City of San Marcos Comprehensive Solid Waste Plan

(January 2012)

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Executive Summary

Summary of Projections

The City of San Marcos experiences a higher than average growth rate due to several factors which include: 1) home of a major State university, 2) attractive geographic and environmental features, 3) above average standard of living, 4) and interstate transportation system with connections to major commerce centers in Texas (Austin, San Antonio, Houston). 5) and economic factors that produce a favorable investment climate and serve as an engine for growth. Demographic data compiled by the City of San Marcos Planning and Development Dept. shows a current population of 53,910 people with total households of 19,981([i]). Projections estimate the population will increase by 34.4% to 72,455 by 2020 and households will increase by 25.7% to 26,906([ii]). Owner occupied housing accounts for only 25% of total households. The student population (est. 32,572) accounts for 37.6% of the San Marcos population. Texas State University is a primary employer and is the foundation for economic activity in San Marcos.

The projected population growth within the city limits and extra-territorial jurisdiction of San Marcos will generate a significant increase in the quantity of municipal solid waste (MSW) in all economic sectors of the city. Currently, 9,480 tons of residentially generated waste/year is collected from MSW serviced accounts. Based on conservative projections, it is estimated 11,103 tons/year of MSW could be generated in 2015 and 12,738 tons/year by 2020. The percentage of residents participating in recycling is currently 58%, with a diversion rate (amount of MSW being recycled) is 14.17%. These waste generation statistics and projections do not include Texas State University.

Currently, there are no centralized solid waste management programs that recycle the commercial and business waste, and demolition and construction waste segments of the waste stream in San Marcos. Conservative estimates for the amount of commercial/business waste, demolition and construction waste, and other waste (grease trap waste, septage, asbestos, and other special non-industrial wastes) currently generated total 16,941 tons per year. Projected estimates for these segments of the waste stream total 19,843 tons in 2015 and 22,763 tons in 2020.

Prior to the commencement of the MSW assessment and plan process, city sponsored municipal solid waste services were, essentially, provided to only residential and municipal facilities, serving only 6,500 residential accounts. Multi-

family recycling was commenced in February, 2010, thereby increasing the number of subscriber accounts to 17,364. Current data for the recycling diversion rate (tons recycled per month) has increased by approximately 22% since the inception of multi-family recycling. Implementing multi-family recycling did achieve a per household reduction in the cost of curbside recycling by $.50/household.

Information gathered from presentations by select communities in Texas and research of systems in other cities outside the state revealed management concepts, that if implemented strategically in San Marcos, can increase logistical and service efficiencies, and provide needed services, whether generated by public demand or increases in waste volume due to growth in population and/or subscription rates.

Based on current and objective diversion rates, these increases in the quantity of MSW point to the definite need to strategically plan and implement solid waste collection and disposal services (or systems) to effectively and cost efficiently manage the waste stream both in the short-term and the long-term.

The goals and recommendations identified through this planning process were arrived at using criterion that included operational efficiencies, increased participation and diversion rates, increased services while controlling costs. None-the-less, the recommended actions must be measurable with targets that are realistic, but at the same time, challenging.

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[i] See Appendix, Population and Growth Patterns
[ii] See Section 3, Waste Generation Projections

Summary of Goals and Recommendations

After gathering input from comparable communities and a public input process of town hall meetings and focus group discussions, the San Marcos MSW Task Force developed six recommendations to address short-term, medium-term, and long-term MSW needs and service options. They are:

1. INCREASE PUBLIC AWARENESS AND EDUCATION

   Strategy: Develop and implement a comprehensive MSW Services public awareness component. Collaborate with Texas State University, local ISD, and other groups.

2. INCREASE WASTE REDUCTION /DIVERSION

   Strategy: Increase recycling rates and lower the amount of waste requiring landfilling. Increase green waste diversion, variable rate, composting, C&D waste.

3. EVALUATE AND IMPLEMENT COST EFFICIENT SERVICES

   Strategy: Implement "best management practices" that enable San Marcos to provide effective and cost efficient services.

4. ESTABLISH LAND DEVELOPMENT CODES TO ADDRESS MUNICIPAL AND COMMERCIAL, MULTI-FAMILY, AND DOWNTOWN SOLID WASTE ISSUES

   Strategy: As future growth and redevelopment progress, incorporating MSW planning into the design and permit phase of developments will enable effective MSW management.

5. CORRELATE ECONOMIC DEVELOPMENT POLICIES THAT ENCOURAGE NEW RECYCLING BUSINESSES AND EXPANSION OF EXISTING BUSINESSES

   Strategy: Positive economic impacts can be realized through implementation of MSW management systems through proper strategy and collaboration. Implement incentives that maintain and create jobs and generate a positive economic impact.

6. EXPLORE SERVICE OPTIONS THAT ENABLE SAN MARCOS TO ACHIEVE METRIC GOALS AND EFFECTIVELY MANAGE INCREASED MSW GENERATION AND SERVICE DEMANDS

   Strategy: Implement service options that are specific, measurable, attainable, realistic, and timely = SMART

Definitions

Best Management Practices

Best Management Practices (BMP's) in municipal solid waste management involves using an integrated approach. Integrated waste management involves what is commonly referred to as the "three R's" hierarchy: Reduce, Reuse, and Recycle. Reduce the amount of waste that is generated, Reuse materials to use them up, and/or Recycle the materials by processing them into a new or different product. After applying the three R's, then landfill, incinerate, or compost the residual waste remaining.

Bulky Waste

Bulky waste are items such as appliances and couches that cannot be picked up with normal residential garbage and may require special handling, such as Freon and compressor oil removal (prior to pickup).

Composting Municipal Solid Waste

Composting is the controlled biological decomposition of organic matter, such as food and yard wastes into humus, a soil-like material. Composting is nature's way of recycling organic waste into new soil, which can be used in vegetable and flower gardens, landscaping, and many other applications. Composting is the controlled decomposition of organic materials, such as leaves, grass, and food scraps, by microorganisms. The result of this decomposition process is compost, a crumbly, earthy- smelling, soil-like material. Yard trimmings and food scraps make up about 25 percent of the waste U.S. households generate, so composting can greatly reduce the amount of waste that ends up in landfills or incinerators. In Texas, MSW composting requires a permit from the Texas Commission on Environmental Quality.

Event Composting

Event Composting is the collection and segregation of waste materials from events (usually containing a high percentage of organic matter) and applying the controlled biological decomposition process to this segregated waste stream.

Construction and Demolition Waste

Construction and Demolition Waste, often referred to as, "C&D" waste, is scrap waste materials left over from new construction, remodeling, building demolition, road construction, consists of unwanted material produced directly or incidentally by the construction or industries. This includes building materials such as insulation, nails, electrical wiring, and rebar, as well as waste originating from site preparation such as dredging materials, tree stumps, and rubble. Much building

waste is made up of materials such as bricks, concrete, and wood damaged or unused for various reasons during construction. Observational research has shown that this can be as high as 10 to 15% of the materials that go into a building, a much higher percentage than the 2.5-5% usually assumed by quantity surveyors and the construction industry.

Green Waste Mulching

In agriculture and gardening, mulch is a protective cover placed over the soil, to retain moisture, reduce erosion, suppress weed growth and seed germination, and provide nutrients as they decay. Mulching in gardens and landscapes mimics leaf cover on forest floors. Local green waste mulching is where individuals, through curbside pickup or resident drop-off centers, can dispose of the green waste generated through lawn and tree maintenance, where it will be ground and allowed to self-compost. Green waste mulching does not include composting of municipal solid waste.

Household Hazardous Waste

Household Hazardous Waste (HHW) is the term for common household chemicals and substances for which the owner no longer has a use. These substances exhibit many of the same dangerous characteristics as fully regulated hazardous waste due to their potential for reactivity, ignitability, corrosivity, toxicity, and persistence. Examples include drain cleaners, oil paint, motor oil, antifreeze, fuel, poisons, pesticides, herbicides and rodenticides, fluorescent lamps, lamp ballasts, smoke detectors, medical waste, some types of cleaning chemicals, and consumer electronics (such as televisions, computers, and cell phones).

These wastes are municipal solid waste, and almost all can be legally disposed in landfills that can accept regular trash. Under Texas laws and regulations, HHW is limited to those wastes from households that would be hazardous waste if they were not specifically excluded by the federal regulations. However, because of their hazardous characteristics, and potential environmental and health impacts, many communities offer programs people can dispose of HHW in a more protective manner. Such disposals are often done through collection programs.

Materials Recovery Facility

A Materials Recovery Facility, also known as a materials recycling facility or “MRF” (pronounced "murf"), is a facility that receives, separates and prepares recyclable materials (typically paper, plastic, metals, and glass) for marketing to end-user manufacturers. Generally, there are two different types - clean and dirty MRFs.

A “clean” MRF accepts recyclable commingled materials that have already been separated at the source from municipal solid waste generated by either residential or commercial sources.

A "dirty" MRF accepts a mixed solid waste stream and then proceeds to separate out the recyclable materials through a combination of manual and mechanical sorting.

Municipal Solid Waste

Municipal Solid Waste (MSW) is the acronym for non-hazardous waste generated by individuals, businesses, institutions, government facilities, or the public at large. MSW includes recyclable materials, compostable materials, household hazardous waste, food waste, bulky materials, and what is considered in general as "trash" or "garbage."

MSW Franchise Ordinance

Where a local governmental entity (municipality) passes an ordinance that authorizes the municipality to manage all MSW collection and disposal activities within the municipal boundaries. This ordinance may include the requirement for municipal authorization of a private company to conduct MSW collection and disposal activities.

Participation Rate

The number of accounts (residential and commercial) of all households and businesses that subscribe to recycling services. Usually stated as a percentage and calculated by dividing the number of recycling service accounts by the total number of MSW service accounts.

Pay-As-You-Throw

Pay-As-You-Throw (PAYT), also called unit pricing, variable rate pricing, or user-pay, is a usage-pricing model for disposing of municipal solid waste. Users are charged a rate based on how much waste they present for collection to the municipality or local authority.

A variety of models exist depending on the region and municipality. Waste is measured by weight or size while units are identified using different types of tags or containers. Services for waste diversion, like recycling and composting, are often provided free of charge where PAYT systems are implemented.

There are three main types of PAYT programs:

1. Full-unit pricing: Users pay for all the garbage they want collected in advance by purchasing a tag, custom bag, or selected size container.

2. Partial-unit pricing: The local authority or municipality decides on a maximum number of bags or containers of garbage, with collection paid for taxes. Additional bags or containers are available for purchase should the user exceed the permitted amount.

3. Variable-rate pricing: Users can choose to rent a container of varying sizes (some programs offer up to five), with the price corresponding to the amount of waste generated.

Recycling Center

Very similar to a transfer station, but it does not accept waste for disposal. A recycling center accepts large volumes of recyclables (paper, plastic, aluminum, cardboard, yard-waste, etc.) for sorting, compacting, baling, and mulching. Bales of recyclables are transported to a broker or end-user that processes the materials and manufactures new products.

Recycling Diversion Rate

The amount of material that is segregated from household garbage, usually quantified by weight. Usually stated as a percentage and calculated by dividing the amount of recyclable material by the total amount of household garbage collected for landfill disposal.

Recycling Ordinance

A law or decree made by any authority or authoritative body that requires the separation of recyclable materials from non-recyclable materials. An ordinance may be a goal to achieve a certain recycling rate, or it may be a requirement for recycling to be offered to a particular sector of the community such as residential dwellings and/or businesses.

Single Stream Recycling

Single Stream (also known as "fully commingled") recycling refers to a system in which all paper fibers and containers are mixed together in a collection truck, instead of being sorted into separate commodities (newspaper, cardboard, plastic, glass, etc.) by the resident and handled separately throughout the collection process. In single stream, both the collection and processing systems must be designed to handle this fully commingled mixture of recyclables.

Outcome Metrics

Established productivity measurements to motivate and foster project success. Metrics are benchmarking objectives. The recommended system for the San Marcos MSW Plan are **SMART** goals:

- **Specific**: Provide enough detail so that there is no question on what is being measured and no question how the metric is calculated. You should be specific as to the measurement, goals and responsible people/department.
- **Measurable**: Here is where you use your metric. Make sure you have a reliable system in place that will accurately measure your performance.
- **Attainable**: Will the supply chain projects you have scheduled for the year produce results that will achieve your goal? The person setting the goal and the person responsible for achieving the goal should agree with the target. If results are unattainable or unrealistic, they will have a de-motivating effect on your employees.
- **Realistic:** Don't plan to do things if you are unlikely to follow through.

Better to plan only a few things and be successful rather than many things and be unsuccessful. Your supply chain goals should be challenging, but realistic in relation to the improvement projects you have in place.

- **Time frame**: Identify when you're targeting to hit your goal. Example: Your current fill rate is 87% and your supply chain projects should improve your measure to 93%. But is the 93% goal for the final month of the year OR is it averaged out over a specific time frame?

Short, Medium, and Long-Term

In this report, Short-term is defined as 3-5 years, Medium-term is 5-10 years, and Long-term is 10-20 years.

Transfer Station

A transfer station is a building or processing site for the temporary deposition of waste. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal in an incinerator, landfill, or hazardous waste facility, or for recycling.

In the future, transfer stations could be equipped with material recovery facilities and with localized mechanical biological treatment systems to remove recyclable items from the waste stream.

