficient manner. To maintain focus and adherence to the strategic priorities, the Plan will be assessed in terms of its set goals, whether they have been achieved or not. If objectives are achieved, progress will be documented; if objectives fail to be fulfilled necessary adjustments and resources required to accommodate changes will be considered.

Each proposed program will be implemented following a detail-specific business plan. Within each business plan will be additional public outreach initiatives, cost estimates, and timelines.

Implementation of this Plan will be monitored and updated every three years. The Department recognizes that updates are contingent on various external factors and changes that may require the Solid Waste Management team to revisit the strategic plan at a time earlier than that proposed. If such is necessary, the Department will make certain to understand as well as to report upon why deviation from the Plan is required and provide a comprehensive rationale on changes.