

Strategy for Sustainable Solid Waste Management

prepared for

**Mid-America Regional Council (MARC)
Solid Waste Management District
Kansas City, Missouri**

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DEFINITIONS OF PROGRAMS AND TERMS USED IN THIS REPORT

Composting: The process of collecting, grinding, mixing, piling, and supplying sufficient moisture and air to organic materials to speed natural decay. The finished product of a composting operations is compost, a soil amendment suitable for incorporating into topsoil and for growing plants. Compost is different than mulch, which is a shredded or chipped organic product placed on top of soil as a protective layer.

Construction and demolition (C&D) waste: Building materials and solid waste from construction, deconstruction, remodeling, repair, cleanup, or demolition operations that are not hazardous. This term includes, but is not limited to: asphalt, concrete, Portland cement, brick, lumber, wallboard, roofing material, ceramic tile, plastic pipe, and associated packaging.

Deconstruction: The process of taking apart a structure with the primary goal of preserving the value of all useful building materials, so that they may be reused or recycled.

Disposal: For diversion purposes, disposal is all waste created by all businesses and residents which is disposed of at properly permitted landfill.

Diversion: For waste measurement purposes, diversion is any combination of waste prevention (source reduction), recycling, reuse and composting activities that reduces waste disposed of at a properly permitted landfill.

E-waste: End-of-life electronic materials.

EPA hierarchy for solid waste management: A ranking established by the U.S. Environmental Protection Agency of solid waste management practices from most preferred to least preferred. The ranking is as follows: source reduction and reuse, recycling/composting, combustion with energy recovery, and landfilling and incineration without energy recovery. The state of Missouri has adopted this hierarchy in its resource recovery policy.

Generation: The total amount of waste produced by a jurisdiction. The basic formula is disposal plus diversion equals generation.

Green waste: Organic wastes derived from plants growing in residential and commercial land use areas. This term includes grass cuttings, leaves, and tree branches and is used synonymously with the term “yard waste.”

Household hazardous waste (HHW): Hazardous waste materials discarded, typically in small quantities, by households (as opposed to large quantities disposed by businesses). Typical household hazardous wastes include used motor oil and oil filters, antifreeze and other vehicle fluids, paints and varnishes, pesticides, and cleaning supplies.

Materials recovery facility: More commonly called a MRF (pronounced "Murf"). An intermediate processing facility designed to remove recyclables and other valuable materials from the waste stream. A "dirty MRF" removes reusable materials from unseparated trash. A "clean MRF" separates materials from commingled recyclables, typically collected from residential curbside or commercial on-site collection programs.

Near zero waste: A solid waste management planning scenario that approaches closed loop utilization of resources, maximizing source reduction, recycling, and composting diversion. Specifically, a planning scenario where existing diversion technologies are used to divert maximum amounts of waste (80 percent) and future emerging technologies (diversion or conversion, with diversion given the priority) are assumed to recover or reuse an additional 10 percent of the waste stream that existing diversion technologies are not able to recover or reuse.

Organics: Materials that are or were recently living, such as leaves, grass, agricultural crop residues, or food scraps.

Policy incentive: A course of action adopted by an organization of authority in the solid waste management system that establishes an advantage (normally economic) for users of the system who comply with specific solid waste management related activities identified by the organization.

Procurement program: Programs that encourage the purchase of recycled-content products by companies, jurisdictions and others. Joint recycled-content product purchasing pools and buy-recycled campaigns are two examples.

Public Education: Creation of understanding and appreciation among the population concerning a particular issue and ways to address that issue.

Recycling: The process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products that meet the quality standards necessary to be used in the marketplace.

Reuse: The recovery or reapplication of a package or product for uses similar or identical to its originally intended application, without manufacturing or preparation processes that significantly alter the original package or product.

Source reduction: Source reduction means any action which causes a net reduction in the generation of solid waste. Source reduction includes, but is not limited to, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, reducing the amount of yard wastes generated, establishing garbage rate structures with incentives to reduce waste tonnage generated, and increasing the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials.

Specific waste materials: Solid wastes that are not collected in normal curbside or on-site collection operations but require management in the solid waste system. This term includes, but is not limited to: industrial and municipal sludge, tires, white goods, scrap metal, and rendering waste.

Sustainable solid waste management practices: Activities performed by the solid waste management industry that meet the following “more with less” criteria. Sustainable industry practices will produce “more” value from recovered materials and energy, while also using “less” waste (due to waste reduction efforts to minimize the amounts of waste that require industry management), energy, and space and producing “less” emissions (from Integrated Solid Waste Management – a Life Cycle Inventory, 2nd edition, McDougall, Forbes, et. al., 2001).

White goods: Discarded major appliances of any color. These items are often enamel-coated and include, but are not limited to: washing machines, clothes dryers, hot water heaters, stoves, and refrigerators. This definition does not include electronics.

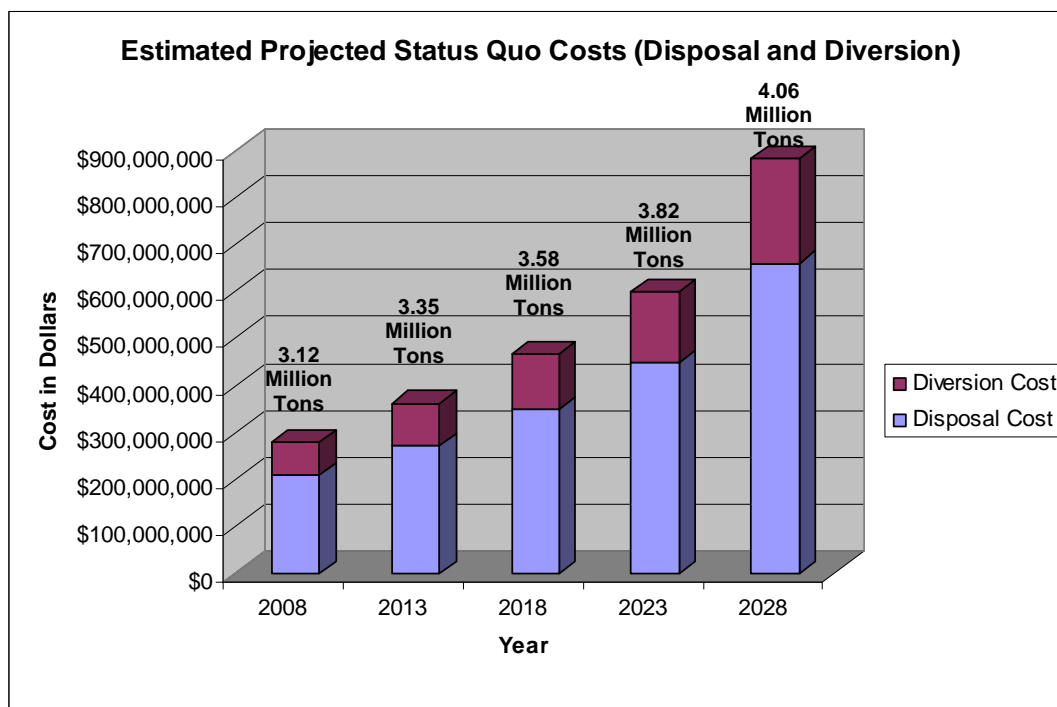
Yard waste: Organic wastes derived from plants growing in residential and commercial land use areas. This term includes grass cuttings, leaves, and tree branches and is used synonymously with the term “green waste.”

Zero waste: A goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero waste means designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing zero waste will eliminate all discharges to land, water or air that may be a threat to planetary, human, animal or plant health (working definition adopted by the Planning Group of the Zero Waste International Alliance on November 29, 2004). The Planning Group of the Zero Waste International Alliance also adopted a set of principles to guide and evaluate current and future zero waste policies and programs. These principles can be viewed at www.zwia.org/standards.html.

EXECUTIVE SUMMARY

This report presents a sustainable, economically viable, and socially responsible solid waste management strategy for the Kansas City metropolitan area throughout the next 20 years. This area is referred to throughout this report as the District. The District includes the five Missouri counties (Cass, Clay, Jackson, Platte, and Ray) which constitute the Mid-America Regional Council Solid Waste Management District (MARC SWMD), a regional solid waste management planning agency recognized by the state of Missouri, and the four Kansas counties (Johnson, Miami, Leavenworth, and Wyandotte) with which the MARC SWMD works cooperatively. The solid waste covered by the report includes municipal solid waste (MSW) and construction and demolition (C&D) waste. MSW includes residential and commercial solid waste but does not include industrial solid waste or special wastes.

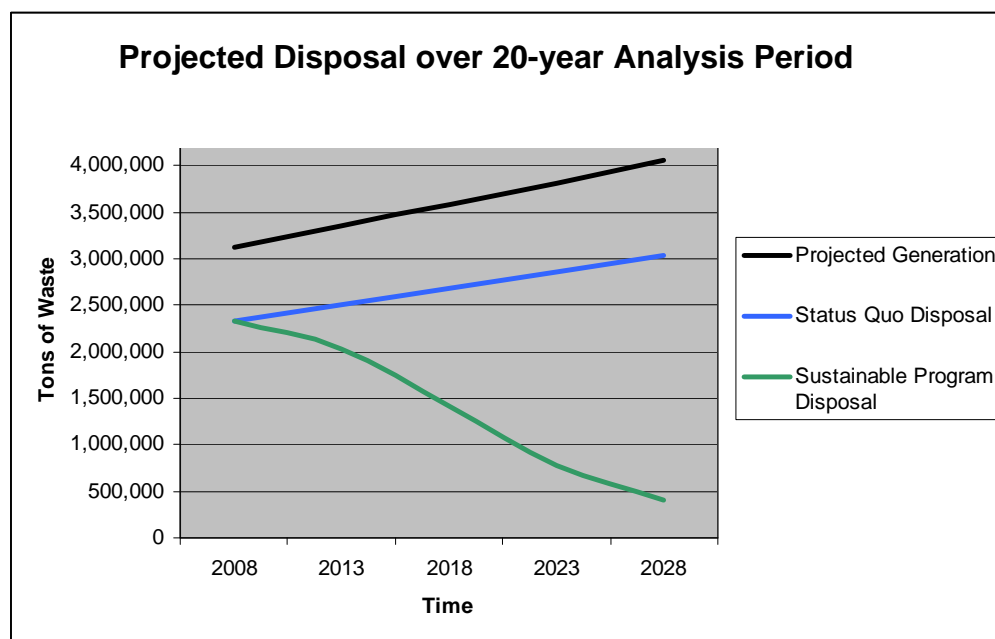
Before adopting a new solid waste management strategy, it is important to understand the current system, defined as the status quo, and projections of status quo operations over the next 20 years. Under the status quo, it is estimated that in 2008 the District diverted about 25 percent of generation. The system’s total annual (diversion and disposal) cost was approximately \$278 million. Projecting the status quo system to 2028, the District would be generating 4.06 million tons per year and disposing of 3.04 million tons at a projected total annual system cost of nearly \$882 million. This projection assumes that by 2028 most District MSW will be disposed of using additional transfer stations and transfer of waste to more distant landfills due to local landfill closures.



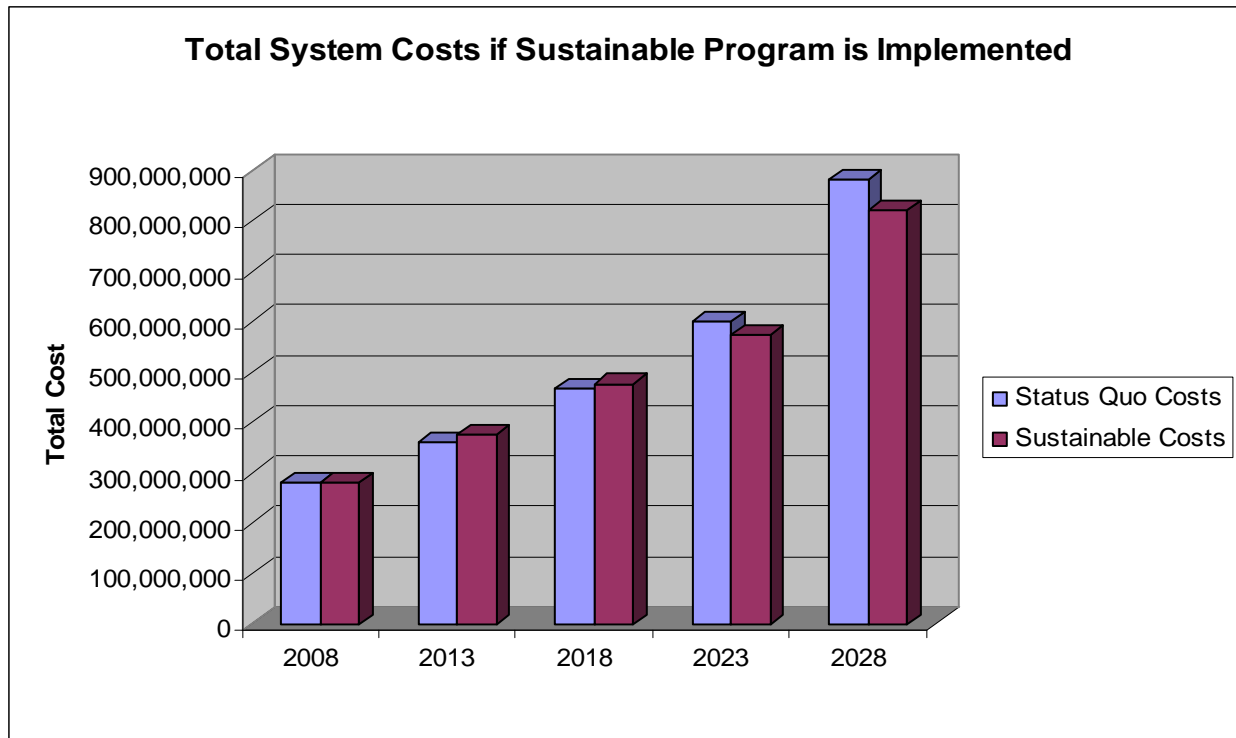
Implementing an alternative sustainable solid waste management strategy offers the District the opportunity to dramatically decrease landfill disposal over the next 20 years (see graph below) at cost competitive rates. The strategy set forth in this study envisions four, 5-year planning horizons designed to reach incremental 40 percent, 60 percent, and 80 percent diversion and near zero waste by 2028. Based on successfully implemented programs in communities in other areas of the United States, a total of 44 practices in the following seven categories of programs were selected for priority ranking by District stakeholders as potential sustainable practices for implementation:

- Source reduction
- Recycling
- Composting
- C&D/specific waste materials
- Public education
- Policy incentives
- Household Hazardous Waste (HHW) and e-waste

During the program ranking discussions, District stakeholders expressed a definite desire for highest and best use of materials in MSW and a near-unanimous approval of the EPA hierarchy for solid waste management. Therefore, the programs included in the scenarios described below give preference to reuse, recycling, and composting strategies over thermal conversion. Based on the results achieved by other example communities, successful implementation of the sustainable practices more highly ranked by District stakeholders is expected to result in the significant reduction of projected waste disposal quantities shown in the following graph.



Successful policy implementation will not only result in lower disposal quantities, it will also result in competitive costs throughout the 20-year program period and lower costs near the end of the 20-year period (see graph below) as more District solid waste needs to be transferred to regional landfills outside the District.



Other benefits of implementing the sustainable strategies include conserving resources, improving overall environmental quality, creating jobs, and minimizing waste transport to more distant landfills.

Therefore, implementation of a series of 5-year planning scenarios, incorporating the sustainable practices highly ranked by District stakeholders, is recommended to approach near zero waste by 2028. To achieve 40 percent diversion in the first 5-year period (by 2013), the primary focus is on the public education of source reduction activities and the implementation of curbside/on-site collection programs for recyclables and green waste from residences and businesses throughout the District. Achievement of the goal to implement these practices is seen as the most important task in the sustainable program implementation. Upon District-wide (or nearly District-wide) availability to curbside and on-site collection of recyclables and green waste, the remaining sustainable program practices are essentially modifications to increase the types and quantities of materials diverted from landfill disposal.

To achieve 60 percent diversion by 2018, the focus during the second 5-year period is to expand participation and types of materials collected in the programs previously put in place throughout the

District for the 40 Percent Diversion Scenario (2013). The major new initiatives to be implemented during this period include adoption of volume-based rates for all residential and commercial waste collection and initial establishment of incentive programs for C&D waste recycling.

To achieve 80 percent diversion by 2023, further expansion of programs implemented during the previous two periods to achieve maximum feasible recovery, as well as the implementation of food waste collection and composting and backyard composting of green waste will be emphasized. Programs implemented during the previous periods continue and, in some cases, recovery rates are assumed to increase as a result of on-going promotion and increased awareness of the importance of recycling.

To get to near zero waste (90 percent diversion) in 2028, the focus is on the implementation of one or more emerging technologies to recover and/or use additional quantities of materials that are not easily recovered through previously demonstrated diversion programs. It is expected that additional diversion and conversion technologies will be available for consideration by the start of this 5-year period, with diversion technologies receiving the priority. Although emerging technology is estimated to be very expensive on a unit price (\$/ton) basis, the high rate of diversion achieved prior to adoption of emerging technology results in a more moderate increase in overall system cost. It is assumed that programs implemented during the previous periods would be continued and that recovery rates would remain relatively constant at the high rates associated with a focused, mature program promoting diversion.

Projections of diversion by type of waste over the 20-year planning period are shown in the following table.

**Projected Diversion by Waste Type
(tons/yr)**

Year (Diversion Goal)	Residential	Commercial	C&D	Emerging Technology	Total
2013 (40%)	569,000	539,000	217,000		1,325,000
2018 (60%)	844,400	795,000	520,600		2,160,000
2023 (80%)	1,109,300	1,104,700	837,400		3,051,400
2028 (Near Zero Waste) (90%)	1,188,200	1,156,800	881,900	420,000	3,646,900

The following near-term activities are recommended to be carried out to maximize the potential for the District to realize the benefits of implementing the sustainable solid waste program:

- MARC SWMD adopts the scenario goals of the sustainable program outlined in the study;
- MARC SWMD prepares a guideline strategy document to define alternative methods for District communities to modify existing solid waste management operations or implement revised operations to provide curbside/on-site collection of recyclables and green waste to all residences and businesses;
- MARC SWMD implements an outreach program using printed media, electronic media, broadcast media, presentations, strategy meetings, etc. promoting the following decisions by all (or nearly all) District cities and towns:
 - Adoption of the scenario goals of the sustainable program by a date to be established and
 - Commitment to implement solid waste management operations that provide curbside/on-site collection of recyclables and green waste to all residences and businesses by 2013; and
- Upon substantial achievement of District commitment to the sustainable practices program, MARC SWMD modifies its outreach program to become a District-wide public education program using the same outreach methods to educate the entire District community of the benefits of the sustainable practices program.

The greater Kansas City area has demonstrated a commitment to sustainability initiatives such as America's Green Region and the Greater Kansas City Chamber of Commerce Climate Protection Partnership. Achieving near zero waste is an attainable goal for the District through the implementation of these sustainable practices and the leadership of the MARC SWMD.

* * * * *

1.0 INTRODUCTION

1.1 BACKGROUND

The Mid-America Regional Council Solid Waste Management District (MARC SWMD) is a regional solid waste planning agency recognized by the state of Missouri. The MARC SWMD was formed in 1991 in response to the Missouri Solid Waste Management Law of 1990 and serves the local governments in Cass, Clay, Jackson, Platte, and Ray counties in Missouri and works cooperatively with Johnson, Leavenworth, Miami, and Wyandotte counties in Kansas. These nine counties, the bi-state Kansas City metropolitan area, are consistent with the planning boundary of the Mid-America Regional Council. The nine-county area is referred to in this report as the District.

Municipal solid waste (MSW) and construction and demolition (C&D) waste landfill capacity within the District will decline significantly in the next 20 years. The MARC SWMD supports regional and local efforts to reduce the amount of waste disposed of in area landfills and received a grant from the Missouri Department of Natural Resources to assess sustainable solid waste management alternatives.

1.2 PURPOSE

This report is intended to provide policy orientation to guide solid waste planning and decision making in the District over a planning period in excess of 20 years. The report summarizes Calendar Year 2007 practices, quantities, and costs (the status quo) regarding solid waste management in the District and compares proposed alternative long-term, sustainable solid waste management scenarios with a future extension of the status quo. In addition, this analysis concentrates on proven sustainable practices and policies; unproven emerging technologies with unknown future costs and performance were considered only as options for managing the small portion of solid waste that remains after proven sustainable options are fully implemented.

1.3 SCOPE

This report provides background information and analyses of the following scenarios regarding District MSW and C&D waste management:

- Snapshot of the status quo;
- Snapshot of the status quo conditions projected 20 years into future; and
- Alternative sustainable management strategies with specific policy and cost scenarios that could lead the District to more aggressive waste diversion and ultimately near zero waste.

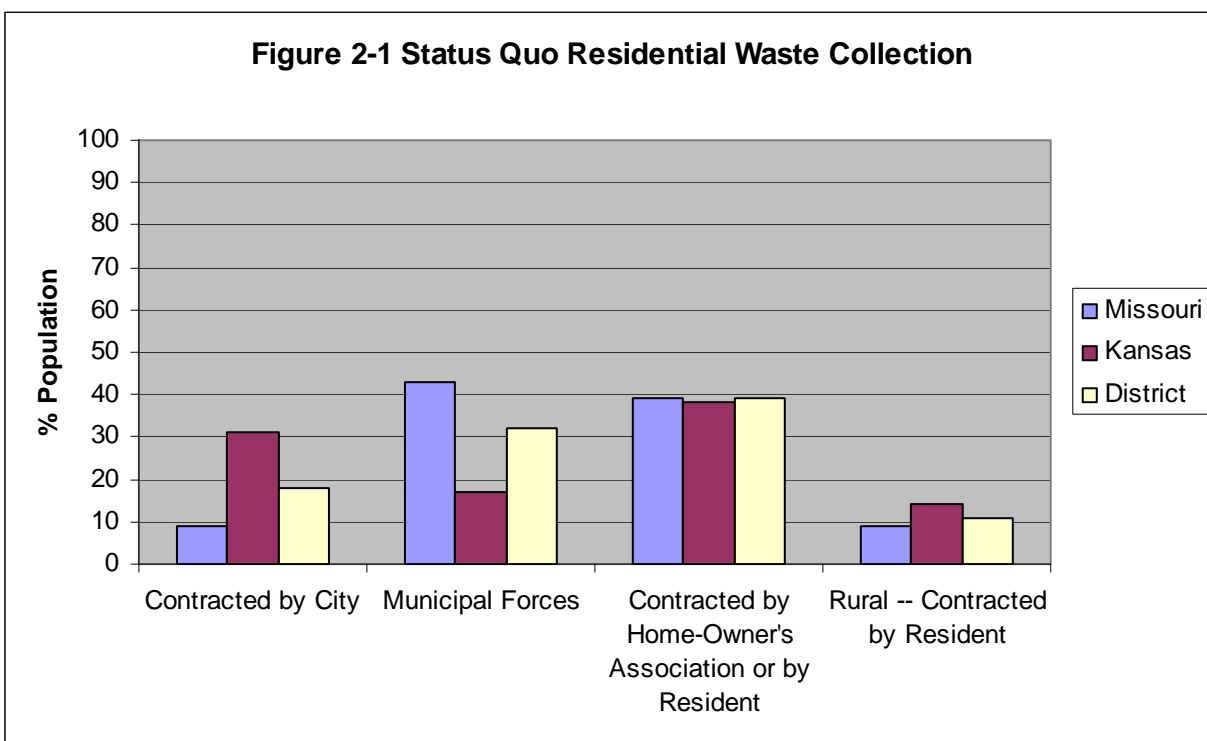
2.0 SNAPSHOT OF THE STATUS QUO

A summary of District solid waste management practices, quantities, and costs for the base year of 2007 (status quo) is presented in this chapter.

2.1 DESCRIPTION OF SOLID WASTE MANAGEMENT

2.1.1 Residential Waste

Residential solid waste collection is provided by a variety of services throughout the District. Figure 2-1 summarizes the status quo information on residential waste collection services presented city-by-city under the Column labeled “Residential Collection Service” on the first page of Appendix A and Appendix B. Approximately 50 percent of the District’s population lives in cities or towns that are actively engaged in residential solid waste management activities, either through contracting with a private company to collect residential solid waste or providing the service themselves. Another 37 percent of the District’s population contracts directly with a private hauler for collection services or contracts with a private hauler through their homeowner’s association.



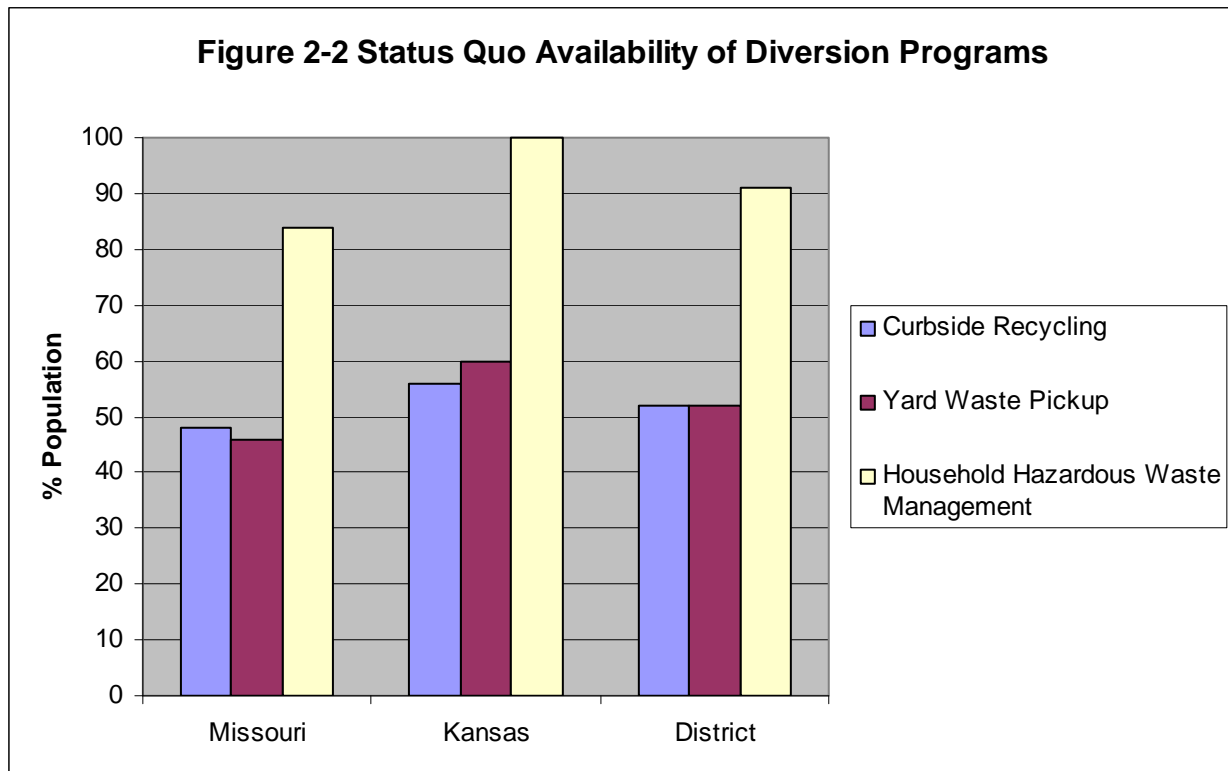
Sources: (1) MARC SWMD, January 2006 and April 2007.
 (2) MARC, February, 2006.

No definitive waste tracking information for the entire District is available. The Kansas Department of Health and Environment (KDHE) Bureau of Waste Management prepared a map of known and estimated waste flows (2005 tonnage) for northeastern Kansas and western Missouri that incorporates the entire District (KDHE- Bureau of Waste Management, 2007). Based on the KDHE information and other available information (landfill tonnage records), most residential waste in the District is disposed of in the three operating MSW landfills located in the District. These landfills are generally characterized as follows (reported receipts incorporate all wastes received by the landfills, including MSW, C&D, and special/industrial wastes):

<u>Landfill</u>	<u>Location</u>	<u>Reported Receipts</u> <u>(tons/year)</u>	<u>Expected Closure Date</u> <u>(limiting condition)</u>
Johnson County	Shawnee, KS	1,749,999	2027 (zoning)
Courtney Ridge	Sugar Creek, MO	520,394	2027 (capacity)
Lee's Summit	Lee's Summit, MO	<u>86,909</u>	2014 - 2016 (capacity)
	Total	2,357,302	

Some District residential waste is hauled to the five transfer stations located on the Missouri side and three transfer stations located on the Kansas side of the District. Waste received at these transfer stations generally is transferred to one of the following regional landfills outside the District: Hamm Landfill in Jefferson County, Kansas; Oak Grove Landfill in Crawford County, Kansas; Show-Me Landfill in Johnson County, Missouri, and Central Missouri Landfill in Pettis County, Missouri.

Just as residential collection systems vary throughout the District, waste diversion programs also are not consistent across the District as shown in Figure 2-2. This figure shows that a little over 50 percent of the District's population has access to curbside recycling and yard waste (grass, leaf, and brush) pickup. Often these diversion systems are available for an additional fee on top of the normal trash collection fee. The great majority of the citizens of the District have a household hazardous waste (HHW) drop-off center available. Only a few municipalities on the Missouri side of the District do not participate in the MARC SWMD HHW program.



Sources: (1) MARC SWMD, January 2006 and April 2007.

(2) MARC, February, 2006.

The Deffenbaugh Materials Recycling Facility in Wyandotte County, Kansas, is the one material recovery facility (MRF) located in the District capable of processing single stream recycle materials into components streams (metals, paper, plastics) for subsequent sale. Town & Country Disposal anticipates opening a MRF in Cass County, Missouri in early 2009 with the capability of processing single stream recycle materials. Other recycling facilities operate in both Missouri and Kansas and receive/process single materials or source-separated materials.

Four municipalities in the District (Olathe, Kansas; Kansas City, Missouri; Platte City, Missouri; and Sugar Creek, Missouri) provide residential collection using municipal forces. Brief descriptions of the services offered by three of the cities that track residential waste disposal and diversion quantities follow:

- Olathe, Kansas (approximate 2007 population of 96,600) is the only major city in Johnson County, Kansas providing residential solid waste collection using municipal forces. All residential waste is hauled to a city-operated transfer station and then transported to an out-of-District landfill (Hamm Landfill) for disposal. For a base monthly fee, Olathe provides curbside waste collection, bulky waste collection, yard waste collection (for composting at a

- city-owned site), and access to its HHW center. Curbside recycling is offered for an additional fee and a city drop-off recycling site is available. Olathe diversion rates (Seyfried, Kent, June 2008) are shown in Table 2-1.
- Platte City, Missouri (approximate 2007 population 4,400) provides municipal residential waste collection. Platte City provides curbside waste collection, bulky waste collection, curbside recycling, and access to the MARC SWMD HHW program for a base monthly fee. A city drop off recycling site is also available. Platte City diversion rates (Anderson, Sharon, May 2008) are shown in Table 2-1.
 - Kansas City, Missouri (approximate 2007 population 441,500) provides residential waste collection in the city center using municipal forces and contracts for residential waste pick-up in additional zones of the city. Kansas City provides a base residential collection program through the city's earning tax. This program includes modified pay-as-you-throw curbside pick-up with curbside recycling, bulky waste collection, yard waste pickup in the Spring and Fall, and access to city yard mulching drop-off sites. Residents also have access to the city's HHW facility operated by the Water Services Department. Kansas City diversion rates (SCS Engineers, February 2008) are shown in Table 2-1.

Table 2-1 Selected City Diversion Rates

	Olathe, KS	Platte City, MO	Kansas City, MO
Curbside Recycling	3.4%	7.5%	10.9%
Drop-off Recycling	1.2%	Less Than 1.0%	5.1%
Yard Waste Composting/Mulching			
Measured	16.0%	NR	20.0%
*Adjusted	NA	20.0%	20.0%
Others (appliances, HHW, e-waste)			
Measured	NR	NR	NR
Total			
Measured	20.7%	7.5%	18.0%
*Adjusted	20.7%	27.5%	36.0%
* Adjusted for privately contracted or self hauling, on-site management, and Missouri's landfill ban on yard waste. NR – not reported NA – not adjusted			

Based on the above data and other available data on diversion and characteristics of disposed waste, the overall residential diversion rates for the Missouri and Kansas communities, respectively, were estimated to be 27 percent and 16 percent. A major factor in the higher diversion rate on the Missouri side of the District is the state's ban on landfill disposal of yard waste.

The Johnson County Environmental Department and MARC SWMD commissioned solid waste sorts of Missouri and Kansas residential solid waste arriving at the Johnson County Landfill and the Olathe Transfer Station (Engineering Solutions and Design, Inc., September 2007). Appendix C presents the results of the average composition of residential waste from both Missouri and Kansas sources. The final columns in Appendix C represent a weighted average overall composition of the residential waste stream being disposed of in the District.

2.1.2 Commercial Waste

Typically, commercial establishments contract directly with a private hauler for collection and removal service using front-end loading packer trucks or compactor and open roll-off units. Based on existing information (KDHE, 2007 and landfill tonnage records), disposal of commercial waste is similar to the disposal of residential waste discussed previously. Most commercial waste is disposed of in the three previously identified operating MSW landfills located in the District, while some commercial waste is hauled to transfer stations for subsequent transfer to one of the previously identified regional landfills outside the District.

No municipalities in the District are known to currently track commercial waste disposal and diversion quantities. The overall estimated commercial diversion rate throughout the District is 30 percent based on available information (Johnson County Solid Waste Management Committee, December 2007 and SCS Engineers, February 2008). The predominant recycled materials from the commercial waste stream are paper products and scrap metals. The recycled materials are processed and sold by the Deffenbaugh MRF and other recycling facilities located in the District.

The previously discussed waste sorts at Johnson County, Kansas, facilities included analysis of both Missouri and Kansas commercial solid waste (Engineering Solutions and Design, Inc., September 2007). Appendix D presents the results of the average composition of commercial waste from both Missouri and Kansas sources and a weighted average overall composition of the commercial waste stream disposed of in the District.

2.1.3 C&D Waste

Contractors and private haulers in the District collect and transport C&D waste in a variety of vehicles ranging from pick-up trucks and trailers to 40-cubic yard roll-off containers. C&D waste is disposed of in the previously identified MSW landfills as well as permitted C&D landfills. Nearly all C&D landfills in the District are located in Kansas because the Missouri regulations for C&D waste landfills are more

stringent, approaching the same requirements as for MSW landfills. Landfills in the District that dispose of C&D waste are generally characterized as follows (reported waste receipts are based on landfill tonnage records):

Landfill	Location	Type of Landfill Permit	Reported C&D Waste Receipts (tons/year)
<u>Missouri</u>			
Courtney Ridge	Sugar Creek	MSW	*89,967
Lee's Summit	Lee's Summit	MSW	*15,024
Pink Hill Acres	Blue Springs	C&D	34,659
<u>Kansas</u>			
Johnson County	Shawnee	MSW	**226,389
O'Donnell & Sons	Olathe	C&D	127,407
APAC-Reno	Overland Park	C&D	84,101
Asphalt Sales	Olathe	C&D	42,067
Holland Corp	Olathe	C&D	38,435
City of Olathe	Olathe	C&D	6,813
Larkin Excavating	Easton	C&D	3,779
Miami County	Paola	C&D	2,687
Lansing Correctional	Lansing	C&D	1,501
City of Lenexa	Lenexa	C&D	936
City of Overland Park	Overland Park	C&D	868
Total			674,633

* Estimated C&D waste quantity based on C&D waste being approximately 17 percent of total waste receipts (Midwest Assistance Program, Inc., 1999).