Purpose and Formation of Task Force by San Marcos City Council

The San Marcos City Council approved the formation of the San Marcos Municipal Solid Waste Task Force to develop a comprehensive solid waste management plan, the goal of which is to design and implement an integrated solid waste system that is responsive to the City's vision and growth. The Lower Colorado River Authority's (LCRA) Community and Economic Development Department was requested to facilitate and conduct the planning process. Members of the Task Force were selected by the San Marcos City Council. The following individuals were appointed to the Task Force:

- Sabas Avila, Assistant Director Public Services – Transportation
- Jon Clack, Assistant Director of Public Services – Water/Wastewater
- Daniella DeJongh, Chair of Recycle Committee Sustainable San Marcos
- Kyle Hahn, Owner of Green Guy Recycling
- Melani Howard, Watershed Protection Program
- Amy Kirwin, Council of Neighborhoods
- Ron Leahy, Texas Disposal Systems
- Matt Lewis, Director of Development Services – Planning
- Richard Salmon, Grants Administrator
- Jo Secrest, Public Services Program Coordinator
- Rick Skiles, Skiles Real Estate
- Brad Smith, Texas State University
- David Case, Downtown Association
- William Ford, Assistant Director Community Services

David Case was appointed by the City Council to replace Allen Shy, because Mr. Shy moved from San Marcos to another community and could not participate on the task force.

The LCRA Facilitators and technical specialists were:

- Jack Ranney, Economic Development Specialist
- Kirk Scanlon, Economic Development Specialist, AICP

The process which produced this plan included gathering complete data on current MSW services in San Marcos, performing comparative analysis of waste management systems in other communities, gathering input from the public (residents, business owners and managers, students, environmental groups, and other sectors to identify gaps in services, needed improvements and efficiencies, and/or services wanted or

needed by those living and working within the city limits.

The public input process included an initial open public meeting to gather input from San Marcos citizens to learn what issues or problems, services, and needs and/or wants they think are important. Then, a series of focus group meetings with different groups that receive MSW services through the City of San Marcos contract and/or that generate MSW and contract individually for services to gather input to learn what issues, problems, services, and needs they think are important.

Focus Group meetings were held for the following service sectors in the city:

- Neighborhoods
- Downtown Business District
- Texas State University (students)
- Apartment Dwellers, Commercial Businesses, Professional Services
- Environmental Groups

After the focus group meetings were completed, the Task Force reviewed the information and data collected and developed goals and recommendations to meet short-term (0-5 years), medium term (5-10 years), and long-term (10-20 years) needs and planning. The goals and recommendations presented in this report are the result of this planning process.

The scope of the project included the following:

- Identification of urban growth and solid waste trends
- Review of existing solid waste services:
  - solid waste
  - recycling
- Identification of community vision and requests including:
  - pay as you throw
  - brushy waste
  - hazardous waste
  - composting
  - solid waste
  - recycling

Development of a comprehensive, strategic plan that maximizes:

- Efficiencies
- Affordability
- Sustainability
- Public-private partnerships

Existing Waste Management Systems and Generation

Current Waste Collection and Generation Statistics

Current MSW services provided by San Marcos are provided through contracts with private vendors: Texas Disposal Systems (TDS) and Green Guy Recycling (Green Guy). The City of San Marcos does not provide any direct MSW services, but through the contract with TDS, provides curbside MSW collection and recycling, yard/brush collection, and bulky waste collection for all residential areas within the city limits. As of February, 2011, TDS provides recycling services to subscribed multi-family complexes in the city. Through the contract with Green Guy, paper, plastics, aluminum, glass, and cardboard are collected for recycling at all municipal offices. The contract also provides for the operation of a drop-off center for all San Marcos residents for comprehensive recycling services which include white goods, all recyclable metals, used motor oil and filters, computer monitors, TVs, tires, and Freon recovery.

San Marcos MSW contracted services currently provide collection, disposal and recycling to 6,500 residential accounts and 10,864 multi-family accounts. It is believed development of a sound public awareness and education component will increase participation city-wide. The residential curbside rate is currently $18.37 per resident per month and is billed through the San Marcos utility billing. The monthly curbside rate includes curbside recycling by TDS and a monthly assessment of $.71 to provide collection center services through Green Guy. Texas Disposal Systems provides municipal solid waste services to City facilities for a monthly fee of $4,583. Green Guy is contracted to provide local municipal recycling services for special City sponsored events, and a drop-off center for $3,090 per month.

Commercial/industrial and business property owners contract independently with solid waste service providers. Texas State University has its own MSW services contract for university campus buildings and operations.

At the commencement of the San Marcos MSW Task Force, there were approximately 6,500 residential accounts receiving service through the San Marcos MSW contracts with TDS. This number of accounts translate to an estimated 27% of the total municipal population. During calendar year 2010, an average of 790 tons of MSW was collected monthly for landfill disposal, for a total annual volume of 9,483 tons. Recycling diverted an average of 111 tons per month for an annual volume of 1,331 tons, a recycling rate of 14.17%. Based on data provided by TDS, multi-family recycling has increased the recycling

diversion rate by 22.4%, from a 2011 pre-multi-family rate average of 113 tons per month to 139.22 tons per month. Collection statistics (before implementation of multi-family recycling) show an average recycling participation rate by the residential sector (for which recycling services are provided) of 58%.

In 2004, the North Texas Council of Governments (COG) commissioned a study to determine the recycling rates in communities throughout the COG region. Sixty-two communities in the COG region were surveyed. Recycling rates ranged from .1% to greater than 35%. The study revealed an average regional recycling rate of 12.2%. Combined with recycling by commercial/industrial entities in the region, the overall average recycling rate is 15.8%. This study provides a comparison by which to evaluate the San Marcos MSW and recycling programs.

There are currently no comprehensive MSW ordinances that address MSW service requirements for vendors or business owners. City of San Marcos has developed a Master Plan and includes plans for all municipal utility services and a Downtown District plan. But, the City has not developed a comprehensive master plan for city-wide solid waste services. The San Marcos Code of Ordinances does have the Commercial Solid Waste Haulers code which establishes minimum standards for commercial solid waste collection and transport activities in the city. Based on information gathered during the MSW assessment and plan process about MSW systems in other communities, city-wide codes and/or ordinances and codes/ordinances for special districts in the city are tools that can help San Marcos achieve cost and operational efficiencies while increasing services and participation rates.

Household Hazardous Waste Collection Program

The collection of Household Hazardous Waste (HHW) is now a full service program that provides residents with opportunities to properly dispose of consumer chemical products commonly used in households. These types of items are numerous and include products that are classified as toxic, reactive, ignitable (flammable), and corrosive. Prior to the existence of HHW programs, these items, when no longer wanted or needed, were disposed of in household garbage receptacles. Disposing of HHW in household garbage for collection and land-filling presents three important concerns: 1) public health and safety, 2) liability and risk management, and 3) environmental degradation. There are numerous documented incidents of individuals being contaminated with chemicals in their households and injuries to sanitation workers during the collection process. Incidents like these, when they happen, incur real costs to the company and/or municipality. Comprehensive HHW programs (programs that have both

collection and education components) help to mitigate these risks.

The City of San Marcos Household Hazardous Waste (HHW) program commenced over a decade ago with "one-day" collection events. Due to demand for these disposal options, the program has transitioned to a permanent HHW collection facility providing regularly scheduled collection operating hours. The City of San Marcos has sponsored several one-day HHW collection events since 2001 and has operated a permanent HHW facility since 2007 and has enabled the city to provide four collection opportunities each year. The program is open to San Marcos and Hays County residents only.

Texas State University-San Marcos

Texas State University-San Marcos contracts with Texas Disposal Systems to provide MSW collection and disposal services at all university buildings and facilities. Texas State conducts its own recycling program. Texas State has also initiated a pilot composting program that may yield future opportunities on a larger scale (e.g. municipal composting) in the future. Due to Texas State being in the city of San Marcos, there exists real opportunities for collaboration on MSW collection and disposal services. Collaboration between Texas State and San Marcos regarding MSW collection and disposal and recycling may present positive cost/benefits due to waste stream volumes generated by each entity. Additionally, Texas State has resources that can be utilized constructively to help develop and implement certain components of a comprehensive MSW program in San Marcos (e.g. public awareness component development, student assistance with component implementations).

San Marcos Municipal Solid Waste Generation Statistics and Projections

Utilizing data provided by the City of San Marcos Transportation Division, residential waste generation projections were calculated and indicate an estimated 12,738 tons/year of MSW could be generated by 2020.

San Marcos Solid Waste/Recycle Services

Residential Solid Waste collection 1 x per week - Texas Disposal System (TDS) provides 96 gallon trash container.

Residential Single Stream recycling collection every other week – TDS provides 96 gallon recycle container.

Bulky pick up to include brush 2 x per month – first and third full weeks of the month. Brush must be cut to 4 foot lengths and tied and bundled. Each resident is limited to 4 bulk/brush pickups per year and no more than 3 cubic yards.

Residents may take up to 5 cubic yards of yard waste only to the TDS landfill one time per month for free.

Multi-Family Single Stream Recycling provided at all apartments and mobile home parks.

City Services

- Public Services/Transportation and Water/Wastewater: 8 – 8 cubic yard, 1 x per week
- Library: 1 – 8 cubic yard, 1 x per week
- Parks and Recreation: 1 – 8 cubic yard, 1 x per week
- Central Fire Station: 1 – 8 cubic yard, 1 x per week
- 3 Fire Substations: 1 – 96 gallon, 1 x per week
- Fire Station # 5: 1 – 8 cubic yard, 1 x per week
- Police Department: 2 – 8 cubic yard, 1 x per week
- Police Pistol Range: 1 – 8 cubic yard, 1 x per week
- Firing Range: 1 – 8 cubic yard, 1 x per week
- Electric Utility: 1 – 8 cubic yard, 1 x per week
- Code Enforcement: 2 – 96 gallon, 1 x per week
- Activity Center: 2 – 10 cubic yard, 3 x per week
- Animal Shelter: 1 – 4 cubic yard, 5 x per week
- Wastewater Treatment Plant: 1 – 8 cubic yard, 1 x per week
- Containment Area on River Rd: 2 – 40 cubic yard, 1 x per week

Annual Parks

- Softball Fields: 2 – 8 cubic yard, 2 x per week
- Soccer Fields: 2 – 8 cubic yard, 2 x per week
- Little League Fields: 2 – 8 cubic yard, 2 x per week

Special Events

- Sights and Sounds of Christmas: 125 – 96 gallon, 2 – 8 cubic yard, 2 - 14 cubic yard, and 1 – 20 cubic yard
- Library Book Sale: 1 – 8 cubic yard
- River Clean Up: 2 x per year, 1 – 30 cubic yard
- Texas Natural Festival: 50 – 96 gallon, 3 – 8 cubic yard

Neighborhood Cleanup Program

Six Neighborhood Clean Ups: 6 – 40 cubic yard, Additional @ $395 per haul

Downtown Area

32- 40 – Public Trash Cans: 4 x per week

Green Guy Recycle Center Contract Provisions

Collection of recycling from City facilities:

- Activity Center
- Library
- Police Department
- Animal Shelter
- Municipal Building
- Public Services Building
- Central Fire Station
- Parks and Recreation Building
- City Hall Building
- Permit Center
- San Marcos Electric Utility

Neighborhood Cleanup Program

Six Neighborhood Clean-Ups: Provide trailer for recyclable items

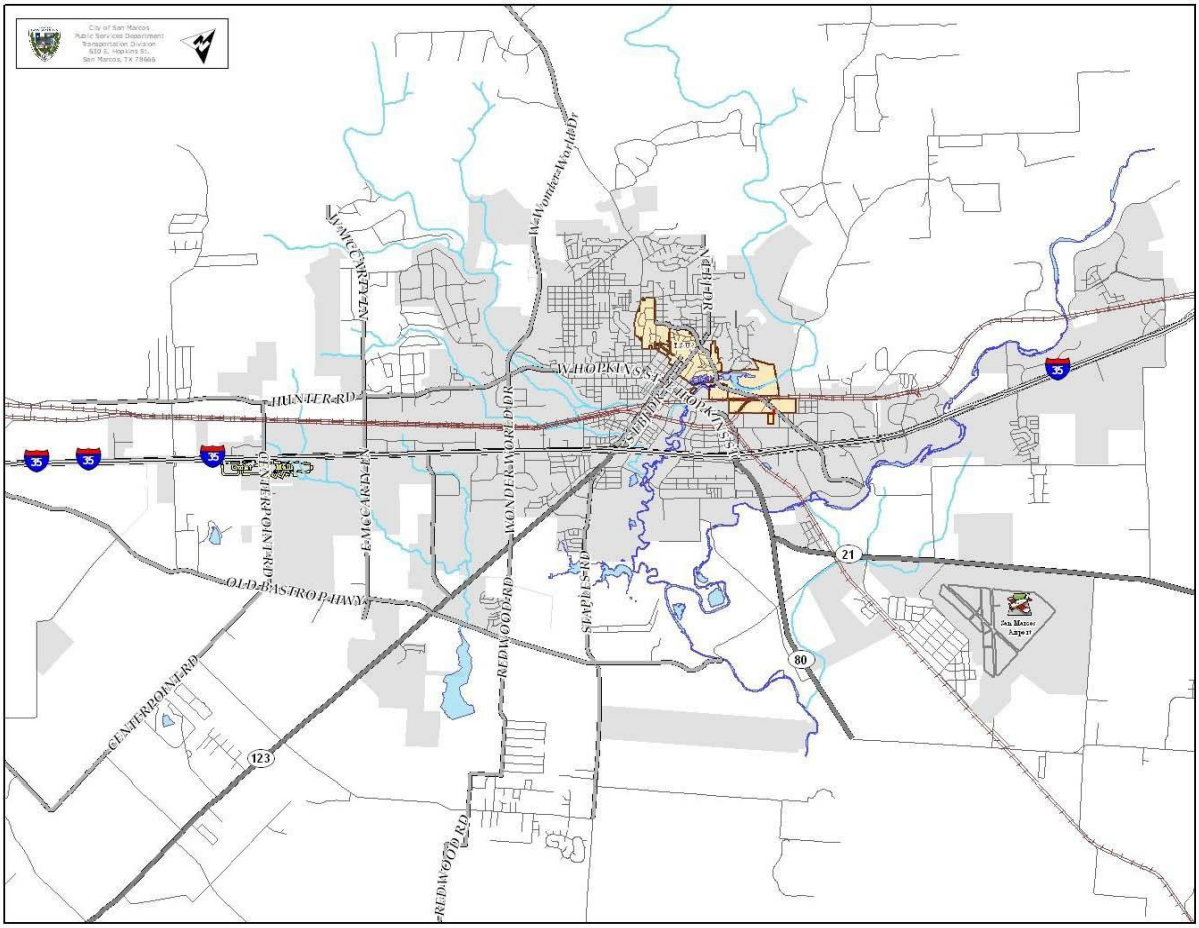
Special Events

- Sights and Sounds of Christmas: 50 – Recycle containers
- Library Book Sale: Recycle containers
- River Clean Up: 2 x per year, 1 trailer
- Texas Natural Festival: Recycle containers appropriate for the event
- Summer Festival Recycle: Containers appropriate for the event

Household Hazardous Waste Collection

- Contract with Stericycle for disposal
- Contract with Green Guy Recycling for two part-time employees
- Permanent City owned facility open every Tuesday and Friday 12:00 noon to 3:30 p.m. and 2 Saturdays per year for events
- San Marcos Water/Wastewater budgets $25,000.00 for disposal
- Hays County Contributes $15,000.00 for disposal
- Grant money from CAPCOG $20,000.00 for disposal – one time grant 2011
- City staff use overtime for events on Saturday

Map of City of San Marcos



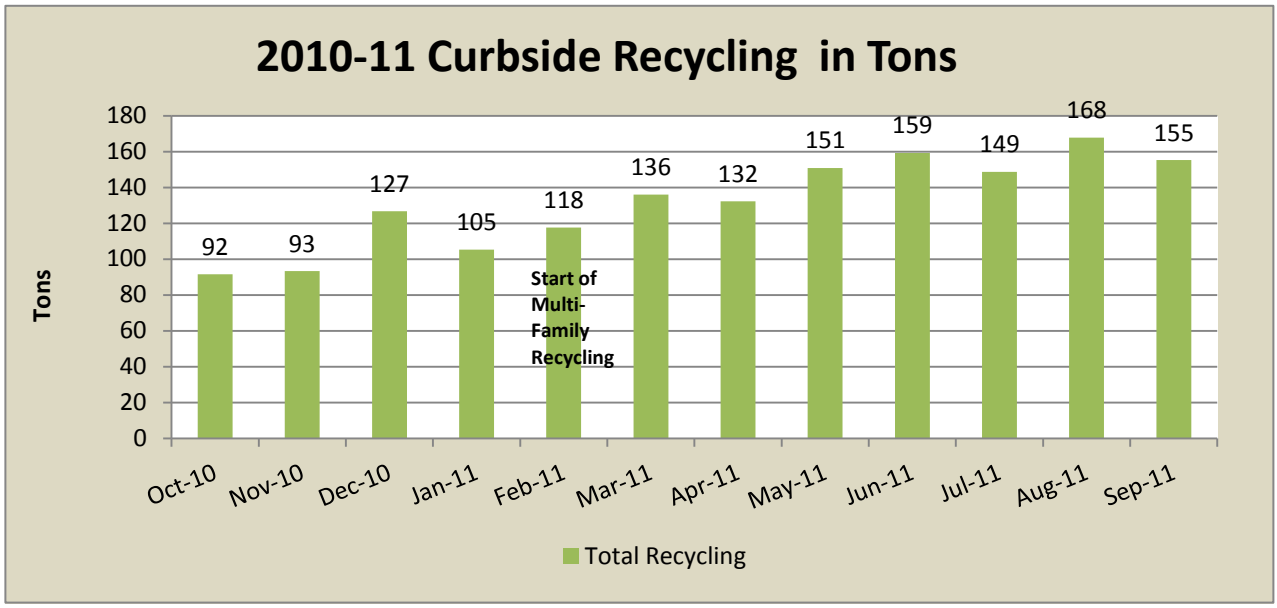
Projected MSW Generation and Recycling to 2020

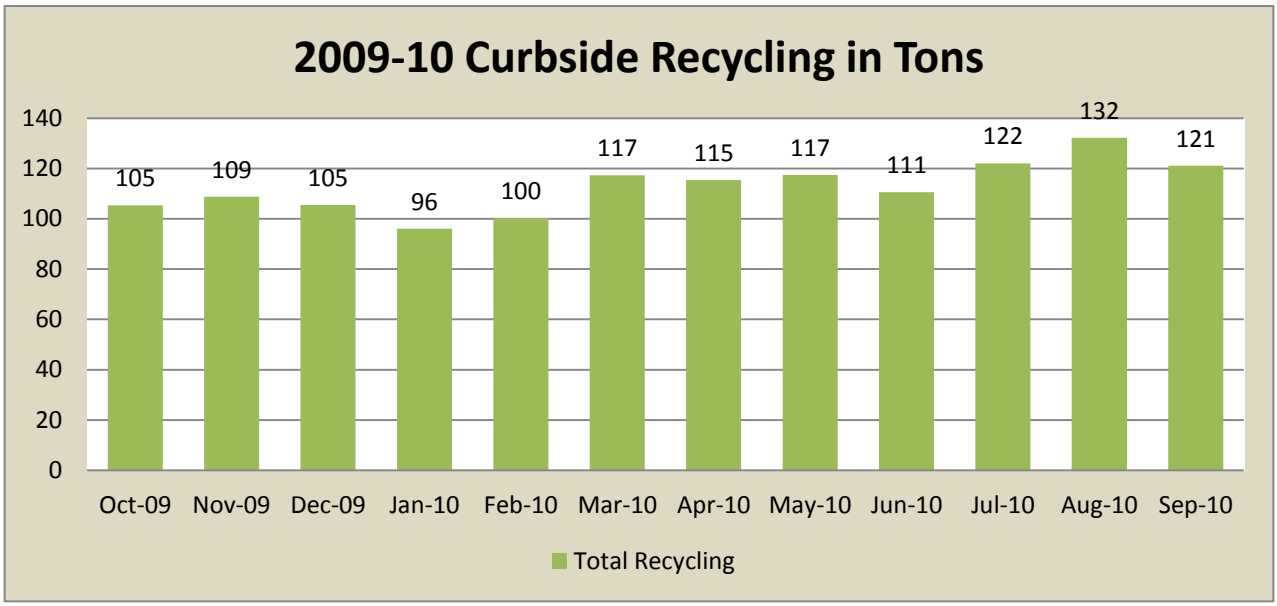
Year:	2010	2015	2020	*Increase to 2020
Municipal Population[1]	53,910	63,182	72,455	34.4
# of Households	19,981	23,443	26,906	25.7
Total Estimated Tons MSW Generation[3]	**26,421**	**30,945**	**35,502**	
Residential MSW[2]				
Average # of MSW Customers	6637	7775	8920	34.4
Average Pounds of MSW per Customers	238	238	238	
Average # of Tons MSW Generated per month	790	925.225	1061.48	
Equivalent # of Tons MSW Generated per year	**9,480**	**11,103**	**12,738**	**34.4**
Average Recycling Participation Rate	58%	65%	100%	
Equivalent Numbers of Customers Recycling	3849	5053.75	8920	
Average # of Tons Recycled per Month	111	231	425	
Equivalent # of Tons Recycled per Year	**1332**	**2776**	**5095**	**282**
Percentage of MSW Recycled	14.17%	25%	40%	
Total Estimated Tons Commercial/Business Waste[3]	**7,934**	**9,293**	**10,661**	**34.4**
Estimated Tons Construction/Demolition Waste[3]	**5,467**	**6,403**	**7,345**	**34.4**
Estimated Tons Other Waste[3]	**3,540**	**4,147**	**4,757**	**34.4**

Footnotes:

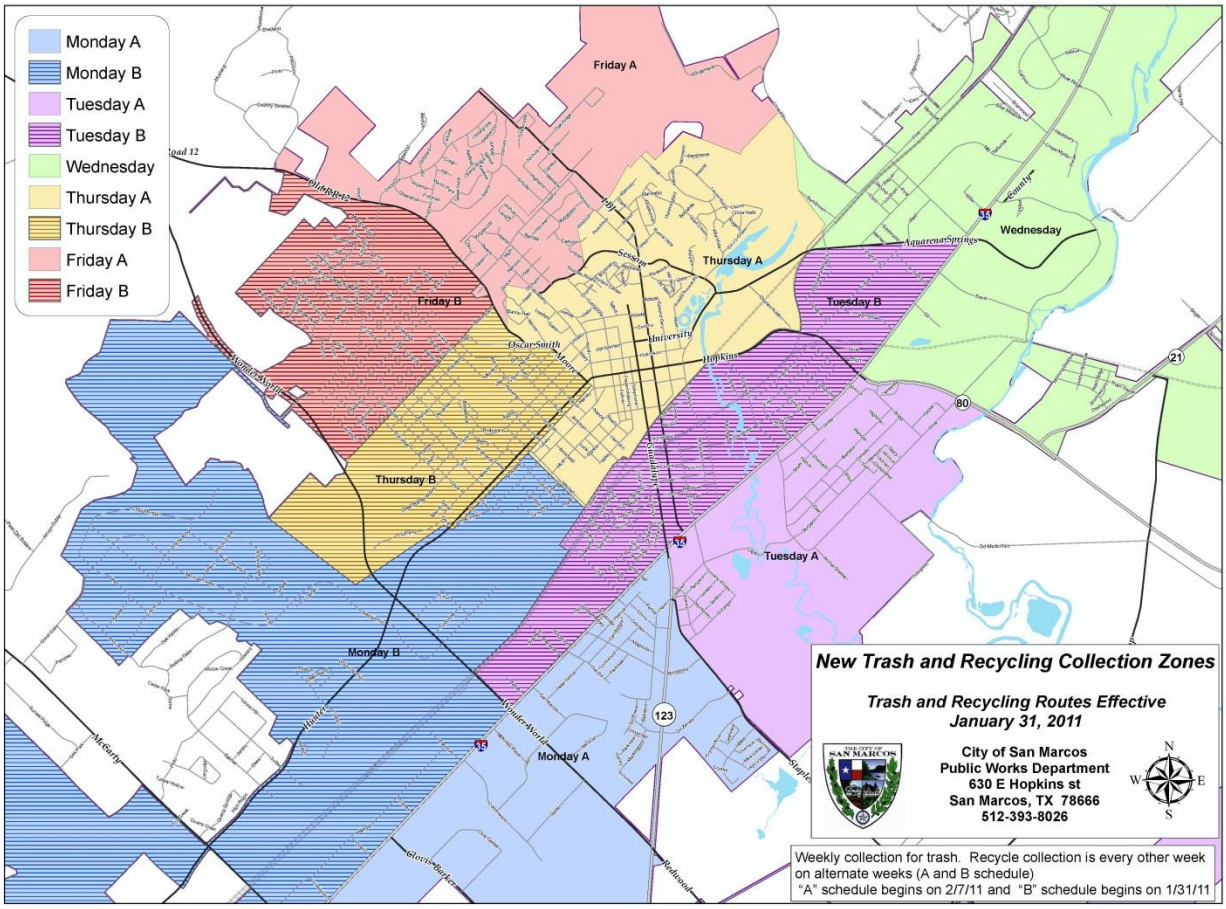
1) Population statistics and projections were provided by San Marcos Development and Planning
2) Current MSW and recycling statistics (number of customers, amounts collected and recycled) were provided by City of San Marcos, Public Services – Transportation Division and do not include multi-family. Projections are based on 2010 data and use metric goals to calculate projected participation and diversion rates.
3) Total estimated, commercial/business MSW, and construction/demolition generations statistics were calculated by using average generation rate statistics from the report, "Municipal Solid Waste in Texas: A year in Review: FY2009 Data Summary and Analysis"
   - Residential waste is estimated to be 35.88% of total MSW
   - Commercial/business waste is estimated to be 30.03% of total MSW
   - Construction/demolition waste is estimated to be 20.69 % of total MSW
   - All other waste generated is estimated to be 13.4% of total MSW

2010-2011 Recycling Totals (Residential and Multi-Family)