** Actual C&D waste quantity-Johnson County Landfill reports C&D waste separately from other wastes received at the landfill.

The larger C&D landfills shown above generally have estimated remaining lives of 5 to 15 years (Johnson County Solid Waste Management Committee, December 2007).

Diversion of C&D waste in the District has not been quantified. One previous report (Franklin Associates, a Division of ERG, October 2003) suggested that C&D waste diversion in the District was minimal (0.1 percent); however, this analysis considered only building materials diverted during deconstruction and from surplus supplies. Building waste recycling is estimated to remain at a relatively low percentage; however, more diversion is occurring through Kansas City Habitat ReStore's

deconstruction program and on-site recycling programs initiated by several major construction companies in the region. Another previous report (Johnson County Solid Waste Management Committee, December 2007) recognizes that significant amounts of road and bridge demolition material is either recycled to produce new product (especially asphalt) or reused as clean rubble fill (no permitting required in either Missouri or Kansas). Comparing District generation quantities calculated using 2007 population and previously developed per capita generation rates, updated to 2007, for urban/suburban and rural areas (Johnson County Solid Waste Management Committee, December 2007 and Franklin Associates, a Division of ERG, October 2003) to the reported disposal quantities shown above, the C&D waste diversion rate is approximately 23 percent. The diverted material is believed to be composed almost entirely of asphalt, concrete, and other clean rubble.

The Johnson County Environmental Department and MARC SWMD commissioned a vehicle observation program of Kansas and Missouri C&D waste sources carried out at the APAC-Reno C&D Landfill (Engineering Solutions and Design, Inc., September 2007). Based on these observations, the predominant materials in the C&D waste being disposed of in the District are scrap lumber, metals, and cardboard. Other materials observed less often but still with significant frequency include wood pallets, carpet, plastic, shingles, drywall, yard waste, and concrete.

2.2 ESTIMATED QUANTITIES

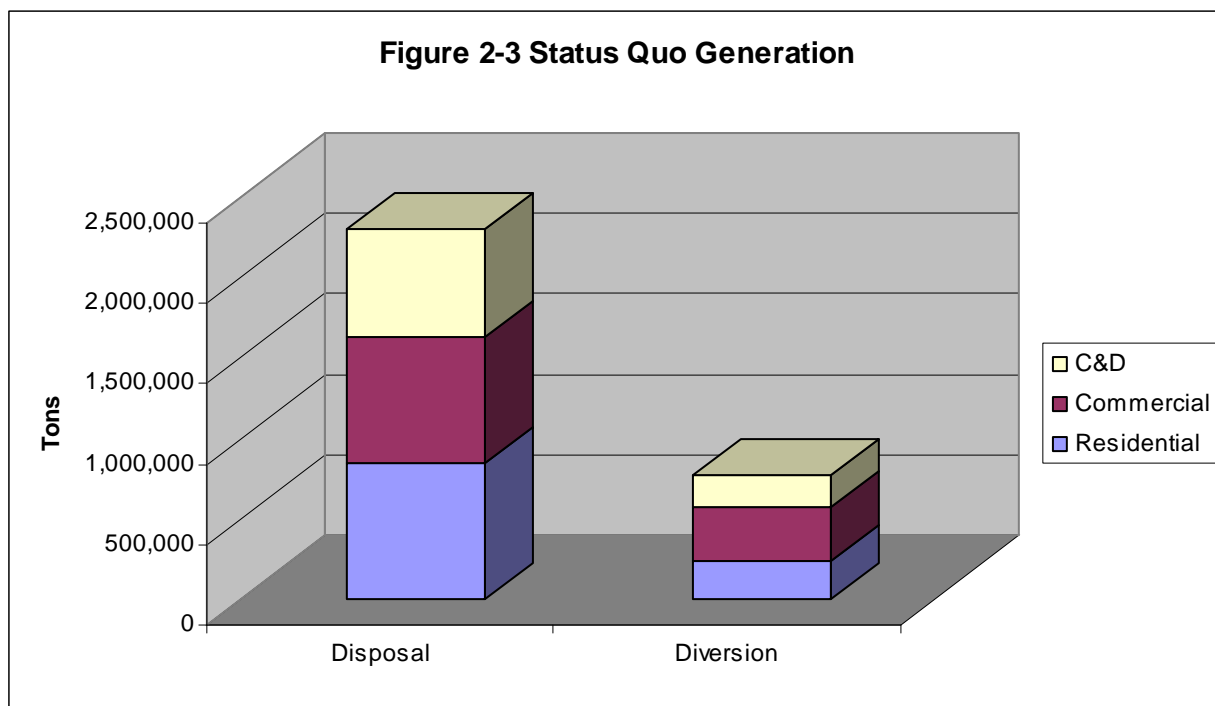
The previous section showed that total reported annual gate receipts for the District's MSW and C&D landfills were approximately 2,700,000 tons. The 1999 Missouri statewide solid waste composition study (Midwest Assistance Program, Inc., 1999) found that MSW represented approximately 60 percent of the total landfilled waste stream in Missouri. Applying this 60 percent factor to the total landfilled waste results in an estimated MSW annual disposal quantity of approximately 1,620,000 tons in District landfills. The remaining waste disposed of consisted of C&D waste (approximately 675,000 tons annually) and special and industrial wastes (approximately 405,000 tons annually). Special and industrial wastes are not included in the scope of this analysis.

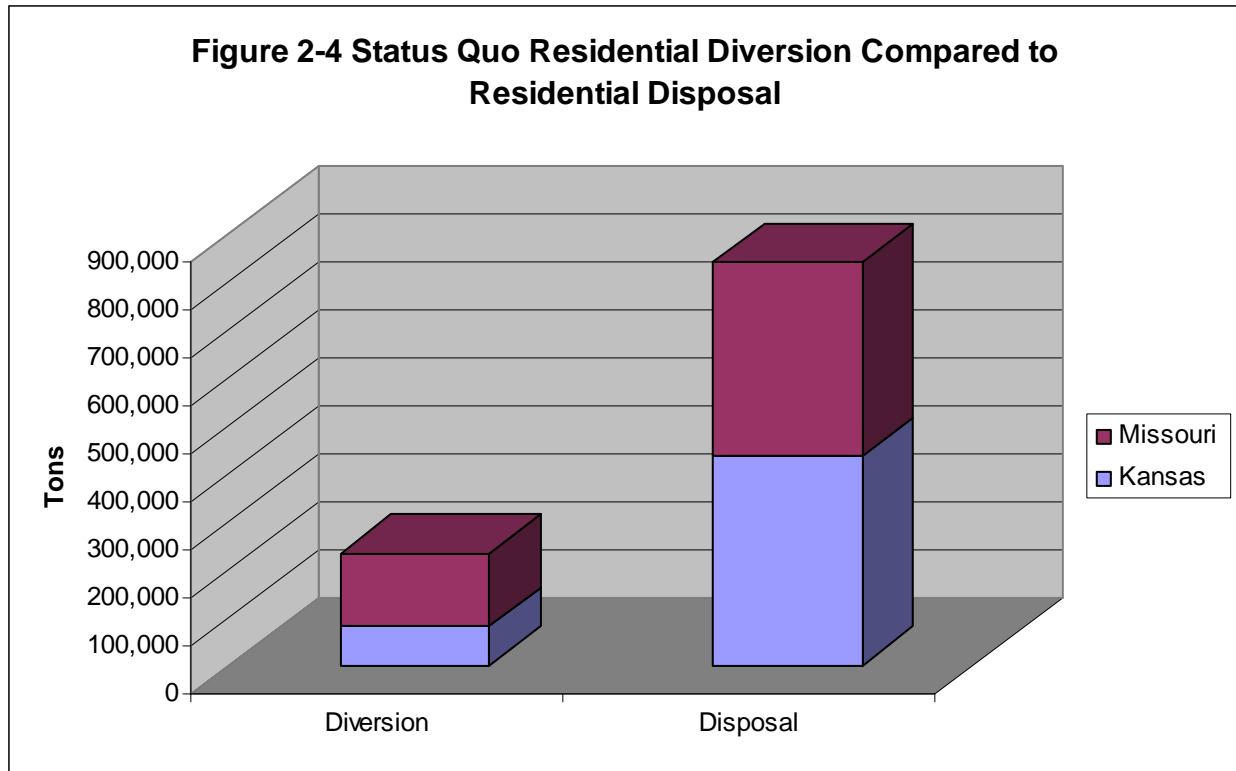
It was also assumed that the relatively small portion of MSW being disposed of in regional landfills outside the District (e.g., transfer of Olathe and Leavenworth County waste to the Hamm Landfill in Kansas and transfer of solid waste from Missouri transfer stations to Central Missouri Landfill and Show-Me Landfill in Missouri) is offset by MSW from outside the District being imported to the District landfills (e.g., transfer of waste from Atchison and Doniphan Counties in northeastern Kansas, which until recently included waste from the City of St. Joseph in northwest Missouri, to Johnson County Landfill). This effect was demonstrated in the previous KDHE waste tracking effort (KDHE, 2007).

Based on this assumption, the gate receipts at District landfills reasonably represent the quantity of waste being disposed of by the District.

The total District MSW disposal stream is broken down into residential and commercial components by city in Missouri and Kansas, respectively, in Appendices A and B. The same appendices show C&D waste disposal by city. The per capita disposal rates shown in Appendices A and B were derived by applying applicable diversion factors for the various cities to per capita residential, commercial, and C&D generation rates from recent studies (Johnson County Solid Waste Committee, December 2007; SCS Engineers, February 2008; and Franklin Associates, a Division of ERG, October 2003). The total status quo District residential and commercial waste disposal quantities were estimated to be approximately 840,000 and 779,000 tons, respectively. The total status quo C&D waste disposal quantity was previously shown to be approximately 674,600 tons per year based on C&D disposal records.

Figure 2-3 shows the total District status quo generation broken down by disposal and diversion, based on the applicable diversion factors developed previously. Figure 2-4 shows the comparison between Missouri and Kansas status quo residential disposal and diversion quantities. The figure shows more diversion in Missouri, which can be attributed to the ban on landfilling yard waste in that state.





2.3 ESTIMATED COSTS

The overall District solid waste (residential, commercial, and C&D waste) management system unit cost for the status quo system was estimated to be \$86 per ton. This figure represents the status quo average user cost for managing residential, commercial, and C&D waste, based on estimated quantities and average 2007 user costs for current management programs. The individual management program and overall average costs are shown below:

Program	Estimated Tons	Estimated Cost	Unit Cost
Source Reduction	213,262	\$100,000	\$0.47/ton
Recycling	439,784	\$39,140,776	\$89/ton
Composting	113,888	\$12,641,568	\$111/ton
HHW and e-waste	1,408	\$1,465,728	\$1,041/ton
Disposal	2,294,007	\$211,048,644	\$92/ton
Total	3,062,347	\$264,396,716	\$86/ton

* * * * *

3.0 PROJECTION OF STATUS QUO SOLID WASTE MANAGEMENT

While it is recognized that some changes in the status quo system will be implemented over time, projection of the status quo solid waste management into the future provides a base case for comparison with future more sustainable management practices.

3.1 DESCRIPTIONS OF PROJECTED MANAGEMENT

The projection of current solid waste management practices into the future assumes that the same level of service that is offered today continues throughout the analysis period. The current levels of residential, commercial, and C&D waste source reduction, recycling, composting, disposal, and HHW/e-waste management would continue to characterize the waste management system. The projection assumes the following conditions with respect to landfill disposal:

- Current transfer stations continue to operate at the existing level of service to the District through 2027 while local landfill disposal capacity is available.
- The Lee's Summit Landfill closes between 2014 and 2016 with most waste being diverted to the two remaining District landfills.
- The Johnson County and Courtney Ridge Landfills close in 2027 with subsequent greater use of existing transfer stations or construction of additional transfer station(s) and transfer trucking of the waste stream previously disposed of in District landfills to more distant (assumed 50 miles one way) landfills.
- Current C&D landfills in the region are expanded and/or new landfills are sited such that the regional demand for C&D waste landfill capacity is met by regional landfills.

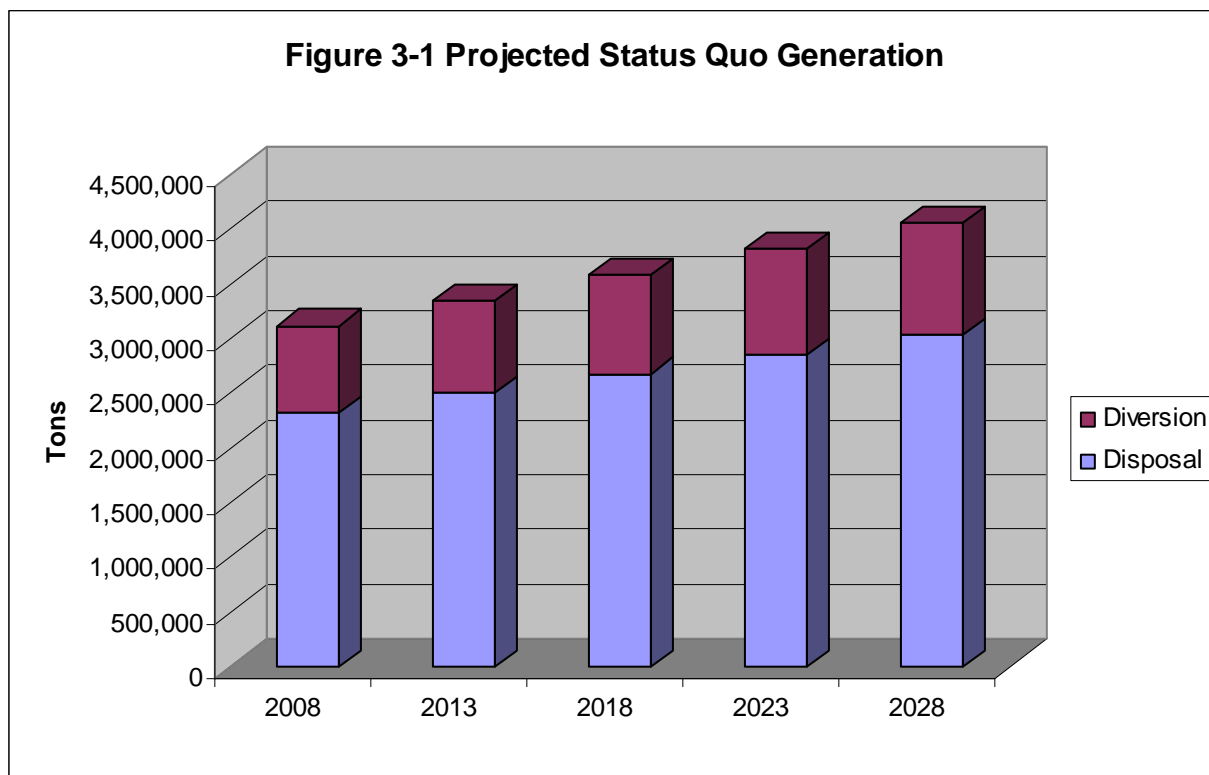
3.2 PROJECTED ESTIMATED QUANTITIES

Estimates of total waste generation, disposal, and diversion quantities assuming the status quo waste management system were projected in 5-year intervals through the year 2028. These projections include the following assumptions:

- Population increases per MARC projections (MARC, February 2006);
- MSW (residential and commercial) and C&D per capita generation rate increases of 0.64 percent and 0.42 percent, respectively, annually based on previous projections (Franklin Associates, a Division of ERG, October 2003) for the period 2002 to 2013; and

- No change in management programs or diversion rates.

The projected quantities are summarized in Figure 3-1.

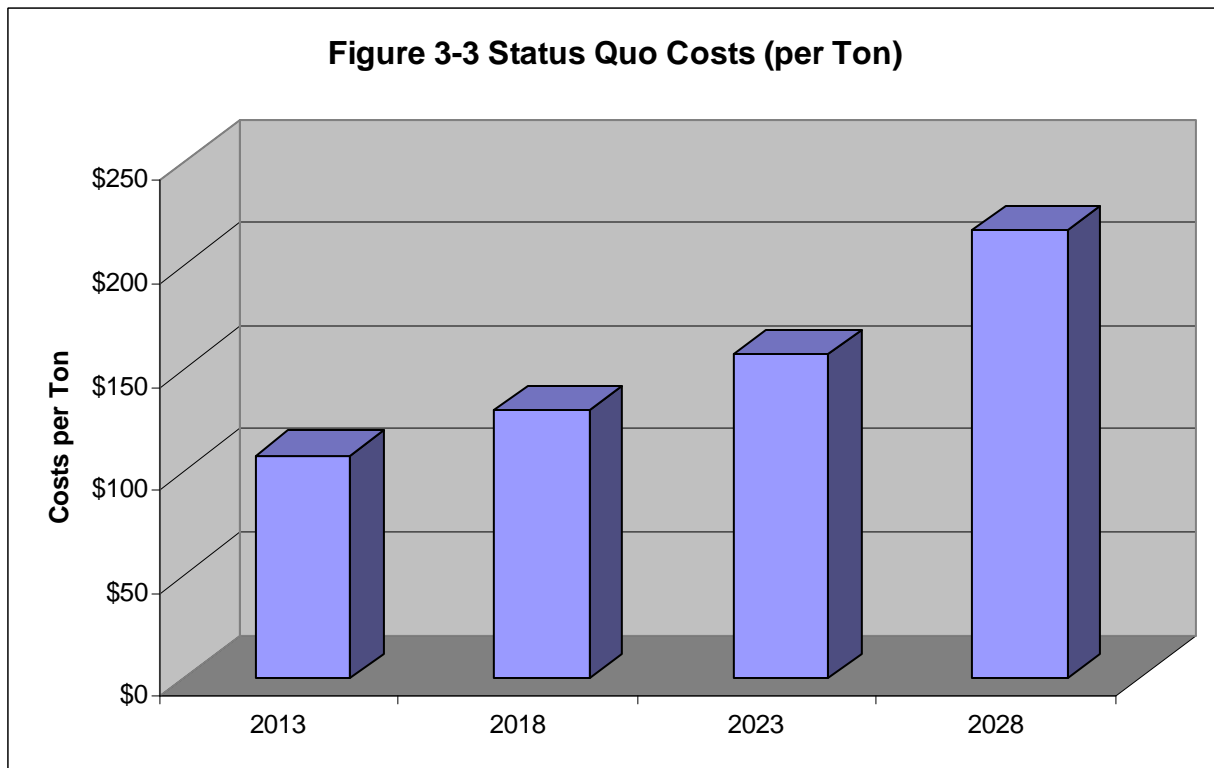
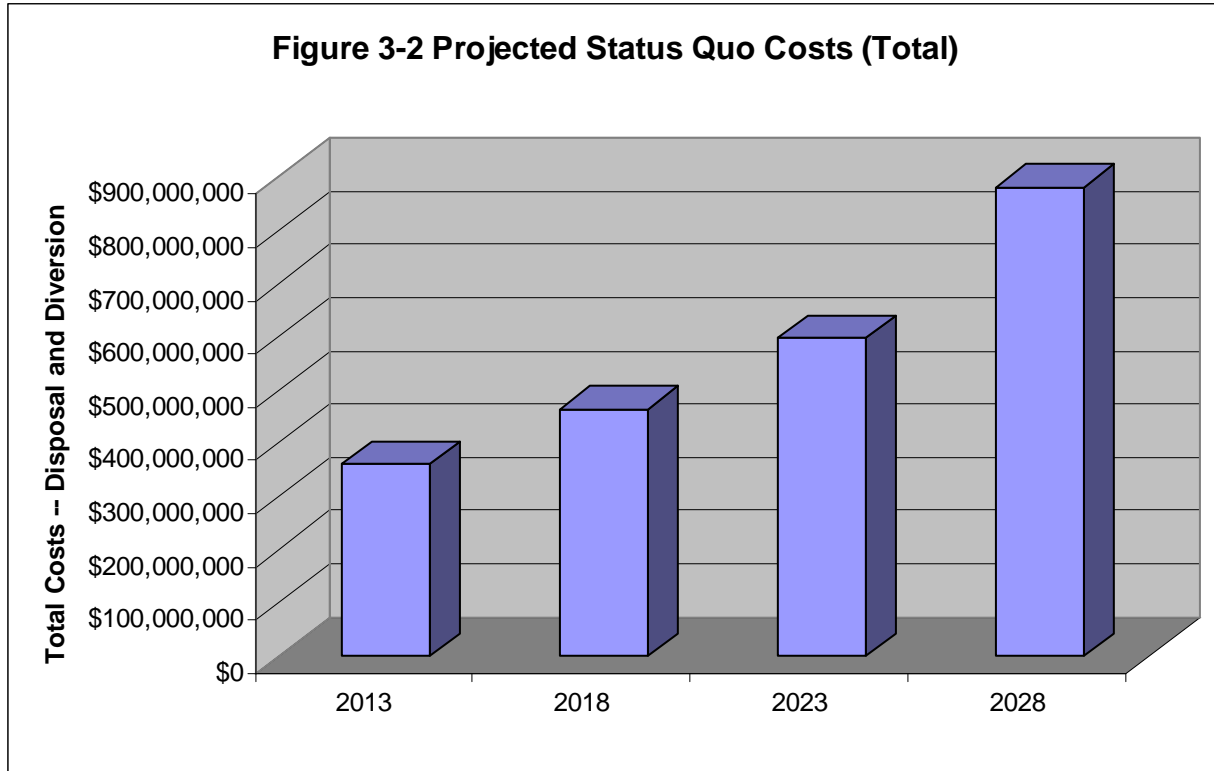


3.3 PROJECTED ESTIMATED COSTS

Estimated costs assuming the status quo waste management system were projected in five-year intervals through the year 2028. These projections include the following assumptions:

- Three percent general cost inflation;
- Four percent disposal cost inflation (increased rate due to declining capacity, change to public investor ownership of major landfill, known difficulty with siting new landfill, and case history showing four percent annual increase in user costs from 1998 to 2008); and
- No change in management programs or diversion rates other than increased use of transfer stations and 50-mile one way transport to distant landfills begins in 2027. Increased transfer station use beginning in 2027 was assumed to result in an increase in unit cost of \$36.10 (2007 dollars) per ton for transfer station and waste transfer operations.

The projected costs are summarized in Figures 3-2 and 3-3.



* * * * *

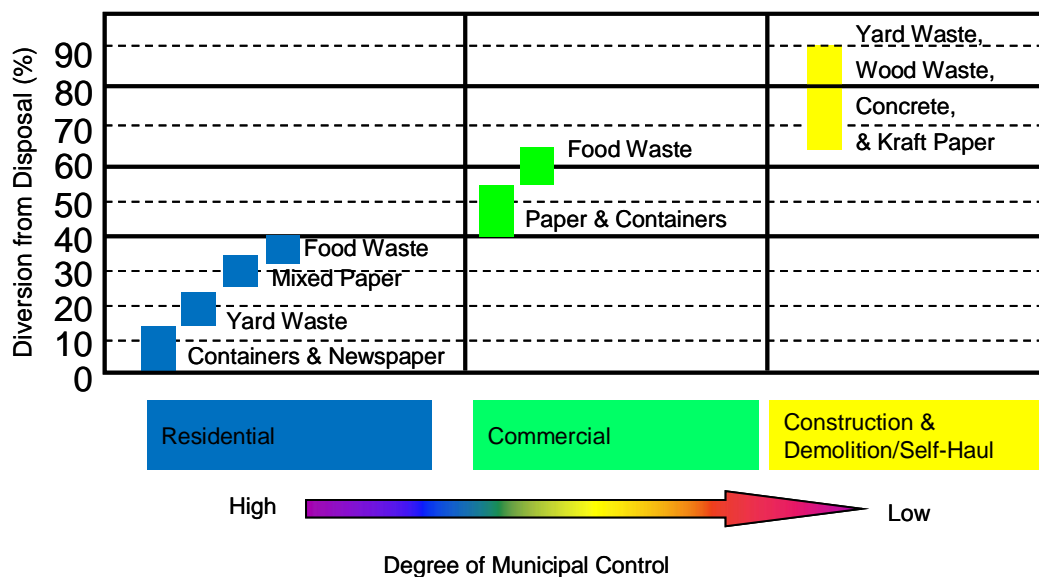
4.0 SUSTAINABLE SOLID WASTE MANAGEMENT PRACTICES

Progressive solid waste management practices need to be implemented throughout the District in order to achieve high levels of solid waste diversion from landfill disposal. The objective of this phase of the work was to develop specific alternative sustainable solid waste management practices that could provide diversion levels of 40 percent, 60 percent, 80 percent, and 90 percent (near zero waste) in the District over a 20-year period. The following activities were undertaken to accomplish this objective:

- Identification and review of successful examples of implementation of sustainable solid waste management practices to achieve higher levels of waste diversion;
- Development of a preliminary array of alternative sustainable solid waste management practices which could be implemented within the District;
- Presentation of the array of practices to a group of District solid waste management professionals on May 21, 2008;
- Preparation of a matrix of alternative practices to achieve the targeted diversion levels over 20 years (in 5-year increments);
- Estimation of the unit costs (\$/ton) associated with the matrix of alternative practices; and
- Presentation of the results to a group of District local elected officials on August 25, 2008.

Figure 4-1 presents a generalized overview of an array of progressive sustainable solid waste management practices that have been implemented to achieve high levels of solid waste diversion from landfill disposal.

Figure 4-1 Overview of Practices Achieving High Levels of Diversion



4.1 EXAMPLE COMMUNITIES ACHIEVING HIGHER DIVERSION RATES

The following are examples of communities that have achieved higher levels of waste diversion by adopting sustainable solid waste management practices. General characteristics of these programs include the following:

- Diversion rates increase over time;
- On-going practices are continued and new or revised practices are added over time;
- Local government exercises a degree of control over the solid waste management system through enforcement of requirements on contractors or municipal operation; and
- A wide variety of source reduction, recycling, and composting practices are offered in order to maximize material capture and citizen participation.

San Francisco, California

San Francisco (population approximately 750,000 and referred to as City in this section) recovers approximately 70 percent of its MSW and C&D waste generation using a comprehensive set of programs ranging from waste reduction to materials recovery processing. The City has a short-term goal of 75 percent landfill diversion by 2010 and a longer-term goal of zero waste by 2020. Currently the City generates approximately 2 million tons of solid waste annually.

To achieve its current diversion rate, the City employs approximately 40 diversion programs among the residential, business, and city government sectors. The waste reduction and reuse programs focus on producer responsibility, consumer responsibility, and government leadership and demonstration of surplus exchange.

The City uses the services of a single waste hauler to perform collection, processing, and disposal of materials generated by the residential and commercial sectors. The City offers incentives to the waste hauler to divert materials from landfill disposal. The costs of the solid waste management program are recovered through volume-based waste collection rates. Other private haulers also supply recycling services to the commercial sector of the City.

Recycling collection and drop-off options cover a wide range of material types for residents, businesses, and City government. Programs include source-separated recyclables collection, recycling centers, and C&D debris recycling. The City's composting program includes worm and backyard composting and collection of source-separated organics from residents, businesses, and City government. The City also has enacted ordinances, including food service waste reduction and a plastic bag ban.

Napa, California

The City of Napa, California (population of approximately 80,000 and referred to as City in this section) recovers approximately 55 percent of its MSW and C&D waste generation using a comprehensive set of programs ranging from waste reduction to materials recovery processing.

The City contracts with a single private contractor to collect and process solid waste generated by residences and businesses. The solid waste stream is segregated by residential and commercial customers into three streams: recyclables, compostables, and residue. Residential customers and small businesses are provided wheeled carts for setout of materials.

The costs of the program are recovered through volume-based waste collection rates. Residential customers are provided weekly service and are charged based on the size of their residue containers. Commercial customers are charged based on the size of their containers and frequency of collection. Customers are not charged for the collection of recyclables or compostables. The service contract includes incentives for the contractor to divert materials from landfill disposal and to market the recovered materials at the highest and best use.

The City provides single stream recyclables collection for the residential sector. Commercial businesses are offered commingled collection of recyclables, as well as separate collection of certain streams (e.g., paper and cardboard). The recycling program also includes City government departments and buildings.

Collected recyclable and compostable materials are processed in a facility city-owned Materials Diversion Facility (MDF) operated by the private contractor. Recyclable materials accepted and processed at the City's MDF include:

- Single stream recyclables;
- Source separated grades of paper from commercial businesses;
- Source-separated construction and demolition materials;
- Electronic waste;
- Tires; and
- Bulky goods.

Source separated green waste collected by the City's composting program is processed at the composting facility within the MDF. Additionally, the composting facility accepts source separated green waste and wood waste from the public and small commercial contractors.

The City employs a variety of waste reduction and reuse programs, including the following:

- Public education;
- Waste exchange;
- Bulky goods drop-off coupons;
- Tire drop-off coupons; and
- Backyard composting training.

Much of the current diversion is achieved as a result of the volume-based rates for residue disposal, the provision of recycling services at no additional cost, public education, and the incentives to the contractor.

Madison, Wisconsin

Madison, Wisconsin implemented the first curbside residential recycling program in the United States in 1968. Residential diversion increased from 18 percent to 34 percent in 1989 when the city mandated source-separation of green waste materials for composting. In 1991, the city mandated recycling and provided containers. By 1996, residential diversion was up to 50 percent. In 2006, the city implemented single stream recycling with automated cart collection and by 2007 total residential diversion was 59 percent. Today, recycled materials are collected curbside, along with seasonal curbside collection of yard waste. Drop-off centers accept yard waste, appliances, large items, and e-waste.

4.2 PRELIMINARY ARRAY OF DIVERSION ALTERNATIVES

A preliminary array of diversion alternatives was developed based on programs and practices that have been successfully implemented by communities in other areas of the United States. To achieve very high levels of diversion, CalRecovery developed alternatives for each of the three waste streams evaluated in the study: (1) residential; (2) commercial; and (3) construction and demolition. Seven categories of diversion programs were identified:

- Source reduction;
- Recycling;
- Composting;
- C&D and specific waste materials;

- Public education;
- Policy incentives; and
- Household hazardous wastes (HHW) and e-waste.

Within each of the seven categories of programs, specific programs or practices were identified. For example, within the category of source reduction, the following practices were considered: grasscycling (using a mulching mower and leaving grass on the lawn after mowing), backyard and on-site composting/mulching, business source reduction, procurement, school source reduction, government source reduction, and material exchange/thrift shops. A total of 44 diversion alternatives were presented to the first District stakeholder group on May 21 for discussion and ranking. The presentation included a discussion of the practices (including their track record and standing in the EPA hierarchy for solid waste management), approaches used in other communities, and evaluation criteria. CalRecovery presented thermal conversion technologies, including commercially proven combustion with energy recovery and emerging technologies such as plasma arc and pyrolysis. A copy of the handout distributed to the participants is provided in Appendix E.

Stakeholders rated the 44 diversion alternatives by priority with 1 being highest and 5 being lowest. If the group wanted to continue a program currently in place, it was given a higher rating. The rating detail by group and the overall ranking for each program are presented in Appendix F, and a summary of the results is in Table 4-1.

The group consensus was that the highest priority should be given to source reduction activities, residential and commercial recycling, recovery of high-volume C&D waste materials, public education, economic incentives and ordinances, education and collection programs for HHW and e-waste.

The only alternative that was excluded from consideration was curbside collection of household hazardous waste. Sludge recycling and rendering were also rated very low in priority.

Table 4-1 Overview of Ranking of Alternatives by Stakeholders

	High Priority	Medium Priority	Low Priority	Excluded
Source Reduction	Grasscycling Source reduction Procurement	Backyard/on-site composting Material exchange, thrift shops		
Recycling	Curbside/on-site collection Residential drop-off School and government recycling Special collections	Commercial self-haul	Residential buy-back	
Composting		Residential curbside collection/ self-haul of green waste Commercial self-haul of green waste Food waste composting School/government composting	Commercial on-site collection of green waste	
Special Waste Materials (includes C&D waste)	C&D concrete/asphalt/ rubble Tires Wood waste	White goods Shingles	Scrap metal Sludge Rendering	
Public Education	Electronic/Print Schools Outreach			
Policy Incentives	Economic incentives Ordinances	Product and landfill bans		
Household Hazardous Wastes and e-waste	Drop-off Mobile/periodic collection Education e-waste	Waste exchange		Curbside collection

During the meeting, stakeholders discussed the following evaluation criteria:

<u>Evaluation Criteria</u>	<u>Comments from Stakeholders</u>
Agreement with EPA hierarchy for solid waste management	Desire highest and best use for materials, maximizing use of resources. Waste-to-energy could be a consideration for processing residuals, but only interested in using energy recovery for materials that would otherwise be landfilled. Fully support the EPA hierarchy.
Importance of track record	Track record important, but willing to consider new technologies.
High levels of diversion in spite of potentially higher costs	Cost is definitely a consideration.
Acceptability of combustion or thermal processing	Should consider conversion technologies. Commitment to look at waste-to-energy recovery as a potential long-term strategy, in keeping with the national goal to diversify energy sources.
Economic incentives (volume-based rates)	Incentives are important. There is a substantial amount of room for improvement in residential recycling.

Based on this input, the stakeholders agreed that energy conversion technologies would be considered only for wastes that cannot be otherwise reused, recycled, or composted.

4.3 PROGRAM STRATEGIES

4.3.1 Selection Methodology

The next phase of the analysis involved the development of diversion strategies to reach four targeted levels of diversion: 40 percent, 60 percent, 80 percent, and 90 percent (near zero waste). Based on current practices, a near zero waste target was established to include 80 percent diversion using conventional technologies and an additional 10 percent diverted from landfill disposal using emerging diversion or conversion technologies. The planning horizon for the study was 20 years (2008 to 2028). The following targets were identified:

<u>Year</u>	<u>Diversion Target</u>
2013	40%
2018	60%
2023	80%
2028	90% (near zero waste)

The following characteristics served as the basis for the development of the strategies:

- Stakeholder ranking (from May 21 meeting)
- Diversion impact
- Proven track record (see example community descriptions in Section 4.1)
- Ease of implementation
- Cost of implementation

4.3.2 Overview of Selected Diversion Strategies

Descriptions of the strategies selected to reach the targeted diversion levels are presented in Table 4-2. Note that five of the seven categories of programs that were rated by District stakeholders are included in Table 4-2. The other two program categories, Public Education and Policy Incentives, are included within the five program categories developed in Table 4-2.

The implementation schedule for the strategies assumes that previously implemented practices are not only continued into the future but are improved over time through expansion of materials handled or increases in participation. Further, the schedule incorporates the concept of periodic increases in the number of practices with the goal of continually increasing material coverage and program participation. For example, San Francisco has implemented over 40 practices to reach its current level of 70 percent diversion.

A wide diversity of residential recycling and composting activities exists in the various communities comprising the District (See Section 2.1.1). Consequently, some of the practices identified for implementation in the first target period, for example, may already be in place in some communities. It is not the intent of the strategy to delineate the schedule that each community should follow in practice implementation, but rather to provide implementation benchmarks for each 5-year period.

The estimated costs and outlines of policy/implementation issues for the various diversion program scenarios are based on CalRecovery's experience in evaluating, planning, designing, and implementing these types of programs in various communities in the United States. In particular, the company has performed such work in San Francisco which achieved 50 percent waste diversion from landfills almost ten years ago, is now diverting between 60 percent and 70 percent, and is targeting and implementing programs to reach diversion levels of 75 percent or more.