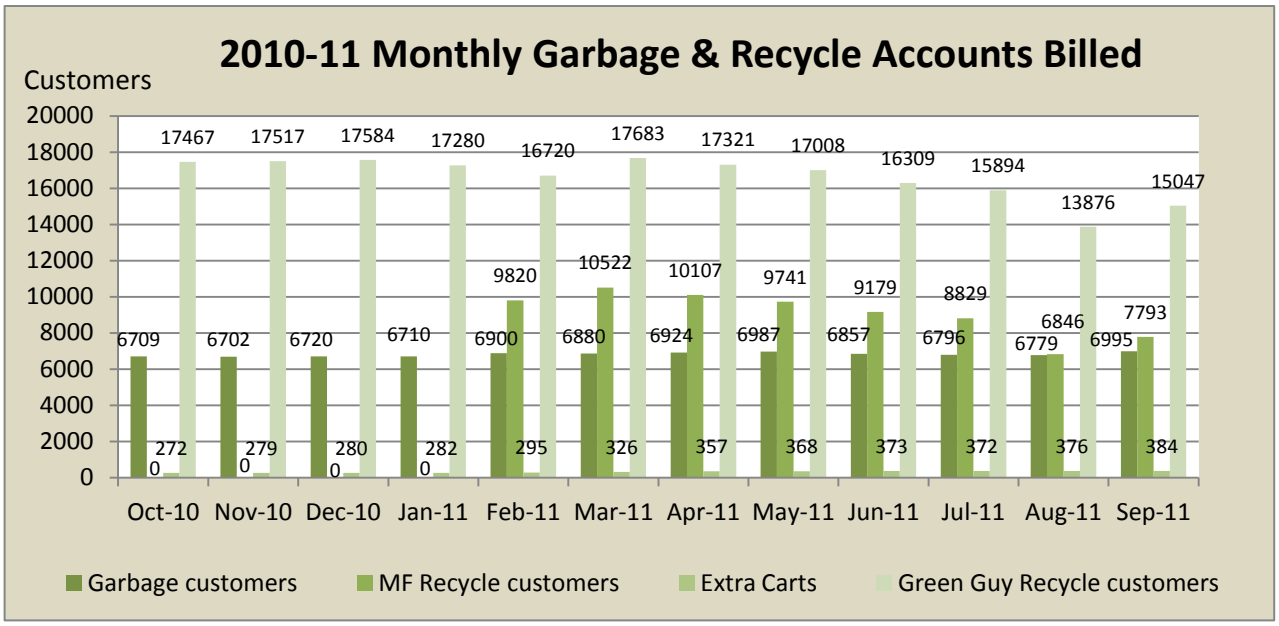




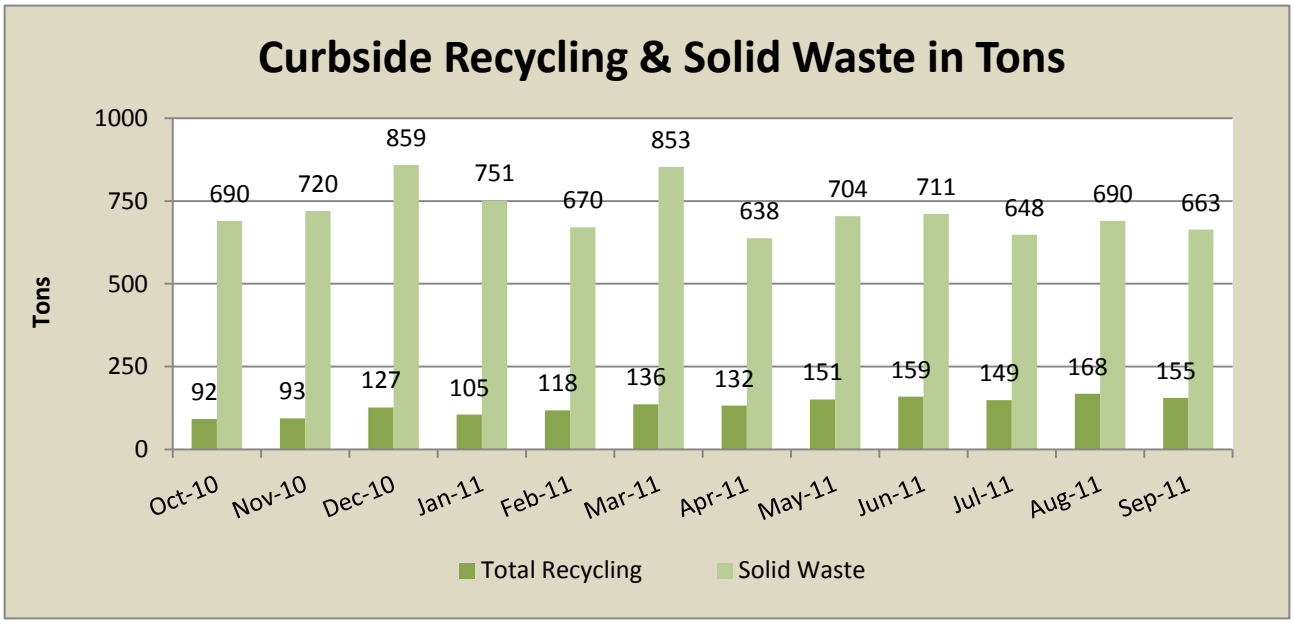
2011 Trash and Recycling Collection Zones

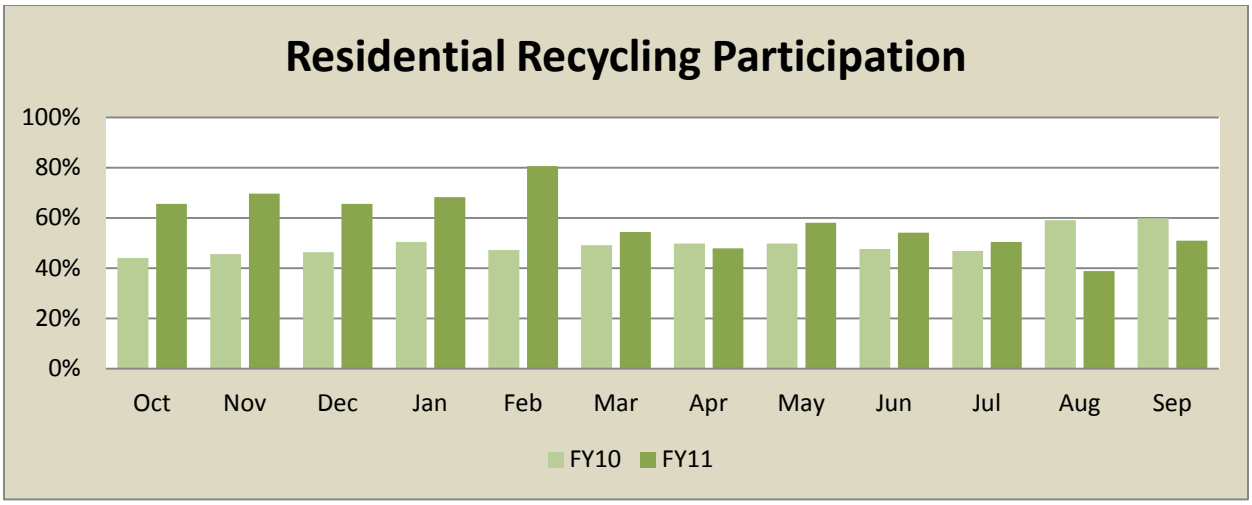


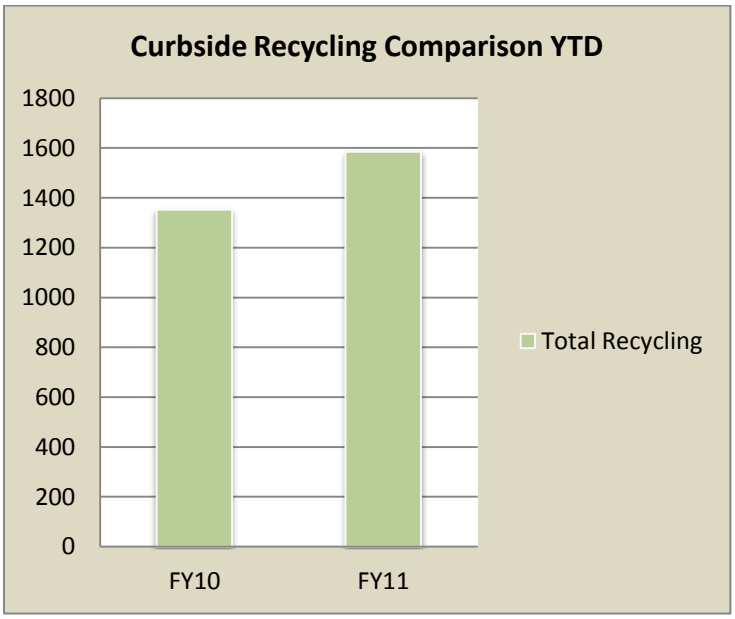
Solid Waste & Recycling Monthly Report



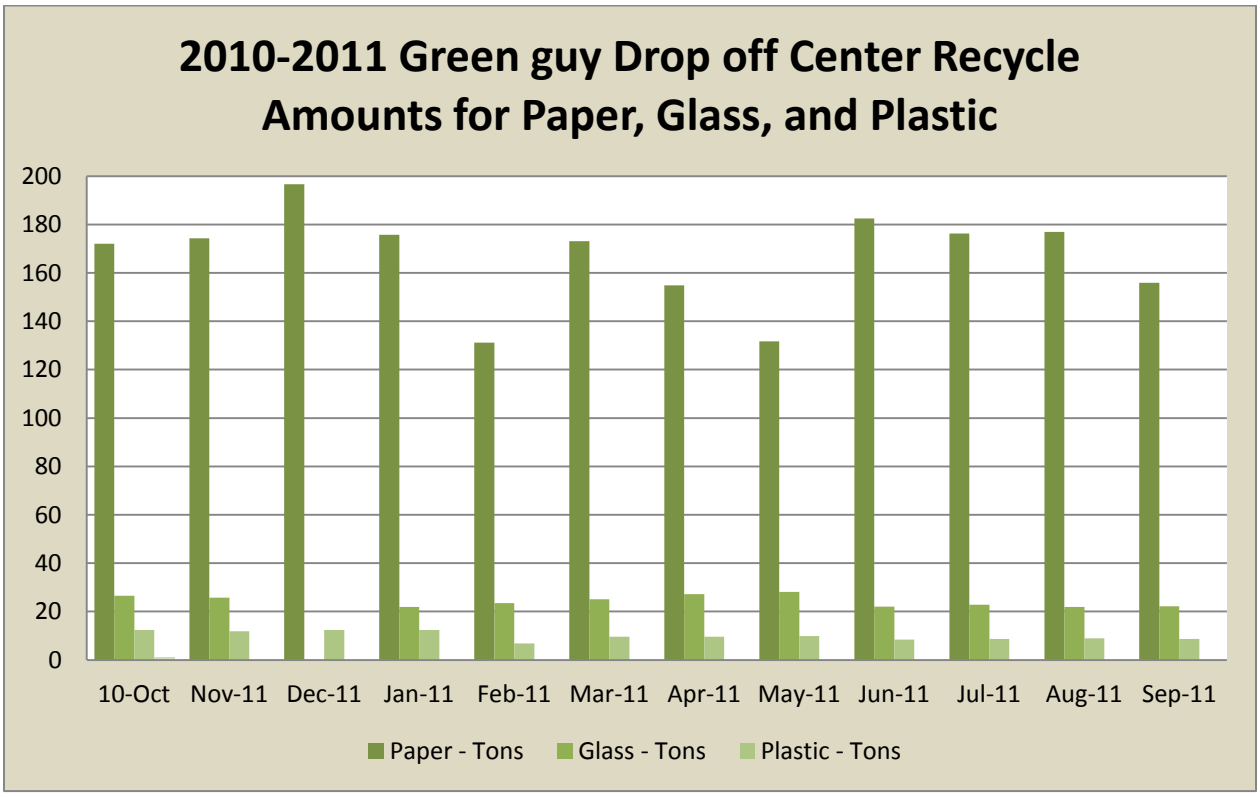
Additional Solid Waste & Recycling Statistics

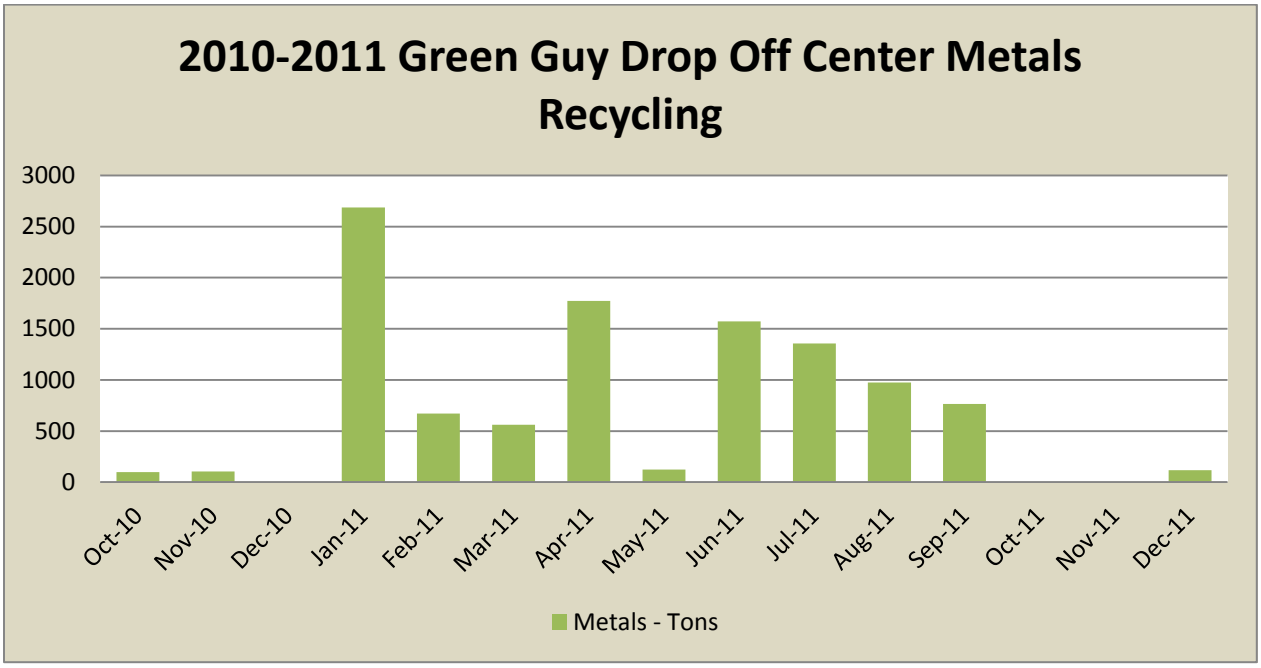



Residential Recycling Participation
100%
80%
60%
40%
20%
0%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
FY10
FY11


Curbside Recycling Comparison YTD
1800
1600
1400
1200
1000
800
600
400
200
0
FY10
FY11
Total Recycling

Green Guy Recycle Amounts





Comparative Community Waste Management Systems

To provide the Task Force with sufficient background information to enable them to comparatively evaluate San Marcos' MSW services, a series of presentations by other similar and/or neighboring communities was scheduled. Presentations were scheduled with the City of Austin, City of Georgetown, City of Frisco, and City of New Braunfels. Presentations by the City of Bryan and College Station were attempted, but could not be scheduled. Below is a synopsis of these presentations and discussions.

City of Austin: City of Austin Solid Waste Services Manager, Robert Gedert made a presentation about the Zero Waste Initiative on June 30, 2010. Zero Waste is Austin's approach and initiative to address solid waste disposal issues. Zero Waste emphasizes waste reduction and recycling and employs an ordinance to meet their goals and objectives. Based on notes and comments, City of Austin goals and objectives include:

- Environmental: Recycling conserves resources, reuses resources, extends landfill life, follows national environmental trends.
- Businesses: By revising supplies and purchasing parameters (e.g. Environmentally Preferred Purchasing Policies) business waste generation reduction can be achieved and contribute to regional waste reduction goals and long-term cost containment.
- Cost-Benefit: Implementation of zero waste initiative has increased MSW service costs. Benefit is environmental conservation and extending life of landfill. A benefit of Single Steam Recycling is to reduce collection costs. Recycling revenues fluctuate with the market.

City of Georgetown: City of Georgetown Solid Waste Services Manager, Rachel Osgood met with the Task Force on August 18, 2010. Georgetown's primary objective is effective and cost efficient MSW management. Based on notes and comments from the City of Georgetown presentation, effective and efficient MSW management is the result of:

- Recycling: Recycling is provided to residential accounts, but not to commercial and multi-family. Recycling is optional for commercial businesses. Multi-family property owners/ managers do include/require recycling because it adds cost to the cost of services. Cost of recycling is market driven-service rates fluctuate with recyclable commodity markets. Many new residents from other states,

moving to Georgetown are accustomed to mandatory recycling programs, therefore want recycling in Georgetown.

- Green Waste: Current contract services provide curbside green waste pickup (quantity limited), but contract does not insure green waste does not go to landfill. Georgetown owns local transfer station/collection center and residents can bring unlimited amounts of green waste to center.

- Ordinance and Franchise: City of Georgetown passed an ordinance that requires all MSW service providers providing services within Georgetown city limits to be approved as a service provider by City of Georgetown. Currently, Georgetown has provided a franchise to Texas Disposal Systems (TDS) to provide all services within city limits. Utility customers living outside of city limits can receive 1/week collection services or select another service provider. Businesses within Georgetown city limits must use franchised service provider (TDS).

- Transfer Station & Citizens Collection Station: City of Georgetown owns a facility that is both a registered transfer station and citizens' collection station that is operated by the franchise service provider (TDS).

Georgetown MSW rate information is provided in the Baseline Community Comparison spreadsheet (see Appendix).

City of Frisco: City of Frisco Solid Waste Services Manager Pippa Couvillion met with the Task Force on September 22, 2010. Frisco's primary objective is effective and cost efficient MSW management. Based on notes and comments from the City of Frisco presentation, effective and cost efficient MSW management is the result of:

- Administration: Diligent, dedicated, and vigilant program administration has been a key to successful MSW operations management that has achieved cost efficiencies and some of the lowest monthly billing rates in the state. Strong leadership with direct access to City Manager and ability to adapt policies/rates to market conditions, development planning input and codes, incorporating environmental goals and objectives have been fundamental to achieving cost efficiencies.

- Enterprise Fund: Frisco created an Enterprise Fund for MSW services. Enterprise Funds account for operations that are financed and operated in a manner similar to private business – where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges. With an

enterprise fund, all costs of service delivery (direct, indirect, and capital costs) are identified. This allows the community to recover total service costs through user fees if it chooses. Enterprise accounting also enables communities to reserve the "surplus" or retained earnings generated by the operation of the enterprise rather than closing it out to the general fund at year-end.

- Recycling: Frisco views recycling from two perspectives: 1) efficiently managed recycling programs can produce cost savings which keeps MSW rates lower for the rate payers, and 2) has environmental benefits by extending landfill life and conserving natural resources. Other cities and entities say “recycling costs money,” or “increases MSW service costs.” Frisco, on the other hand, says recycling shouldn’t increase costs, but should create cost efficiencies. Recycling and diversion of materials from going to the landfill generated a cost savings of $1.7 million in 2009.
  - Multi-Family recycling is mandatory (by ordinance).
- Green Waste & Composting: Frisco composts green waste and would like to compost MSW, because landfills serving the North Texas area will someday need expansion or new landfill and then costs will go up significantly. Landfill costs are increasing at a rate of approximately 5-6% annually.
- Ordinance and Franchise: Frisco has contracts with three vendors: one for residential, one for commercial, one for construction. This helped achieve operational and logistical efficiencies. Frisco determines the rate and any surpluses are maintained by the MSW Enterprise Fund. Frisco has one vendor for residential curbside services. Ordinance requires MSW service locations and facilities be included in development site plans and capacity designed to serve needs of development.
- Transfer Station & Drop-Off/ Collection Center: City of Frisco has a “drop-off center,” which is a transfer station (Frisco does not manage the station). In Frisco there is also a recyclables collection center, where recyclables are baled for shipment. Frisco does not manage the recyclables center.

City of New Braunfels: City of New Braunfels Solid Waste Services Manager, Michael Mundell met with the Task Force on October 13, 2010. City of New Braunfels provides curbside MSW collection and recycling, and uses the Waste Management landfill, Mesquite Creek near New Braunfels. Based on notes and comments from the City of New Braunfels presentation, effective and cost efficient MSW management is their primary goal and is the result of:

- Recycling: Recycling can save money-cost-savings from diversion from landfill. Sale of commodities can generate net cost savings, but revenues fluctuate with the market. New Braunfels provides curbside single-stream recycling. Currently, instituted a pilot program for business recycling.

- Administration & Operations: NBU administers the accounting and billing for garbage and recycle collection.

  - New Braunfels owns collection truck fleet and provides all collection services for residential and commercial. The main efficiency from operating their own fleet is they have control of their program, level of service, type of service, customer service. More flexibility. All private contractors are profit driven and rates will probably go up annually.

- Transfer Station & Collection Center: New Braunfels has a central recycling center where residents and businesses can drop off recycling. Materials are not baled, but collected in single-stream rear-load trucks for transfer to recycling vendor facility. Compactor roll-off for cardboard implemented March, 2011.

  - Proximity to landfills doesn't justify cost of using a transfer station. Transfer stations add unneeded costs.

  - Temporary drop-off locations are provided quarterly for residents for bulky waste items: appliances without Freon, scrap metal, furniture, up to 10 passenger car tires w/o rims per resident, and other miscellaneous bulky items at most sites.

- Green Waste: Green waste is collected curbside along with recyclables. Green waste is collected in specific green waste bags or in small bundles and taken to the Comal County Recycling Center where it is chipped into free mulch. The city provides limited green waste paper bags to residents to aide in this collection. Collection of green waste is not provided to apartments, condominiums, or businesses. Large volumes of green waste can be taken by residents to the Comal facility but is not included in MSW services.

- Ordinance and Franchise: New Braunfels has passed and implemented detailed ordinances that define MSW services including garbage container placement, licensing of private haulers, collection methods, charges and billings, rules for business-commercial-industrial-institutional users. New Braunfels controls MSW management in the city, any other service providers must be approved and licensed by New Braunfels.

A matrix list of MSW services and rate information for each of the comparative communities is provided in the Baseline Community Comparison spreadsheet in the Appendix section. This document also includes MSW services and rate information for the City of Bryan, City of Denton, and City of College Station.

Summary of Public Input and Focus Groups

One of the most important processes to gather information to determine if current MSW services are meeting the needs of the community is through public input meeting, aka "town hall meetings." The citizens that use the services can provide important information regarding deficiencies, wants/needs, and the types and level of service for which they are willing to pay.

For the public input process for the San Marcos MSW Assessment and Plan, two public input meetings and five focus group meetings were scheduled. The objective of the first public input meeting (October 25, 2010) was to gather a broad spectrum of information from the citizens of San Marcos (residents and businesses). Subsequent to the first public input meeting, five focus group meetings were scheduled to gather input from the different socio-economic sectors of the community (environmental, residential, downtown business district, student residential, commercial, and multi-family), all of which utilize MSW services, whether it is provided through the City of San Marcos or contracted independently. To reduce the time requirement for conducting the focus group meetings, input meetings for two of the socio-economic sectors (environmental and multi-family) were held on the same day, but as different groups. After gathering the data from the first public input meeting and the focus groups, the task force met on two different occasions to review the data (including the data from the comparative community presentations) and establish goals and recommendations for the San Marcos MSW plan. Participation at the first public input meeting and focus group meetings was considered average, but the responses were considered representative of the MSW issues in San Marcos. Upon completion of this task, the goals and recommendations were presented at a second public input meeting for review and discussion. Below is a synopsis of the questions and data gathered from the public input process.

First Public Input Meeting – October 24, 2010

The following questions were presented to the public at the first public input meeting, conducted on October 25, 2010:

- Are you satisfied with current MSW services?
- If you are not satisfied with current services, what needs to be changed or added?
- Are there additional services you want, need, or think may be needed?
- If there was an added cost to provide an additional service, would you be willing to pay a fee or a higher service rate for that service?
- Would you substitute or change an existing service in order to have a

different or another service you consider important? If, yes, which service would you change or substitute?

To manage the volume of responses, the responses were categorized as strengths, weaknesses, opportunities, and threats (SWOT analysis). Some responses are similar in content, or stated differently, but with the same meaning and were presented as one summarized response. The following is a synopsis of the responses:

Dominant issues expressed by each table group during the October 25th public meeting were: green waste management, composting, Pay-As-You-Throw, public awareness and education, commercial and multi-family recycling, development of needed ordinances, and efficient solid waste management operations.

Strengths:

- Current services are providing adequate MSW disposal and recycling options.
- Single-stream recycling is a better collection method.
- Citizens are willing to pay for additional MSW services, if the services and costs are justified and reasonable.

Weaknesses:

- Curbside collected "green" waste is picked up by the service vendor and land filled.
- Need additional or expanded green waste recycling options (e.g. home composting, local composting or green waste processing).
- Need better/comprehensive public awareness and education component about MSW services and recycling
- Increase recycling city-wide (multi-family and businesses).
- Lack of planned MSW service options for downtown district.

Opportunities:

- Implement Pay-As-You-Throw (PAYT) collection and billing.
- Consider single-vendor service agreements.
- Consider franchise agreement(s) for MSW services.
- Develop home composting option.
- Develop local composting (local collection center drop-off) option for green waste and recyclables.
- "Incentivize" waste reduction and recycling.
- Cooperation/collaboration between Texas State University and the City of San Marcos.
- Cooperation/collaboration between City of San Marcos and Hays Consolidated ISD.

Threats:

- Lack of enforcement of existing codes and regulations.
- Lack of MSW codes and ordinances.
- Lack of ordinances that enable San Marcos to effectively management MSW in city boundary.

Focus Group Meetings

The questions for the different focus groups were almost the same, but slightly differentiated to address certain questions unique to each socio-economic sector. The questions that were developed were based on input from the October 25th public input meeting and the comparative community presentations. Focus Group meetings were held for the following socio-economic or MSW service sectors in the city:

Focus Group	Meeting Date
Environmental	Nov 4, 2010
Neighborhood/Residential	Nov 4, 2010
Texas State University (students)	Dec 1, 2010
Downtown District	Dec 16, 2010
Multi-family and Commercial	Jan 26, 2011

The following is a summarization of the comments from the public meeting and focus groups.

The citizens of San Marcos want and need additional MSW services for five primary reasons:

1) to provide adequate collection services for the volume of disposable waste and recyclable materials being generated;
2) to increase recycling rates for materials currently collected;
3) to increase recycling options for additional materials;
4) to provide efficient and cost effective MSW services; and,
5) to provide services that effectively manages a growing volume of MSW as the city grows.