Table 4-2 Overview of Strategies to Reach Targeted Diversion Levels*

Program Category	40% Diversion (2013)	60% Diversion (2018)	80% Diversion (2023)	Near Zero Waste (2028) (90% Diversion)
Source Reduction	<ul style="list-style-type: none"> Public education program to encourage grasscycling, business, school and government source reduction, business procurement 	<ul style="list-style-type: none"> Increased public education to encourage grasscycling, source reduction, procurement Promotion of reuse facilities (e.g., thrift shops) 	<ul style="list-style-type: none"> Expansion of existing activities Implementation of backyard composting program 	<ul style="list-style-type: none"> Implementation of emerging technology(ies)
Recycling	<ul style="list-style-type: none"> Curbside/on-site collection of recyclables from urban residential and commercial customers On-site collection of recyclables from schools and government facilities Recycling of bulky goods collected from urban residential customers Expansion of rural drop-off facilities 	<ul style="list-style-type: none"> Transition to volume-based rates Expansion of on-site collection of recyclables from schools and government facilities 	<ul style="list-style-type: none"> Expansion of existing activities Increase in capacity/materials at drop-off facilities for rural customers Increased recycling of bulky goods collected from urban residential customers 	
Composting	<ul style="list-style-type: none"> Curbside/on-site collection of yard waste from urban residential and commercial customers Implementation of on-site collection of yard waste from schools and government facilities 	<ul style="list-style-type: none"> Transition to volume-based rates Expansion of on-site collection of yard waste from schools and government facilities 	<ul style="list-style-type: none"> Expansion of existing activities Increase in drop-off facilities for rural customers Implementation of food waste collection and composting 	
Special Wastes (Tires, White Goods, C&D)	<ul style="list-style-type: none"> Promotion of existing programs, including tire and wood waste recycling 	<ul style="list-style-type: none"> Implementation of incentive program for C&D materials; expansion of types of materials targeted, including white goods and shingles 	<ul style="list-style-type: none"> Collection of special wastes from residential and commercial customers Expansion of incentive program for C&D materials 	
Household Hazardous Waste and E-Waste	<ul style="list-style-type: none"> Increased public education regarding HHW Expansion of e-waste activities 			

*Table presents information on program implementation/expansion. Unless indicated, assumes that existing program will continue.

The intent of the cost analysis is to provide a global view of the anticipated total costs of District solid waste management, including implementation of the recommended practices, over time. More detailed cost analyses will be needed to fully implement programs or practices. Estimates of the costs for implementation of the four diversion scenarios include:

- Program costs, including annualized capital costs as well as annual operating costs;
- Program revenues, resulting from the sale of recovered materials; and
- Disposal costs for quantities of waste not recovered, based on disposal cost projections (\$/ton) described in Section 3.3.

The general basis of the financial analysis for the present study is cost data that CalRecovery has developed for diversion programs, e.g., material recovery facilities, collection of single stream recyclables, public education, etc. To estimate the overall costs of diversion programs presented in this report, CalRecovery adjusted financial data to reflect the local marketplace and conditions. Adjustments to the basic financial parameters were based on local costs of labor, waste collection, and waste disposal and on market prices of recyclable materials. In addition, CalRecovery used cost information related to District solid waste collection and disposal that is reported in Section 3.3. Thus, the summary costs used in the financial analysis of this report are site-specific and represent the overall average cost for solid waste collection, diversion, and disposal for each District scenario.

Costs are presented on a unit cost basis (i.e., \$/ton of waste generated) to allow easy comparison with the projected status quo costs. The unit costs represent net costs, i.e., costs minus revenues, but will be referred to here simply as “costs.” In reviewing the costs, it is important to keep the following in mind:

- Costs represent the District-wide average for each of the diversion strategies. Due to the wide variations among the communities (e.g., contractual arrangements with hauler, relative proportion of residential, commercial, and C&D waste streams; and proximity to processing capacity and to landfill disposal), the unit costs will vary by community;
- Costs assume District-wide implementation of programs. District-wide implementation allows for economies of scale and system design benefits that would not be realized otherwise. Such benefits would include, for example, larger regional processing facilities rather than smaller local processing facilities and joint public education activities. Costs could vary substantially if programs are not implemented District-wide;
- Costs for each diversion scenario assume implementation of all of the programs within the diversion scenario. Because there are certain levels of integration and synergy among the programs, if only some programs within the diversion scenario are selected for

implementation, it could have an impact on the cost and effectiveness of other programs within the scenario; and

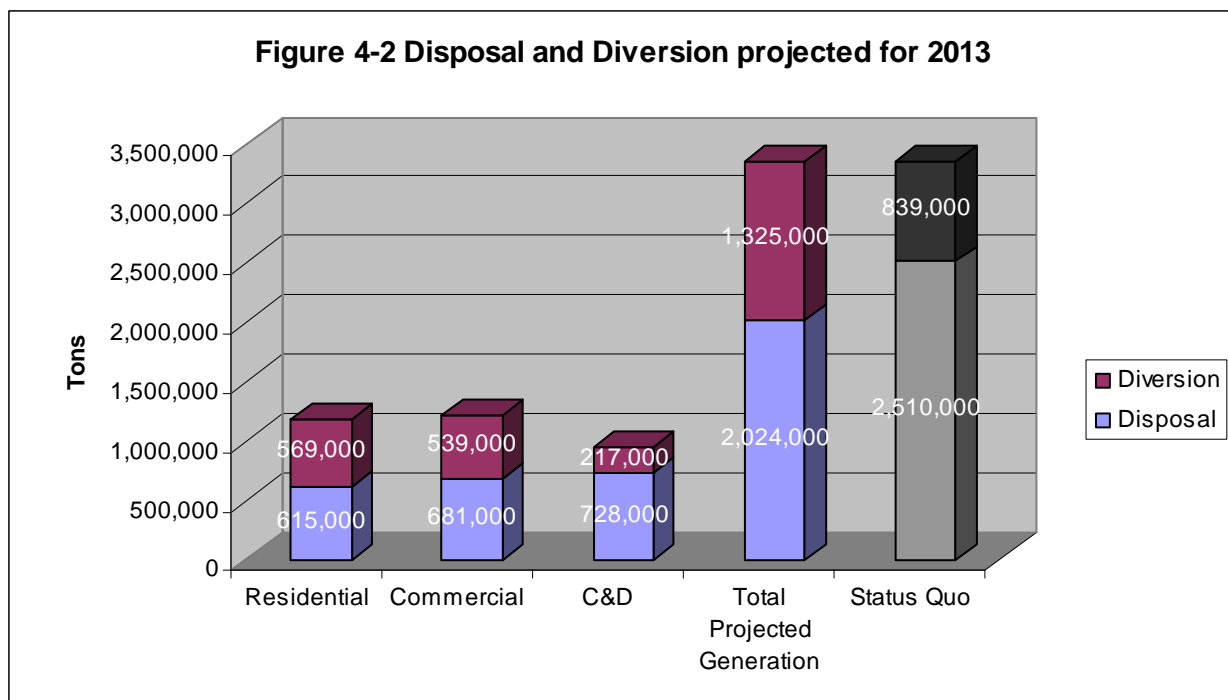
- Costs and revenues were escalated over the 20-year planning period using the same escalation rates used in the projection of the status quo system (see Section 3).

Estimated costs of each scenario are compared with estimated costs associated with future projections of the status quo system in the individual scenario discussions below.

4.3.3 40% Diversion Scenario (2013)

The primary focus during the first 5-year period is on the promotion of source reduction activities and the implementation of collection programs for recyclables and green waste throughout the District. The specific practices included are shown under the column headed “40% Diversion (2013)” in Table 4-2.

The estimated quantities of materials that could be diverted or disposed of by District-wide implementation of these programs are compared with similar quantities for the projection of the status quo to 2013 in Figure 4-2. A more detailed breakdown of the quantities associated with the 40% Diversion Scenario (2013) can be found in Appendix G.



Estimated costs of this scenario are compared with similar costs for the projection of the status quo to 2013 in Figure 4-3. The overall system costs for the 40% Diversion Scenario are estimated to be about 5 percent higher than the status quo.

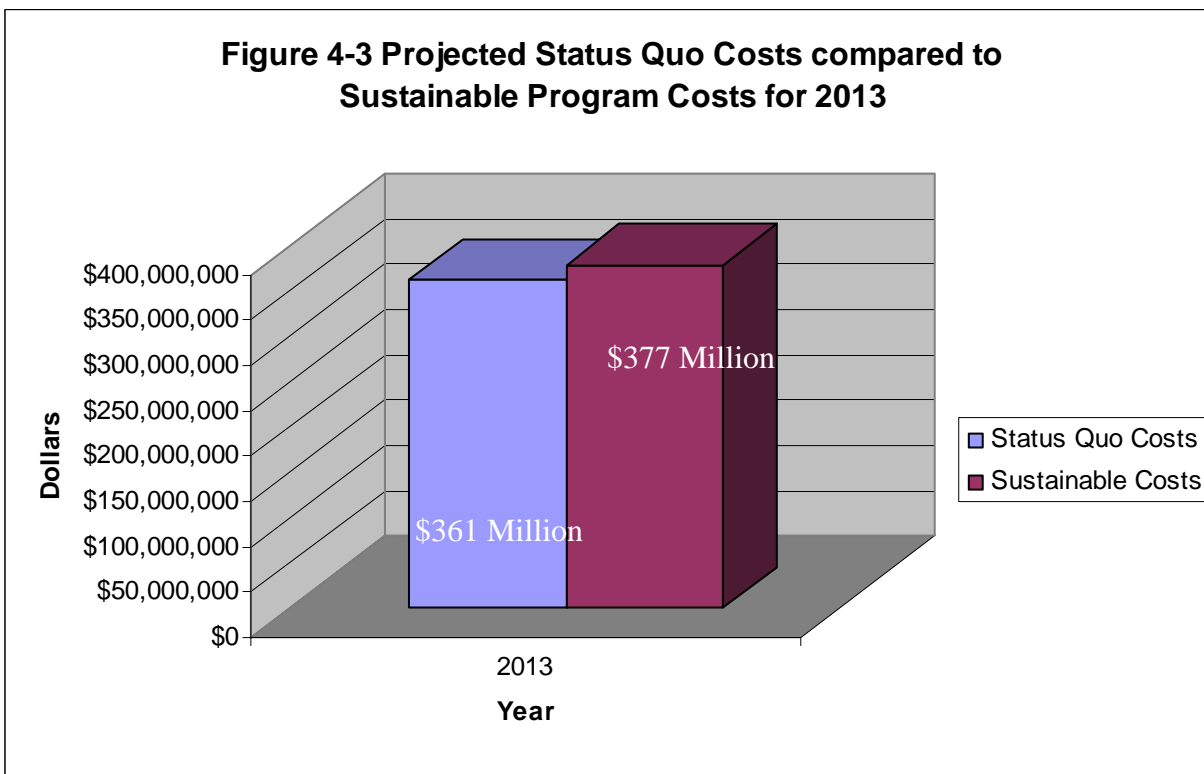


Table 4-3 identifies major policy/implementation issues specific to the major programs recommended for implementation in the 40% Diversion Scenario (2013).

Table 4-3 Policy/Implementation Issues – 40% Diversion Scenario (2013)

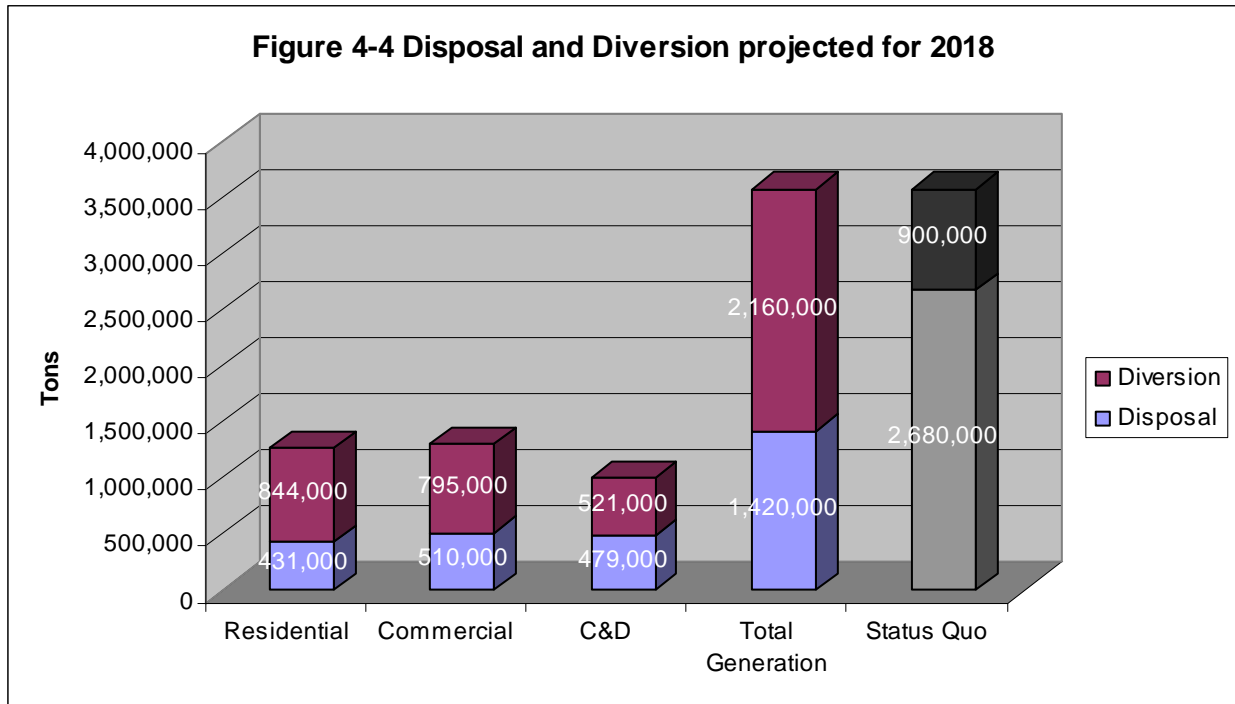
Description of Major New/Revised Practices to be Implemented	Public education to encourage source reduction and curbside/on-site collection of recyclables and green waste in urban areas – residential, commercial, schools, government.
Policy Decisions	District and cities to adopt scenario goals and slightly increased costs; Implement appropriate curbside/on-site collection for all waste generators; and Implement public education campaign, planned at District level and adopted locally.
Implementation Considerations	Cooperation of private haulers; Conformance with applicable laws (e.g., Hancock and Kansas City, Missouri, earnings tax; franchise notice); Capacity of existing and proposed processing facilities; and Definition of target audience for public education.
Implementation Activities Note: Examples of activities that likely would need to be	<u>Recyclables and Green Waste Collection</u> Assess local contractual arrangements with current hauler(s) – contract termination date, ability of City to direct collection

<p>undertaken. Will vary by community. Not intended to be all-inclusive.</p>	<p>system; Determine if procurement for collection services is needed, perform required legal activities, and conduct solicitation if needed; Enter into negotiations and implement collection system modification; Determine need for additional processing capacity, decide on method for securing capacity, conduct solicitation if needed; and Enter into negotiations/implement additional processing capacity. <u>Collect Data for Volume-Based Rates</u> Assess current cost recovery mechanism(s) for solid waste services and modifications needed (e.g., to hauler contracts, to property assessments); Compile data on current customers (size of containers, number of containers, collection frequency) and quantities of recyclables, green waste, and trash; and Project the number, size, and type of containers and the collection frequency for the volume-based rate program, taking into consideration migration to smaller sizes of trash containers. <u>Public Education Program</u> Assess current education practice and identify areas for improvement/expansion; Develop strategy including, for each target audience, theme, specific message(s), and method(s); Establish monitoring system for evaluating public education; and Implement public education modifications.</p>
<p>Implementation Schedule Note: some activities may be undertaken simultaneously</p>	<p><u>Recyclables and Green Waste Collection</u> 2-3 years to assess, provide notice, and solicit modified collection services (if needed); and 1-3 years to implement collection services and additional processing capacity. <u>Public Education Program</u> 1-2 years to assess, design, and implement public education.</p>

4.3.4 60% Diversion Scenario (2018)

The focus during the second 5-year period is to expand participation and types of materials collected in the programs previously put in place for the 40% Diversion Scenario (2013). The major new initiatives for this period include adoption of volume-based rates for all residential and commercial waste collection and initial establishment of incentive programs for C&D waste recycling. The specific practices included are shown under the column headed “60% Diversion (2018)” in Table 4-2.

The estimated quantities of materials that could be diverted or disposed of by implementation of these programs are compared with similar quantities for the projection of the status quo to 2018 in Figure 4-4. A more detailed breakdown of the quantities associated with the 60% Diversion Scenario (2018) can be found in Appendix G.



Estimated costs of this scenario are compared with similar costs for the projection of the status quo to 2018 in Figure 4-5. The overall system costs for the 60% Diversion Scenario are estimated to be about 3 percent higher than the projected 2018 cost of the status quo system.

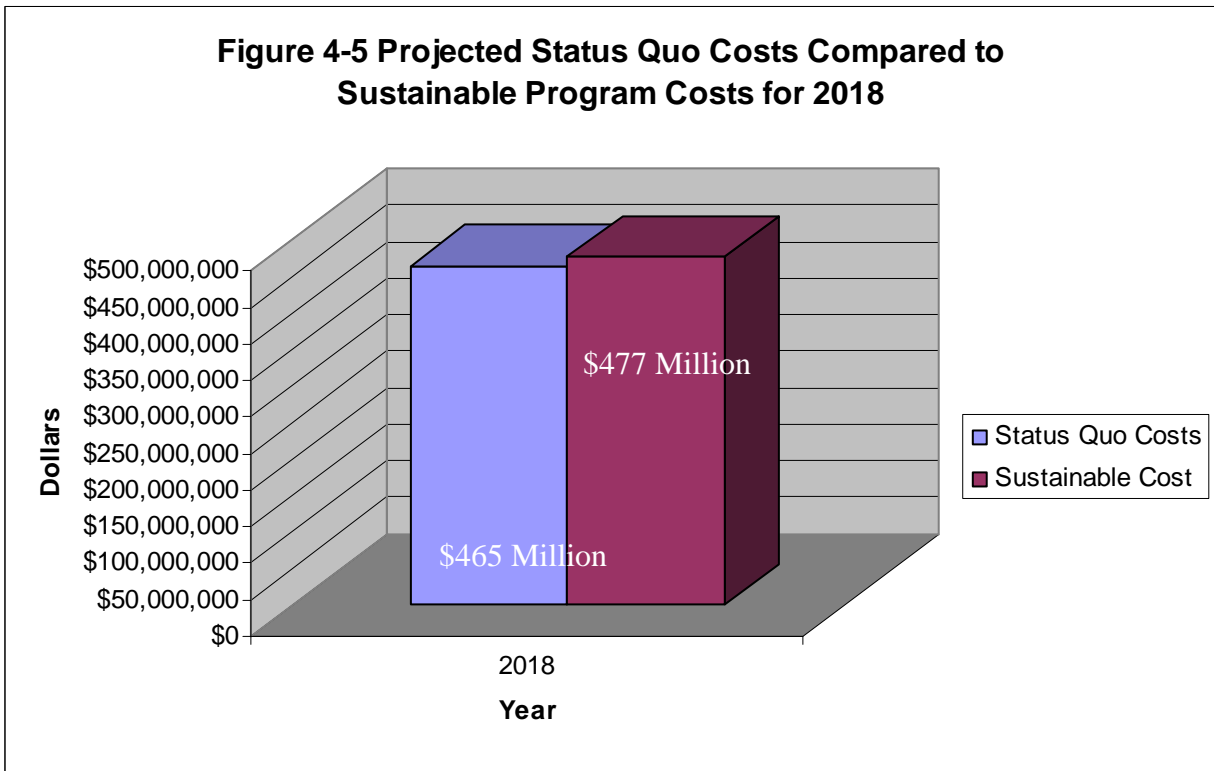


Table 4-4 identifies major policy/implementation issues specific to the 60% Diversion Scenario (2018).

Table 4-4 Policy/Implementation Issues – 60% Diversion Scenario (2018)

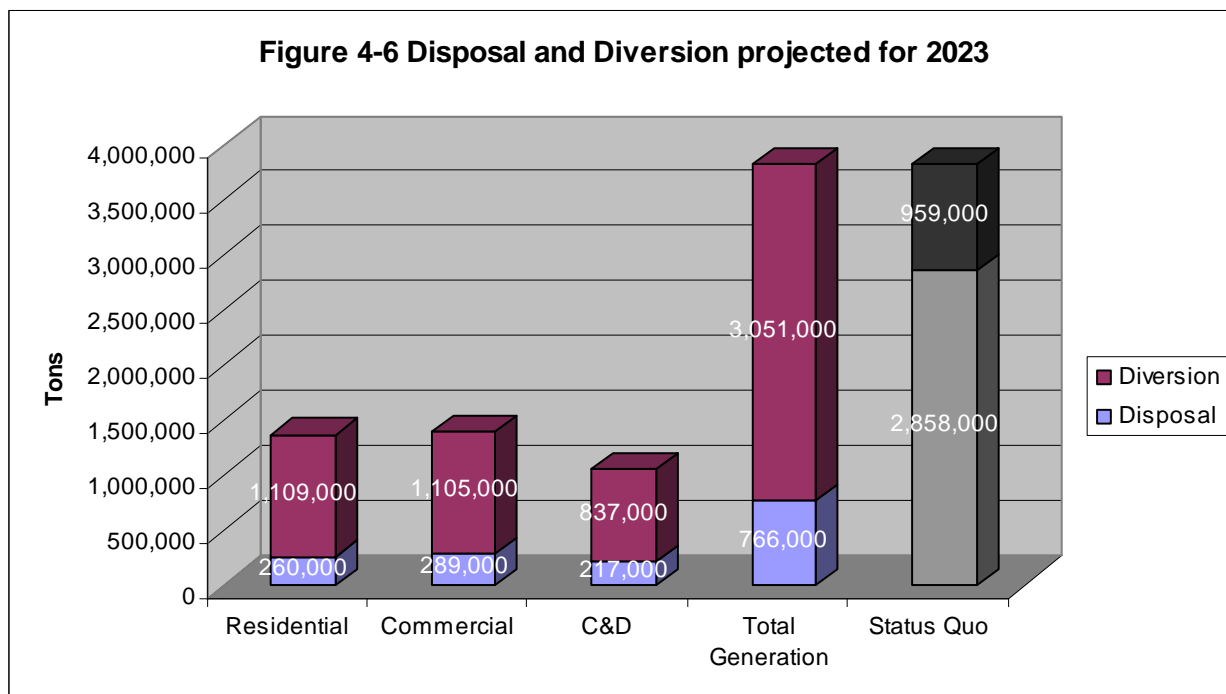
<p>Description of Major New/Revised Practices to be Implemented</p>	<p>Transition to volume-based rates for all waste generators and implementation of incentive programs to encourage C&D waste recycling.</p>
<p>Policy Decisions</p>	<p>District and cities adopt scenario goals and slightly increased costs; Implementing volume-based rates requires commitment by cities to evaluate rates and make changes based on limited information; MARC SWMD or other District entity funds up-front study of C&D quantities and practices.</p>
<p>Implementation Considerations</p>	<p>Quality of data available from implementation of the 40% Diversion Scenario; Volume-based rate structure design to ensure that fees for disposal collection cover costs of recycling and/or composting diversion services; Start up of new practice (C&D recycling incentives) with little previous District experience or expertise; and Capacity of existing and proposed processing facilities.</p>
<p>Implementation Activities Note: Examples of activities that likely would need to be undertaken. Will vary by community. Not intended to be all-inclusive.</p>	<p><u>Volume-Based Rates</u> Determine the optimum cost recovery method for the volume-based rate structure (e.g., direct billing to customers); Design rate structure to ensure cost recovery; Publicize the program, and send out notices to customers for selection of container size; Order additional carts if needed; and Implement modifications to billing system as needed. <u>C&D Recycling Incentives</u> Compile data on C&D activities – types of projects, size of projects in terms of square footage and value, sector (residential/commercial), quantities of C&D waste generated; Evaluate capacity of existing processing facilities and options for expansion; Determine mechanisms to incentivize C&D recycling (e.g., C&D ordinance, building permit rebate, reduced hauling rates for recyclables, LEED construction rebates, etc.); Conduct stakeholder meetings with C&D contractors, real estate development companies, etc.; Design incentive mechanisms based on characteristics of local C&D projects; Certify processing facilities (if needed under selected program); and Notify contractors about program and conduct facility monitoring visits as necessary.</p>

<p>Implementation Schedule</p>	<p><u>Volume-Based Rates</u> 6 months to 2 years for planning and data collection (depending on availability of data and extent of changes required) and 6 months for implementation. <u>C&D Recycling Incentives</u> 1-2 years (or longer) depending on availability of data, type of incentive mechanism selected, and availability of processing capacity.</p>
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4.3.5 80% Diversion Scenario (2023)

The primary focus during the third 5-year period is further expansion of programs implemented during the previous two periods to achieve maximum feasible recovery, as well as the implementation of food waste collection and composting and backyard composting of green waste. Programs implemented during the previous periods continue and in some cases recovery rates are assumed to increase as a result of on-going promotion and increased awareness of the importance of recycling. The specific practices included are shown under the column headed “80% Diversion (2023)” in Table 4-2.

The estimated quantities of materials that could be diverted or disposed of by implementation of these practices are compared with similar quantities for the projection of the status quo to 2023 in Figure 4-6. A more detailed breakdown of the quantities associated with the 80% Diversion Scenario (2023) can be found in Appendix G.



Estimated costs of this scenario are compared with similar costs for the projection of the status quo to 2023 in Figure 4-7. The overall system costs for the 80% Diversion Scenario are estimated to be slightly lower than the projected 2023 cost of the status quo system.

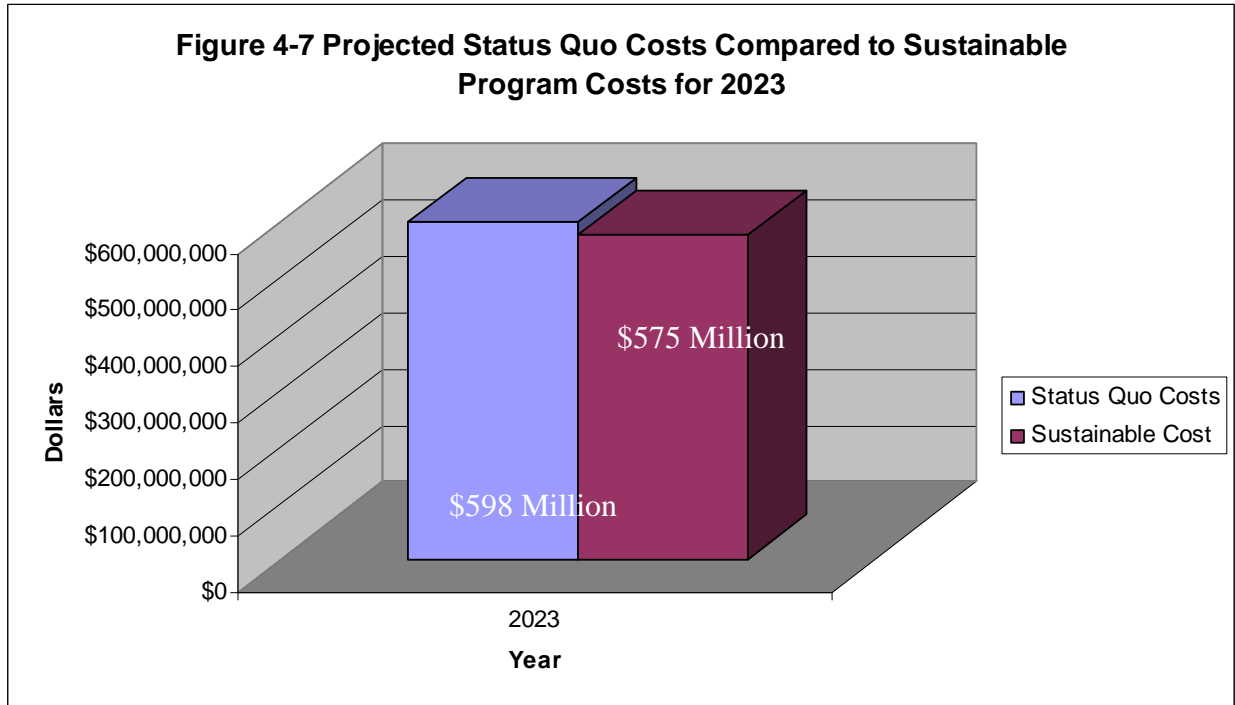


Table 4-5 identifies major policy/implementation issues specific to the 80% Diversion Scenario (2023).

Table 4-5 Policy/Implementation Issues – 80% Diversion Scenario (2023)

Description of Major New/Revised Practices to be Implemented	Food waste collection and composting and backyard composting of green waste.
Policy Decisions	Local communities adopt scenario goals; Implement promotion of backyard composting resulting in a relatively small increase in diversion; and MARC SWMD or other District entity funds up-front study of food waste quantities and characteristics.
Implementation Considerations	Design of food waste collection system that controls nuisances; Availability of food waste processing capacity; Capable personnel to provide backyard composting training; and Establish systems to effectively monitor and track backyard composting practices.

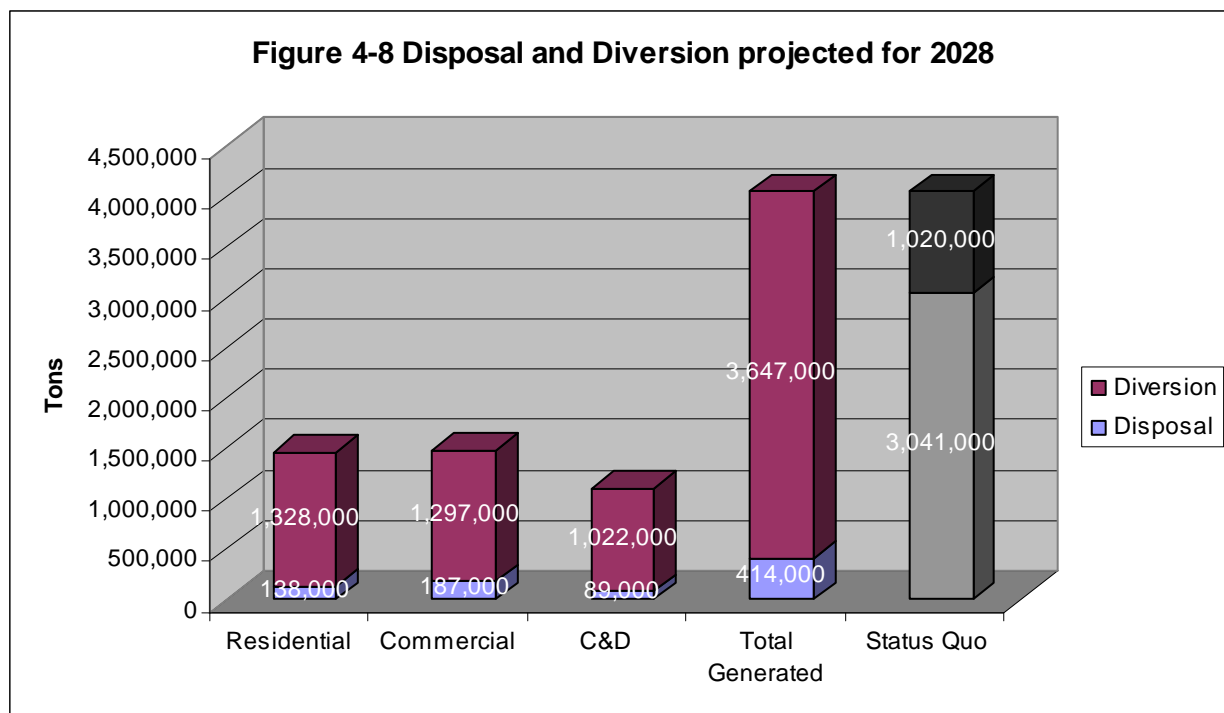
<p>Implementation Activities Note: Examples of activities that likely would need to be undertaken. Will vary by community. Not intended to be all-inclusive.</p>	<p><u>Food Waste Composting</u> Use national and regional available data to estimate quantities and characteristics of food waste disposed of in the residential and commercial waste streams; Evaluate capacity of existing composting facilities to process food waste without creating nuisances (e.g., odor, vectors); Modify or expand composting capacity as needed; Design system for storage of food waste on-site and for collection of food waste such that nuisances are controlled (systems for residential and commercial customers will likely vary); and Promote the program and provide containers as needed.</p> <p><u>Backyard Composting of Green Waste</u> Identify areas where backyard composting should be targeted; Determine scope of the program (e.g., training workshops only, distribution of compost bins, etc.); Estimate the program cost (education and training) and allocate across the avoided tonnage; Identify personnel to conduct training and train them, if necessary; and Promote practice, schedule workshops, and distribute bins if applicable.</p>
<p>Implementation Schedule Note: some activities may be undertaken simultaneously</p>	<p><u>Food Waste Composting</u> 6 months to 1 year for data collection and evaluation of facility capacity; 6 months to 1 year for design of system; 6 months to 2 years (or longer) for modifications or expansion to composting system if needed (longer time assumes need for permit revisions); 6 months to 1 year for implementation.</p> <p><u>Backyard Composting</u> 6 to 12 months to plan program and receive compost bins.</p>

4.3.6 Near Zero Waste (90% Diversion) Scenario (2028)

Programs implemented during the previous periods would be continued and recovery rates for previously developed programs would remain relatively constant at the high rates associated with a focused, mature program promoting diversion. The focus during the final 5-year period of the 20-year program is on the implementation of one or more emerging diversion or conversion technologies, to recover additional quantities of materials that are not easily recovered through previously demonstrated recycling programs. Zero waste is an approach to resource planning that strives for closed loop utilization of resources, maximizing source reduction and recycling diversion. As such it has a strong preference for emerging source reduction and recycling diversion programs, but this plan is expanded to include conversion technologies as well to approach 90 percent diversion.

In this period emerging diversion technologies, currently untested will be the initial focus for increased diversion. Emerging conversion technologies which may include larger scale applications of known technologies such as plasma arc, pyrolysis, thermal gasification as well as currently unknown technologies will be considered only following exhaustion of diversion technology options. Finally, materials which are rejects or otherwise non-recoverable with respect to the emerging technologies will be landfilled.

The estimated quantities of materials that could be diverted or disposed of by implementation of an emerging technology in addition to all previously implemented practices are compared with similar quantities for the projection of the status quo to 2028 in Figure 4-8. A more detailed breakdown of the quantities associated with the Near Zero Waste (90% Diversion) Scenario (2028) can be found in Appendix G.



Estimated costs of this scenario are compared with similar costs for the projection of the status quo to 2028 in Figure 4-9. The overall system costs for the Near Zero Waste (90% Diversion) Scenario are estimated to be approximately 9 percent less than the projected 2028 cost of the status quo system. Two major factors contribute to the dramatic difference between sustainable program costs versus projected status quo system costs beginning in 2028. Firstly, the status quo projection assumes that most of the District waste will have to be hauled to transfer stations and then transferred to more distant regional landfills beginning in 2027 when essentially all of the existing capacity District landfills will no longer be available. Secondly, the emerging technology assumed to be implemented in 2028 is only processing approximately 10 percent of the District’s waste generation. Therefore, although emerging technology is

estimated to be very expensive on a unit price (\$/ton) basis, the high rate of diversion achieved prior to adoption of emerging technology results in a more moderate increase in overall system cost.

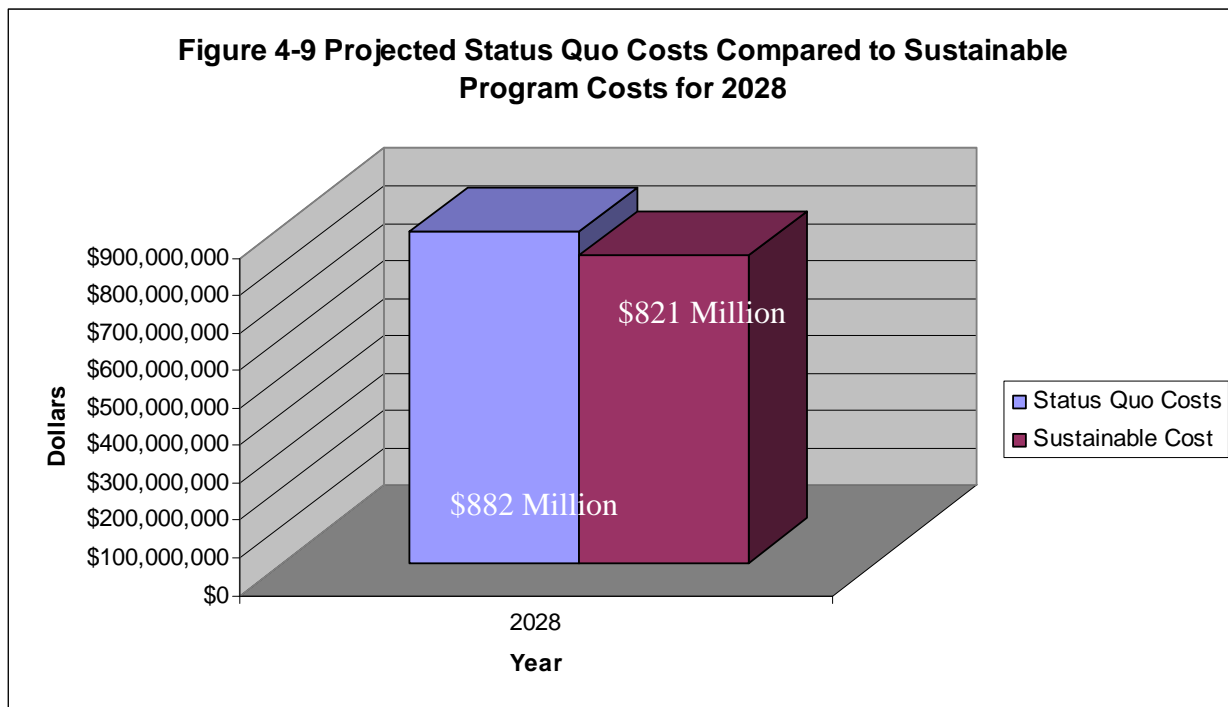


Table 4-6 discusses the major policy/implementation issues specific to the Near Zero Waste (90% Diversion) Scenario (2028).

Table 4-6 Policy/Implementation Issues – Near Zero Waste (90% Diversion) Scenario (2028)

Description of Major New/Revised Practices to be Implemented	Utilization of emerging technology (with priority to emerging diversion technology) to maximize diversion of difficult-to-recycle materials.
Policy Decisions	MARC SWMD and local communities adopt scenario goals at high unit (\$/ton) costs.
Implementation Considerations	Quantity and characteristics of disposed waste and Facility technology, procurement method, financing, ownership, and operation.
Implementation Activities Note: Examples of activities that likely would need to be undertaken. Will vary by community. Not intended to be all-inclusive.	Analyze disposed waste quantities and characteristics; Identify best markets for facility products and by-products; Prepare procurement documents seeking conversion of waste to most marketable products; and Enter into discussions and negotiate facility construction and operation.
Implementation Schedule	1-2 years for development of procurement documents and 2-3 years for implementation.

4.3.7 District Stakeholder Review of Scenarios

A second meeting of District stakeholders (elected officials) was held on August 25, 2008. The purpose of the meeting was to present the results of the analysis of existing programs and diversion scenarios. A copy of the handout to participants is included in Appendix H.

The first part of the presentation at the meeting was a summary of the status quo (including collection methods, availability of diversion programs, and diversion rates), a discussion of the methodology used in the 20-year projections, and the estimated costs associated with projecting the status quo solid waste management system into the future.

The second part of the presentation involved a discussion of the analysis of the proposed sustainable alternatives. The results of the first stakeholders meeting were presented, as well as the impacts of projected diversion, ease of implementation, cost of implementation, and technology record on alternative selection. The proposed program scenarios to reach 40 percent, 60 percent, 80 percent, and 90 percent diversion (near zero waste) levels were presented; issues related to implementation of the programs were discussed; and costs were presented. Projected costs of the diversion programs were also compared to estimated costs of projections of the status quo system.

During the meeting, there was much discussion among the stakeholders. It was stressed that the programs presented were to be considered as an overall regional approach, realizing that different communities were at different stages in the process. Based on discussions during the meeting, stakeholders were satisfied with the results of the analysis and the approach to sustainable waste management and increasing diversion.

4.4 SUMMARY COSTS AND BENEFITS OF IMPLEMENTING SUSTAINABLE PRACTICE SCENARIOS

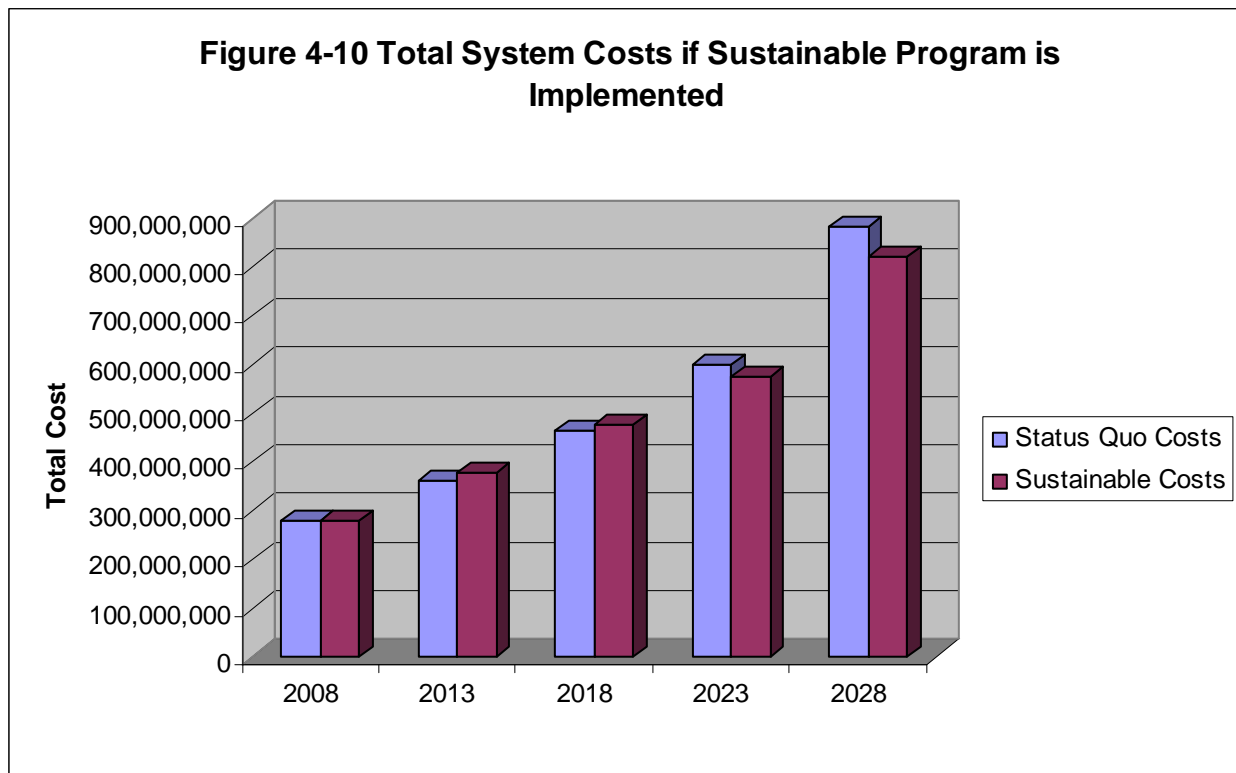
Summary costs of the sustainable practice scenarios are presented in Table 4-7. As shown in the table, the costs associated with the diversion programs increase over time, while the costs for disposal decrease. In 2013, disposal represents 62 percent of the total cost, while by 2028, disposal represents only 13 percent of the total cost. This reduction in relative disposal cost (as a result of reduced quantities requiring disposal) is very important for overall future solid waste management costs. Implementation of these four sustainable practice scenarios will result in significant reduced investment and operation costs necessary to manage residual waste. By 2025, when existing landfill capacity is projected to be nearly depleted, the alternatives for managing residual waste appear to be transfer to more distant landfills (as assumed in the status quo projections), development of a local District landfill, or an emerging technology

Table 4-7 Projected Costs* of Diversion Scenarios

Year (Diversion Goal)	Diversion Cost (M\$/yr)	Disposal Cost (M\$/yr)	Total Cost (M\$/yr)	Unit Cost (\$/ton)
2013 (40%)	141.7	235.5	377.2	113
2018 (60%)	275.6	201.1	476.8	133
2023 (80%)	443.6	131.7	575.3	151
2028 (Near Zero Waste) (90%)	717.8	103.1	820.8	202

*Escalated

to recover waste from energy. The costs associated with whichever alternative is chosen are dramatically reduced because of the lower disposal quantities resulting from the full implementation of the sustainable diversion practices. This cost reduction is evident when comparing the projected costs of the status quo system to the costs of implementing the diversion scenarios. Figure 4-10 shows that projected costs are approximately 9 percent lower by 2028. While Figure 4-10 does show that the sustainable practices are marginally more expensive (less than 5 percent in 2013 and 3% in 2018) over the next approximately 10 years, the case histories of successful higher diversion programs indicate that a minimum of 10 to 15 years of sustainable program operation are required in order to achieve the higher levels of diversion. Therefore, the long-term economic benefits resulting from higher diversion levels will most



likely be available to the District at the time of highly escalating disposal costs if the District begins to focus on implementing sustainable practices in the near future.

Additional benefits, other than direct solid waste management system reduced costs, will result from the implementation of the sustainable practice program. These benefits can be generally classified as job creation, improvement in overall environmental quality, and resource conservation. The following are specific examples of these benefits:

- Fewer vehicles would be needed to collect waste due to a combination of decreases in waste generation and increases in collection efficiency as a result of better-organized collection of recyclables, yard waste, and mixed solid waste. Fewer vehicles result in less engine exhaust emissions and, therefore, better air quality in the District;
- Recycling of post-consumer materials creates jobs and other multiplier economic benefits for the community. Large regional recycling programs generate sufficient recovered materials to attract industries that construct and operate manufacturing facilities near the location of materials generation;
- Reduction in the generation of waste at the source conserves natural resources, both in terms of conservation of materials and of energy;
- Support of the vision for America's Green Region, as originally proposed and endorsed by seven regional organizations including local governments and civic, business, and planning groups. Every program in support of this vision will serve to encourage the community to adopt additional environmental improvement opportunities. For example, implementing the sustainable practices identified in this report could be an impetus for instituting more efficient and environmentally friendly solid waste collection systems fueled by domestically plentiful or renewable fuels, in particular methane-based fuels such as natural gas or biogas; and
- Use of compost to support local food production and improve the fertility of marginal soils. The benefits of incorporating compost into poor or marginal soils also include improved water retention capacity, weed suppression, and lower rate of evaporation of irrigation water.

* * * * *

5.0 CONCLUSIONS AND RECOMMENDATIONS

The status quo solid waste management system within the District utilizes a variety of collection and removal operations ranging from providing the service using municipal forces to near total release of municipal control and reliance on informal contracts between private haulers and individual residents and businesses. A range of material recycling and yard waste composting programs diverting MSW from landfill disposal also are currently in place. The net effect of the status quo system for MSW and C&D waste in the District is a modest level of waste diversion, but the District still relies on landfill disposal for an estimated 75 percent of waste generated.

This report shows that alternative sustainable solid waste practices are available to significantly reduce reliance on landfill disposal in the District and meet the following criteria:

- Resulted in significant diversion when implemented in other locations;
- Designated priority options for implementation by District stakeholders;
- Cost effective when compared with projections of the status quo system into the future;
- Create employment opportunities;
- Improve overall environmental quality; and
- Conserve resources.

The following recommendations identify near-term activities and decisions that will maximize the benefits associated with an emphasis on sustainable solid waste management throughout the nine-county District:

- MARC SWMD adoption of the sustainable program scenario goals;
- MARC SWMD preparation of a guideline strategy document to define alternative methods for District communities to modify existing solid waste management operations or implement revised operations that will provide curbside/on-site collection of recyclables and green waste to all residences and businesses, including means for collection of appropriate data after the modified or revised operations have begun. While it is recognized that some of the larger communities may decide to develop their own unique strategy, the availability of a general guideline will provide a tool for smaller communities to implement strategies generally applicable throughout the District without having to expend funds for additional evaluations and analyses.

- MARC SWMD implements an outreach program using printed media, electronic media, broadcast media, presentations, strategy meetings, etc. promoting the following decisions by all (or nearly all) District cities and towns:
 - Adoption of the scenario goals of the sustainable program by a date to be established and
 - Commitment to implement by 2013 solid waste management operations that provide curbside/on-site collection of recyclables and green waste to all local residences and businesses.

This activity is probably the most important in the implementation of the entire sustainability program. All of the remaining scenarios are based on and built up from achieving the 2013 scenario goal of District-wide (or nearly District-wide) availability of curbside/on-site collection of recyclables and green waste for residences and businesses.

- Upon substantial achievement of local community commitment to the sustainable practices program, MARC SWMD continues its public education outreach program to emphasize the benefits of the sustainable practices program to individuals and groups throughout the District.

* * * * *

6.0 REFERENCES

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**APPENDIX A –
MISSOURI STATUS QUO INFORMATION AND
PROJECTIONS OF STATUS QUO QUANTITIES**

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal				2000			2007			2008			
City	County	Classification	lbs/day/person			Population	Population	Residential Disposal	Commercial Disposal	C/D Disposal	Population	Residential Disposal	Commercial Disposal	C/D Disposal		
			Res.	Com.	C&D											
Archie	Cass	Contract	1.72	1.39	0.83	890	1,010	317	256	153	1,028	324	262	156		
Belton	Cass	Private	2.50	1.94	2.22	21,730	26,284	12,013	9,308	10,647	26,935	12,389	9,599	10,956		
Cleveland	Cass	Contract	1.72	1.39	0.83	592	672	211	171	102	683	216	175	104		
Drexel	Cass	Private	1.80	1.39	0.83	1,090	1,237	407	314	187	1,258	417	321	191		
Freeman	Cass	Contract	1.80	1.39	0.83	521	591	195	150	90	602	199	154	91		
Garden City	Cass	Private	1.80	1.39	0.83	1,500	1,703	560	432	258	1,732	574	442	263		
Harrisonville	Cass	Contract	1.72	1.39	0.83	8,946	10,821	3,393	2,746	1,638	11,089	3,499	2,832	1,686		
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	902	1,091	475	386	442	1,118	490	398	455		
Peculiar	Cass	Contract	2.50	1.94	2.22	2,604	3,150	1,440	1,115	1,276	3,228	1,485	1,150	1,313		
Pleasant Hill	Cass	Private	1.80	1.39	0.83	5,582	6,752	2,222	1,714	1,022	6,919	2,292	1,767	1,052		
Raymore	Cass	Private	2.50	1.94	2.22	11,146	13,482	6,162	4,774	5,461	13,816	6,355	4,924	5,620		
Avondale	Clay	Private	2.50	1.94	2.22	529	528	241	187	214	528	243	188	215		
Claycomo	Clay	Contract	2.50	1.94	2.22	1,267	1,629	745	577	660	1,681	773	599	684		
Gladstone	Clay	Private	2.50	1.94	2.22	26,365	29,685	13,567	10,512	12,024	30,160	13,872	10,749	12,268		
Glennaire	Clay	Private	1.80	1.39	0.83	553	628	207	159	95	638	211	163	97		
Kearney	Clay	Contract	1.80	1.39	0.83	5,472	6,210	2,044	1,576	940	6,316	2,092	1,613	960		
Lawson	Clay	Contract	1.80	1.39	0.83	2,336	2,651	873	673	401	2,696	893	689	410		
Liberty	Clay	Contract	2.39	1.94	2.22	26,232	33,728	14,686	11,944	13,662	34,799	15,249	12,402	14,155		
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,714	4,707	2,406	1,952	1,847	4,706	2,421	1,964	1,855		
Pleasant Valley	Clay	Private	2.50	1.94	2.19	3,321	4,270	1,952	1,512	1,327	4,406	2,026	1,570	1,767		
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	10,847	12,310	4,052	3,124	1,863	12,519	4,147	3,198	1,903		
Blue Springs	Jackson	Private	2.50	1.92	2.22	48,080	54,712	25,005	16,884	22,162	55,660	25,601	19,671	22,640		
Buckner	Jackson	Private	1.80	1.39	0.83	2,725	3,034	998	770	459	3,078	1,019	786	468		
Grain Valley	Jackson	Private	1.80	1.39	0.83	5,160	5,872	1,933	1,490	889	5,973	1,979	1,526	908		
Jacksonview	Jackson	Private	2.94	2.27	2.22	24,881	24,380	13,082	10,108	9,875	24,308	13,127	10,143	9,888		
Greenwood	Jackson	Contract	1.72	1.39	0.83	3,952	4,497	1,410	1,141	681	4,575	1,444	1,169	695		
Independence	Jackson	Private	2.94	2.27	2.22	113,288	114,939	61,674	47,656	46,558	115,175	62,196	48,059	46,849		
Kansas City	Jackson	Municipal	1.58	3.07	2.22	441,545	453,274	130,619	253,814	183,604	454,949	131,941	256,382	185,057		
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	1,872	2,130	974	754	863	2,167	997	772	882		
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	843	959	438	340	389	976	449	348	397		
Lee's Summit	Jackson	Private	2.50	1.94	2.22	70,700	80,452	36,769	28,490	32,588	81,845	37,645	29,169	33,292		
Lone Jack	Jackson	Private	1.80	1.39	0.83	528	601	198	152	91	611	202	156	93		
Oak Grove	Jackson	Private	1.80	1.39	0.83	5,535	6,298	2,073	1,598	953	6,408	2,122	1,637	974		
Raytown	Jackson	Private	2.94	2.27	2.22	30,388	30,835	16,546	12,785	12,490	30,899	16,686	12,893	12,569		
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,839	3,895	1,991	1,615	1,578	3,904	2,008	1,629	1,588		
Camden Point	Platte	Private	1.80	1.39	0.83	484	543	179	138	82	551	183	141	84		
Dearborn	Platte	Private	1.80	1.39	0.83	529	594	195	151	90	603	200	154	92		
Edgerton	Platte	Contract	1.80	1.39	0.83	533	598	197	152	91	607	201	155	92		
Ferrelview	Platte	Private	1.80	1.39	0.83	593	665	219	169	101	676	224	173	103		
Lake Waukomis	Platte	Private	2.50	1.94	2.22	843	992	453	351	402	1,013	466	361	412		
Parkville	Platte	Private	2.50	1.94	2.22	4,059	4,776	2,183	1,691	1,934	4,878	2,244	1,738	1,984		
Platte City	Platte	Municipal	2.28	1.94	2.22	3,866	4,338	1,808	1,536	1,757	4,405	1,848	1,570	1,792		
Riverside	Platte	Contract	2.80	2.27	2.22	2,979	3,505	1,792	1,453	1,420	3,580	1,842	1,494	1,456		
Smithville	Platte	Contract	1.80	1.39	0.83	5,514	6,187	2,036	1,570	936	6,283	2,081	1,605	955		
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	1,873	2,204	1,007	780	893	2,251	1,035	802	916		
Weston	Platte	Contract	1.80	1.39	0.83	1,631	1,830	602	464	277	1,858	616	475	282		
Hardin	Ray	Contract	1.80	1.39	0.83	614	647	213	164	98	651	216	166	99		
Orrick	Ray	Private	1.80	1.39	0.83	439	462	152	117	70	466	154	119	71		
Richmond	Ray	Private	1.80	1.39	0.83	6,116	6,440	2,120	1,634	975	6,487	2,149	1,657	986		
Wood Heights	Ray	Contract	1.80	1.39	0.83	742	781	257	198	118	787	261	201	120		
MO counties - Rural		Private	1.80	1.39	0.83	96,792	94,847	31,216	24,071	14,357	94,569	31,324	24,154	14,375		
Total Disposal Tons			--			--	--	406,504	465,823	391,089	--	412,624	474,464	396,317		
Total City Population			--			921,290	983,580	--	--	--	992,479	--	--	--		
Total County Population			--			1,018,082	1,078,427	--	--	--	1,087,048	--	--	--		