San Marcos is an environmentally conscientious community and wants to preserve its "environmental heritage," the San Marcos River, it being a primary natural resource asset. The residential sector, overall, likes the current services being provided, but understands the need to expand existing services and wants additional services. The downtown district sector is concerned about cost increases resulting from changes in MSW services and management, but at the same time understands service and management modifications are needed to address current problems. Multi-family property owners have managed MSW services for their complexes and do not see a need for service changes; multi-family recycling was initiated by ordinance following the commencement of this planning process, and the data that has been generated points to the need for enhanced public awareness to generate increased participation by residents. Focus group participation by the commercial business

sector was very light-comments/input being that similar issues and problems being experienced in the downtown district are being experienced in other commercial sectors of the city. A focus group comprised of Texas State University students was formed as this socio-economic sector, although transient, generates a significant amount of MSW in the city. Their comments supported issues and needs identified by other focus groups.

The following are the existing core services currently being provided by the City of San Marcos through contractual services:

- residential curbside garbage collection and recycling (with bulky waste pickup),
- municipal facility (offices, parks and recreation areas) garbage collection and recycling,
- multi-family recycling, and a
- full-service recycling drop-off center.

Multi-family, business and commercial garbage collection services are contracted by the property and business owner, with the MSW service provider of their choice.

The following were identified through public input and focus groups as services that need to be modified, expanded, and/or diversion rates increased: recycling (paper, plastic, aluminum, glass, metals), green waste collection and management, bulky waste collection and management, household hazardous waste. The following were identified as services that need to be added: management of business/ commercial waste and recycling, construction/demolition waste management and recycling, a full-service collection center (for all materials), Pay-As-You-Throw collection and billing system, enhance and expand public awareness about MSW issues and recycling, reasonable and equitable codes and/or ordinances that foster improved MSW management city-wide.

A summary of the focus group questions and responses can be found on the following pages.

Focus Group Questions and Responses

Are you satisfied with current MSW services?

Environmental Focus Group:	Majority said no
Neighborhood Group:	Majority said yes
Texas State University Group:	Majority said yes

If you are not satisfied with current MSW services, what needs to be changed or added?

Environmental Group:	Increase recycling, implement recycling for multi-family dwellings, schools, and businesses; Implement Pay-As-You-Throw (PAYT), Single-Vendor or City-wide franchise, green waste ordinances, composting.
Neighborhood Group:	Implement Pay-As-You-Throw, need comprehensive public awareness about MSW issues and services, schedule neighborhood cleanups annually.
Downtown District Group:	Implement Pay-As-You-Throw; MSW services are inefficient, not clean, or planned; Implement recycling; provide additional MSW service options to businesses.

What MSW services or issues are most important or beneficial to the environment? Of those you named which are the most important?

Environmental Group:	Multi-family recycling, green waste composting, business recycling, school recycling, Pay-As-You-Throw, ordinances limiting plastic bags and bottles, MSW franchise/single-vendor
Downtown District Group:	Implement Pay-As-You-Throw; MSW services are inefficient, not clean, or planned. Implement recycling; provide additional MSW service options to businesses.

Alternate Questions

Residential: Do you think Pay-As-You-Throw is an appropriate method for curbside garbage collection and billing? Why or why not?

Neighborhood Group:	Majority, no answer. Respondents stated PAYT incentivizes waste reduction and is a fair method for MSW services billing.

Downtown: Do you have an issue or problem with garbage dumpster placement, overflows, littered alleyways, or others using your dumpster for trash disposal?

Downtown/Apartment & Commercial Group:	50% yes, 50% no. Respondents stated there are issues with dumpster placement in alleyways and parking lots, overflowing dumpsters, lack of space planning for MSW services, need improved pickup scheduling.

Texas State Students: As an apartment or housing resident, what MSW services or issues do you think are most important or beneficial?

Answer:	Pay-As-You-Throw, leave green waste on lawn, education about recycling, composts/mulching of green waste, HHW & E-Waste.

Do you think Pay-As-You-Throw helps accomplish environmental goals?

Environmental Group:	Unanimous, yes. Incentivizes waste reduction, cost savings may help pay for other programs.

Neighborhood/Residential: Do you like having curbside green waste pickup? Do you think keeping green waste out of the landfill is important? Do you think composting or mulching green waste is important?

Answer:	Unanimous, yes to all questions.

Downtown and Apartments: As a business owner do you think it's important to have MSW services that are beneficial to the environment?

Answer: Unanimous, yes. However, businesses have a concern that recycling may increase operating costs. Need proper planning and dumpster placement.

Do you think keeping green waste out of the landfill is important? Do you think composting or mulching of green waste is important?

Environmental Group: Unanimous, yes to both questions.

Do you think keeping waste out of the landfill is important and helps accomplish environmental goals?

Texas State Students: Majority, yes. Keep anything recyclable out of the landfill.

Do you think having a local drop-off center for recyclables, green waste, electronics, and other materials would benefit the environment or environmental goals?

Environmental Group: Unanimous, yes.

Downtown District Group: Unanimous, no. Unanimously, downtown district focus group participants want more MSW service collections.

Apartment/Commercial Businesses: One response, yes. MSW drop-off is a possibility for the downtown area and for other sectors of the city. There are logistics concerns by food and entertainment establishments regarding a district drop-off location for MSW.

Texas State University Group: Majority, no answer. A drop-off center may generate a cost savings re transportation costs and resources; may increase recycling rate and volume; Incorporate reuse in local drop-off center.

Do you think having a local drop-off center for recyclables, green waste, electronics, and other materials would improve solid waste services?

Neighborhood/Residential:	Unanimous, yes. If it is a one-stop drop-off for all materials; like recycling in the monthly rate; curbside services are good for those who can't get to a drop-off center; depends on the spectrum of services offered.

Do you think having a local drop-off center for recyclables, electronics, and other materials (bulky waste items i.e. appliances, couches, etc) would provide disposal and recycling services apartment residents need?

Texas State Students:	Majority, yes. Incorporate reuse in local drop-off center.

Do you think it's important to educate and make the public aware about MSW services and issues?

Environmental Group:	Unanimously, yes.
Neighborhood Group:	Unanimously, yes.
Texas State University Group:	Majority, yes.

What is the best way to educate and make the public aware about MSW issues and services?

Environmental Group:	Consistent and repetitive public awareness; information is easily available; information through schools, make it fun so people will want to read about it; utilize environmental groups; have special events; develop mascot, logo, and slogan; educate medical professionals about proper disposal, provide incentives.
Downtown District, Apartment & Commercial Businesses:	Not a hot topic for business owners-there are other more important issues; distribute information through the downtown business association, through a newsletter, letters, public meetings and group presentations.

If a MSW ordinance was proposed that increased services and had the potential to benefit the environment, would you be in favor of it?

Environmental Group:	Unanimously, yes.
Neighborhood Group:	Unanimously, yes.
Texas State University Group:	Majority, yes.

If a MSW ordinance was proposed that increased services or service efficiencies, or had the potential to improve costs or lower costs, would you be in favor of it?

Neighborhood/Residential:	Unanimously, yes.
Downtown District:	Unanimously, non-committal. Will consider it.
Apartment & Commercial Businesses:	50% responded no; 50% responded maybe/depends. Beautification is important. Beautification adds to property value.

If implementation of an MSW ordinance that increased services or service efficiencies and benefitted the environment, but increased costs, would you be in favor of it?

Environmental Group:	Unanimously, non-committal. "It depends"
Neighborhood Group:	Unanimously, yes.
Texas State University Group:	43%, yes; 47% non-committal. Depends on what it cost.

If a MSW ordinance was proposed that increased services or service efficiencies, but increased the cost of MSW services, would you be in favor of it?

Answer:	Unanimously, yes.
Downtown District:	No response. It depends on the proposed ordinance, associated costs, and benefits.
Apartment & Commercial Businesses:	50% responded no; 50% responded maybe/depends.

Would you substitute or change an existing service in order to have a different or another service you consider important?

Environmental Focus Group:	Unanimously, yes.
Neighborhood Group:	Unanimously, no.
Texas State University Group:	Majority said yes.

Which service would you change or substitute?

Environmental Group:	1/week recycling, 2/month garbage collection; 1/month bulk pickup, 1/month green waste pickup.
Neighborhood Group:	Would pay to add quality services, but not reduce current services; would like a menu of services with costs.
Texas State University Group:	Less garbage pickups, more recycling; Implement PAYT; less frequent green waste collections in exchange for one large (no limit) green waste collection.

If there was an added cost to provide an additional service, would you be willing to pay a fee or higher service rate for that service?

Neighborhood Group:	Unanimously, yes. Pay for quality services.
Downtown District:	33%, no; 66%, non-committal.
Apartment & Commercial Businesses:	Unanimously, non-committal. Depends on additional service and benefit derived.

Is there another issue concerning your MSW services that we have not mentioned or discussed, but which is important to you?

Environmental Group:	Dead animal pickup, solid waste department implements research based on intervention, i.e. pharmaceuticals, HHW, river bottom cleanup, city-wide litter pickup, animal waste.
Neighborhood Group:	Fines for misuse of services, enforce codes for curbside trash receptacle removal.
Downtown District:	Need additional parking space.

Apartment & Commercial Businesses:	Centralized facility for green-waste processing, MSW management plan for downtown, centralized dumpster location for MSW collection, standardized MSW codes that don't over-regulate businesses, planning for increased densities in the future in downtown district, reliable service at a reasonable cost, MSW management plan for all sectors of the city.
Texas State University Group:	Restaurant and bar recycling, restaurant food waste composting, recycling in all commercial businesses.

If it cost $1.50/month/resident for a one-stop drop center for all materials, would you be willing to pay (without losing current services)?

Answer:	Unanimous, yes. Should include all residents and multi-family.

Would you agree to a "franchise" type ordinance in San Marcos to improve services and lower costs for residents?

Answer:	89%, yes; 11%, no.

Detailed Goals and Recommendations

After gathering input from comparable communities and a public input process of town hall meetings and focus group discussions, the San Marcos MSW Task Force developed six recommendations to address short-term, medium-term, and long-term MSW needs and service options. They are:

1. Increase Public Awareness and Education

Strategy: Develop and implement a comprehensive MSW Services public awareness component. Collaborate with Texas State University, local ISD, and other groups.

Justification: Effective and consistent communication will educate the public about MSW issues and foster participation in waste reduction initiatives.

Recommendations:

1. Utilize newspaper stories, web site posting, trash can lid postings, and utility bill mailers.
2. Meet with Downtown Association and Neighborhood Associations.
3. Conduct classes at the San Marcos Nature Center.
4. Coordinate with Chamber of Commerce to spread information through their network.
5. Provide training starting in the public schools and university and reach out to other areas.
6. Make use of the radio and TV PSA's, and marquis.
7. Mail out a calendars and/or flyers.
8. Utilize technology and mobile applications to distribute information and mobile applications

Outcome: Results will be an informed public, and public implementation of "best management" practices for MSW services.

- **Metric A:** Increase residential recycling participation rate from 58 % to 65% by 2013, to 75% by 2015, 100% by 2030.
- **Metric B:** Number of schools that participate.
- **Metric C:** Number of public awareness pieces that are distributed.

2. Increase Waste Reduction /Diversion

Strategy: Increase recycling tonnage and lower the amount of waste requiring land filling. Increase green waste diversion, apply variable rate, require composting and construction and demolition waste.

Justification: Current recycle program participation rates are above average, but actual diversion rates are below average. Curbside green waste is currently land filled. A modification of this method could result in lower service costs.

Recommendations:

1. Assess the service contract and modify to include one green waste collection and one bulk waste collection per month.
2. Develop ordinances or codes that require green waste diversion/recycling and foster C&D recycling and ensure proper disposal.
3. Implement billing process modifications based on cart size - Pay-As-You-Throw.
4. Modify route/scheduling to separate bulky waste and green waste collection.
5. Require event composting.
6. Use compostable product utensils at events.
7. Develop and operate a green waste collection center.
8. Develop home composting programs.
9. Develop municipal project construction policies that utilize locally generated recycled materials such as crushed glass for fill material.

Outcome: Cost efficiencies/reduction, equitable billing based on waste generation, recycling/landfill diversion, decreased illegal dumping.

- **Metric A:** Increase green waste diversion rate 50% by 2015, 75% by 2020, 100% by 2030.
- **Metric B:** Increase C&D diversion 15% by 2015, 35% by 2020, and 65% by 2030.
- **Metric C:** Increase commercial recycling diversion rates 15% by 2015, 50% by 2020, and 100% by 2030.
- **Metric D:** Increase downtown recycling diversion rates 25% by 2015, 50% by 2020, and 100% by 2030.
- **Metric E:** Increase municipal recycling diversion rates 35% by 2015, 60% by 2020, and 100% by 2030.

3. Evaluate and Implement Cost Efficient Services

Strategy: Implement "best management practices" that enable San Marcos to provide effective and cost efficient services.

Justification: As the demand and/or need for services increase, and as costs to provide services increase, it is imperative to evaluate options that deliver the most cost efficient services. Information gathered about MSW operations in other communities has shown there are cost efficient options San Marcos can implement to meet growing service needs.

Recommendations:

1. Implement Pay-As-You-Throw.
2. Modify route schedules to separate bulk and green waste collection.
3. Have one provider (franchisee) for residential and commercial solid waste services for entire City to leverage economies of scale for lower rates.
4. Develop partnership for local green waste recycling/processing.
5. Amend contract for one bulk waste pickup per month for lower rate.

Outcome: Operational efficiencies that maintain and/or increase MSW services while keeping rates and fees level or reduced.

- **Metric A:** Implement MSW services/management systems ("best management practices") that incentivize waste reduction and lower service costs.
- **Metric B:** Perform periodic evaluation of "best management practices" implemented to determine if cost efficiencies are being achieved.