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2009				2010			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,045	332	269	159	1,062	339	275	163
Belton	Cass	Private	2.50	1.94	2.22	27,585	12,769	9,894	11,268	28,236	13,154	10,192	11,582
Cleveland	Cass	Contract	1.72	1.39	0.83	695	221	179	106	706	226	183	108
Drexel	Cass	Private	1.80	1.39	0.83	1,279	427	329	195	1,301	436	336	199
Freeman	Cass	Contract	1.80	1.39	0.83	612	204	157	93	622	209	161	95
Garden City	Cass	Private	1.80	1.39	0.83	1,761	587	453	269	1,790	600	463	274
Harrisonville	Cass	Contract	1.72	1.39	0.83	11,357	3,607	2,919	1,734	11,624	3,715	3,007	1,782
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,145	505	411	468	1,172	520	423	481
Peculiar	Cass	Contract	2.50	1.94	2.22	3,306	1,530	1,186	1,350	3,384	1,576	1,221	1,388
Pleasant Hill	Cass	Private	1.80	1.39	0.83	7,086	2,362	1,821	1,082	7,253	2,433	1,876	1,112
Raymore	Cass	Private	2.50	1.94	2.22	14,149	6,550	5,075	5,780	14,483	6,747	5,228	5,941
Avondale	Clay	Private	2.50	1.94	2.22	528	244	189	216	528	246	191	217
Claycomo	Clay	Contract	2.50	1.94	2.22	1,733	802	621	708	1,784	831	644	732
Gladstone	Clay	Private	2.50	1.94	2.22	30,634	14,180	10,988	12,513	31,108	14,492	11,229	12,760
Glenaire	Clay	Private	1.80	1.39	0.83	649	216	167	99	660	221	171	101
Kearney	Clay	Contract	1.80	1.39	0.83	6,421	2,140	1,651	980	6,527	2,190	1,688	1,000
Lawson	Clay	Contract	1.80	1.39	0.83	2,741	914	705	418	2,786	935	721	427
Liberty	Clay	Contract	2.39	1.94	2.22	35,870	15,819	12,865	14,652	36,941	16,395	13,334	15,153
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,705	2,436	1,976	1,862	4,704	2,451	1,988	1,870
Pleasant Valley	Clay	Private	2.50	1.94	2.19	4,541	2,102	1,629	1,829	4,677	2,179	1,688	1,892
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	12,728	4,243	3,272	1,943	12,937	4,340	3,347	1,983
Blue Springs	Jackson	Private	2.50	1.92	2.22	56,607	26,203	20,134	23,122	57,554	26,812	20,602	23,608
Buckner	Jackson	Private	1.80	1.39	0.83	3,122	1,041	803	477	3,166	1,062	819	485
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,075	2,025	1,562	927	6,177	2,072	1,598	947
Grandview	Jackson	Private	2.94	2.27	2.22	24,237	13,172	10,178	9,900	24,165	13,217	10,213	9,912
Greenwood	Jackson	Contract	1.72	1.39	0.83	4,653	1,478	1,196	710	4,731	1,512	1,224	725
Independence	Jackson	Private	2.94	2.27	2.22	115,411	62,723	48,466	47,142	115,647	63,253	48,876	47,437
Kansas City	Jackson	Municipal	1.58	3.07	2.22	456,625	133,274	258,973	186,518	458,300	134,619	261,587	187,989
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,204	1,020	791	900	2,241	1,044	809	919
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	993	459	356	405	1,009	470	364	414
Lee's Summit	Jackson	Private	2.50	1.94	2.22	83,239	38,531	29,855	34,001	84,632	39,427	30,549	34,715
Lone Jack	Jackson	Private	1.80	1.39	0.83	622	207	160	95	632	212	164	97
Oak Grove	Jackson	Private	1.80	1.39	0.83	6,517	2,172	1,675	995	6,626	2,223	1,714	1,016
Raytown	Jackson	Private	2.94	2.27	2.22	30,963	16,827	13,003	12,647	31,027	16,970	13,113	12,727
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,912	2,025	1,643	1,598	3,920	2,042	1,657	1,608
Camden Point	Platte	Private	1.80	1.39	0.83	560	187	144	85	568	191	147	87
Dearborn	Platte	Private	1.80	1.39	0.83	612	204	157	93	621	208	161	95
Egerton	Platte	Contract	1.80	1.39	0.83	617	206	158	94	626	210	162	96
Ferrelview	Platte	Private	1.80	1.39	0.83	686	229	176	105	696	234	180	107
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,034	479	371	423	1,056	492	381	433
Parkville	Platte	Private	2.50	1.94	2.22	4,980	2,305	1,786	2,034	5,083	2,368	1,835	2,085
Platte City	Platte	Municipal	2.28	1.94	2.22	4,472	1,888	1,604	1,827	4,540	1,929	1,639	1,862
Riverside	Platte	Contract	2.80	2.27	2.22	3,655	1,893	1,535	1,493	3,730	1,944	1,577	1,530
Smithville	Platte	Contract	1.80	1.39	0.83	6,379	2,126	1,640	974	6,475	2,172	1,675	992
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,298	1,064	824	939	2,345	1,093	847	962
Weston	Platte	Contract	1.80	1.39	0.83	1,887	629	485	288	1,915	643	495	294
Hardin	Ray	Contract	1.80	1.39	0.83	656	219	169	100	660	222	171	101
Orrick	Ray	Private	1.80	1.39	0.83	469	156	121	72	472	158	122	72
Richmond	Ray	Private	1.80	1.39	0.83	6,533	2,178	1,679	997	6,579	2,207	1,702	1,009
Wood Heights	Ray	Contract	1.80	1.39	0.83	793	264	204	121	798	268	206	122
MO counties - Rural		Private	1.80	1.39	0.83	94,291	31,432	24,237	14,393	94,013	31,540	24,320	14,411
Total Disposal Tons						--	418,806	480,838	401,200	--	425,050	487,274	406,117
Total City Population						1,001,378	--	--	--	1,010,276	--	--	--
Total County Population						1,095,668	--	--	--	1,104,289	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2011				2012			
City	County	Classification	lbs/day/person			Population	Residential Disposal	Commercial Disposal	C/D Disposal	Population	Residential Disposal	Commercial Disposal	C/D Disposal
			Res.	Com.	C&D								
Archie	Cass	Contract	1.72	1.39	0.83	1,077	346	280	166	1,092	354	286	169
Belton	Cass	Private	2.50	1.94	2.22	28,795	13,500	10,460	11,861	29,353	13,850	10,732	12,142
Cleveland	Cass	Contract	1.72	1.39	0.83	716	230	187	110	726	235	190	112
Drexel	Cass	Private	1.80	1.39	0.83	1,319	445	343	203	1,338	454	350	207
Freeman	Cass	Contract	1.80	1.39	0.83	630	213	164	97	639	217	168	99
Garden City	Cass	Private	1.80	1.39	0.83	1,815	613	473	279	1,841	625	482	285
Harrisonville	Cass	Contract	1.72	1.39	0.83	11,854	3,813	3,086	1,825	12,084	3,912	3,166	1,868
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,195	534	434	492	1,218	548	445	504
Peculiar	Cass	Contract	2.50	1.94	2.22	3,451	1,618	1,254	1,421	3,518	1,660	1,286	1,455
Pleasant Hill	Cass	Private	1.80	1.39	0.83	7,397	2,497	1,926	1,139	7,540	2,562	1,976	1,166
Raymore	Cass	Private	2.50	1.94	2.22	14,770	6,925	5,365	6,084	15,056	7,104	5,505	6,228
Avondale	Clay	Private	2.50	1.94	2.22	529	248	192	218	530	250	194	219
Claycomo	Clay	Contract	2.50	1.94	2.22	1,814	851	659	747	1,844	870	674	763
Gladstone	Clay	Private	2.50	1.94	2.22	31,478	14,758	11,435	12,966	31,847	15,027	11,643	13,173
Glenaire	Clay	Private	1.80	1.39	0.83	669	226	174	103	679	231	178	105
Kearney	Clay	Contract	1.80	1.39	0.83	6,622	2,236	1,724	1,019	6,717	2,282	1,760	1,038
Lawson	Clay	Contract	1.80	1.39	0.83	2,827	954	736	435	2,868	974	751	443
Liberty	Clay	Contract	2.39	1.94	2.22	37,558	16,776	13,644	15,471	38,176	17,161	13,957	15,791
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,714	2,472	2,005	1,881	4,723	2,493	2,022	1,893
Pleasant Valley	Clay	Private	2.50	1.94	2.19	4,755	2,229	1,727	1,931	4,833	2,280	1,767	1,972
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	13,126	4,432	3,417	2,021	13,315	4,524	3,489	2,058
Blue Springs	Jackson	Private	2.50	1.92	2.22	58,306	27,336	21,005	24,017	59,057	27,866	21,411	24,428
Buckner	Jackson	Private	1.80	1.39	0.83	3,208	1,083	835	494	3,249	1,104	851	502
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,257	2,113	1,629	963	6,338	2,154	1,661	980
Grandview	Jackson	Private	2.94	2.27	2.22	24,150	13,293	10,272	9,948	24,135	13,370	10,331	9,983
Greenwood	Jackson	Contract	1.72	1.39	0.83	4,793	1,542	1,248	738	4,854	1,571	1,272	750
Independence	Jackson	Private	2.94	2.27	2.22	115,747	63,713	49,231	47,678	115,848	64,176	49,590	47,919
Kansas City	Jackson	Municipal	1.58	3.07	2.22	459,210	135,750	263,784	189,153	460,120	136,889	265,998	190,324
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,270	1,064	825	935	2,299	1,085	841	951
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,022	479	371	421	1,035	489	379	428
Lee's Summit	Jackson	Private	2.50	1.94	2.22	85,737	40,197	31,146	35,316	86,842	40,976	31,749	35,921
Lone Jack	Jackson	Private	1.80	1.39	0.83	640	216	167	99	649	220	170	100
Oak Grove	Jackson	Private	1.80	1.39	0.83	6,712	2,266	1,748	1,033	6,799	2,310	1,781	1,051
Raytown	Jackson	Private	2.94	2.27	2.22	31,054	17,093	13,208	12,791	31,081	17,218	13,304	12,856
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,923	2,057	1,669	1,616	3,926	2,072	1,681	1,624
Camden Point	Platte	Private	1.80	1.39	0.83	575	194	150	88	581	198	152	90
Dearborn	Platte	Private	1.80	1.39	0.83	628	212	164	97	636	216	167	98
Edgerton	Platte	Contract	1.80	1.39	0.83	633	214	165	97	640	218	168	99
Ferrelview	Platte	Private	1.80	1.39	0.83	704	238	183	108	712	242	187	110
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,072	502	389	441	1,087	513	398	450
Parkville	Platte	Private	2.50	1.94	2.22	5,159	2,419	1,874	2,125	5,236	2,471	1,914	2,166
Platte City	Platte	Municipal	2.28	1.94	2.22	4,592	1,964	1,668	1,891	4,644	1,999	1,698	1,921
Riverside	Platte	Contract	2.80	2.27	2.22	3,787	1,986	1,611	1,560	3,843	2,028	1,645	1,590
Smithville	Platte	Contract	1.80	1.39	0.83	6,549	2,211	1,705	1,008	6,624	2,251	1,736	1,024
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,381	1,116	865	981	2,416	1,140	883	999
Weston	Platte	Contract	1.80	1.39	0.83	1,937	654	504	298	1,959	666	513	303
Hardin	Ray	Contract	1.80	1.39	0.83	663	224	172	102	665	226	174	103
Orrick	Ray	Private	1.80	1.39	0.83	474	160	123	73	475	161	125	73
Richmond	Ray	Private	1.80	1.39	0.83	6,600	2,228	1,718	1,016	6,620	2,250	1,735	1,023
Wood Heights	Ray	Contract	1.80	1.39	0.83	801	270	208	123	803	273	210	124
MO counties - Rural		Private	1.80	1.39	0.83	95,301	32,176	24,811	14,670	96,588	32,820	25,308	14,930
Total Disposal Tons						--	430,889	493,136	410,351	--	436,785	499,052	414,612
Total City Population						1,016,695	--	--	--	1,023,114	--	--	--
Total County Population						1,111,996	--	--	--	1,119,702	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2013				2014			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,107	361	292	172	1,122	368	298	175
Belton	Cass	Private	2.50	1.94	2.22	29,912	14,204	11,006	12,425	30,471	14,562	11,283	12,710
Cleveland	Cass	Contract	1.72	1.39	0.83	737	240	194	114	747	245	198	116
Drexel	Cass	Private	1.80	1.39	0.83	1,356	464	358	211	1,375	473	365	214
Freeman	Cass	Contract	1.80	1.39	0.83	648	222	171	101	657	226	174	102
Garden City	Cass	Private	1.80	1.39	0.83	1,866	638	492	290	1,892	651	502	295
Harrisonville	Cass	Contract	1.72	1.39	0.83	12,314	4,012	3,247	1,912	12,544	4,113	3,329	1,955
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,242	562	457	516	1,265	576	468	528
Peculiar	Cass	Contract	2.50	1.94	2.22	3,584	1,702	1,319	1,489	3,651	1,745	1,352	1,523
Pleasant Hill	Cass	Private	1.80	1.39	0.83	7,684	2,628	2,026	1,193	7,827	2,694	2,077	1,220
Raymore	Cass	Private	2.50	1.94	2.22	15,343	7,286	5,645	6,373	15,629	7,469	5,787	6,519
Avondale	Clay	Private	2.50	1.94	2.22	531	252	195	221	532	254	197	222
Claycomo	Clay	Contract	2.50	1.94	2.22	1,874	890	689	778	1,904	910	705	794
Gladstone	Clay	Private	2.50	1.94	2.22	32,216	15,298	11,854	13,382	32,585	15,573	12,066	13,592
Glennaire	Clay	Private	1.80	1.39	0.83	688	235	182	107	698	240	185	109
Kearney	Clay	Contract	1.80	1.39	0.83	6,812	2,330	1,796	1,057	6,908	2,377	1,833	1,077
Lawson	Clay	Contract	1.80	1.39	0.83	2,908	994	767	451	2,949	1,015	783	460
Liberty	Clay	Contract	2.39	1.94	2.22	38,793	17,550	14,274	16,114	39,411	17,944	14,594	16,439
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,733	2,514	2,039	1,905	4,742	2,535	2,056	1,916
Pleasant Valley	Clay	Private	2.50	1.94	2.19	4,911	2,332	1,807	2,012	4,989	2,384	1,848	2,052
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	13,504	4,618	3,561	2,096	13,693	4,712	3,634	2,134
Blue Springs	Jackson	Private	2.50	1.92	2.22	59,809	28,401	21,823	24,843	60,560	28,942	22,238	25,261
Buckner	Jackson	Private	1.80	1.39	0.83	3,291	1,125	868	511	3,332	1,147	884	519
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,419	2,195	1,693	996	6,499	2,237	1,725	1,013
Grandview	Jackson	Private	2.94	2.27	2.22	24,120	13,447	10,391	10,019	24,105	13,525	10,451	10,055
Greenwood	Jackson	Contract	1.72	1.39	0.83	4,916	1,602	1,296	763	4,978	1,632	1,321	776
Independence	Jackson	Private	2.94	2.27	2.22	115,948	64,643	49,950	48,162	116,048	65,113	50,313	48,406
Kansas City	Jackson	Municipal	1.58	3.07	2.22	461,030	138,038	268,230	191,502	461,940	139,195	270,480	192,685
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,329	1,106	857	967	2,358	1,127	873	984
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,049	498	386	436	1,062	507	393	443
Lee's Summit	Jackson	Private	2.50	1.94	2.22	87,947	41,763	32,359	36,531	89,051	42,558	32,975	37,145
Lone Jack	Jackson	Private	1.80	1.39	0.83	657	225	173	102	665	229	176	104
Oak Grove	Jackson	Private	1.80	1.39	0.83	6,885	2,355	1,816	1,069	6,972	2,399	1,850	1,087
Raytown	Jackson	Private	2.94	2.27	2.22	31,107	17,343	13,401	12,921	31,134	17,469	13,498	12,987
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,930	2,087	1,693	1,632	3,933	2,103	1,705	1,641
Camden Point	Platte	Private	1.80	1.39	0.83	588	201	155	91	595	205	158	93
Dearborn	Platte	Private	1.80	1.39	0.83	643	220	169	100	650	224	172	101
Edgerton	Platte	Contract	1.80	1.39	0.83	648	221	171	101	655	225	174	102
Ferrelview	Platte	Private	1.80	1.39	0.83	720	246	190	112	728	251	193	114
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,103	524	406	458	1,119	535	414	467
Parkville	Platte	Private	2.50	1.94	2.22	5,313	2,523	1,955	2,207	5,389	2,576	1,996	2,248
Platte City	Platte	Municipal	2.28	1.94	2.22	4,697	2,034	1,728	1,951	4,749	2,070	1,759	1,981
Riverside	Platte	Contract	2.80	2.27	2.22	3,899	2,071	1,680	1,620	3,955	2,114	1,715	1,650
Smithville	Platte	Contract	1.80	1.39	0.83	6,699	2,291	1,766	1,040	6,774	2,331	1,798	1,056
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,452	1,164	902	1,018	2,487	1,189	921	1,037
Weston	Platte	Contract	1.80	1.39	0.83	1,981	678	522	308	2,004	690	532	312
Hardin	Ray	Contract	1.80	1.39	0.83	667	228	176	103	669	230	177	104
Orrick	Ray	Private	1.80	1.39	0.83	477	163	126	74	478	165	127	75
Richmond	Ray	Private	1.80	1.39	0.83	6,641	2,271	1,751	1,031	6,662	2,293	1,768	1,038
Wood Heights	Ray	Contract	1.80	1.39	0.83	806	276	212	125	808	278	214	126
MO counties - Rural		Private	1.80	1.39	0.83	97,876	33,470	25,809	15,193	99,164	34,128	26,316	15,458
Total Disposal Tons						--	442,739	505,024	418,903	--	448,751	511,053	423,222
Total City Population						1,029,533	--	--	--	1,035,951	--	--	--
Total County Population						1,127,409	--	--	--	1,135,115	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2015				2016			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,137	375	304	178	1,153	383	310	181
Belton	Cass	Private	2.50	1.94	2.22	31,029	14,924	11,564	12,997	31,588	15,290	11,847	13,287
Cleveland	Cass	Contract	1.72	1.39	0.83	757	250	202	118	767	255	206	121
Drexel	Cass	Private	1.80	1.39	0.83	1,393	483	372	218	1,412	492	379	222
Freeman	Cass	Contract	1.80	1.39	0.83	666	231	178	104	675	235	181	106
Garden City	Cass	Private	1.80	1.39	0.83	1,917	664	512	300	1,943	677	522	305
Harrisonville	Cass	Contract	1.72	1.39	0.83	12,774	4,215	3,412	2,000	13,004	4,319	3,495	2,044
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,288	590	480	540	1,311	605	492	552
Peculiar	Cass	Contract	2.50	1.94	2.22	3,718	1,788	1,386	1,558	3,785	1,832	1,420	1,592
Pleasant Hill	Cass	Private	1.80	1.39	0.83	7,971	2,761	2,129	1,248	8,114	2,828	2,181	1,276
Raymore	Cass	Private	2.50	1.94	2.22	15,916	7,655	5,931	6,667	16,203	7,843	6,077	6,815
Avondale	Clay	Private	2.50	1.94	2.22	533	256	199	223	534	259	200	225
Claycomo	Clay	Contract	2.50	1.94	2.22	1,933	930	721	810	1,963	950	736	826
Gladstone	Clay	Private	2.50	1.94	2.22	32,954	15,850	12,281	13,804	33,324	16,130	12,498	14,017
Glenaire	Clay	Private	1.80	1.39	0.83	708	245	189	111	717	250	193	113
Kearney	Clay	Contract	1.80	1.39	0.83	7,003	2,425	1,870	1,096	7,098	2,474	1,908	1,116
Lawson	Clay	Contract	1.80	1.39	0.83	2,989	1,035	798	468	3,030	1,056	814	476
Liberty	Clay	Contract	2.39	1.94	2.22	40,029	18,342	14,917	16,767	40,646	18,744	15,244	17,097
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,752	2,556	2,073	1,928	4,761	2,578	2,091	1,940
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,068	2,437	1,889	2,093	5,146	2,491	1,930	2,135
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	13,881	4,808	3,707	2,173	14,070	4,905	3,782	2,212
Blue Springs	Jackson	Private	2.50	1.92	2.22	61,311	29,488	22,658	25,682	62,063	30,041	23,083	26,106
Buckner	Jackson	Private	1.80	1.39	0.83	3,374	1,169	901	528	3,416	1,191	918	537
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,580	2,279	1,757	1,030	6,661	2,322	1,790	1,047
Grandview	Jackson	Private	2.94	2.27	2.22	24,090	13,603	10,511	10,091	24,075	13,681	10,572	10,127
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,040	1,663	1,346	789	5,101	1,694	1,371	802
Independence	Jackson	Private	2.94	2.27	2.22	116,149	65,587	50,679	48,652	116,249	66,063	51,047	48,898
Kansas City	Jackson	Municipal	1.58	3.07	2.22	462,850	140,362	272,747	193,876	463,760	141,538	275,032	195,073
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,387	1,148	890	1,000	2,416	1,170	906	1,016
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,075	517	401	450	1,088	527	408	458
Lee's Summit	Jackson	Private	2.50	1.94	2.22	90,156	43,362	33,598	37,764	91,261	44,174	34,228	38,388
Lone Jack	Jackson	Private	1.80	1.39	0.83	673	233	180	105	682	238	183	107
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,058	2,445	1,885	1,105	7,145	2,490	1,920	1,123
Raytown	Jackson	Private	2.94	2.27	2.22	31,161	17,596	13,597	13,053	31,188	17,724	13,695	13,119
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,937	2,118	1,718	1,649	3,940	2,133	1,730	1,657
Camden Point	Platte	Private	1.80	1.39	0.83	601	208	161	94	608	212	163	96
Dearborn	Platte	Private	1.80	1.39	0.83	657	228	175	103	664	232	179	104
Edgerton	Platte	Contract	1.80	1.39	0.83	662	229	177	104	669	233	180	105
Ferrelview	Platte	Private	1.80	1.39	0.83	736	255	197	115	745	260	200	117
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,135	546	423	476	1,151	557	432	484
Parkville	Platte	Private	2.50	1.94	2.22	5,466	2,629	2,037	2,290	5,543	2,683	2,079	2,332
Platte City	Platte	Municipal	2.28	1.94	2.22	4,801	2,106	1,789	2,011	4,854	2,143	1,820	2,042
Riverside	Platte	Contract	2.80	2.27	2.22	4,012	2,158	1,750	1,680	4,068	2,202	1,786	1,711
Smithville	Platte	Contract	1.80	1.39	0.83	6,848	2,372	1,829	1,072	6,923	2,413	1,861	1,088
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,522	1,213	940	1,057	2,558	1,238	959	1,076
Weston	Platte	Contract	1.80	1.39	0.83	2,026	702	541	317	2,048	714	550	322
Hardin	Ray	Contract	1.80	1.39	0.83	671	232	179	105	673	235	181	106
Orrick	Ray	Private	1.80	1.39	0.83	480	166	128	75	481	168	129	76
Richmond	Ray	Private	1.80	1.39	0.83	6,682	2,314	1,785	1,046	6,703	2,336	1,802	1,054
Wood Heights	Ray	Contract	1.80	1.39	0.83	811	281	217	127	813	283	219	128
MO counties - Rural		Private	1.80	1.39	0.83	100,452	34,792	26,828	15,724	101,740	35,464	27,346	15,993
Total Disposal Tons			--	--	--	--	454,822	517,137	427,570	--	460,953	523,279	431,947
Total City Population			--	--	--	1,042,370	--	--	--	1,048,789	--	--	--
Total County Population			--	--	--	1,142,822	--	--	--	1,150,529	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2017				2018			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,168	390	316	184	1,183	398	322	187
Belton	Cass	Private	2.50	1.94	2.22	32,147	15,660	12,134	13,579	32,706	16,034	12,424	13,873
Cleveland	Cass	Contract	1.72	1.39	0.83	777	260	210	123	787	265	214	125
Drexel	Cass	Private	1.80	1.39	0.83	1,430	502	387	226	1,449	511	394	230
Freeman	Cass	Contract	1.80	1.39	0.83	684	240	185	108	692	244	189	110
Garden City	Cass	Private	1.80	1.39	0.83	1,968	690	532	311	1,994	704	543	316
Harrisonville	Cass	Contract	1.72	1.39	0.83	13,234	4,423	3,580	2,089	13,464	4,529	3,666	2,134
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,334	619	504	564	1,358	634	516	576
Peculiar	Cass	Contract	2.50	1.94	2.22	3,852	1,877	1,454	1,627	3,919	1,921	1,489	1,662
Pleasant Hill	Cass	Private	1.80	1.39	0.83	8,258	2,897	2,234	1,304	8,401	2,966	2,287	1,332
Raymore	Cass	Private	2.50	1.94	2.22	16,489	8,032	6,224	6,965	16,776	8,224	6,373	7,116
Avondale	Clay	Private	2.50	1.94	2.22	535	261	202	226	536	263	204	228
Claycomo	Clay	Contract	2.50	1.94	2.22	1,993	971	752	842	2,023	992	768	858
Gladstone	Clay	Private	2.50	1.94	2.22	33,693	16,413	12,717	14,232	34,062	16,699	12,939	14,448
Glennaire	Clay	Private	1.80	1.39	0.83	727	255	197	115	737	260	201	117
Kearney	Clay	Contract	1.80	1.39	0.83	7,193	2,523	1,946	1,135	7,289	2,573	1,984	1,155
Lawson	Clay	Contract	1.80	1.39	0.83	3,071	1,077	831	485	3,111	1,099	847	493
Liberty	Clay	Contract	2.39	1.94	2.22	41,264	19,150	15,575	17,430	41,881	19,561	15,909	17,765
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,770	2,599	2,108	1,952	4,780	2,621	2,126	1,964
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,224	2,545	1,972	2,176	5,302	2,599	2,014	2,218
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	14,259	5,002	3,857	2,251	14,448	5,101	3,933	2,290
Blue Springs	Jackson	Private	2.50	1.92	2.22	62,814	30,599	23,512	26,533	63,566	31,163	23,945	26,963
Buckner	Jackson	Private	1.80	1.39	0.83	3,457	1,213	935	546	3,499	1,235	953	555
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,741	2,365	1,824	1,064	6,822	2,408	1,857	1,081
Grandview	Jackson	Private	2.94	2.27	2.22	24,060	13,760	10,633	10,163	24,044	13,840	10,694	10,199
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,163	1,726	1,397	815	5,225	1,757	1,422	828
Independence	Jackson	Private	2.94	2.27	2.22	116,349	66,543	51,419	49,146	116,450	67,027	51,792	49,395
Kansas City	Jackson	Municipal	1.58	3.07	2.22	464,670	142,724	277,336	196,277	465,580	143,918	279,657	197,487
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,446	1,191	923	1,033	2,475	1,213	940	1,050
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,101	537	416	465	1,115	546	423	473
Lee's Summit	Jackson	Private	2.50	1.94	2.22	92,366	44,995	34,864	39,016	93,471	45,825	35,507	39,648
Lone Jack	Jackson	Private	1.80	1.39	0.83	690	242	187	109	698	246	190	111
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,231	2,537	1,956	1,141	7,318	2,584	1,992	1,160
Raytown	Jackson	Private	2.94	2.27	2.22	31,215	17,853	13,795	13,185	31,242	17,983	13,895	13,252
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,943	2,149	1,743	1,666	3,947	2,164	1,755	1,674
Camden Point	Platte	Private	1.80	1.39	0.83	614	215	166	97	621	219	169	98
Dearborn	Platte	Private	1.80	1.39	0.83	671	236	182	106	679	240	185	108
Edgerton	Platte	Contract	1.80	1.39	0.83	676	237	183	107	684	241	186	108
Ferrelview	Platte	Private	1.80	1.39	0.83	753	264	204	119	761	269	207	121
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,167	569	441	493	1,183	580	449	502
Parkville	Platte	Private	2.50	1.94	2.22	5,620	2,738	2,121	2,374	5,696	2,793	2,164	2,416
Platte City	Platte	Municipal	2.28	1.94	2.22	4,906	2,180	1,852	2,072	4,959	2,217	1,884	2,103
Riverside	Platte	Contract	2.80	2.27	2.22	4,124	2,247	1,823	1,742	4,181	2,293	1,859	1,773
Smithville	Platte	Contract	1.80	1.39	0.83	6,998	2,455	1,893	1,105	7,072	2,497	1,925	1,121
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,593	1,263	979	1,095	2,629	1,289	998	1,115
Weston	Platte	Contract	1.80	1.39	0.83	2,070	726	560	327	2,092	739	570	332
Hardin	Ray	Contract	1.80	1.39	0.83	675	237	183	107	677	239	184	107
Orrick	Ray	Private	1.80	1.39	0.83	483	169	131	76	484	171	132	77
Richmond	Ray	Private	1.80	1.39	0.83	6,723	2,359	1,819	1,061	6,744	2,381	1,836	1,069
Wood Heights	Ray	Contract	1.80	1.39	0.83	816	286	221	129	818	289	223	130
MO counties - Rural		Private	1.80	1.39	0.83	103,028	36,143	27,870	16,263	104,315	36,829	28,399	16,536
Total Disposal Tons						--	467,143	529,478	436,353	--	473,394	535,734	440,788
Total City Population						1,055,208	--	--	--	1,061,626	--	--	--
Total County Population						1,158,235	--	--	--	1,165,942	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2019				2020			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,198	406	328	191	1,213	413	334	194
Belton	Cass	Private	2.50	1.94	2.22	33,264	16,412	12,717	14,169	33,823	16,795	13,013	14,468
Cleveland	Cass	Contract	1.72	1.39	0.83	797	270	218	127	807	275	222	129
Drexel	Cass	Private	1.80	1.39	0.83	1,467	521	402	234	1,486	531	410	237
Freeman	Cass	Contract	1.80	1.39	0.83	701	249	192	112	710	254	196	114
Garden City	Cass	Private	1.80	1.39	0.83	2,019	717	553	321	2,044	731	564	327
Harrisonville	Cass	Contract	1.72	1.39	0.83	13,695	4,636	3,752	2,180	13,925	4,744	3,839	2,226
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,381	649	528	588	1,404	664	540	601
Peculiar	Cass	Contract	2.50	1.94	2.22	3,986	1,967	1,524	1,698	4,053	2,013	1,559	1,734
Pleasant Hill	Cass	Private	1.80	1.39	0.83	8,545	3,036	2,341	1,360	8,688	3,107	2,396	1,389
Raymore	Cass	Private	2.50	1.94	2.22	17,062	8,418	6,523	7,268	17,349	8,615	6,675	7,421
Avondale	Clay	Private	2.50	1.94	2.22	537	265	205	229	539	267	207	230
Claycomo	Clay	Contract	2.50	1.94	2.22	2,053	1,013	785	874	2,083	1,034	801	891
Gladstone	Clay	Private	2.50	1.94	2.22	34,431	16,988	13,163	14,666	34,800	17,280	13,389	14,886
Glenaire	Clay	Private	1.80	1.39	0.83	746	265	204	119	756	270	208	121
Kearney	Clay	Contract	1.80	1.39	0.83	7,384	2,624	2,023	1,175	7,479	2,674	2,062	1,196
Lawson	Clay	Contract	1.80	1.39	0.83	3,152	1,120	864	502	3,193	1,142	880	510
Liberty	Clay	Contract	2.39	1.94	2.22	42,499	19,977	16,247	18,103	43,116	20,397	16,589	18,443
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,789	2,643	2,144	1,977	4,799	2,665	2,162	1,989
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,380	2,655	2,057	2,260	5,459	2,710	2,100	2,303
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	14,637	5,201	4,010	2,330	14,825	5,301	4,088	2,370
Blue Springs	Jackson	Private	2.50	1.92	2.22	64,317	31,733	24,383	27,396	65,068	32,310	24,826	27,833
Buckner	Jackson	Private	1.80	1.39	0.83	3,540	1,258	970	564	3,582	1,281	988	573
Grain Valley	Jackson	Private	1.80	1.39	0.83	6,903	2,453	1,891	1,099	6,983	2,497	1,926	1,116
Grandview	Jackson	Private	2.94	2.27	2.22	24,029	13,919	10,756	10,235	24,014	14,000	10,818	10,272
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,287	1,790	1,448	842	5,348	1,822	1,475	855
Independence	Jackson	Private	2.94	2.27	2.22	116,550	67,514	52,169	49,645	116,650	68,005	52,548	49,897
Kansas City	Jackson	Municipal	1.58	3.07	2.22	466,490	145,123	281,997	198,704	467,400	146,336	284,355	199,928
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,504	1,236	957	1,067	2,533	1,258	975	1,084
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,128	556	431	480	1,141	566	439	488
Lee's Summit	Jackson	Private	2.50	1.94	2.22	94,576	46,663	36,156	40,285	95,681	47,510	36,813	40,927
Lone Jack	Jackson	Private	1.80	1.39	0.83	706	251	194	112	715	256	197	114
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,404	2,631	2,029	1,179	7,491	2,679	2,065	1,197
Raytown	Jackson	Private	2.94	2.27	2.22	31,269	18,113	13,996	13,319	31,296	18,245	14,098	13,387
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,950	2,180	1,768	1,683	3,954	2,196	1,781	1,691
Camden Point	Platte	Private	1.80	1.39	0.83	627	223	172	100	634	227	175	101
Dearborn	Platte	Private	1.80	1.39	0.83	686	244	188	109	693	248	191	111
Edgerton	Platte	Contract	1.80	1.39	0.83	691	245	189	110	698	250	192	112
Ferrelview	Platte	Private	1.80	1.39	0.83	769	273	211	122	777	278	214	124
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,199	592	458	511	1,215	603	467	520
Parkville	Platte	Private	2.50	1.94	2.22	5,773	2,848	2,207	2,459	5,850	2,905	2,251	2,502
Platte City	Platte	Municipal	2.28	1.94	2.22	5,011	2,255	1,916	2,134	5,063	2,293	1,948	2,166
Riverside	Platte	Contract	2.80	2.27	2.22	4,237	2,338	1,896	1,805	4,293	2,384	1,934	1,836
Smithville	Platte	Contract	1.80	1.39	0.83	7,147	2,539	1,958	1,138	7,222	2,582	1,991	1,154
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,664	1,314	1,018	1,135	2,699	1,340	1,039	1,155
Weston	Platte	Contract	1.80	1.39	0.83	2,114	751	579	337	2,136	764	589	341
Hardin	Ray	Contract	1.80	1.39	0.83	679	241	186	108	681	244	188	109
Orrick	Ray	Private	1.80	1.39	0.83	486	173	133	77	487	174	134	78
Richmond	Ray	Private	1.80	1.39	0.83	6,765	2,404	1,853	1,077	6,785	2,426	1,871	1,085
Wood Heights	Ray	Contract	1.80	1.39	0.83	821	292	225	131	823	294	227	132
MO counties - Rural		Private	1.80	1.39	0.83	105,603	37,522	28,933	16,810	106,891	38,222	29,473	17,086
Total Disposal Tons			--			--	479,705	542,050	445,254	--	486,078	548,424	449,748
Total City Population			--			1,068,045	--	--	--	1,074,464	--	--	--
Total County Population			--			1,173,648	--	--	--	1,181,355	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2021				2022			
City	County	Classification	lbs/day/person			Population	Residential Disposal	Commercial Disposal	C/D Disposal	Population	Residential Disposal	Commercial Disposal	C/D Disposal
			Res.	Com.	C&D								
Archie	Cass	Contract	1.72	1.39	0.83	1,227	421	341	197	1,242	428	347	200
Belton	Cass	Private	2.50	1.94	2.22	34,347	17,164	13,300	14,754	34,872	17,538	13,589	15,042
Cleveland	Cass	Contract	1.72	1.39	0.83	816	280	227	131	826	285	231	133
Drexel	Cass	Private	1.80	1.39	0.83	1,503	541	417	241	1,520	551	425	245
Freeman	Cass	Contract	1.80	1.39	0.83	718	259	199	115	727	263	203	117
Garden City	Cass	Private	1.80	1.39	0.83	2,068	744	574	332	2,092	758	584	337
Harrisonville	Cass	Contract	1.72	1.39	0.83	14,140	4,848	3,924	2,270	14,356	4,954	4,009	2,314
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,426	679	552	612	1,448	694	564	624
Peculiar	Cass	Contract	2.50	1.94	2.22	4,116	2,057	1,594	1,768	4,179	2,102	1,628	1,803
Pleasant Hill	Cass	Private	1.80	1.39	0.83	8,823	3,175	2,448	1,416	8,958	3,244	2,502	1,444
Raymore	Cass	Private	2.50	1.94	2.22	17,618	8,804	6,822	7,568	17,887	8,996	6,970	7,715
Avondale	Clay	Private	2.50	1.94	2.22	539	269	209	232	540	271	210	233
Claycomo	Clay	Contract	2.50	1.94	2.22	2,112	1,055	818	907	2,141	1,077	834	924
Gladstone	Clay	Private	2.50	1.94	2.22	35,169	17,575	13,618	15,106	35,537	17,873	13,848	15,329
Glennaire	Clay	Private	1.80	1.39	0.83	765	275	212	123	774	280	216	125
Kearney	Clay	Contract	1.80	1.39	0.83	7,569	2,724	2,100	1,215	7,659	2,774	2,139	1,235
Lawson	Clay	Contract	1.80	1.39	0.83	3,231	1,163	897	519	3,270	1,184	913	527
Liberty	Clay	Contract	2.39	1.94	2.22	43,727	20,818	16,931	18,782	44,337	21,244	17,277	19,125
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,804	2,685	2,178	1,999	4,809	2,705	2,194	2,010
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,536	2,766	2,144	2,345	5,613	2,823	2,187	2,388
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	15,004	5,399	4,164	2,408	15,182	5,499	4,240	2,447
Blue Springs	Jackson	Private	2.50	1.92	2.22	65,785	32,875	25,260	28,257	66,502	33,446	25,699	28,685
Buckner	Jackson	Private	1.80	1.39	0.83	3,621	1,303	1,005	581	3,660	1,326	1,022	590
Grain Valley	Jackson	Private	1.80	1.39	0.83	7,060	2,541	1,959	1,133	7,137	2,585	1,993	1,150
Grandview	Jackson	Private	2.94	2.27	2.22	23,987	14,073	10,875	10,303	23,959	14,147	10,932	10,335
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,407	1,854	1,501	868	5,466	1,886	1,527	881
Independence	Jackson	Private	2.94	2.27	2.22	116,762	68,506	52,935	50,154	116,874	69,010	53,324	50,413
Kansas City	Jackson	Municipal	1.58	3.07	2.22	468,260	147,544	286,702	201,137	469,120	148,761	289,067	202,353
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,561	1,280	992	1,100	2,589	1,302	1,009	1,117
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,153	576	447	495	1,166	586	454	503
Lee's Summit	Jackson	Private	2.50	1.94	2.22	96,735	48,341	37,456	41,552	97,789	49,181	38,107	42,181
Lone Jack	Jackson	Private	1.80	1.39	0.83	722	260	200	116	730	264	204	118
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,573	2,725	2,102	1,216	7,656	2,773	2,138	1,234
Raytown	Jackson	Private	2.94	2.27	2.22	31,325	18,379	14,201	13,455	31,355	18,514	14,306	13,525
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,957	2,212	1,794	1,700	3,961	2,228	1,807	1,709
Camden Point	Platte	Private	1.80	1.39	0.83	640	230	178	103	646	234	180	104
Dearborn	Platte	Private	1.80	1.39	0.83	699	252	194	112	706	256	197	114
Egerton	Platte	Contract	1.80	1.39	0.83	705	254	196	113	711	258	199	115
Ferrelview	Platte	Private	1.80	1.39	0.83	784	282	218	126	791	286	221	128
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,228	614	476	528	1,242	625	484	536
Parkville	Platte	Private	2.50	1.94	2.22	5,915	2,956	2,290	2,541	5,980	3,008	2,330	2,579
Platte City	Platte	Municipal	2.28	1.94	2.22	5,110	2,329	1,979	2,195	5,157	2,366	2,010	2,225
Riverside	Platte	Contract	2.80	2.27	2.22	4,341	2,426	1,968	1,865	4,389	2,469	2,002	1,893
Smithville	Platte	Contract	1.80	1.39	0.83	7,289	2,623	2,023	1,170	7,356	2,664	2,054	1,186
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,729	1,364	1,057	1,172	2,759	1,388	1,075	1,190
Weston	Platte	Contract	1.80	1.39	0.83	2,156	776	598	346	2,176	788	608	351
Hardin	Ray	Contract	1.80	1.39	0.83	683	246	190	110	685	248	191	110
Orrick	Ray	Private	1.80	1.39	0.83	488	176	136	78	490	177	137	79
Richmond	Ray	Private	1.80	1.39	0.83	6,805	2,449	1,888	1,092	6,824	2,471	1,906	1,100
Wood Heights	Ray	Contract	1.80	1.39	0.83	826	297	229	133	828	300	231	133
MO counties - Rural		Private	1.80	1.39	0.83	107,825	38,803	29,921	17,308	108,759	39,390	30,373	17,531
Total Disposal Tons						--	492,248	554,634	454,101	--	498,477	560,901	458,483
Total City Population						1,080,568	--	--	--	1,086,673	--	--	--
Total County Population						1,188,393	--	--	--	1,195,432	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2023				2024			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,256	436	353	203	1,270	444	359	206
Belton	Cass	Private	2.50	1.94	2.22	35,397	17,916	13,882	15,332	35,921	18,298	14,178	15,625
Cleveland	Cass	Contract	1.72	1.39	0.83	835	290	235	135	845	295	239	137
Drexel	Cass	Private	1.80	1.39	0.83	1,538	561	432	249	1,555	571	440	253
Freeman	Cass	Contract	1.80	1.39	0.83	735	268	207	119	743	273	210	121
Garden City	Cass	Private	1.80	1.39	0.83	2,116	771	595	343	2,140	785	605	348
Harrisonville	Cass	Contract	1.72	1.39	0.83	14,572	5,060	4,096	2,359	14,788	5,168	4,183	2,404
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,469	708	576	636	1,491	724	589	649
Peculiar	Cass	Contract	2.50	1.94	2.22	4,242	2,147	1,664	1,837	4,305	2,193	1,699	1,872
Pleasant Hill	Cass	Private	1.80	1.39	0.83	9,093	3,314	2,556	1,472	9,227	3,385	2,610	1,500
Raymore	Cass	Private	2.50	1.94	2.22	18,156	9,190	7,120	7,864	18,425	9,385	7,272	8,014
Avondale	Clay	Private	2.50	1.94	2.22	540	273	212	234	541	275	213	235
Claycomo	Clay	Contract	2.50	1.94	2.22	2,171	1,099	851	940	2,200	1,121	868	957
Gladstone	Clay	Private	2.50	1.94	2.22	35,906	18,173	14,081	15,553	36,274	18,477	14,317	15,778
Glenaire	Clay	Private	1.80	1.39	0.83	783	285	220	127	792	291	224	129
Kearney	Clay	Contract	1.80	1.39	0.83	7,749	2,824	2,178	1,254	7,839	2,876	2,217	1,274
Lawson	Clay	Contract	1.80	1.39	0.83	3,308	1,206	930	535	3,347	1,228	947	544
Liberty	Clay	Contract	2.39	1.94	2.22	44,947	21,674	17,627	19,469	45,558	22,109	17,981	19,817
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,814	2,726	2,211	2,020	4,820	2,746	2,227	2,031
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,690	2,880	2,232	2,431	5,768	2,938	2,276	2,474
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	15,361	5,599	4,317	2,486	15,539	5,700	4,395	2,526
Blue Springs	Jackson	Private	2.50	1.92	2.22	67,219	34,022	26,142	29,116	67,936	34,605	26,590	29,550
Buckner	Jackson	Private	1.80	1.39	0.83	3,699	1,348	1,040	599	3,738	1,371	1,057	608
Grain Valley	Jackson	Private	1.80	1.39	0.83	7,214	2,629	2,028	1,168	7,291	2,675	2,062	1,185
Grandview	Jackson	Private	2.94	2.27	2.22	23,932	14,221	10,989	10,366	23,905	14,296	11,047	10,398
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,525	1,919	1,553	894	5,584	1,951	1,580	908
Independence	Jackson	Private	2.94	2.27	2.22	116,986	69,518	53,717	50,673	117,097	70,030	54,112	50,935
Kansas City	Jackson	Municipal	1.58	3.07	2.22	469,980	149,987	291,450	203,575	470,840	151,223	293,852	204,804
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,617	1,325	1,026	1,134	2,645	1,347	1,044	1,151
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,179	597	462	511	1,191	607	470	518
Lee's Summit	Jackson	Private	2.50	1.94	2.22	98,843	50,029	38,764	42,815	99,897	50,886	39,428	43,453
Lone Jack	Jackson	Private	1.80	1.39	0.83	738	269	207	119	746	274	211	121
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,738	2,821	2,175	1,253	7,821	2,869	2,212	1,271
Raytown	Jackson	Private	2.94	2.27	2.22	31,384	18,650	14,411	13,594	31,413	18,787	14,517	13,664
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,965	2,245	1,821	1,717	3,969	2,261	1,834	1,726
Camden Point	Platte	Private	1.80	1.39	0.83	652	237	183	105	657	241	186	107
Dearborn	Platte	Private	1.80	1.39	0.83	712	260	200	115	719	264	203	117
Egerton	Platte	Contract	1.80	1.39	0.83	717	262	202	116	724	266	205	118
Ferrelview	Platte	Private	1.80	1.39	0.83	798	291	224	129	805	295	228	131
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,256	635	492	544	1,269	646	501	552
Parkville	Platte	Private	2.50	1.94	2.22	6,045	3,060	2,371	2,619	6,110	3,113	2,412	2,658
Platte City	Platte	Municipal	2.28	1.94	2.22	5,204	2,403	2,041	2,254	5,251	2,440	2,073	2,284
Riverside	Platte	Contract	2.80	2.27	2.22	4,437	2,512	2,037	1,922	4,485	2,555	2,072	1,951
Smithville	Platte	Contract	1.80	1.39	0.83	7,422	2,705	2,086	1,201	7,489	2,747	2,118	1,217
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,790	1,412	1,094	1,208	2,820	1,436	1,113	1,226
Weston	Platte	Contract	1.80	1.39	0.83	2,196	800	617	355	2,215	813	627	360
Hardin	Ray	Contract	1.80	1.39	0.83	687	250	193	111	689	253	195	112
Orrick	Ray	Private	1.80	1.39	0.83	491	179	138	80	493	181	139	80
Richmond	Ray	Private	1.80	1.39	0.83	6,843	2,494	1,923	1,108	6,862	2,517	1,941	1,115
Wood Heights	Ray	Contract	1.80	1.39	0.83	830	303	233	134	833	305	235	135
MO counties - Rural		Private	1.80	1.39	0.83	109,692	39,982	30,830	17,756	110,626	40,580	31,292	17,982
Total Disposal Tons						--	504,766	567,225	462,894	--	511,115	573,607	467,333
Total City Population						1,092,778	--	--	--	1,098,882	--	--	--
Total County Population						1,202,470	--	--	--	1,209,508	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2025				2026			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,284	452	366	210	1,298	460	372	213
Belton	Cass	Private	2.50	1.94	2.22	36,446	18,684	14,477	15,920	36,970	19,074	14,779	16,217
Cleveland	Cass	Contract	1.72	1.39	0.83	854	300	243	139	864	306	247	142
Drexel	Cass	Private	1.80	1.39	0.83	1,573	581	448	257	1,590	591	456	261
Freeman	Cass	Contract	1.80	1.39	0.83	752	278	214	123	760	282	218	125
Garden City	Cass	Private	1.80	1.39	0.83	2,164	799	616	353	2,188	813	627	359
Harrisonville	Cass	Contract	1.72	1.39	0.83	15,004	5,277	4,271	2,449	15,220	5,387	4,360	2,495
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,513	739	601	661	1,535	754	613	673
Peculiar	Cass	Contract	2.50	1.94	2.22	4,367	2,239	1,735	1,908	4,430	2,286	1,771	1,943
Pleasant Hill	Cass	Private	1.80	1.39	0.83	9,362	3,456	2,665	1,528	9,497	3,528	2,721	1,557
Raymore	Cass	Private	2.50	1.94	2.22	18,694	9,583	7,426	8,166	18,963	9,784	7,581	8,318
Avondale	Clay	Private	2.50	1.94	2.22	541	278	215	236	542	280	217	238
Claycomo	Clay	Contract	2.50	1.94	2.22	2,230	1,143	886	974	2,259	1,166	903	991
Gladstone	Clay	Private	2.50	1.94	2.22	36,642	18,784	14,555	16,005	37,011	19,095	14,795	16,234
Glenaire	Clay	Private	1.80	1.39	0.83	801	296	228	131	810	301	232	133
Kearney	Clay	Contract	1.80	1.39	0.83	7,929	2,927	2,257	1,294	8,019	2,979	2,297	1,314
Lawson	Clay	Contract	1.80	1.39	0.83	3,385	1,250	964	553	3,423	1,272	981	561
Liberty	Clay	Contract	2.39	1.94	2.22	46,168	22,548	18,339	20,166	46,778	22,993	18,700	20,519
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,825	2,767	2,244	2,042	4,830	2,787	2,261	2,053
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,845	2,996	2,322	2,518	5,922	3,055	2,367	2,562
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	15,718	5,803	4,474	2,566	15,896	5,906	4,554	2,606
Blue Springs	Jackson	Private	2.50	1.92	2.22	68,653	35,194	27,043	29,988	69,369	35,789	27,500	30,428
Buckner	Jackson	Private	1.80	1.39	0.83	3,777	1,394	1,075	617	3,816	1,418	1,093	626
Grain Valley	Jackson	Private	1.80	1.39	0.83	7,368	2,720	2,097	1,203	7,445	2,766	2,133	1,220
Grandview	Jackson	Private	2.94	2.27	2.22	23,877	14,371	11,105	10,430	23,850	14,447	11,163	10,461
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,643	1,985	1,606	921	5,702	2,018	1,634	935
Independence	Jackson	Private	2.94	2.27	2.22	117,209	70,545	54,511	51,197	117,321	71,064	54,912	51,461
Kansas City	Jackson	Municipal	1.58	3.07	2.22	471,700	152,469	296,273	206,040	472,560	153,725	298,713	207,283
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,673	1,370	1,062	1,168	2,701	1,393	1,080	1,185
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,204	617	478	526	1,216	628	486	534
Lee's Summit	Jackson	Private	2.50	1.94	2.22	100,951	51,752	40,099	44,096	102,005	52,627	40,777	44,743
Lone Jack	Jackson	Private	1.80	1.39	0.83	754	278	215	123	762	283	218	125
Oak Grove	Jackson	Private	1.80	1.39	0.83	7,903	2,918	2,250	1,290	7,986	2,967	2,288	1,309
Raytown	Jackson	Private	2.94	2.27	2.22	31,443	18,925	14,623	13,734	31,472	19,064	14,730	13,805
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,972	2,278	1,847	1,735	3,976	2,294	1,861	1,744
Camden Point	Platte	Private	1.80	1.39	0.83	663	245	189	108	669	249	192	110
Dearborn	Platte	Private	1.80	1.39	0.83	725	268	206	118	731	272	210	120
Edderton	Platte	Contract	1.80	1.39	0.83	730	270	208	119	737	274	211	121
Ferrelview	Platte	Private	1.80	1.39	0.83	813	300	231	133	820	305	235	134
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,283	658	509	560	1,296	669	518	569
Parkville	Platte	Private	2.50	1.94	2.22	6,176	3,166	2,453	2,698	6,241	3,220	2,495	2,737
Platte City	Platte	Municipal	2.28	1.94	2.22	5,298	2,477	2,104	2,314	5,345	2,515	2,137	2,344
Riverside	Platte	Contract	2.80	2.27	2.22	4,532	2,599	2,108	1,980	4,580	2,643	2,144	2,009
Smithville	Platte	Contract	1.80	1.39	0.83	7,556	2,790	2,151	1,233	7,623	2,832	2,184	1,250
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,850	1,461	1,132	1,245	2,880	1,486	1,151	1,263
Weston	Platte	Contract	1.80	1.39	0.83	2,235	825	636	365	2,255	838	646	370
Hardin	Ray	Contract	1.80	1.39	0.83	691	255	197	113	693	257	198	114
Orrick	Ray	Private	1.80	1.39	0.83	494	182	141	81	495	184	142	81
Richmond	Ray	Private	1.80	1.39	0.83	6,881	2,540	1,959	1,123	6,901	2,564	1,977	1,131
Wood Heights	Ray	Contract	1.80	1.39	0.83	835	308	238	136	837	311	240	137
MO counties - Rural		Private	1.80	1.39	0.83	111,560	41,185	31,758	18,210	112,493	41,795	32,229	18,440
Total Disposal Tons						--	517,524	580,048	471,801	--	523,995	586,548	476,299
Total City Population						1,104,987	--	--	--	1,111,091	--	--	--
Total County Population						1,216,547	--	--	--	1,223,585	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2027				2028			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,313	468	378	216	1,327	476	385	219
Belton	Cass	Private	2.50	1.94	2.22	37,495	19,468	15,085	16,516	38,019	19,867	15,394	16,817
Cleveland	Cass	Contract	1.72	1.39	0.83	873	311	252	144	883	316	256	146
Drexel	Cass	Private	1.80	1.39	0.83	1,608	601	463	265	1,625	611	472	269
Freeman	Cass	Contract	1.80	1.39	0.83	768	287	222	126	777	292	225	128
Garden City	Cass	Private	1.80	1.39	0.83	2,212	827	638	364	2,236	841	649	370
Harrisonville	Cass	Contract	1.72	1.39	0.83	15,436	5,499	4,451	2,541	15,652	5,611	4,542	2,587
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,556	770	626	686	1,578	786	639	698
Peculiar	Cass	Contract	2.50	1.94	2.22	4,493	2,333	1,808	1,979	4,556	2,381	1,845	2,015
Pleasant Hill	Cass	Private	1.80	1.39	0.83	9,632	3,601	2,777	1,585	9,766	3,675	2,834	1,614
Raymore	Cass	Private	2.50	1.94	2.22	19,232	9,986	7,737	8,471	19,501	10,190	7,896	8,626
Avondale	Clay	Private	2.50	1.94	2.22	543	282	218	239	543	284	220	240
Claycomo	Clay	Contract	2.50	1.94	2.22	2,289	1,188	921	1,008	2,318	1,211	939	1,025
Gladstone	Clay	Private	2.50	1.94	2.22	37,379	19,408	15,038	16,465	37,747	19,725	15,284	16,697
Glenaire	Clay	Private	1.80	1.39	0.83	820	306	236	135	829	312	240	137
Kearney	Clay	Contract	1.80	1.39	0.83	8,109	3,032	2,338	1,335	8,199	3,085	2,379	1,355
Lawson	Clay	Contract	1.80	1.39	0.83	3,462	1,294	998	570	3,500	1,317	1,016	579
Liberty	Clay	Contract	2.39	1.94	2.22	47,389	23,442	19,065	20,874	47,999	23,896	19,434	21,231
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,835	2,808	2,278	2,063	4,840	2,829	2,295	2,074
Pleasant Valley	Clay	Private	2.50	1.94	2.19	5,999	3,115	2,414	2,606	6,077	3,175	2,460	2,651
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	16,075	6,011	4,635	2,646	16,253	6,116	4,716	2,687
Blue Springs	Jackson	Private	2.50	1.92	2.22	70,086	36,391	27,962	30,872	70,803	36,998	28,429	31,318
Buckner	Jackson	Private	1.80	1.39	0.83	3,855	1,441	1,112	635	3,894	1,465	1,130	644
Grain Valley	Jackson	Private	1.80	1.39	0.83	7,522	2,812	2,169	1,238	7,599	2,859	2,205	1,256
Grandview	Jackson	Private	2.94	2.27	2.22	23,822	14,522	11,221	10,493	23,795	14,598	11,221	10,525
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,761	2,052	1,661	948	5,820	2,086	1,689	962
Independence	Jackson	Private	2.94	2.27	2.22	117,432	71,587	55,316	51,727	117,544	72,114	55,723	51,993
Kansas City	Jackson	Municipal	1.58	3.07	2.22	473,420	154,990	301,171	208,532	474,280	156,266	303,650	209,788
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,729	1,417	1,098	1,202	2,757	1,441	1,116	1,219
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,229	638	494	541	1,241	649	503	549
Lee's Summit	Jackson	Private	2.50	1.94	2.22	103,059	53,511	41,462	45,396	104,113	54,404	42,155	46,053
Lone Jack	Jackson	Private	1.80	1.39	0.83	770	288	222	127	778	293	226	129
Oak Grove	Jackson	Private	1.80	1.39	0.83	8,068	3,017	2,326	1,328	8,151	3,067	2,365	1,347
Raytown	Jackson	Private	2.94	2.27	2.22	31,501	19,203	14,839	13,876	31,531	19,344	14,947	13,947
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,980	2,311	1,875	1,753	3,983	2,328	1,888	1,762
Camden Point	Platte	Private	1.80	1.39	0.83	675	252	195	111	681	256	198	113
Dearborn	Platte	Private	1.80	1.39	0.83	738	276	213	121	744	280	216	123
Edgerton	Platte	Contract	1.80	1.39	0.83	743	278	214	122	750	282	218	124
Ferrelview	Platte	Private	1.80	1.39	0.83	827	309	238	136	834	314	242	138
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,310	680	527	577	1,323	691	536	585
Parkville	Platte	Private	2.50	1.94	2.22	6,306	3,274	2,537	2,778	6,371	3,329	2,580	2,818
Platte City	Platte	Municipal	2.28	1.94	2.22	5,392	2,554	2,169	2,375	5,439	2,592	2,202	2,406
Riverside	Platte	Contract	2.80	2.27	2.22	4,628	2,688	2,180	2,039	4,676	2,733	2,217	2,068
Smithville	Platte	Contract	1.80	1.39	0.83	7,690	2,875	2,217	1,266	7,757	2,919	2,251	1,282
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,910	1,511	1,171	1,282	2,940	1,536	1,190	1,300
Weston	Platte	Contract	1.80	1.39	0.83	2,275	851	656	374	2,294	863	666	379
Hardin	Ray	Contract	1.80	1.39	0.83	695	260	200	114	697	262	202	115
Orrick	Ray	Private	1.80	1.39	0.83	497	186	143	82	498	187	145	82
Richmond	Ray	Private	1.80	1.39	0.83	6,920	2,587	1,995	1,139	6,939	2,611	2,014	1,147
Wood Heights	Ray	Contract	1.80	1.39	0.83	840	314	242	138	842	317	244	139
MO counties - Rural		Private	1.80	1.39	0.83	113,427	42,412	32,704	18,671	114,361	43,035	33,184	18,904
Total Disposal Tons						--	530,527	593,107	480,827	--	537,121	599,726	485,384
Total City Population						1,117,196	--	--	--	1,123,300	--	--	--
Total County Population						1,230,623	--	--	--	1,237,661	--	--	--

MISSOURI STATUS QUO QUANTITY INFORMATION

MISSOURI			Waste Disposal			2029				2030			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C&D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
Archie	Cass	Contract	1.72	1.39	0.83	1,341	484	392	223	1,355	492	398	226
Belton	Cass	Private	2.50	1.94	2.22	38,544	20,270	15,706	17,121	39,068	20,677	16,022	17,427
Cleveland	Cass	Contract	1.72	1.39	0.83	892	322	260	148	901	327	265	150
Drexel	Cass	Private	1.80	1.39	0.83	1,642	622	480	273	1,660	633	488	277
Freeman	Cass	Contract	1.80	1.39	0.83	785	297	229	130	793	302	233	132
Garden City	Cass	Private	1.80	1.39	0.83	2,260	856	660	375	2,284	871	671	381
Harrisonville	Cass	Contract	1.72	1.39	0.83	15,868	5,725	4,634	2,634	16,084	5,840	4,727	2,681
Lake Winnebago	Cass	Contract	2.39	1.94	2.22	1,600	802	652	711	1,622	818	665	723
Peculiar	Cass	Contract	2.50	1.94	2.22	4,619	2,429	1,882	2,052	4,682	2,478	1,920	2,088
Pleasant Hill	Cass	Private	1.80	1.39	0.83	9,901	3,750	2,891	1,644	10,036	3,825	2,950	1,673
Raymore	Cass	Private	2.50	1.94	2.22	19,770	10,397	8,056	8,782	20,039	10,606	8,218	8,939
Avondale	Clay	Private	2.50	1.94	2.22	544	286	222	242	544	288	223	243
Claycomo	Clay	Contract	2.50	1.94	2.22	2,348	1,235	957	1,043	2,377	1,258	975	1,060
Gladstone	Clay	Private	2.50	1.94	2.22	38,116	20,045	15,531	16,931	38,484	20,368	15,782	17,166
Glenaire	Clay	Private	1.80	1.39	0.83	838	317	245	139	847	323	249	141
Kearney	Clay	Contract	1.80	1.39	0.83	8,289	3,139	2,421	1,376	8,379	3,194	2,463	1,397
Lawson	Clay	Contract	1.80	1.39	0.83	3,539	1,340	1,033	587	3,577	1,363	1,051	596
Liberty	Clay	Contract	2.39	1.94	2.22	48,609	24,354	19,807	21,592	49,220	24,818	20,184	21,955
North Kansas City	Clay	Contract	2.80	2.27	2.15	4,845	2,850	2,312	2,085	4,851	2,871	2,329	2,096
Pleasant Valley	Clay	Private	2.50	1.94	2.19	6,154	3,236	2,508	2,696	6,231	3,298	2,555	2,741
Excelsior Springs	Clay/Ray	Contract	1.80	1.39	0.83	16,431	6,223	4,798	2,728	16,610	6,331	4,882	2,769
Blue Springs	Jackson	Private	2.50	1.92	2.22	71,520	37,612	28,900	31,768	72,237	38,232	29,377	32,221
Buckner	Jackson	Private	1.80	1.39	0.83	3,933	1,490	1,149	653	3,972	1,514	1,167	662
Grain Valley	Jackson	Private	1.80	1.39	0.83	7,676	2,907	2,241	1,274	7,753	2,955	2,278	1,292
Grandview	Jackson	Private	2.94	2.27	2.22	23,768	14,675	11,339	10,557	23,740	14,752	11,399	10,589
Greenwood	Jackson	Contract	1.72	1.39	0.83	5,879	2,121	1,717	976	5,938	2,156	1,745	990
Independence	Jackson	Private	2.94	2.27	2.22	117,656	72,644	56,133	52,261	117,768	73,179	56,546	52,531
Kansas City	Jackson	Municipal	1.58	3.07	2.22	475,140	157,551	306,147	211,051	476,000	158,846	308,664	212,321
Lake Lotawana	Jackson	Private	2.50	1.94	2.22	2,785	1,464	1,135	1,237	2,813	1,489	1,153	1,255
Lake Tapawingo	Jackson	Contract	2.50	1.94	2.22	1,254	659	511	557	1,267	670	519	565
Lee's Summit	Jackson	Private	2.50	1.94	2.22	105,167	55,307	42,854	46,714	106,222	56,219	43,560	47,380
Lone Jack	Jackson	Private	1.80	1.39	0.83	785	297	229	130	793	302	233	132
Oak Grove	Jackson	Private	1.80	1.39	0.83	8,233	3,118	2,404	1,367	8,316	3,170	2,444	1,386
Raytown	Jackson	Private	2.94	2.27	2.22	31,560	19,486	15,057	14,019	31,590	19,629	15,168	14,091
Sugar Creek	Jackson	Municipal	2.80	2.27	2.22	3,987	2,345	1,902	1,771	3,991	2,363	1,916	1,780
Camden Point	Platte	Private	1.80	1.39	0.83	687	260	201	114	693	264	204	115
Dearborn	Platte	Private	1.80	1.39	0.83	751	284	219	125	757	289	222	126
Edgerton	Platte	Contract	1.80	1.39	0.83	756	286	221	126	763	291	224	127
Ferrelview	Platte	Private	1.80	1.39	0.83	841	319	246	140	849	323	249	141
Lake Waukomis	Platte	Private	2.50	1.94	2.22	1,337	703	545	594	1,350	715	554	602
Parkville	Platte	Private	2.50	1.94	2.22	6,436	3,385	2,623	2,859	6,502	3,441	2,666	2,900
Platte City	Platte	Municipal	2.28	1.94	2.22	5,486	2,631	2,235	2,437	5,532	2,671	2,269	2,468
Riverside	Platte	Contract	2.80	2.27	2.22	4,724	2,779	2,254	2,098	4,772	2,825	2,291	2,128
Smithville	Platte	Contract	1.80	1.39	0.83	7,824	2,963	2,285	1,299	7,891	3,007	2,319	1,315
Weatherby Lake	Platte	Contract	2.50	1.94	2.22	2,970	1,562	1,210	1,319	3,000	1,588	1,230	1,338
Weston	Platte	Contract	1.80	1.39	0.83	2,314	876	676	384	2,334	890	686	389
Hardin	Ray	Contract	1.80	1.39	0.83	699	265	204	116	701	267	206	117
Orrick	Ray	Private	1.80	1.39	0.83	499	189	146	83	501	191	147	83
Richmond	Ray	Private	1.80	1.39	0.83	6,958	2,635	2,032	1,155	6,978	2,659	2,051	1,163
Wood Heights	Ray	Contract	1.80	1.39	0.83	844	320	247	140	847	323	249	141
MO counties - Rural		Private	1.80	1.39	0.83	115,295	43,664	33,669	19,138	116,228	44,299	34,159	19,374
Total Disposal Tons						--	543,778	606,406	489,970	--	550,498	613,147	494,587
Total City Population						1,129,405	--	--	--	1,135,510	--	--	--
Total County Population						1,244,700	--	--	--	1,251,738	--	--	--

**APPENDIX B –
KANSAS STATUS QUO INFORMATION AND
PROJECTIONS OF STATUS QUO QUANTITIES**

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2000	2007				2008			
City	County	Classification	lbs/day/person			Population	Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D			Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	4,561	10,237	6,253	4,471	4,146	11,047	6,792	4,856	4,494
Edgerton	Johnson(4)	private	3.3	2.39	2.22	1,440	1,988	1,214	868	805	2,066	1,270	908	840
Fairway(1)	Johnson	HA	3.1	2.39	2.22	3,952	4,157	2,346	1,816	1,684	4,187	2,378	1,840	1,703
Gardner	Johnson	private	3.3	2.39	2.22	9,396	12,970	7,923	5,665	5,254	13,481	8,288	5,926	5,484
Lake Quivira	Johnson	contract	3.1	2.39	2.22	932	980	553	428	397	987	561	434	402
Leawood(2)	Johnson	HA	3.1	2.39	2.22	27,656	34,116	19,254	14,900	13,819	35,039	19,902	15,401	14,252
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	40,238	40,320	22,756	17,610	16,332	40,332	22,908	17,728	16,405
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,008	11,580	6,536	5,058	4,691	11,662	6,624	5,126	4,744
Mission	Johnson	contract	3.1	2.39	2.22	9,727	10,233	5,775	4,469	4,145	10,305	5,853	4,529	4,192
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,593	3,780	2,133	1,651	1,531	3,806	2,162	1,673	1,548
Olathe	Johnson	municipal	2.7	2.39	2.22	80,203	96,652	47,682	42,213	39,150	99,002	49,154	43,516	40,270
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	149,080	149,384	84,310	65,244	60,510	149,427	84,874	65,680	60,782
Prairie Village	Johnson	contract	3.1	2.39	2.22	22,072	22,117	12,482	9,660	8,959	22,123	12,566	9,724	8,999
Roeland Park	Johnson	contract	3.1	2.39	2.22	6,817	7,171	4,047	3,132	2,905	7,222	4,102	3,174	2,938
Shawnee(5)	Johnson	private	3.1	2.39	2.22	47,996	50,491	28,496	22,052	20,452	50,847	28,881	22,350	20,683
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	2,727	3,764	2,125	1,644	1,525	3,913	2,222	1,720	1,592
Westwood	Johnson	contract	3.1	2.39	2.22	1,533	1,613	910	704	653	1,624	922	714	661
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,238	2,428	993	616	367	2,455	1,011	627	373
Lansing	Leavenworth	contract	2.1	1.39	0.83	9,199	10,044	3,797	2,549	1,520	10,165	3,867	2,596	1,545
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	35,420	38,675	21,975	13,696	15,666	39,139	22,381	13,949	15,921
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	2,728	2,959	1,211	751	448	2,992	1,232	764	455
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,576	2,794	1,143	709	423	2,825	1,163	722	429
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	4,645	5,038	2,062	1,279	763	5,095	2,098	1,301	774
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,011	5,435	2,224	1,379	823	5,496	2,263	1,404	835
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	6,768	9,010	3,687	2,287	1,364	9,330	3,842	2,383	1,418
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,146	4,143	1,695	1,052	627	4,143	1,706	1,058	630
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	146,866	143,140	95,489	59,349	57,981	142,608	95,742	59,506	58,008
KS Counties-rural(8)		Rural	2.2	1.39	0.83	63,482	109,695	44,885	27,839	16,605	116,297	47,891	29,704	17,678
Total Disposal Tons						--	--	433,958	313,089	283,544	--	442,657	319,313	288,054
Total City Population						642,528	685,219	--	--	--	691,317	--	--	--
Total County Population						706,010	794,913	--	--	--	807,614	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2009				2010			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	11,858	7,337	5,246	4,844	12,669	7,889	5,640	5,197
Edgerton	Johnson(4)	private	3.3	2.39	2.22	2,144	1,327	949	876	2,223	1,384	989	912
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,216	2,410	1,865	1,722	4,245	2,442	1,890	1,741
Gardner	Johnson	private	3.3	2.39	2.22	13,992	8,657	6,189	5,715	14,502	9,030	6,456	5,949
Lake Quivira	Johnson	contract	3.1	2.39	2.22	994	568	440	406	1,001	576	446	411
Leawood(2)	Johnson	HA	3.1	2.39	2.22	35,961	20,557	15,908	14,689	36,884	21,219	16,420	15,129
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	40,343	23,062	17,846	16,479	40,355	23,216	17,966	16,553
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,744	6,713	5,195	4,797	11,825	6,803	5,265	4,851
Mission	Johnson	contract	3.1	2.39	2.22	10,377	5,932	4,590	4,239	10,449	6,011	4,652	4,286
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,833	2,191	1,696	1,566	3,860	2,220	1,718	1,583
Olathe	Johnson	municipal	2.7	2.39	2.22	101,352	50,643	44,834	41,400	103,702	52,149	46,167	42,537
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	149,470	85,442	66,120	61,055	149,514	86,014	66,562	61,329
Prairie Village	Johnson	contract	3.1	2.39	2.22	22,130	12,650	9,789	9,039	22,136	12,735	9,855	9,080
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,273	4,157	3,217	2,971	7,323	4,213	3,260	3,004
Shawnee(5)	Johnson	private	3.1	2.39	2.22	51,203	29,269	22,650	20,915	51,560	29,662	22,954	21,149
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	4,061	2,321	1,796	1,659	4,209	2,421	1,874	1,726
Westwood	Johnson	contract	3.1	2.39	2.22	1,635	935	723	668	1,647	947	733	676
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,482	1,028	638	379	2,509	1,046	649	385
Lansing	Leavenworth	contract	2.1	1.39	0.83	10,286	3,938	2,644	1,570	10,406	4,010	2,692	1,595
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	39,604	22,792	14,205	16,177	40,069	23,207	14,464	16,436
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,025	1,254	778	462	3,058	1,275	791	469
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,856	1,184	734	436	2,888	1,204	747	443
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,151	2,135	1,324	786	5,207	2,172	1,347	798
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,557	2,303	1,428	848	5,617	2,343	1,453	861
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	9,650	3,999	2,481	1,473	9,971	4,159	2,579	1,528
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,142	1,717	1,065	632	4,142	1,728	1,072	635
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	142,075	95,996	59,664	58,034	141,543	96,248	59,820	58,059
KS Counties-rural(8)		Rural	2.2	1.39	0.83	122,898	50,933	31,591	18,760	129,500	54,013	33,501	19,851
Total Disposal Tons			--			--	451,449	325,604	292,596	--	460,336	331,963	297,172
Total City Population			--			697,416	--	--	--	703,515	--	--	--
Total County Population			--			820,314	--	--	--	833,015	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2011				2012			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	13,422	8,411	6,014	5,529	14,175	8,940	6,392	5,863
Edgerton	Johnson(4)	private	3.3	2.39	2.22	2,371	1,486	1,062	977	2,520	1,589	1,136	1,042
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,250	2,461	1,904	1,751	4,255	2,479	1,919	1,760
Gardner	Johnson	private	3.3	2.39	2.22	15,471	9,695	6,932	6,373	16,441	10,368	7,413	6,801
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,002	580	449	413	1,004	585	452	415
Leawood(2)	Johnson	HA	3.1	2.39	2.22	37,449	21,682	16,779	15,426	38,015	22,150	17,141	15,724
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	40,269	23,315	18,042	16,587	40,184	23,414	18,119	16,622
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,839	6,854	5,304	4,877	11,853	6,906	5,344	4,903
Mission	Johnson	contract	3.1	2.39	2.22	10,461	6,057	4,687	4,309	10,473	6,103	4,722	4,332
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,823	2,213	1,713	1,575	3,786	2,206	1,707	1,566
Olathe	Johnson	municipal	2.7	2.39	2.22	105,633	53,460	47,328	43,511	107,564	54,785	48,502	44,493
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	149,196	86,380	66,846	61,455	148,879	86,748	67,131	61,582
Prairie Village	Johnson	contract	3.1	2.39	2.22	22,089	12,789	9,897	9,099	22,042	12,843	9,939	9,118
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,332	4,245	3,285	3,020	7,340	4,277	3,310	3,036
Shawnee(5)	Johnson	private	3.1	2.39	2.22	51,619	29,886	23,127	21,262	51,679	30,112	23,302	21,376
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	4,490	2,600	2,012	1,850	4,772	2,780	2,152	1,974
Westwood	Johnson	contract	3.1	2.39	2.22	1,649	955	739	679	1,651	962	744	683
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,522	1,059	657	388	2,536	1,071	664	392
Lansing	Leavenworth	contract	2.1	1.39	0.83	10,486	4,067	2,730	1,614	10,566	4,124	2,768	1,633
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	40,376	23,535	14,668	16,631	40,683	23,865	14,874	16,828
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,075	1,291	800	473	3,091	1,306	810	478
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,903	1,219	756	447	2,919	1,233	765	451
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,235	2,197	1,363	806	5,263	2,223	1,379	814
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,648	2,371	1,470	869	5,678	2,399	1,488	878
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	10,162	4,266	2,646	1,564	10,353	4,374	2,713	1,600
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,134	1,735	1,076	636	4,127	1,743	1,081	638
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	141,004	96,495	59,974	58,081	140,464	96,741	60,127	58,102
KS Counties-rural(8)	Rural		2.2	1.39	0.83	135,393	56,832	35,249	20,841	141,286	59,685	37,019	21,840
Total Disposal Tons			--			--	468,134	337,509	301,044	--	476,012	343,113	304,943
Total City Population						707,912	--	--	--	712,309	--	--	--
Total County Population						843,305	--	--	--	853,595	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2013				2014			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	14,928	9,475	6,774	6,201	15,681	10,016	7,161	6,541
Edgerton	Johnson(4)	private	3.3	2.39	2.22	2,668	1,693	1,211	1,108	2,817	1,799	1,286	1,175
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,260	2,498	1,933	1,770	4,265	2,517	1,948	1,779
Gardner	Johnson	private	3.3	2.39	2.22	17,410	11,050	7,900	7,232	18,379	11,740	8,394	7,666
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,005	589	456	417	1,006	594	459	420
Leawood(2)	Johnson	HA	3.1	2.39	2.22	38,580	22,624	17,507	16,025	39,145	23,102	17,878	16,328
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	40,098	23,514	18,196	16,656	40,012	23,614	18,273	16,690
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,866	6,958	5,385	4,929	11,880	7,011	5,426	4,955
Mission	Johnson	contract	3.1	2.39	2.22	10,485	6,149	4,758	4,355	10,497	6,195	4,794	4,379
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,749	2,198	1,701	1,557	3,712	2,190	1,695	1,548
Olathe	Johnson	municipal	2.7	2.39	2.22	109,495	56,126	49,688	45,482	111,426	57,481	50,888	46,478
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	148,561	87,117	67,416	61,709	148,243	87,487	67,702	61,836
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,995	12,898	9,981	9,136	21,948	12,953	10,024	9,155
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,348	4,309	3,335	3,052	7,357	4,342	3,360	3,069
Shawnee(5)	Johnson	private	3.1	2.39	2.22	51,738	30,339	23,478	21,491	51,797	30,569	23,656	21,606
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	5,053	2,963	2,293	2,099	5,334	3,148	2,436	2,225
Westwood	Johnson	contract	3.1	2.39	2.22	1,653	969	750	686	1,654	976	756	690
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,549	1,084	672	396	2,563	1,097	680	399
Lansing	Leavenworth	contract	2.1	1.39	0.83	10,645	4,181	2,807	1,652	10,725	4,240	2,846	1,672
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	40,989	24,199	15,082	17,026	41,296	24,536	15,292	17,225
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,107	1,321	819	482	3,124	1,337	829	487
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,934	1,248	774	455	2,950	1,262	783	460
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,291	2,250	1,395	821	5,319	2,276	1,412	829
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,708	2,427	1,505	886	5,738	2,455	1,523	894
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	10,545	4,483	2,781	1,637	10,736	4,594	2,849	1,674
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,119	1,751	1,086	639	4,112	1,759	1,091	641
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	139,925	96,986	60,279	58,122	139,386	97,231	60,431	58,141
KS Counties-rural(8)	Rural		2.2	1.39	0.83	147,179	62,573	38,810	22,846	153,072	65,495	40,622	23,861
Total Disposal Tons						--	483,972	348,774	308,869	--	492,014	354,494	312,823
Total City Population						716,706	--	--	--	721,103	--	--	--
Total County Population						863,885	--	--	--	874,175	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2015				2016			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	16,434	10,565	7,553	6,884	17,187	11,119	7,950	7,229
Edgerton	Johnson(4)	private	3.3	2.39	2.22	2,965	1,906	1,363	1,242	3,114	2,014	1,440	1,310
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,270	2,536	1,963	1,789	4,275	2,555	1,977	1,798
Gardner	Johnson	private	3.3	2.39	2.22	19,348	12,438	8,893	8,104	20,317	13,145	9,398	8,546
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,007	598	463	422	1,008	603	466	424
Leawood(2)	Johnson	HA	3.1	2.39	2.22	39,711	23,585	18,252	16,634	40,276	24,074	18,630	16,941
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,926	23,714	18,351	16,724	39,841	23,814	18,429	16,758
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,894	7,064	5,467	4,982	11,907	7,117	5,508	5,009
Mission	Johnson	contract	3.1	2.39	2.22	10,509	6,242	4,830	4,402	10,522	6,289	4,867	4,426
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,674	2,182	1,689	1,539	3,637	2,174	1,683	1,530
Olathe	Johnson	municipal	2.7	2.39	2.22	113,358	58,852	52,101	47,483	115,289	60,237	53,328	48,494
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	147,926	87,858	67,990	61,962	147,608	88,231	68,278	62,089
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,901	13,008	10,066	9,174	21,854	13,063	10,109	9,193
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,365	4,375	3,385	3,085	7,374	4,408	3,411	3,102
Shawnee(5)	Johnson	private	3.1	2.39	2.22	51,857	30,800	23,835	21,722	51,916	31,032	24,015	21,838
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	5,615	3,335	2,581	2,352	5,897	3,525	2,728	2,480
Westwood	Johnson	contract	3.1	2.39	2.22	1,656	984	761	694	1,658	991	767	698
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,576	1,109	688	403	2,590	1,122	696	407
Lansing	Leavenworth	contract	2.1	1.39	0.83	10,805	4,299	2,886	1,691	10,884	4,358	2,926	1,711
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	41,602	24,876	15,504	17,426	41,909	25,220	15,718	17,628
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,140	1,352	839	492	3,157	1,368	849	496
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,965	1,277	792	464	2,981	1,292	801	469
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,347	2,303	1,428	837	5,375	2,329	1,445	845
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,769	2,484	1,541	903	5,799	2,513	1,559	912
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	10,928	4,705	2,919	1,711	11,119	4,819	2,989	1,748
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,104	1,767	1,096	642	4,096	1,775	1,101	644
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	138,846	97,474	60,583	58,159	138,307	97,717	60,734	58,176
KS Counties-rural(8)		Rural	2.2	1.39	0.83	158,965	68,451	42,456	24,884	164,858	71,443	44,312	25,914
Total Disposal Tons						--	500,140	360,273	316,805	--	508,349	366,111	320,815
Total City Population						725,500	--	--	--	729,897	--	--	--
Total County Population						884,465	--	--	--	894,755	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2017				2018			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	17,940	11,681	8,351	7,578	18,693	12,249	8,758	7,929
Edgerton	Johnson(4)	private	3.3	2.39	2.22	3,262	2,124	1,519	1,378	3,411	2,235	1,598	1,447
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,280	2,575	1,992	1,808	4,285	2,594	2,007	1,817
Gardner	Johnson	private	3.3	2.39	2.22	21,287	13,860	9,909	8,991	22,256	14,584	10,427	9,440
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,009	607	470	426	1,010	612	473	429
Leawood(2)	Johnson	HA	3.1	2.39	2.22	40,841	24,568	19,012	17,251	41,406	25,068	19,399	17,564
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,755	23,915	18,507	16,793	39,669	24,016	18,585	16,827
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,921	7,171	5,549	5,035	11,934	7,225	5,591	5,062
Mission	Johnson	contract	3.1	2.39	2.22	10,534	6,337	4,904	4,449	10,546	6,384	4,941	4,473
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,600	2,166	1,676	1,521	3,563	2,157	1,669	1,511
Olathe	Johnson	municipal	2.7	2.39	2.22	117,220	61,638	54,568	49,514	119,151	63,055	55,822	50,541
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	147,290	88,604	68,567	62,216	146,973	88,979	68,857	62,342
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,807	13,118	10,152	9,211	21,760	13,174	10,195	9,230
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,382	4,441	3,437	3,118	7,391	4,474	3,463	3,135
Shawnee(5)	Johnson	private	3.1	2.39	2.22	51,976	31,267	24,196	21,955	52,035	31,503	24,379	22,072
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	6,178	3,716	2,876	2,610	6,459	3,911	3,026	2,740
Westwood	Johnson	contract	3.1	2.39	2.22	1,660	999	773	701	1,662	1,006	779	705
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,603	1,135	704	411	2,617	1,149	712	415
Lansing	Leavenworth	contract	2.1	1.39	0.83	10,964	4,418	2,966	1,731	11,044	4,478	3,006	1,751
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	42,216	25,567	15,934	17,832	42,522	25,918	16,153	18,037
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,173	1,384	858	501	3,190	1,400	868	506
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	2,997	1,307	811	473	3,012	1,322	820	477
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,403	2,357	1,462	853	5,431	2,384	1,479	861
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,829	2,542	1,577	920	5,859	2,572	1,595	929
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	11,310	4,933	3,060	1,785	11,502	5,048	3,131	1,823
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,089	1,783	1,106	645	4,081	1,791	1,111	647
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	137,767	97,959	60,884	58,193	137,228	98,200	61,034	58,209
KS Counties-rural(8)	Rural		2.2	1.39	0.83	170,751	74,471	46,189	26,953	176,644	77,534	48,089	28,001
Total Disposal Tons			--			--	516,643	372,009	324,853	--	525,022	377,968	328,919
Total City Population			--			734,294	--	--	--	738,691	--	--	--
Total County Population			--			905,045	--	--	--	915,335	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2019				2020			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	19,446	12,824	9,169	8,283	20,199	13,406	9,585	8,640
Edgerton	Johnson(4)	private	3.3	2.39	2.22	3,559	2,347	1,678	1,516	3,708	2,461	1,759	1,586
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,290	2,614	2,023	1,827	4,294	2,633	2,038	1,837
Gardner	Johnson	private	3.3	2.39	2.22	23,225	15,316	10,951	9,893	24,194	16,057	11,481	10,349
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,012	616	477	431	1,013	621	481	433
Leawood(2)	Johnson	HA	3.1	2.39	2.22	41,972	25,573	19,790	17,878	42,537	26,083	20,185	18,195
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,584	24,118	18,664	16,861	39,498	24,220	18,742	16,895
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,948	7,280	5,634	5,089	11,962	7,335	5,676	5,117
Mission	Johnson	contract	3.1	2.39	2.22	10,558	6,433	4,978	4,497	10,570	6,481	5,016	4,521
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,526	2,149	1,663	1,502	3,489	2,140	1,656	1,492
Olathe	Johnson	municipal	2.7	2.39	2.22	121,082	64,487	57,090	51,576	123,013	65,935	58,372	52,618
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	146,655	89,355	69,148	62,469	146,338	89,732	69,440	62,595
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,713	13,229	10,238	9,249	21,666	13,285	10,281	9,268
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,399	4,508	3,489	3,152	7,408	4,542	3,515	3,169
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,095	31,741	24,563	22,190	52,154	31,980	24,748	22,309
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	6,741	4,107	3,178	2,871	7,022	4,306	3,332	3,004
Westwood	Johnson	contract	3.1	2.39	2.22	1,664	1,014	785	709	1,666	1,021	790	713
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,630	1,162	721	419	2,644	1,175	729	423
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,123	4,540	3,048	1,771	11,203	4,601	3,089	1,791
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	42,829	26,271	16,373	18,243	43,136	26,629	16,596	18,451
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,206	1,416	878	510	3,223	1,433	889	515
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,028	1,337	830	482	3,043	1,353	839	486
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,459	2,412	1,496	869	5,488	2,440	1,513	877
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,890	2,602	1,614	938	5,920	2,632	1,632	946
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	11,693	5,165	3,204	1,861	11,885	5,283	3,277	1,900
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,074	1,800	1,116	648	4,066	1,808	1,121	650
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	136,689	98,440	61,183	58,223	136,149	98,679	61,331	58,237
KS Counties-rural(8)	Rural		2.2	1.39	0.83	182,537	80,633	50,012	29,056	188,430	83,769	51,957	30,120
Total Disposal Tons			--			--	533,488	383,988	333,013	--	542,040	390,069	337,136
Total City Population						743,088	--	--	--	747,485	--	--	--
Total County Population						925,625	--	--	--	935,915	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2021				2022			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	20,908	13,965	9,985	8,981	21,617	14,531	10,389	9,324
Edgerton	Johnson(4)	private	3.3	2.39	2.22	3,840	2,565	1,834	1,650	3,973	2,671	1,909	1,714
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,300	2,654	2,053	1,847	4,305	2,674	2,069	1,857
Gardner	Johnson	private	3.3	2.39	2.22	25,059	16,738	11,967	10,764	25,923	17,426	12,459	11,182
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,014	626	484	436	1,015	631	488	438
Leawood(2)	Johnson	HA	3.1	2.39	2.22	43,104	26,600	20,584	18,515	43,670	27,122	20,988	18,837
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,429	24,332	18,829	16,936	39,360	24,445	18,917	16,978
Merriam	Johnson	private + HA	3.1	2.39	2.22	11,977	7,391	5,720	5,145	11,992	7,448	5,764	5,173
Mission	Johnson	contract	3.1	2.39	2.22	10,583	6,531	5,054	4,546	10,597	6,581	5,093	4,571
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,536	2,182	1,689	1,519	3,582	2,225	1,722	1,545
Olathe	Johnson	municipal	2.7	2.39	2.22	124,804	67,323	59,601	53,608	126,594	68,726	60,843	54,606
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	146,082	90,149	69,762	62,748	145,826	90,567	70,086	62,901
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,628	13,347	10,329	9,290	21,590	13,409	10,377	9,313
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,417	4,577	3,542	3,186	7,427	4,612	3,569	3,203
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,221	32,226	24,939	22,431	52,288	32,474	25,130	22,554
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	7,273	4,488	3,473	3,124	7,524	4,673	3,616	3,245
Westwood	Johnson	contract	3.1	2.39	2.22	1,668	1,029	797	716	1,670	1,037	803	720
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,657	1,189	737	427	2,671	1,202	746	430
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,279	4,662	3,130	1,811	11,356	4,724	3,171	1,830
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	43,430	26,982	16,816	18,655	43,724	27,339	17,039	18,860
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,239	1,449	899	520	3,255	1,466	909	525
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,059	1,368	849	491	3,074	1,384	858	496
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,515	2,468	1,530	885	5,543	2,496	1,548	893
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	5,950	2,662	1,651	955	5,980	2,692	1,670	964
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	12,066	5,399	3,348	1,937	12,248	5,515	3,421	1,974
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,056	1,815	1,125	651	4,046	1,822	1,130	652
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	135,577	98,893	61,464	58,236	135,005	99,106	61,597	58,234
KS Counties-rural(8)		Rural	2.2	1.39	0.83	193,891	86,749	53,804	31,124	199,352	89,763	55,674	32,135
Total Disposal Tons			--			--	550,357	395,997	341,132	--	558,759	401,984	345,156
Total City Population						751,670	--	--	--	755,855	--	--	--
Total County Population						945,562	--	--	--	955,208	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2023				2024			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	22,326	15,103	10,799	9,670	23,034	15,683	11,213	10,019
Edgerton	Johnson(4)	private	3.3	2.39	2.22	4,105	2,777	1,986	1,778	4,238	2,885	2,063	1,843
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,311	2,694	2,085	1,867	4,316	2,715	2,101	1,878
Gardner	Johnson	private	3.3	2.39	2.22	26,788	18,122	12,957	11,603	27,653	18,827	13,461	12,028
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,017	635	492	440	1,018	640	496	443
Leawood(2)	Johnson	HA	3.1	2.39	2.22	44,237	27,650	21,397	19,162	44,804	28,183	21,810	19,489
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,291	24,558	19,004	17,019	39,222	24,672	19,092	17,061
Merriam	Johnson	private + HA	3.1	2.39	2.22	12,008	7,505	5,808	5,201	12,023	7,563	5,853	5,230
Mission	Johnson	contract	3.1	2.39	2.22	10,610	6,632	5,132	4,596	10,624	6,683	5,172	4,621
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,629	2,268	1,755	1,572	3,675	2,312	1,789	1,599
Olathe	Johnson	municipal	2.7	2.39	2.22	128,385	70,144	62,098	55,611	130,176	71,577	63,367	56,623
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	145,571	90,987	70,411	63,055	145,315	91,408	70,737	63,209
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,552	13,471	10,425	9,336	21,515	13,533	10,473	9,358
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,436	4,648	3,597	3,221	7,446	4,684	3,624	3,239
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,355	32,724	25,324	22,678	52,422	32,975	25,518	22,802
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	7,775	4,859	3,761	3,368	8,026	5,048	3,907	3,491
Westwood	Johnson	contract	3.1	2.39	2.22	1,672	1,045	809	724	1,674	1,053	815	728
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,684	1,216	754	434	2,697	1,230	763	438
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,432	4,786	3,213	1,851	11,508	4,849	3,255	1,871
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	44,018	27,699	17,263	19,067	44,312	28,063	17,490	19,275
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,272	1,483	920	530	3,288	1,499	930	534
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,089	1,400	868	500	3,105	1,416	878	505
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,571	2,524	1,566	902	5,598	2,553	1,584	910
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	6,009	2,723	1,689	973	6,039	2,754	1,708	982
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	12,429	5,632	3,493	2,012	12,611	5,751	3,567	2,050
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,035	1,829	1,134	653	4,025	1,836	1,138	654
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	134,433	99,318	61,728	58,231	133,861	99,528	61,859	58,226
KS Counties-rural(8)		Rural	2.2	1.39	0.83	204,813	92,812	57,565	33,154	210,274	95,896	59,478	34,180
Total Disposal Tons			--			--	567,246	408,032	349,207	--	575,819	414,141	353,287
Total City Population						760,040	--	--	--	764,226	--	--	--
Total County Population						964,854	--	--	--	974,500	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2025				2026			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	23,743	16,269	11,632	10,371	24,452	16,862	12,056	10,726
Edgerton	Johnson(4)	private	3.3	2.39	2.22	4,370	2,995	2,141	1,909	4,503	3,105	2,220	1,975
Fairway(1)	Johnson	contract	3.1	2.39	2.22	4,322	2,736	2,117	1,888	4,327	2,757	2,134	1,898
Gardner	Johnson	private	3.3	2.39	2.22	28,517	19,540	13,971	12,456	29,382	20,261	14,486	12,888
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,019	645	499	445	1,021	650	503	448
Leawood(2)	Johnson	HA	3.1	2.39	2.22	45,371	28,722	22,227	19,818	45,937	29,267	22,649	20,150
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,153	24,786	19,181	17,102	39,084	24,901	19,270	17,144
Merriam	Johnson	private + HA	3.1	2.39	2.22	12,039	7,621	5,898	5,258	12,054	7,680	5,943	5,287
Mission	Johnson	contract	3.1	2.39	2.22	10,638	6,734	5,211	4,647	10,651	6,786	5,251	4,672
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,722	2,356	1,823	1,626	3,768	2,401	1,858	1,653
Olathe	Johnson	municipal	2.7	2.39	2.22	131,967	73,026	64,650	57,643	133,757	74,491	65,947	58,671
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	145,059	91,831	71,064	63,362	144,804	92,256	71,393	63,516
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,477	13,596	10,521	9,381	21,439	13,659	10,570	9,404
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,455	4,720	3,652	3,256	7,465	4,756	3,680	3,274
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,489	33,229	25,714	22,927	52,556	33,484	25,912	23,053
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	8,277	5,240	4,055	3,615	8,528	5,433	4,204	3,741
Westwood	Johnson	contract	3.1	2.39	2.22	1,677	1,061	821	732	1,679	1,069	828	736
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,711	1,244	772	442	2,724	1,258	780	447
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,585	4,913	3,298	1,891	11,661	4,977	3,341	1,912
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	44,607	28,430	17,718	19,484	44,901	28,800	17,949	19,695
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,304	1,516	941	539	3,320	1,534	951	544
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,120	1,432	888	509	3,135	1,448	898	514
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,626	2,582	1,602	918	5,654	2,611	1,620	927
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	6,069	2,786	1,728	991	6,099	2,817	1,747	1,000
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	12,793	5,871	3,642	2,088	12,974	5,993	3,717	2,127
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	4,015	1,843	1,143	655	4,004	1,850	1,147	656
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	133,288	99,737	61,989	58,221	132,716	99,944	62,118	58,214
KS Counties-rural(8)		Rural	2.2	1.39	0.83	215,735	99,017	61,414	35,215	221,197	102,173	63,371	36,259
Total Disposal Tons			--			--	584,478	420,312	357,394	--	593,224	426,544	361,530
Total City Population			--			768,411	--	--	--	772,596	--	--	--
Total County Population			--			984,146	--	--	--	993,792	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2027				2028			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	25,161	17,462	12,485	11,083	25,870	18,068	12,918	11,443
Edgerton	Johnson(4)	private	3.3	2.39	2.22	4,636	3,217	2,300	2,042	4,768	3,330	2,381	2,109
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,333	2,778	2,150	1,909	4,339	2,800	2,166	1,919
Gardner	Johnson	private	3.3	2.39	2.22	30,247	20,991	15,008	13,323	31,111	21,729	15,536	13,761
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,022	655	507	450	1,023	660	511	453
Leawood(2)	Johnson	HA	3.1	2.39	2.22	46,504	29,818	23,075	20,484	47,071	30,374	23,505	20,821
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	39,015	25,016	19,359	17,185	38,946	25,131	19,448	17,227
Merriam	Johnson	private + HA	3.1	2.39	2.22	12,069	7,739	5,989	5,316	12,085	7,798	6,035	5,345
Mission	Johnson	contract	3.1	2.39	2.22	10,665	6,838	5,292	4,698	10,678	6,891	5,332	4,723
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,815	2,446	1,893	1,680	3,861	2,492	1,928	1,708
Olathe	Johnson	municipal	2.7	2.39	2.22	135,548	75,971	67,257	59,706	137,339	77,468	68,582	60,749
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	144,548	92,683	71,723	63,670	144,292	93,111	72,054	63,825
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,401	13,722	10,619	9,427	21,363	13,786	10,668	9,450
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,474	4,792	3,709	3,292	7,484	4,829	3,737	3,310
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,623	33,741	26,111	23,179	52,690	34,001	26,312	23,306
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	8,778	5,629	4,356	3,867	9,029	5,827	4,509	3,994
Westwood	Johnson	contract	3.1	2.39	2.22	1,681	1,078	834	740	1,683	1,086	840	744
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,737	1,272	789	451	2,751	1,287	798	455
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,738	5,041	3,384	1,932	11,814	5,107	3,428	1,953
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	45,195	29,175	18,183	19,908	45,489	29,552	18,418	20,121
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,337	1,551	962	549	3,353	1,569	973	554
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,151	1,465	908	519	3,166	1,481	919	523
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,681	2,641	1,638	935	5,709	2,671	1,657	944
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	6,129	2,849	1,767	1,009	6,159	2,881	1,787	1,018
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	13,156	6,116	3,793	2,166	13,337	6,240	3,870	2,205
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	3,994	1,857	1,152	657	3,984	1,864	1,156	659
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	132,144	100,150	62,246	58,207	131,572	100,355	62,373	58,198
KS Counties-rural(8)		Rural	2.2	1.39	0.83	226,658	105,365	65,351	37,310	232,119	108,595	67,354	38,369
Total Disposal Tons			--			--	602,058	432,839	365,694	--	610,981	439,197	369,887
Total City Population			--			776,781	--	--	--	780,966	--	--	--
Total County Population			--			1,003,438	--	--	--	1,013,084	--	--	--