4. Establish Land Development Codes to Address Municipal and Commercial, Multifamily, and Downtown Solid Waste Issues

Strategy: As future growth and redevelopment progress, incorporating MSW planning into the design and permit phase of developments will enable effective MSW management.

Justification: There are MSW issues currently impacting the downtown district-issues which, if not addressed in the downtown district master plan, will hinder cost and operationally efficient services in the future, as the district is redeveloped. This situation could also become problematic in other parts of the city. Consideration of MSW issues in future development could alleviate service inefficiencies and enhance development.

Recommendations:

1. Establish downtown franchise district for downtown master plan to reduce unsightly overflow and reduce number of dumpsters and maximize space.
2. Create city-wide development codes that address MSW service and issues including requirements for:
    - Garbage and recycling dumpsters for new developments.
    - LEED certifications.
    - Green builder program (single stream recycling for construction).
    - Provide construction recycling dumpsters for green waste like sheet rock, 2 x 4's and wood products.
3. Implement environmentally preferred purchasing policies.
4. Implement City sustainability plan.

Outcome: Uniform MSW service requirements for all downtown area businesses and residents, properly planned and placed dumpsters, extra dumping, odor control, and overflowing dumpster issues resolved. LDC planning codes for future downtown redevelopment, leverage economies-of-scale and operational efficiencies by increasing recycling participation and implementing variable rate for different businesses.

- **Metric A:** Develop MSW codes or ordinance for downtown district by 2012.
- **Metric B:** Develop vendor service requirements for the downtown district by 2012 (and verify).

  Metric C: Develop proposed city-wide land development codes/ordinances for MSW management and services by 2020.

5. Correlate Economic Development Policies That Encourage New Recycling Businesses and Expansion of Existing Businesses

Strategy: Positive economic impacts can be realized through Implementation of MSW management systems through proper strategy and collaboration**.** Implement incentives that maintain and create jobs and generate a positive economic impact.

Justification: Recycling has fostered the development of businesses that de-manufacture discarded items and businesses that re-manufacture recycled content products. This economic sector can produce a positive economic impact (i.e. job creation) and future economic growth in San Marcos.

Recommendations:

1. Utilize unused city property for public/private partnerships, cooperation with San Marcos Economic Development and Texas State University to foster development and commercialization of advanced MSW technologies.
2. Develop purchasing policies for recycled office and facility products.
3. Develop specifications and purchasing policies for recycled construction materials such as recycled glass for fill or trail material.

Outcome: Increased recycling, waste reduction, positive local economic impact.

- **Metric A:** Expansion of existing recycling businesses, track by job creation, volume and/or weight.
- **Metric B:** Recruitment of two companies (minimum) that utilize recycled materials as part of their manufacturing process by 2015.
- **Metric C:** Cooperation with two education institutions (minimum) to add job training programs for MSW certifications by 2015 (Nature Center, Gary Job Corps, San Marcos High School).

6. Explore Service Options That Enable San Marcos to Achieve Metric Goals and Effectively Manage Increased MSW Generation and Service Demands

Strategy: Implement service options that are specific, measurable, attainable, realistic, and timely = SMART

Justification: Establishing "metrics" for recommended programs imposes performance standards, by which planned evaluation can determine if programs are meeting primary objectives and producing a positive cost/benefit. Proper evaluation can determine whether a program should be modified or discontinued.

Recommendations:

1. Perform feasibility study for MSW Transfer Station, Citizens Collection Station, or combination of multiple collection sites city-wide.
2. Explore joint ventures, partnerships, or other collaborative opportunities that help achieve goals.

Outcome: Operationally efficient MSW services, increased cost efficiencies, increased recycling and landfill diversion.

- **Metric A:** Annual Review of goals and strategies, modifications as appropriate.
- **Metric B:** Implement tasks to achieve short-term goals by 2015, mid-term goals by 2020, and long-term goals by 2030.
- **Metric C:** Development of local recycling collection center for green waste and/or recycling by 2015.
- **Metric D:** Conduct MSW transfer station feasibility study by 2015.

Track established metrics established for recommended strategies to determine if they meet the S.M.A.R.T. test.

Specific: Provide enough detail so that there is no question on what is being measured and no question how the metric is calculated. You should be specific as to the measurement, goals and responsible people/department.

Measurable: Make sure you have a reliable system in place that will accurately measure your performance.

Attainable: Will the Supply Chain projects you have scheduled for the year produce results that will achieve your goal? The person setting the goal and the person responsible for achieving the goal should agree with the target. If results are un-attainable or unrealistic, they will have a de-motivating effect on your employees.

Realistic: Don't plan to do things if you are unlikely to follow through. Better to plan only a few things and be successful rather than many things and be unsuccessful. Your Supply Chain goals should be challenging, but realistic in relation to the improvement projects you have in place.

Time frame: Identify when you are targeting to hit your goal.

City of San Marcos Population and Growth Patterns

The City of San Marcos experiences a higher than average growth rate due to several factors which include: 1) home of a major State university, 2) attractive geographic and environmental features, 3) above average standard of living, 4) interstate transportation system with connections to major commerce centers in Texas (Austin, San Antonio, Houston), 5) and economic factors that produce a favorable investment climate and serve as an engine for growth. Texas has been ranked as the fastest growing state in the nation. Central Texas, specifically Austin, is considered one of the most desirable places to live according to reports in Relocation.com, CityRating.com, and Forbes Magazine. The City of Austin is a primary economic activity center in Texas and San Marcos is thirty miles from Austin on IH-35. San Marcos is situated to benefit from the increased economic activity occurring in Central Texas and has favorable economic factors (young and able workforce and low cost-of-living) and incentives to attract new start-ups and relocations.

Demographic data compiled by the City of San Marcos Planning and Development Dept. shows a current population of 53,910 people with total households of 19,981. Projections estimate the population will increase by 34.4% to 72,455 by 2020 and households will increase by 25.7% to 26,906. Owner occupied housing accounts for only 25% of total households. The student population (est. 32,572) accounts for 37.6% of the San Marcos population. Texas State University (Tx State) is a primary employer and is the foundation for economic activity in San Marcos. It is also a large generator of MSW, but manages MSW through its own contracts. An ESRI Tapestry Segmentation Profile ranks San Marcos primarily as a “college town.”

Texas State University-San Marcos is the sixth largest university in the State of Texas, and is experiencing an average annual growth rate of approximately 5.7%, with a current enrollment of approximately 32,572. Student enrollment is expected to reach 37,000 by 2015 and 41,500 by 2020. Tx State has the second highest growth rate in the country for colleges with enrollment over 25,000 students.[1] Currently, 11% (3,582) of the student population is required to house on-campus, with an additional 6,500-9,970 students electing to reside on-campus. The remaining 22,800 students reside locally and in other communities within a 60 mile radius of San Marcos. The number of students residing in the City of San Marcos is estimated to be over 14,000, mostly in multi-family complexes and single-family rentals, and in

on-campus housing. The off-campus student population within city limits (est. 7,700+) utilizes San Marcos MSW services. Student housing is projected to increase by an estimated 2,400 beds over the next five years.

San Marcos is located in one of the fastest growth areas and one of the most important international trade areas in the United States. The San Marcos Economic Development Corporation and the City of San Marcos have developed economic development strategies that are pro-business and incentivizes new business startup, relocation, and expansion. Housing trends show multi-family rental is dominant with only 25% of total households being owner occupied. This trend is expected to continue in the foreseeable future. Therefore, evaluation of MSW services to the multi-family sector is essential.

[1] Statistical data obtained from City of San Marcos Housing report and Texas State Institutional Research.

City of San Marcos Population Growth & Housing Statistics

	Census 2000	2010	2020
Total Population	34,733	53,910	72,455
Total Households	12,660	19,981	26,906
Owner Occupied Housing (units)	3,824	4,995	6,727
Renter Occupied Housing (units)	8,836	14,986	20,179

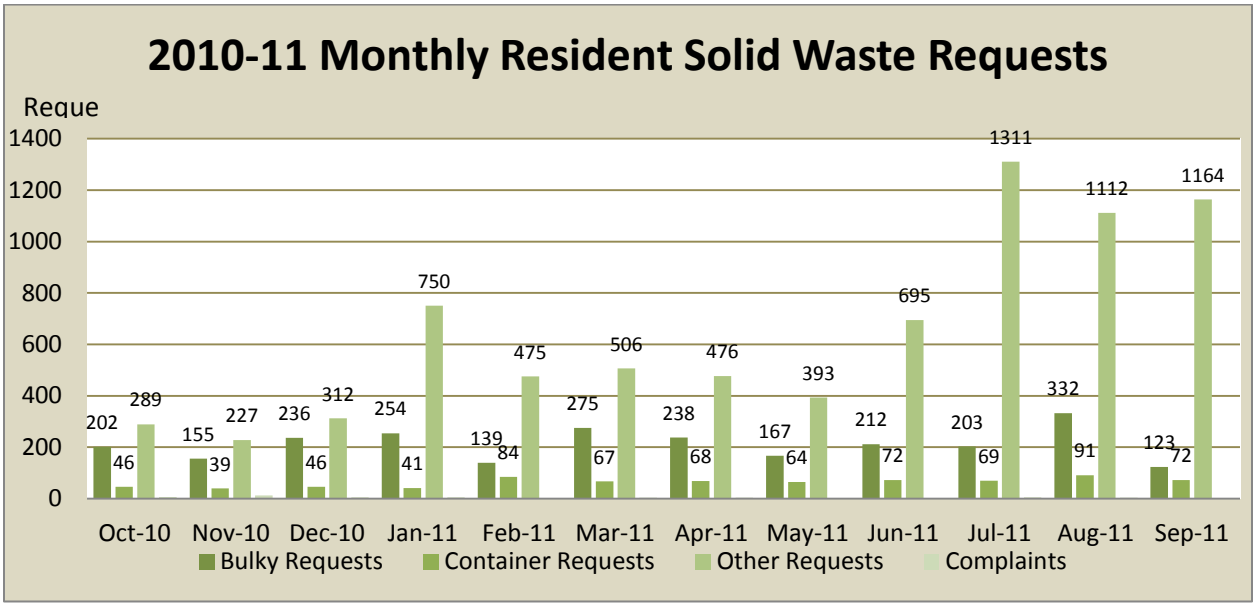
- Population increase from 2000 to 2010: 55.2%
- Projected population increase 2010 to 2020 (10 years): 34.4%
- Total Households increase 2000 - 2010: 57.8%
- Projected Households increase 2010 - 2020: 25.7%
- Owner occupied housing increase 2000-2010: 30.6%; 2010 - 2020: 34.7%
- Renter occupied housing increase 2000-2010: 69.6%; 2010 - 2020: 34.6%
- Renter housing to occupied housing: 2010 – 2020 = 75%

(Source: City of San Marcos, Texas State Data Center, CAMPO, US Bureau of Census)

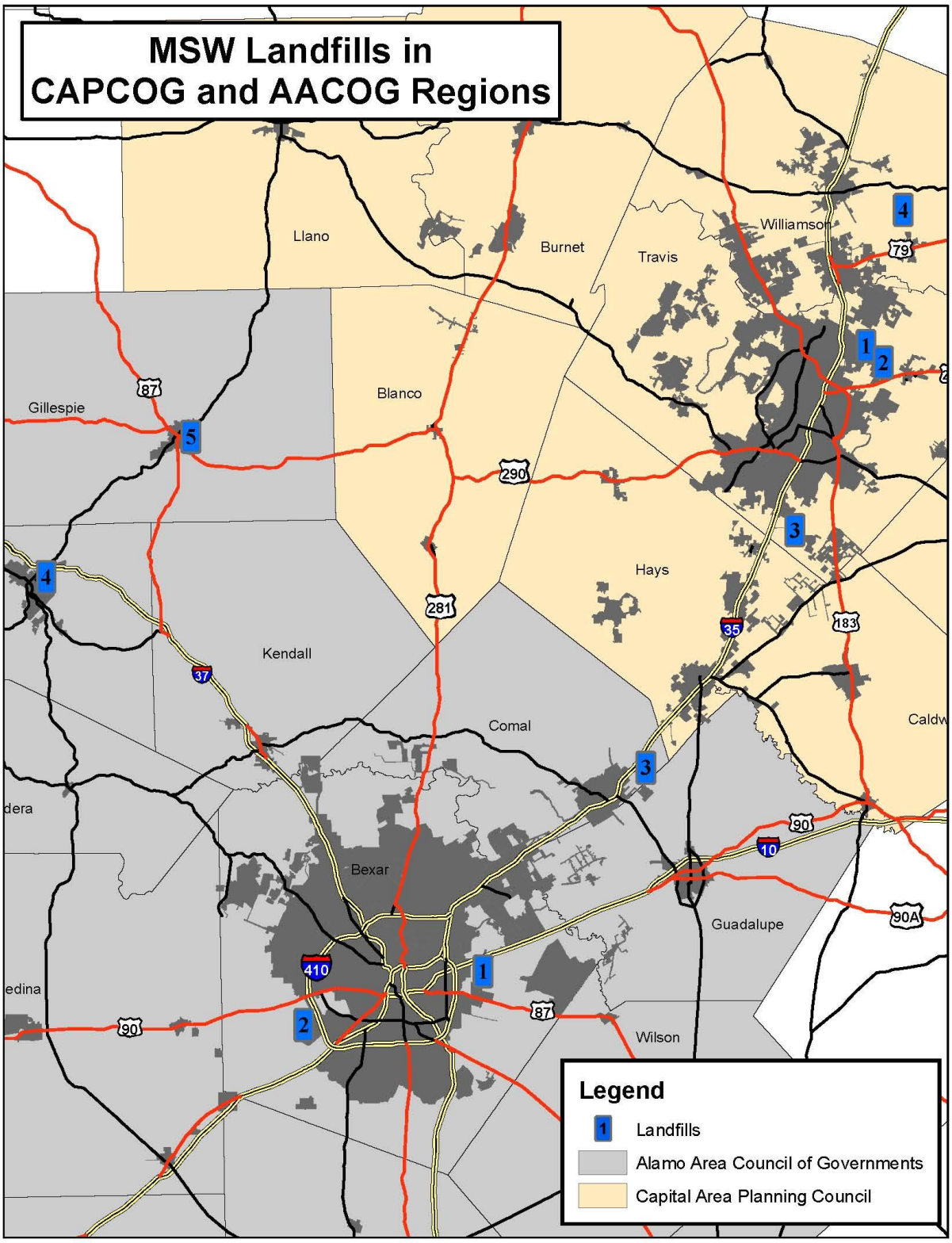
Detailed Breakdown of Waste Types Landfilled in Texas, 2009

Waste Type	Number of Landfills That Accepted This Waste Type	Tons Disposed	Percent of Total Tons Disposed
TYPICAL MUNICIPAL SOLID WASTE			
Residential	147	11,576,774	35.88
Commercial	127	9,689,844	30.03
Institutional	38	133,988	0.42
Recreational	12	2,680	0.01
Brush	53	494,108	1.53
Construction/ Demolition	140	6,676,780	20.69
Dump and Litter Cleanup	14	3,790	0.01
NON-HAZARDOUS INDUSTRIAL WASTE			
Class 1 (asbestos)	15	4,691	0.01
Class 1 (other)	13	130,279	0.40
Classes 2 and 3	48	1,440,818	4.47
SPECIAL NON-INDUSTRIAL WASTE			
Incinerator ash	3	1,380	<0.01
Treated medical waste	13	21,954	0.07
Asbestos	45	137,980	0.43
Dead animals	75	15,451	0.05
Sludge	80	1,033,209	3.20
Grease trap waste	10	18,076	0.06
Grit trap waste	21	19,732	0.06
Septage	5	12,414	0.04
Contaminated soil	46	373,673	1.16
Tire pieces	29	18,625	0.06
Rejected materials	15	14,664	0.05
Other	32	443,352	1.37
Total		**32,264,262**	**100**

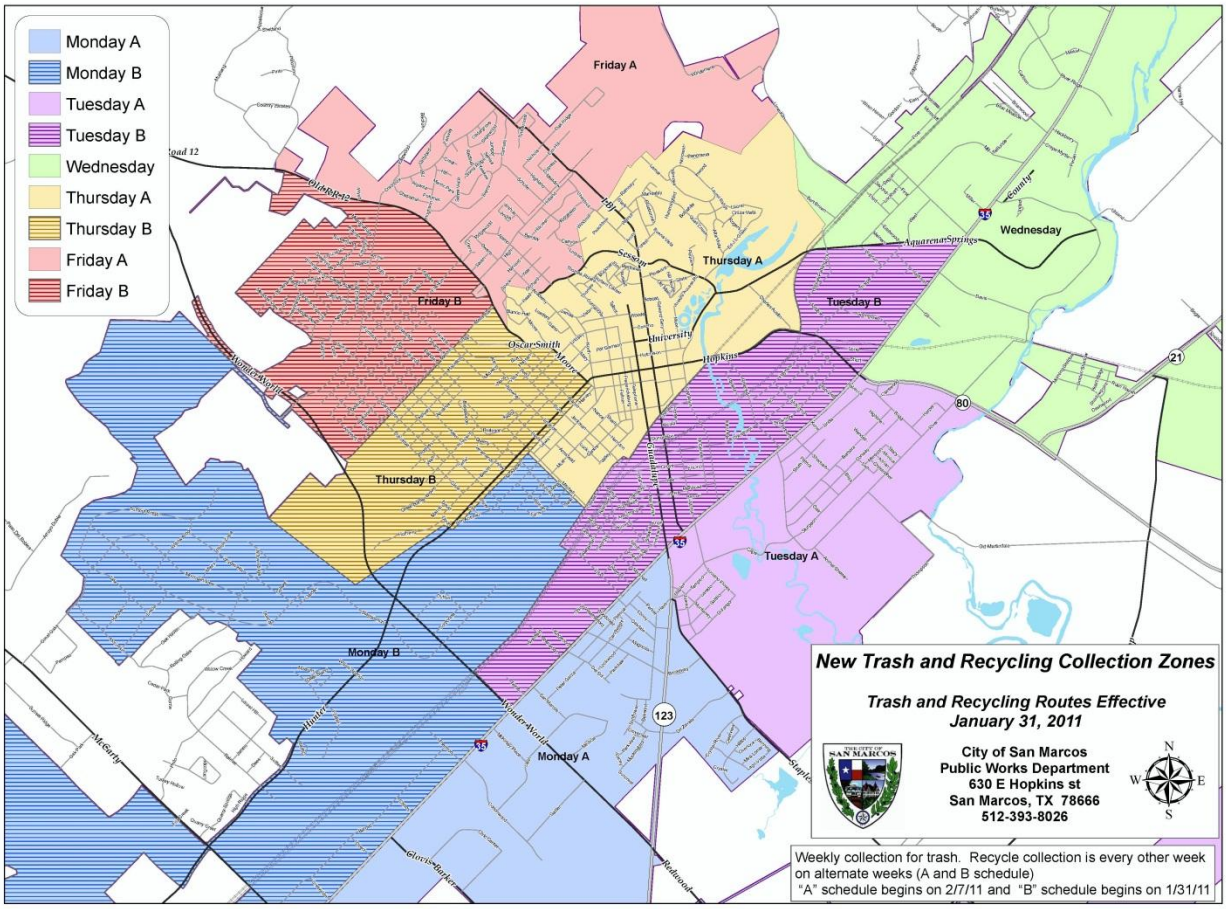
Monthly Requests from Citizens



Landfill Data



Trash and Recycling Collection Zones



Comparative Community Baseline Summarization

Following is the baseline community baseline summarization document as well as footnotes and explanations.

City of San Marcos MSW Assessment and Plan
Baseline Community Comparison

MSW Services Provided	San Marcos	Cost	Bryan	Cost	Denton	Cost	Austin	Cost	Georgetown	Cost	College Station	Cost	New Braunfels	Cost
Demographics														
Municipal population	53,910		69,396		124,746		783,295		50,280		93,000		49,969	
Other (i.e. student)	32,572		38,000		35,123		50,000		1,301		4,500			
Residential MSW accounts	6,500		22,000		28,000		178,860		18,000		19000		16,067	
Multi-Family Recycling Accounts	10,864				By Subscription								3,953	
Commercial Accounts			370		3,000		2,198		1,170		1,000		3,000	
Municipal Facilities MSW	Yes, Contractual	$4,583/mo	Yes (City Service)		Yes		City Serviced and Contractual		Yes, Contractual		Yes (CS 1)		Yes	
Recycle Recycle	incl recycle	$3,090/mo							incl recycling					
Parks and Recreation Areas MSW Recycle	Yes, Contractual incl recycle	(1)	Yes (City Service)		Yes		City Serviced and Contractual		Parks Staff, Contractual		Yes (CS 1)		Yes	
Neighborhood Cleanup Programs MSW Recycle	Yes, Contractual incl recycle	(1)	Yes (once per year)		Yes 2 x's per year				Occassional, as needed		Yes (CS 1)		Yes	
Downtown Service MSW Recycle	Street Cans	(1)	Yes		Yes		Yes			(G5) 18.96	Yes (CS 1)		Yes	
Household Hazardous Waste	Yes		Yes (B 1) BVSMA		Yes, curbside		Yes		No, Private/voucher		Yes w BVSMSA (CS 4)		Yes	
Single-Family Resid. Curbside MSW	Yes, Contractual	(1) $16.99	Yes	$14.09	Yes (variable rate)	(D 1)	Yes	(A 1)	Yes, Contractual	(G1)14.35	Yes (CS 2)	$14.40	Yes, Municipal svc. (NB1)	13.4
Recycle	Yes, Contractual		No (B 2)		Yes-Contractual	$4.30	Yes	incl in MSW fee	Yes, Contractual incl	MSW fee	Yes	incl in MSW fee	Yes, Municipal svc. (NB2)	4.26
Recycling Drop-Off Center	Yes, Contractual	(1) $.071	Yes	incl in MSW fee	Yes - several		Yes		Yes, Contractual/Fee		No		Yes, Municipal (incl in curb rate)	0
Single-Family Residential Curbside Brush Collection	Yes, Contractual		Yes	23 CY/Res	Yes		Yes		Yes-5 bundles w/garbage		Yes	incl in MSW fee	Yes, Municipal, incl SFR MSW disposal rate	0
Multi-Family MSW Collection	No, PropOwnr		Yes (B 3)	$13.46	Yes, Subscription or		Yes, as requested		Yes, as requested		Yes (CS 3)	$6.75		
4 Plex			Yes	$14.09	by PropOwnr		billed to propert owner		billed to propert owner					
Multi-Family Recycling			No						As requested		No			
4 Plex	Yes, Contractual	$5.11			Yes		Yes				Duplex - 4 plex	$14.40		
Larger than 4 Plex	Yes				Yes, Subscript, POwnr		Yes, as requested billed to propert owner				No (CS 3)		`	
Commercial Businesses	No		Yes	rate varies on size of container	Yes, fee		PropOnwr Ordinance		Yes, Contractual	(G2)	Yes, variable rate		Yes, variable pricing (NB5)	
Recycle														
Brush/Yard Waste, curbside	Yes		Yes	incl in MSW fee	Yes		Yes, weekly		Yes, goes to landfill		Yes	incl in MSW rate	Yes, incl, SFR curb MSW	0
MSW Composting	No		Yes - weekly		Yard Waste		Yes, yard waste & bio-solids		No (G4)		No, City of Bryan		No	
Bulky Items, curbside	Yes, Contractual		Yes	incl in MSW fee	Yes-4 items free		Yes		Yes, Contractual/Fee	(G3)	Yes	incl in MSW rate	Yes, additional fees (NB5)	
Construction/Demolition	No		No		Yes		No, independent contractors		Yes, contractual w TDS		Yes, fee based + permitted vendors			
Electronics	Texas State Univ.	$500	Yes (B 4)		Yes				No		No, prov by HHW			
Pharmaceutical Collection	No		No		Yes		No		No		No			
Dead Animals	Yes - Animal control		Yes		No		Yes		Yes, Animal Control		Yes (CS 1)			

Legend
Yes, Contractual: Provided through municipal contract with private service provider
Yes: Provided by municipal solid waste services

[Footnotes and explanations are on reverse side of the page]

City of San Marcos MSW Assessment and Plan
Baseline Community Comparison Footnotes and Explanation

Footnotes Note: The rates for the comparative communities shown in the matrix were gathered during the process of developing the San Marcos MSW Assessment and Plan. MSW rates in these communities are subject to change.

San Marcos

1) The monthly rate for curbside MSW is $16.99 and includes brush/yard waste pickup, single-stream recycling, and 5CY dropoff at TDS landfill. The monthly rate also includes $.71 for drop-off residential recycling by Green Guy.

Bryan

B1) HHW Collections coordinated and implemented by Brazos Valley Solid Waste Management Authority (BVSMA)
B2) No curbside recycling, but MSW curbside rate includes recycling at drop-off recycling center
B3) MSW rate for multi-family property > 10 units is $13.46 (when tenants are subscribing to service; for complexes < 10 units, rate is $14.09
B4) BVSMA

Denton

D1) Curbside MSW has variable rates depending on the size of the container: 95 gal $18.75; 65 gal $17.35; 45 gal $15.50

Austin

A1) Curbside MSW has variable rates depending on the size of the container: 90 gal $26.95; 60 gal $18.75; 30 gal $13.50

Georgetown

G1) Contract with TDS, inside city limits monthly rate, includes 8.25% sales tax, includes brush/yard waste pickup, curbside recycling, and 5CY dropoff at TDS landfill.
G2) Commercial businesses within the city limits of Georgetown are required to contract with TDS for MSW disposal services.
G3) Bulky Waste: city residents can bring 2CY per month of waste to dropoff collection station and is included in monthly MSW rate; fees apply for amounts over 2CY. Non-city customers, ETJ, commercial customers pay $18.70/CY
G4) No MSW composting, mulch is available free to residents; brush and yard waste is landfilled.
G5) Downtown businesses are required to contract with TDS, $18.95/min month rate for 96 gallon cart.

College Station

CS 1) City of College Station provides MSW services to municipal facilities, parks and rec areas, participates in neighborhood cleanups, provides downtown can services.
CS 2) City of College Station provides MSW curbside services and services includes curbside recycling, brush pickup, bulky waste pickup.
CS 3) Curbside collection service provided to multi-family properties does not include recycling, brush, or bulky waste. Per unit charge is $6.75/month.
CS 4) BVSMA is Brazos Valley Solid Waste Management Authority. BVSMA provides solid waste management services to the communities of Bryan and College Station and include HHW, composting, and landfill operations and management.

New Braunfels

NB1 New Braunfels owns its truck fleet and provides curbside collection and transport to Waste Management landifll in San Antonio, rate to increase to $13.40 in 4/2011
NB2 Recycling is provided to all residents, recycling fee/monthly rate is separate from garbage rate due to variability of commodity markets, rate reduction to $4.26 in 4/2011