KANSAS STATUS QUO QUANTITY INFORMATION

KANSAS			Waste Disposal			2029				2030			
City	County	Classification	lbs/day/person			Population	Residential	Commercial	C/D	Population	Residential	Commercial	C/D
			Res.	Com.	C/D		Disposal	Disposal	Disposal		Disposal	Disposal	Disposal
De Soto(0)	Johnson	contract	3.3	2.39	2.22	26,579	18,682	13,357	11,806	27,288	19,303	13,801	12,172
Edgerton	Johnson(4)	private	3.3	2.39	2.22	4,901	3,445	2,463	2,177	5,033	3,560	2,546	2,245
Fairway(1)	Johnson	HA	3.1	2.39	2.22	4,344	2,821	2,183	1,930	4,350	2,843	2,200	1,940
Gardner	Johnson	private	3.3	2.39	2.22	31,976	22,476	16,070	14,203	32,841	23,232	16,610	14,649
Lake Quivira	Johnson	contract	3.1	2.39	2.22	1,024	665	515	455	1,026	670	519	458
Leawood(2)	Johnson	HA	3.1	2.39	2.22	47,638	30,937	23,941	21,160	48,204	31,505	24,381	21,502
Lenexa(3)	Johnson	private + HA	3.1	2.39	2.22	38,877	25,247	19,538	17,269	38,808	25,364	19,628	17,310
Merriam	Johnson	private + HA	3.1	2.39	2.22	12,100	7,858	6,081	5,375	12,115	7,918	6,128	5,404
Mission	Johnson	contract	3.1	2.39	2.22	10,692	6,944	5,373	4,749	10,705	6,997	5,415	4,775
Mission Hills	Johnson	contract	3.1	2.39	2.22	3,908	2,538	1,964	1,736	3,954	2,585	2,000	1,764
Olathe	Johnson	municipal	2.7	2.39	2.22	139,129	78,980	69,921	61,800	140,920	80,508	71,274	62,858
Overland Park(4)	Johnson	private + HA	3.1	2.39	2.22	144,037	93,541	72,387	63,979	143,781	93,972	72,721	64,134
Prairie Village	Johnson	contract	3.1	2.39	2.22	21,325	13,849	10,717	9,472	21,287	13,913	10,767	9,495
Roeland Park	Johnson	contract	3.1	2.39	2.22	7,493	4,866	3,766	3,328	7,503	4,904	3,795	3,347
Shawnee(5)	Johnson	private	3.1	2.39	2.22	52,757	34,262	26,514	23,434	52,824	34,525	26,717	23,562
Spring Hill(0)	Johnson	contract	3.1	2.39	2.22	9,280	6,027	4,664	4,122	9,531	6,229	4,821	4,251
Westwood	Johnson	contract	3.1	2.39	2.22	1,685	1,094	847	748	1,687	1,103	853	753
Basehor	Leavenworth	contract	2.2	1.39	0.83	2,764	1,301	807	459	2,777	1,316	816	463
Lansing	Leavenworth	contract	2.1	1.39	0.83	11,891	5,173	3,472	1,974	11,967	5,239	3,517	1,995
Leavenworth	Leavenworth	municipal	3.1	1.94	2.22	45,784	29,934	18,656	20,337	46,078	30,319	18,896	20,553
Tonganoxie	Leavenworth	contract	2.2	1.39	0.83	3,369	1,586	984	559	3,385	1,604	995	564
Louisburg(6)(7)	Miami	contract	2.2	1.39	0.83	3,181	1,498	929	528	3,197	1,515	940	533
Osawatomie(7)	Miami	contract	2.2	1.39	0.83	5,737	2,701	1,675	952	5,764	2,731	1,694	961
Paola(6)(7)	Miami	contract	2.2	1.39	0.83	6,189	2,914	1,807	1,027	6,218	2,947	1,828	1,037
Bonner Springs	Wyandotte	contract	2.2	1.39	0.83	13,519	6,365	3,948	2,244	13,701	6,492	4,027	2,284
Edwardsville	Wyandotte	contract	2.2	1.39	0.83	3,973	1,871	1,160	660	3,963	1,878	1,165	661
Unified Govt/WY Cty	Wyandotte	contract	3.7	2.27	2.22	131,000	100,558	62,499	58,189	130,428	100,759	62,624	58,178
KS Counties-rural(8)		Rural	2.2	1.39	0.83	237,580	111,861	69,380	39,437	243,041	115,165	71,429	40,513
Total Disposal Tons			--			--	619,994	445,619	374,108	--	629,097	452,105	378,359
Total City Population			--			785,151	--	--	--	789,336	--	--	--
Total County Population			--			1,022,730	--	--	--	1,032,377	--	--	--

**APPENDIX C –
DISTRICT RESIDENTIAL WASTE
(DISPOSED) COMPOSITION**

MISSOURI-KANSAS RESIDENTIAL WASTE COMPOSTION

Material Category	Missouri			Kansas			Missouri-Kansas (Based on Actual Waste Flow Totals)		
	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples
Newspaper	281.62	17.56%	6.03%	1,004.99	16.10%	5.68%	49,163.89	16.8%	5.8%
Office Paper	100.39	6.26%	2.15%	704.51	11.29%	3.98%	26,024.18	8.9%	3.1%
Corrugated Paper	321.10	20.02%	6.87%	1,249.99	20.02%	7.07%	58,611.44	20.0%	7.0%
Magazines	154.00	9.60%	3.30%	894.55	14.33%	5.06%	35,351.92	12.1%	4.2%
Other Paper	746.65	46.56%	15.98%	2,388.51	38.26%	13.51%	123,572.78	42.2%	14.7%
Total Paper Fibers	1,603.76	--	34.32%	6,242.55	--	35.31%	292,724.21	--	34.8%
PET #1	94.28	13.50%	2.02%	349.53	15.66%	1.98%	16,780.04	14.5%	2.0%
HDPE #2	84.06	12.04%	1.80%	238.95	10.70%	1.35%	13,176.95	11.4%	1.6%
Film and Bags	221.99	31.78%	4.75%	731.86	32.79%	4.14%	37,273.12	32.3%	4.4%
Other Plastics	298.10	42.68%	6.38%	911.90	40.85%	5.16%	48,312.63	41.8%	5.7%
Total Plastics	698.43	--	14.95%	2,232.24	--	12.63%	115,542.75	--	13.7%
Tin	95.67	43.80%	2.05%	286.89	45.03%	1.62%	15,363.52	44.4%	1.8%
Aluminum	75.29	34.47%	1.61%	245.72	38.57%	1.39%	12,580.24	36.3%	1.5%
Other Metals	47.45	21.73%	1.02%	104.45	16.40%	0.59%	6,691.17	19.3%	0.8%
Total Metals	218.41	--	4.67%	637.06	--	3.60%	34,634.93	--	4.1%
Glass	285.86	--	6.12%	737.10	--	4.17%	42,957.61	--	5.1%
Other Glass	18.60	--	0.40%	80.13	--	0.45%	3,584.68	--	0.4%
Diapers	153.59	--	3.29%	677.42	--	3.83%	29,987.01	--	3.6%
Food	860.97	--	18.42%	2,815.71	--	15.93%	144,002.39	--	17.1%
Textiles/Rubber/Leather	361.41	--	7.73%	1,155.46	--	6.54%	59,797.75	--	7.1%
Wood	56.71	--	1.21%	144.87	--	0.82%	8,488.75	--	1.0%
Yard Waste	334.34	--	7.15%	2,713.62	--	15.35%	95,686.55	--	11.4%
Electronic Waste	10.18		0.22%	61.24		0.35%	2,388.61		0.3%
Household Hazardous Waste	34.80		0.74%	27.56		0.16%	3,703.59		0.4%
Non-Distinct Waste	36.08		0.77%	155.81		0.88%	6,962.71		0.8%
Adjusted Net Weight of Sorted Sample	4,673.14	--	100.00%	17,680.77	--	100.00%	840,461.54	--	100.0%

**APPENDIX D –
DISTRICT COMMERCIAL WASTE
(DISPOSED) COMPOSITION**

MISSOURI-KANSAS COMMERCIAL WASTE COMPOSTION

Material Category	Missouri			Kansas			Missouri-Kansas (Based on Actual Waste Flow Totals)		
	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples	New Weight (pounds)	% of Material Category	% of Adjusted Sorted Samples
Newspaper	250.82	7.17%	3.49%	381.50	7.85%	4.00%	28,751.30	7.5%	3.7%
Office Paper	829.31	23.71%	11.52%	769.02	15.82%	8.06%	78,909.58	20.4%	10.1%
Corrugated Paper	1,014.26	29.00%	14.09%	1,836.56	37.77%	19.24%	125,904.71	32.6%	16.2%
Magazines	325.37	9.30%	4.52%	220.73	4.54%	2.31%	28,302.27	7.3%	3.6%
Other Paper	1,077.79	30.82%	14.98%	1,654.16	34.02%	17.33%	124,032.74	32.1%	15.9%
Total Paper Fibers	3,497.55	--	48.60%	4,861.97	--	50.95%	385,900.60	--	49.5%
PET #1	184.32	16.89%	2.56%	197.22	14.09%	2.07%	18,401.05	15.8%	2.4%
HDPE #2	78.59	7.20%	1.09%	109.34	7.81%	1.15%	8,674.19	7.4%	1.1%
Film and Bags	409.33	37.51%	5.69%	493.67	35.26%	5.17%	42,691.41	36.6%	5.5%
Other Plastics	418.92	38.39%	5.82%	599.66	42.84%	6.28%	46,789.46	40.1%	6.0%
Total Plastics	1,091.16	--	15.16%	1,399.89	--	14.67%	116,556.11	--	15.0%
Tin	61.45	31.65%	0.85%	125.19	47.10%	1.31%	8,084.76	38.0%	1.0%
Aluminum	91.95	47.36%	1.28%	113.55	42.72%	1.19%	9,677.08	45.5%	1.2%
Other Metals	40.75	20.99%	0.57%	27.07	10.18%	0.28%	3,525.78	16.6%	0.5%
Total Metals	194.15	--	2.70%	265.81	--	2.79%	21,287.62	--	2.7%
Glass	214.51	--	2.98%	252.75	--	2.65%	22,177.01	--	2.8%
Other Glass	23.70	--	0.33%	21.08	--	0.22%	2,225.65	--	0.3%
Diapers	181.44	--	2.52%	205.44	--	2.15%	18,484.32	--	2.4%
Food	1,147.27	--	15.94%	1,573.84	--	16.49%	125,894.93	--	16.2%
Textiles/Rubber/Leather	415.15	--	5.77%	385.53	--	4.04%	39,520.29	--	5.1%
Wood	80.92	--	1.12%	141.01	--	1.48%	9,864.03	--	1.3%
Yard Waste	305.48	--	4.24%	269.74	--	2.83%	28,622.74	--	3.7%
Electronic Waste	16.55		0.23%	20.12		0.21%	1,731.34		0.2%
Household Hazardous Waste	7.37		0.10%	4.00		0.04%	608.28		0.1%
Non-Distinct Waste	21.35		0.30%	141.93		1.49%	6,038.36		0.8%
Adjusted Net Weight of Sorted Sample	7,196.60	--	100.00%	9,543.11	--	100.00%	778,911.28	--	100.0%

**APPENDIX E –
MAY 21, 2008 MEETING HANDOUT**

Agenda

Potential Future Sustainable Solid Waste Management Alternatives

May 21, 2008

- Introduction (15 minutes)
- Presentation by CalRecovery (30 minutes)
- Breakout Groups (45 to 60 minutes)
- Break (15 minutes)
- Individual Group Presentations (30 minutes)
- Summary (20 minutes)

Potential Universe of Waste Diversion Programs and Ranking

		Background Information					Program Ranking (1 = highest priority, 5 = lowest priority)
	Program	Technology Track Record ^{a)}	EPA Hierarchy ^{b)}	Typical Range of % Diversion	Example of Diversion with Incentives	Example of Diversion w/o Incentives	
	Source Reduction			0.1 to 3			
1	Grasscycling	4	4	*			
2	Backyard and Onsite Composting/Mulching	4	4	*			
3	Business Source Reduction	4	4	*			
4	Procurement	4	4	*			
5	School Source Reduction	4	4	*			
6	Government Source Reduction	4	4	*			
7	Material Exchange, Thrift Shops	4	4	*			
	Recycling						
8	Residential Curbside	5	3	3 to 15	10	5	
9	Residential Drop-Off	5	3	*	1		
10	Residential Buy-Back	5	3	*			
11	Commercial Onsite Pickup	5	3	5 to 25	15	5	
12	Commercial Self-Haul	5	3	1 to 10	5	2	
13	School Recycling	5	3	*			
14	Government Recycling	5	3	*			
15	Special Collection Seasonal (regular)	5	3	*			
16	Special Collection Events	5	3	*			
	Composting						
17	Residential Curbside Greenwaste Collection	5	3	5 to 15	10	5	
18	Residential Self-Haul Greenwaste	5	3	*	2	1	
19	Commercial Onsite Greenwaste Pickup	5	3	*	2	1	
20	Commercial Self-Haul Greenwaste	5	3	5 to 10	5	2	
21	Food Waste Composting	2	3	*			
22	School Composting	2	3	*			
23	Government Composting	5	3	*			
	Special Waste Materials		3				
24	Sludge (sewage/industrial)	5	3	*			
25	Tires	5	3	*			
26	White Goods	5	3	*			
27	Scrap Metal	5	3	*			
28	Wood Waste	5	3	1 to 3	2	1	
29	Concrete/Asphalt/Rubble	5	3	5 to 35	15	5	
30	Shingles	5	3	*			
31	Rendering	5	3	*			
	Public Education						
32	Electronic (radio, TV, Web, hotlines)	5		*			
33	Print (brochures, flyers, guides, news articles)	5		*			
34	Outreach (tech assistance, presentations, awards, fairs, field trips)	5		*			
35	Schools (education and curriculum)	5		*			
	Policy Incentives						
36	Product and Landfill Bans	5		depends on material type, varies from low to high %			
37	Economic Incentives	5		enables medium to high % diversion			
38	Ordinances	5		may be needed to achieve high diversion			
	Household Hazardous Waste (HHW)						
39	Drop-Off Program	5	3	*			
40	Mobile or Periodic Collection	5	3	*			
41	Curbside Collection	5	3	*			
42	Waste Exchange	5	3	*			
43	Education Programs	5	3	*			
44	Electronic Waste	3	3	*			
	Total				67	27	
	^{a)} 5=proven program, known costs; 1=unproven program, unknown costs						
	^{b)} 4 (most preferred)=source reduction; 3=recycling/composting; 2=waste-to-energy; 1 (least preferred)=landfill disposal						
	* typically fractions of a percent up to a couple of percentage points						

Description of Programs

Program Category	Subcategory	Descriptions/Examples
Source Reduction		
	Grasscycling	<ul style="list-style-type: none"> • Grasscycling: <ul style="list-style-type: none"> ○ Residential ○ Commercial
	Backyard and Onsite Composting/ Mulching	<ul style="list-style-type: none"> • Backyard Composting: <ul style="list-style-type: none"> ○ Onsite composting by businesses by schools ○ Onsite composting by residences
	Business Source Reduction	<ul style="list-style-type: none"> • Business Waste Reduction: <ul style="list-style-type: none"> ○ Business Waste Prevention: <ul style="list-style-type: none"> ▪ Ceramic cups ▪ Paper form reduction ▪ Electronic media ▪ Double-sided copies ○ Commercial/industrial ○ Diaper service ○ Auto dismantling ○ Salvage yards
	Procurement	<ul style="list-style-type: none"> • Procurement Programs: <ul style="list-style-type: none"> ○ Joint purchase pools ○ Procurement of recycled-content products
	School Source Reduction	<ul style="list-style-type: none"> • School Waste Reduction: <ul style="list-style-type: none"> ○ School waste prevention ○ District waste prevention
	Government Source Reduction	<ul style="list-style-type: none"> • Government Waste Reduction: <ul style="list-style-type: none"> ○ In-house source reduction - city, county, state, federal
	Material Exchange, Thrift Shops	<ul style="list-style-type: none"> • Materials Exchange: <ul style="list-style-type: none"> ○ Regional waste exchange ○ Garage sales ○ Flea markets ○ Website-based exchange programs ○ Food exchanges
Recycling		
	Residential Curbside	<ul style="list-style-type: none"> • Single-Family, Commingled • Single-Family, Source-Separated • Multi-Family, Commingled • Multi-Family, Source-Separated

Program Category	Subcategory	Descriptions/Examples
	Residential Drop-Off	<ul style="list-style-type: none"> • Drop-Off Boxes and Center: <ul style="list-style-type: none"> ○ Public recycling receptacles
	Residential Buy-Back	<ul style="list-style-type: none"> • Buy-back Center(s)
	Commercial Onsite Pickup	<ul style="list-style-type: none"> • Commercial Collection Programs: <ul style="list-style-type: none"> ○ Cardboard ○ Office paper ○ Beverage containers • Other Material: <ul style="list-style-type: none"> ○ Triple-rinsed plastic pesticide containers ○ Glass ○ Newspaper ○ Promotion of programs
	Commercial Self-Haul	
	School Recycling	
	Government Recycling	
	Special Collection Seasonal (regular - not special waste collection)	<ul style="list-style-type: none"> • Seasonal/Special Collection Programs: <ul style="list-style-type: none"> ○ Telephone books ○ Christmas trees ○ "Bulky" item collection days
	Special Collection Events	<ul style="list-style-type: none"> • Clean-Up Events: <ul style="list-style-type: none"> ○ Recycling at special events (fairs, marathons, community celebrations)
Composting		
	Residential Curbside Greenwaste Collection	<ul style="list-style-type: none"> • Residential, Curbside Source-Separated • Residential, Curbside Commingled
	Residential Self-Haul Greenwaste	<ul style="list-style-type: none"> • Self-Hauled to Composting Site
	Commercial Onsite Greenwaste Pickup	<ul style="list-style-type: none"> • Commercial Collection Programs: <ul style="list-style-type: none"> ○ Street-sweeping debris ○ On-call Curbside Collection
	Commercial Self-Haul Greenwaste	<ul style="list-style-type: none"> • Drop-Off
	Food Waste Composting (pickup/self-haul)	<ul style="list-style-type: none"> • Food Waste Composting/Vermicomposting
	School Composting	<ul style="list-style-type: none"> • Onsite Composting by Schools
	Government Composting	

Program Category	Subcategory	Descriptions/Examples
Special Waste Materials		
	Sludge (sewage/industrial)	<ul style="list-style-type: none"> • Soil Amendment: <ul style="list-style-type: none"> ○ Landspreading of biosolids • Co-Composting
	Tires	<ul style="list-style-type: none"> • Retreads • Other Reuse: <ul style="list-style-type: none"> ○ Tire reuse opportunities ○ Tire recycling opportunities • Rubberized Asphalt • Other Tire-Derived Products • Collection Program: <ul style="list-style-type: none"> ○ Drop-off at landfills
	White Goods	<ul style="list-style-type: none"> • White Goods: <ul style="list-style-type: none"> ○ Repair/Reuse: <ul style="list-style-type: none"> ▪ White and brown goods reuse/recycling ○ Special collection events ○ Salvage at processing centers
	Scrap Metal	<ul style="list-style-type: none"> • Scrap Metals/Abandoned Vehicles: <ul style="list-style-type: none"> ○ Salvage at processing centers
	Wood Waste	<ul style="list-style-type: none"> • Wood Waste Chipping for Mulch or Compost: <ul style="list-style-type: none"> ○ Drop-off • Brush/Wood Waste Chipping
	Concrete/Asphalt/Rubble	<ul style="list-style-type: none"> • Inerts (Construction/Demolition): <ul style="list-style-type: none"> ○ Concrete/rubble reuse ○ Fill for land reclamation ○ Subbase material for roads ○ Concrete/asphalt recycling
	Shingles	<ul style="list-style-type: none"> • Shingles Used as Asphalt Enhancer
	Rendering	<ul style="list-style-type: none"> • Dead Animal Program • Grease
Public Education		
	Electronic (radio, TV, Web, hotlines)	<ul style="list-style-type: none"> • Public Service Announcements: <ul style="list-style-type: none"> ○ Videos ○ Slide show ○ Media campaign ○ Radio/TV • Hotline: <ul style="list-style-type: none"> ○ Web page

Program Category	Subcategory	Descriptions/Examples
	Print (brochures, flyers, guides, news articles)	<ul style="list-style-type: none"> • Newspaper Articles: <ul style="list-style-type: none"> ○ Newspaper ads • Brochures, Newsletters, Publications: <ul style="list-style-type: none"> ○ Fliers ○ Office paper recycling guide ○ Tire guide ○ Local recycling guide ○ Fact sheets ○ New resident package
	Outreach (technical assistance, presentations, awards, fairs, field trips)	<ul style="list-style-type: none"> • Outreach: <ul style="list-style-type: none"> ○ Seminars ○ Workshops ○ Exhibits ○ Mascot ○ Waste information exchange ○ Recycled goods procurement training ○ Environmental shopping campaign ○ Block captain program ○ Mobile composting cart ○ Smart shop campaign ○ Neighborhood block leader ○ Recycling booth • Speakers Bureau: <ul style="list-style-type: none"> ○ Community recycling advocates ○ Listing of speakers • Awards Programs/Public Awareness: <ul style="list-style-type: none"> ○ State or local recycling awards ○ Theme and logo • Field Trips: <ul style="list-style-type: none"> ○ Offered to schools, scout troops, etc. • Speakers: <ul style="list-style-type: none"> ○ Staff available to make presentations • Technical Assistance Commercial/Industrial: <ul style="list-style-type: none"> ○ Consumer/business committee on solid waste reduction ○ Resort/tourist business education program ○ Market development technical assistance ○ Waste evaluation – recycling • Technical Assistance: <ul style="list-style-type: none"> ○ Waste audits ○ Assistance to jurisdictions, commercial, industrial, institutional, schools, etc. ○ Waste evaluations/survey
	Schools (education & curriculum)	<ul style="list-style-type: none"> • School Curriculum: <ul style="list-style-type: none"> ○ School education task force

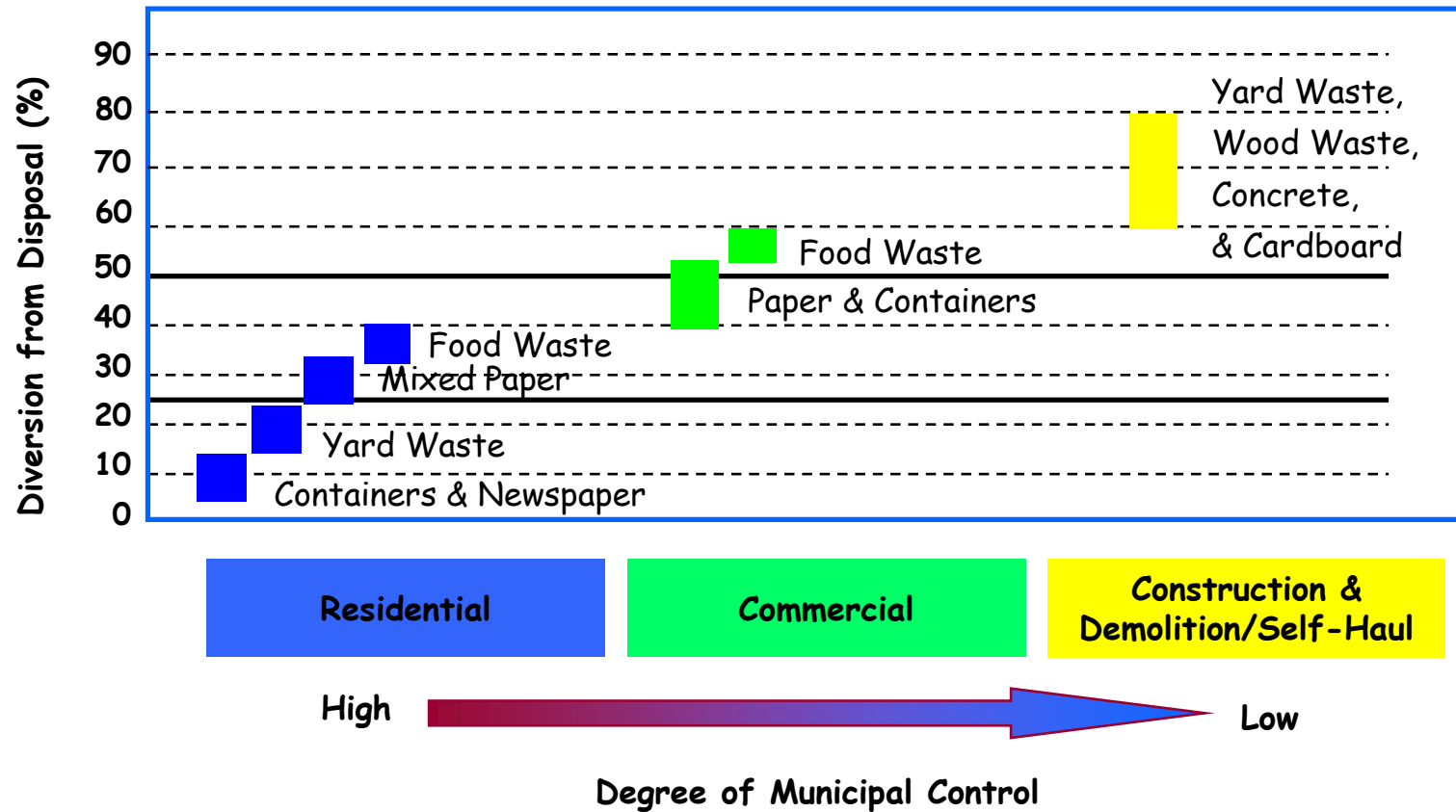
Program Category	Subcategory	Descriptions/Examples
		<ul style="list-style-type: none"> ○ Grants to schools
Policy Incentives		
	Product and Landfill Bans	<ul style="list-style-type: none"> ● Landfill Ban on Green Waste ● Product and Packaging Bans ● Landfill Ban on Ash ● Landfill Ban on Construction Demolition Debris ● Landfill Ban on White Goods ● Landfill Ban on Scrap Metals/Vehicles: <ul style="list-style-type: none"> ○ Tire landfill bans ○ Mattresses ● Landfill Ban on Sewage Sludge
	Economic Incentives	<ul style="list-style-type: none"> ● Recycling Market Development Program ● Tipping Fee Incentive: <ul style="list-style-type: none"> ○ For haulers, commercial landscapers, etc. ● Collection Rate Incentive (composting policies) ● Rate Structure Modifications: <ul style="list-style-type: none"> ○ Quantity-based user fees (variable can rate) ○ Modified disposal fees ● Economic Incentives: <ul style="list-style-type: none"> ○ Advanced recycling fees ○ Deposits ○ Refunds ○ Rebates ○ Business license fees ○ Special business license category for landscapers ○ Loans ○ Loan guarantees ○ Grants ○ Quantity-based residential collection fee ○ Surcharge at disposal facilities
	Ordinances	<ul style="list-style-type: none"> ● Support State and Federal Regulatory Programs: <ul style="list-style-type: none"> ○ Restaurant packing reduction ○ Mandatory solid waste planning and reporting requirements ● Local Government Ordinance for Recycling: <ul style="list-style-type: none"> ○ Mandatory collection ordinance ○ Ordinance requiring source separation of C&D materials ○ Anti-scavenging ordinance ○ Zoning modification that allows location of a recycling center where one wasn't previously allowed ○ Local procurement ordinance ○ Ordinance that requires developer/contractor to include

Program Category	Subcategory	Descriptions/Examples
		<ul style="list-style-type: none"> ○ recycling area in design of new multi-family and commercial developments ○ Multi-family and commercial developments ○ Ordinance that requires contractors to separate their construction and/or demolition waste on site, to facilitate recycling of that waste ● Local Government Ordinance Mandating Garbage Collection ● Building Code Changes: <ul style="list-style-type: none"> ○ Source reduction-related ordinance that requires contractors/developers to use source reduction methods in their building plans/practices, like using pre-cut or plastic lumber, or de-construction methods that recover building materials for reuse
Household Hazardous Waste (HHW)		
	Drop-Off Program	
	Mobile or Periodic Collection	<ul style="list-style-type: none"> ● Mobile Collection Facility: <ul style="list-style-type: none"> ○ Vehicle ○ Trailer ● Periodic/Temporary: Collection Facility/Event
	Curbside Collection	<ul style="list-style-type: none"> ● Door-to-Door Collection Program ● Curbside Collection Program: <ul style="list-style-type: none"> ○ Used oil collection
	Waste Exchange	<ul style="list-style-type: none"> ● Waste Exchange
	Education Programs	<ul style="list-style-type: none"> ● Education: <ul style="list-style-type: none"> ○ Point of purchase information for HHW ○ Dedicated HHW hotline
	Electronic Waste	<ul style="list-style-type: none"> ● Public and/or Private Programs ● Includes Programs Collecting All Electronic Products (E-waste) ● E-waste includes consumer and business electronic equipment that may include, but not limited to, cell phones, computers, TVs, VCRs, stereos, copiers, fax machines and similar devices

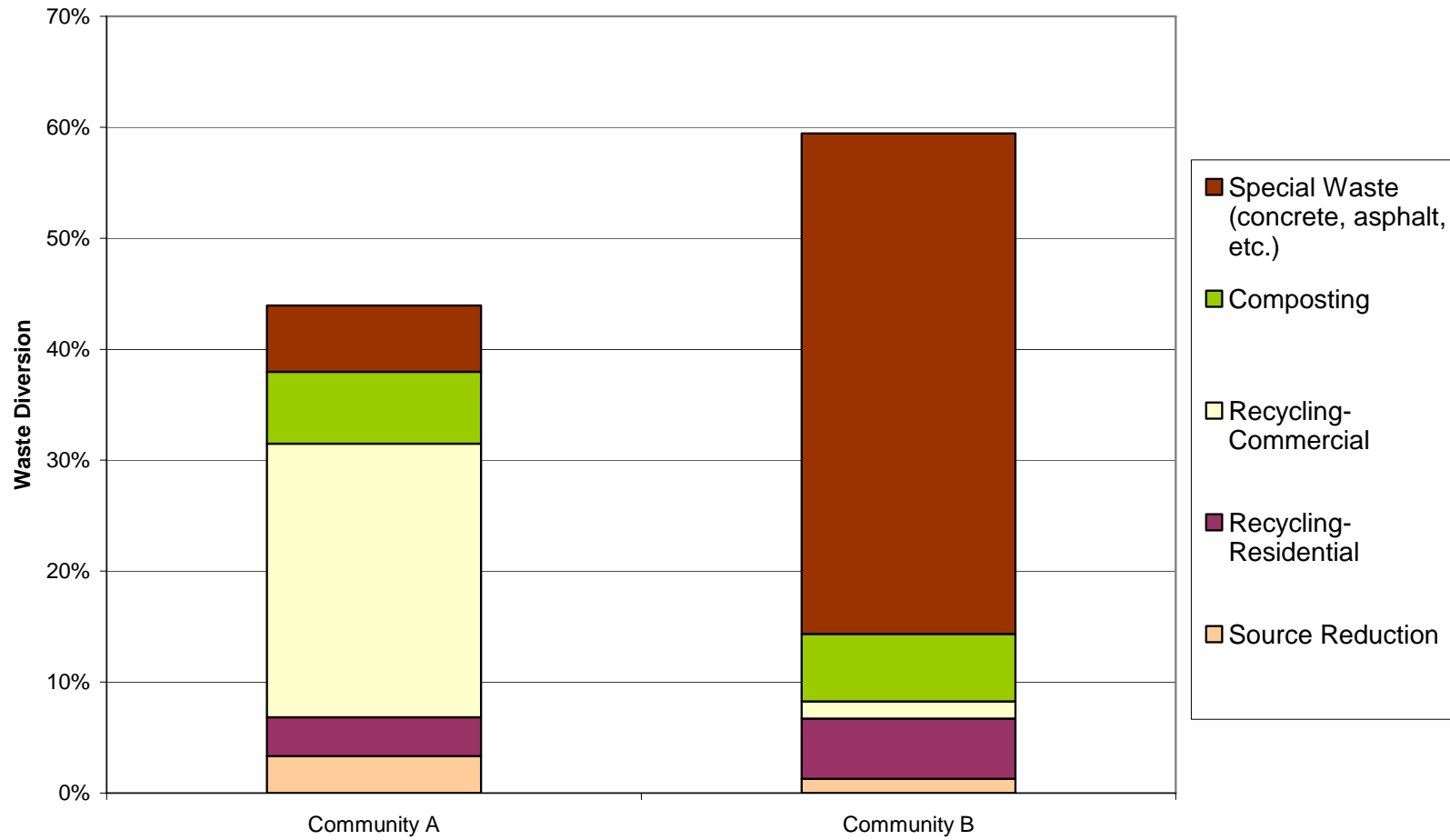
Evaluation Criteria**MARC Workshop**

May 21, 2008

- Has the alternative program or system been ruled out by your community due to public policy or another reason?
- Is it important to your community to implement alternatives with higher priority in terms of the US EPA solid waste management (SWM) hierarchy (order of priority: waste prevention (highest ranking), recycling/composting, energy from waste, landfill disposal (lowest ranking))?
- Is the alternative program/system compatible with your community's existing SWM infrastructure?
- If not currently compatible, would your community be willing to modify the SWM infrastructure to make the program/system compatible?
- Is it important to your community to implement programs/systems that have a track record (whether public or private management), as opposed to those with little commercial operating history?
- Does your community want to achieve high levels of waste diversion in spite of potentially higher financial costs of solid waste management, due to the other social and environmental benefits of diverting waste from disposal?
- Regardless of the US EPA solid waste management hierarchy, is combustion or thermal processing of waste or a portion thereof an acceptable form of SWM in your community?
- Is construction and demolition waste a substantial portion of the total solid waste generated in your community?



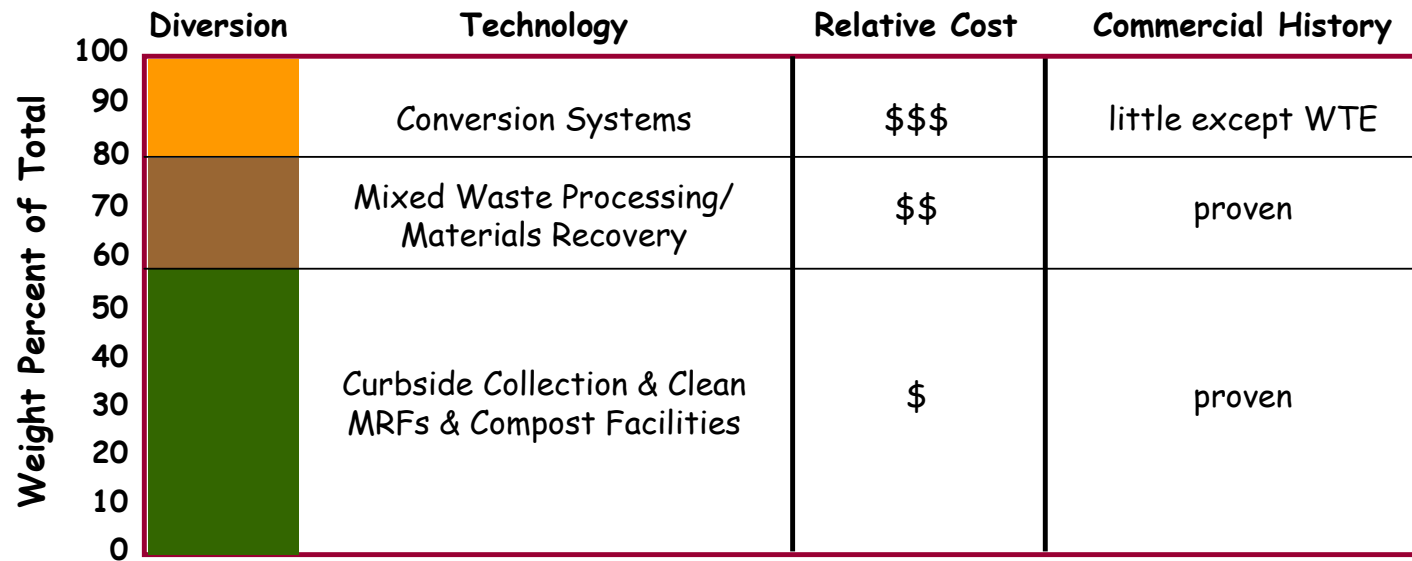
Example of Typical Solid Waste Management Infrastructure in the United States
Designed to Achieve High Waste Diversion Rates



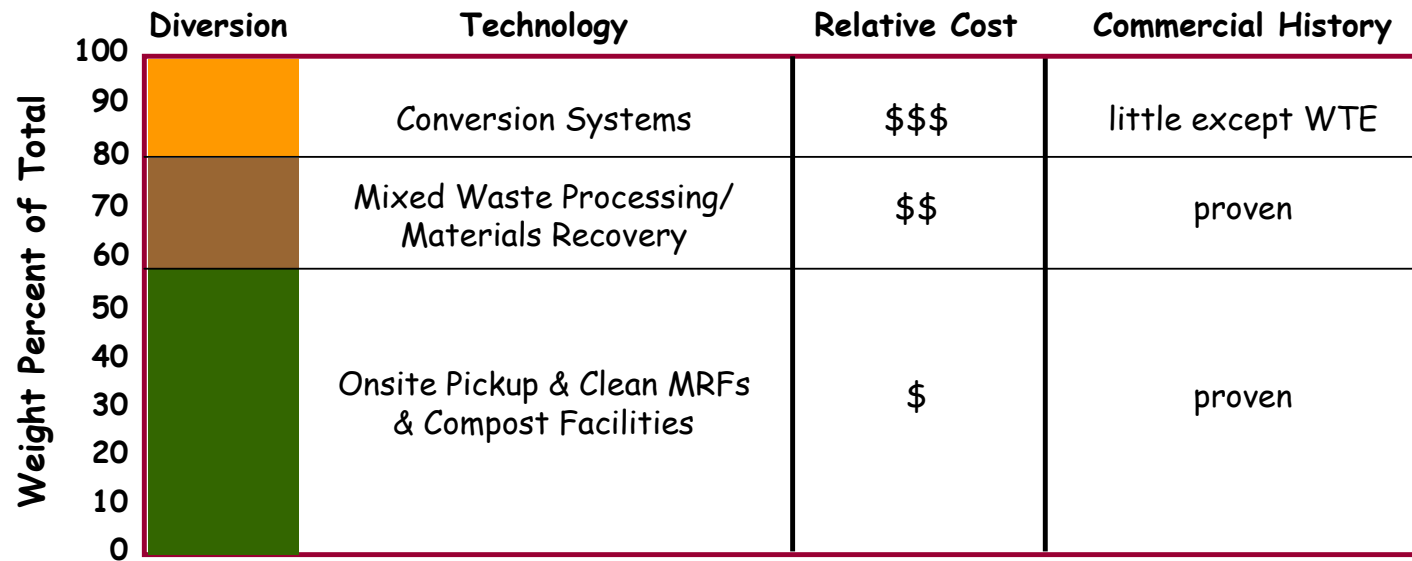
Examples of Effect of Diversion Programs for Differing Conditions and Emphases

Estimated Solid Waste Generation in the MARC Region -- 2010 ^{a)}

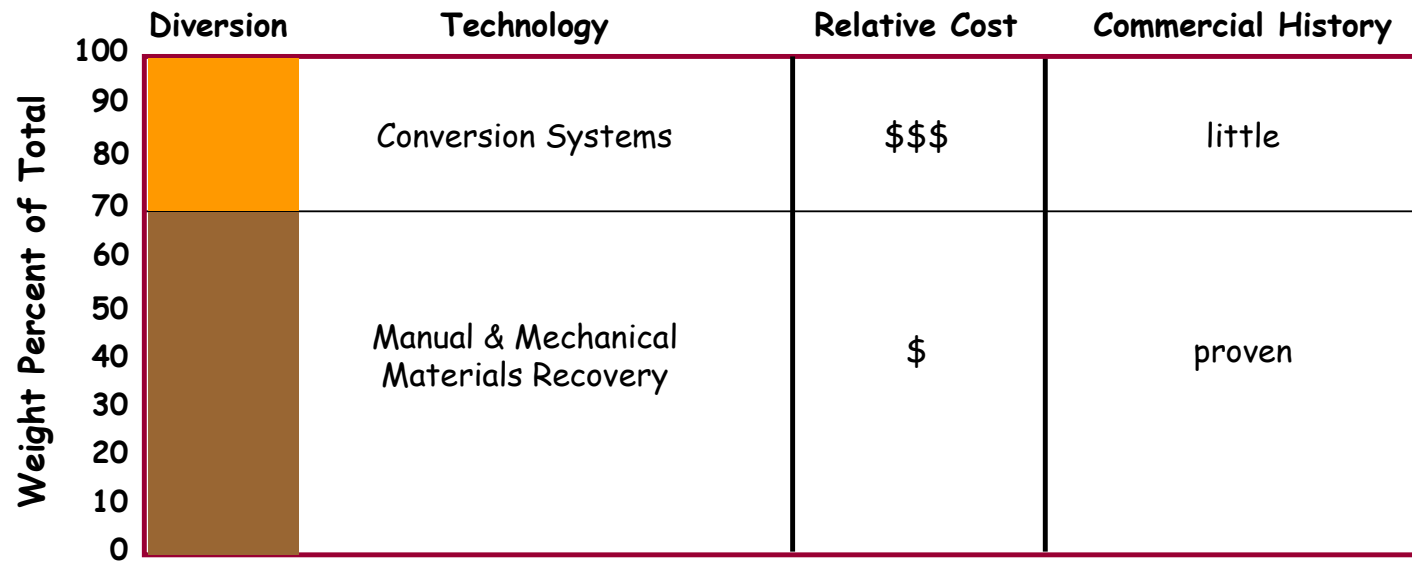
Waste Type	Cities & Towns Managing Waste Collection		Cities & Towns Relying on Private		Rural Areas		Regional Composite	
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent
Residential	476,531	30.9%	432,450	36.2%	87,701	43.0%	996,682	33.9%
Commercial	582,643	37.8%	375,181	31.4%	71,792	35.2%	1,029,616	35.1%
Total MSW	1,059,174		807,631		159,493		2,026,298	
Total C&D	480,545	31.2%	385,557	32.3%	44,463	21.8%	910,565	31.0%
Total	1,539,719	100.0%	1,193,188	100.0%	203,956	100.0%	2,936,863	100.0%
^{a)} Based on preliminary data of current conditions developed by Burns & McDonnell, May 2008								



Example of Staging of Diversion Technologies -- Residential



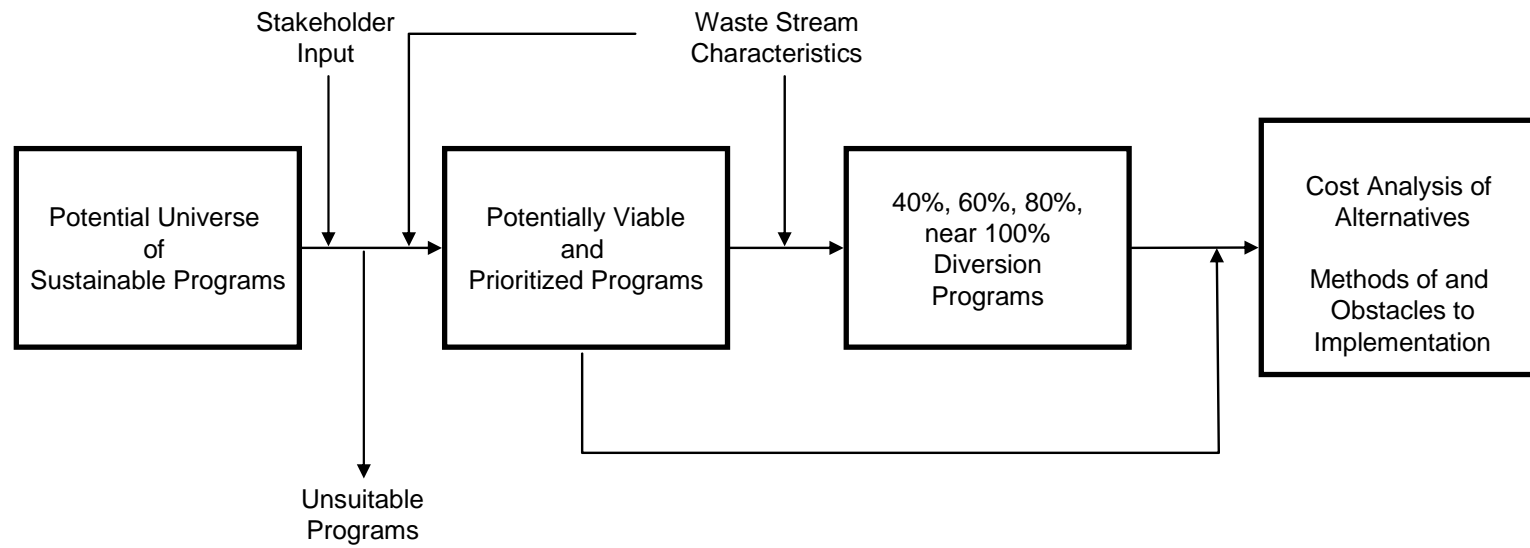
Example of Staging of Diversion Technologies -- Commercial



Example of Staging of Diversion Technologies -- Construction & Demolition/Self-Haul

Supplemental Information on Processing Technologies

Technology	Technology Track Record ^{a)}	EPA Hierarchy ^{b)}	Typical Range of % Diversion
Materials Recovery			
Mixed Waste MRF	4	3	low
Source-Separated MRF	5	3	high
Landfill (materials recovery)	5	3	low
Transfer Station (materials recovery)	5	3	low to medium
Composting Facility	5	3	low to medium
C&D Debris Facility	4	3	medium to high
Conversion			
Waste-to-Energy (incineration with energy recovery)	5	2	5% to 80%, depending on % recycled/composted
Biomass-to-Energy	5	2	1% to 5%, depending on % recycled/composted
Tires-to-Energy	5	2	*
Emerging Technologies (pyrolysis, anaerobic digestion)	1	2	5% to 70%, depending on % recycled/composted
^{a)} 5=proven technology, known costs; 1=unproven technology, unknown costs			
^{b)} 4 (most preferred)=source reduction; 3=recycling/composting; 2=waste-to-energy; 1 (least preferred)=landfill disposal			



General Process of Task 2 Alternatives Selection and Task 3 Cost Analysis

**APPENDIX F –
POTENTIAL FUTURE SUSTAINABLE SOLID WASTE MANAGEMENT
ALTERNATIVES – RESULTS OF MAY 21, 2008 WORKSHOP**

Potential Future Sustainable Solid Waste Management Alternatives Results of May 21, 2008 Workshop

	Component Name/Program	Group 1	Group 2	Group 3	Group 4	Group 5	Average	Ranking
	Source Reduction							
1	Grasscycling	1	1	1	1	1	1.0	High
2	Backyard and Onsite Composting/Mulching	3	4	1	1	3	2.4	Medium
3	Business Source Reduction	1	1	1		1	1.0	High
4	Procurement	1	1	1		1	1.0	High
5	School Source Reduction	1	1	1		1	1.0	High
6	Government Source Reduction	1	1	1		1	1.0	High
7	Material Exchange, Thrift Shops	4	3	1		1	2.3	Medium
	Recycling							
8	Residential Curbside	1	1	1	1	1	1.0	High
9	Residential Drop-Off	1	1	1	2	2	1.4	High
10	Residential Buy-Back	4	3	2	5	4	3.6	Low
11	Commercial On-Site Pickup	1	1	1	1	1	1.0	High
12	Commercial Self-Haul	4	1	1	5	1	2.4	Medium
13	School Recycling	1	1	1	2	1	1.2	High
14	Government Recycling	1	1	1	2	1	1.2	High
15	Special Collection Seasonal (regular)	1	1	1		1	1.0	High
16	Special Collection Events	1	1	1		3	1.5	High
	Composting							
17	Residential Curbside Green Waste Collection	3	1	3	4	1	2.4	Medium
18	Residential Self-Haul Green Waste	4	1	3	4	1	2.6	Medium
19	Commercial Onsite Green Waste Pick-up	5	1	3	5	3	3.4	Low
20	Commercial Self-Haul Green Waste	5	1	3	5	1	3.0	Medium
21	Food Waste Composting	2	1	3	4	3	2.6	Medium
22	School Composting	1	3	3	5	3	3.0	Medium
23	Government Composting	3	1	5	2	3	2.8	Medium
	Special Waste Materials							
24	Sludge (sewage/industrial)	5	2	5	4	3	3.8	Low
25	Tires	4	1	1	2	1	1.8	High
26	White Goods		1	3	4	1	2.3	Medium
27	Scrap Metal	4	1	5	5	1	3.2	Low
28	Wood Waste	1	1	3	2	1	1.6	High
29	Concrete/Asphalt/Rubble	1	1	3	1	1	1.4	High
30	Shingles	1	1	4		3	2.3	Medium
31	Rendering	5	3				4.0	Low
	Public Education							
32	Electronic (radio ,TV, Web, hotlines)	1	1	1	1	1	1.0	High
33	Print (brochures, flyers, guides, news articles)	1	1	1	5	1	1.8	High
34	Outreach (tech assistance, presentations, awards, fairs, field trips)	1	1	3	1	3	1.8	High
35	Schools (education and curriculum)	1	1	1	1	1	1.0	High
	Policy Incentives							
36	Product and Landfill Bans	2	4	2	1	1	2.0	Medium
37	Economic Incentives	1	1	1	1	1	1.0	High
38	Ordinances	2	1	1	1	1	1.2	High
	Household Hazardous Waste (HHW)							
39	Drop-Off Program	3	1	1	1	1	1.4	High
40	Mobile or Periodic Collection	3	1	1	1	1	1.4	High
41	Curbside Collection	5	5	5	5	4	4.8	Exclude
42	Waste Exchange	5	1.5	3	1	3	2.7	Medium
43	Education Programs	1	1	1		1	1.0	High
44	Electronic Waste	1	1	3		1	1.5	High

Priority rating for implementation: Highest – 1; Lowest – 5

Ranking categories: High – Less than 2.0; Medium – 2.0 to 3.0; Low – 3.1 to 4.0; Exclude – More than 4.0

**APPENDIX G–
DETAILS OF PROGRAMS TO REACH
SCENARIO DIVERSION GOALS**

Breakdown of Programs to Reach 40% Diversion by 2013 (tons/yr)

	Residential	Commercial	C&D/ Self-Haul	Total
<i>Tons Generated</i>	1,183,632	1,219,712	945,158	3,348,502
Source Reduction				
Grasscycling	5,900	-	-	5,900
Backyard and Onsite Composting/Mulching	9,500	-	-	9,500
Business Source Reduction	-	6,100	-	6,100
Procurement	-	3,000	-	3,000
School Source Reduction	-	3,000	-	3,000
Government Source Reduction	-	3,000	-	3,000
Material Exchange, Thrift Shops	-	-	-	-
Recycling				
Residential Curbside	365,400	-	-	365,400
Residential Drop-Off	32,700	-	-	32,700
Residential Buy-Back	4,700	-	-	4,700
Commercial On-Site Pickup	-	387,900	-	387,900
Commercial Self-Haul	-	24,400	-	24,400
School Recycling	-	36,600	-	36,600
Government Recycling	-	36,600	-	36,600
Special Collection Seasonal (regular)	1,500	-	-	1,500
Special Collection Events	-	-	-	-
Composting				
Residential Curbside Greenwaste Collection	112,300	-	-	112,300
Residential Self-Haul Greenwaste	32,500	-	-	32,500
Commercial Onsite Greenwaste Pick-up	-	12,200	-	12,200
Commercial Self-Haul Greenwaste	-	-	-	-
Food Waste Composting	-	1,600	-	1,600
School Composting	-	9,100	-	9,100
Government Composting	-	9,100	-	9,100
Special Waste Materials				
Tires	-	-	-	-
White Goods	2,200	5,400	-	7,600
Scrap Metal	-	-	-	-
Wood Waste	-	-	-	-
Concrete/Asphalt/Rubble	-	-	217,000	217,000
Shingles	-	-	-	-
Drywall, Other C&D	-	-	-	-
Household Hazardous Waste (HHW)				
Drop-Off Program	900	-	-	900
Mobile or Periodic Collection	500	-	-	500
Waste Exchange	-	-	-	-
Electronic Waste	900	1,000	-	1,900
Emerging Technology				
TOTALS	569,000	539,000	217,000	1,325,000
DIVERSION RATE	48%	44%	23%	40%

Breakdown of Programs to Reach 60% Diversion by 2018 (tons/yr)

	Residential	Commercial	C&D/ Self-Haul	Total
<i>Tons Generated</i>	<i>1,275,216</i>	<i>1,305,290</i>	<i>999,619</i>	<i>3,580,125</i>
Source Reduction				
Grasscycling	9,600	-	-	9,600
Backyard and Onsite Composting/Mulching	38,300	-	-	38,300
Business Source Reduction	-	19,600	-	19,600
Procurement	-	9,800	-	9,800
School Source Reduction	-	9,800	-	9,800
Government Source Reduction	-	9,800	-	9,800
Material Exchange, Thrift Shops	3,200	-	-	3,200
Recycling				
Residential Curbside	562,400	-	-	562,400
Residential Drop-Off	35,200	-	-	35,200
Residential Buy-Back	5,100	-	-	5,100
Commercial On-Site Pickup	-	553,400	-	553,400
Commercial Self-Haul	-	26,100	-	26,100
School Recycling	-	54,800	-	54,800
Government Recycling	-	54,800	-	54,800
Special Collection Seasonal (regular)	1,600	-	-	1,600
Special Collection Events	-	-	-	-
Composting				
Residential Curbside Greenwaste Collection	149,200	-	-	149,200
Residential Self-Haul Greenwaste	35,000	-	-	35,000
Commercial Onsite Greenwaste Pick-up	-	20,900	-	20,900
Commercial Self-Haul Greenwaste	-	-	-	-
Food Waste Composting	-	1,800	-	1,800
School Composting	-	13,700	-	13,700
Government Composting	-	13,700	-	13,700
Special Waste Materials				
Tires	-	-	-	-
White Goods	2,300	5,800	-	8,100
Scrap Metal	-	-	65,000	65,000
Wood Waste	-	-	108,700	108,700
Concrete/Asphalt/Rubble	-	-	251,900	251,900
Shingles	-	-	30,000	30,000
Drywall, Other C&D	-	-	65,000	65,000
Household Hazardous Waste (HHW)				
Drop-Off Program	1,000	-	-	1,000
Mobile or Periodic Collection	500	-	-	500
Waste Exchange	-	-	-	-
Electronic Waste	1,000	1,000	-	2,000
Emerging Technology				
TOTALS	844,400	795,000	520,600	2,160,000
DIVERSION RATE	66%	61%	52%	60%

Breakdown of Programs to Reach 80% Diversion by 2023 (tons/yr)

	Residential	Commercial	C&D/ Self-Haul	Total
<i>Tons Generated</i>	<i>1,369,215</i>	<i>1,393,225</i>	<i>1,054,675</i>	<i>3,817,115</i>
Source Reduction				
Grasscycling	12,300	-	-	12,300
Backyard and Onsite Composting/Mulching	49,300	-	-	49,300
Business Source Reduction	-	25,100	-	25,100
Procurement	-	12,500	-	12,500
School Source Reduction	-	12,500	-	12,500
Government Source Reduction	-	12,500	-	12,500
Material Exchange, Thrift Shops	6,200	-	-	6,200
Recycling				
Residential Curbside	603,800	-	-	603,800
Residential Drop-Off	73,900	-	-	73,900
Residential Buy-Back	12,300	-	-	12,300
Commercial On-Site Pickup	-	664,600	75,900	740,500
Commercial Self-Haul	-	55,700	-	55,700
School Recycling	-	66,900	-	66,900
Government Recycling	-	66,900	-	66,900
Special Collection Seasonal (regular)	5,500	-	-	5,500
Special Collection Events	-	11,100	-	11,100
Composting				
Residential Curbside Greenwaste Collection	160,200	-	-	160,200
Residential Self-Haul Greenwaste	37,600	-	-	37,600
Commercial Onsite Greenwaste Pick-up	-	22,300	-	22,300
Commercial Self-Haul Greenwaste	-	-	42,200	42,200
Food Waste Composting	124,600	87,800	-	212,400
School Composting	-	16,700	-	16,700
Government Composting	-	16,700	-	16,700
Special Waste Materials				
Tires	5,500	5,600	-	11,100
White Goods	4,400	10,000	-	14,400
Scrap Metal	-	5,600	109,700	115,300
Wood Waste	11,000	11,100	183,500	205,600
Concrete/Asphalt/Rubble	-	-	265,800	265,800
Shingles	-	-	50,600	50,600
Drywall, Other C&D	-	-	109,700	109,700
Household Hazardous Waste (HHW)				
Drop-Off Program	1,100	-	-	1,100
Mobile or Periodic Collection	500	-	-	500
Waste Exchange	-	-	-	-
Electronic Waste	1,100	1,100	-	2,200
Emerging Technology				
TOTALS	1,109,300	1,104,700	837,400	3,051,400
DIVERSION RATE	81%	79%	79%	80%

**Breakdown of Programs to Reach Near Zero Waste (90% Diversion) by 2028
(tons/yr)**

	Residential	Commercial	C&D/ Self-Haul	Total
<i>Tons Generated</i>	<i>1,466,400</i>	<i>1,484,177</i>	<i>1,110,739</i>	<i>4,061,316</i>
Source Reduction				
Grasscycling	13,200	-	-	13,200
Backyard and Onsite Composting/Mulching	52,800	-	-	52,800
Business Source Reduction	-	14,800	-	14,800
Procurement	-	7,400	-	7,400
School Source Reduction	-	11,100	-	11,100
Government Source Reduction	-	13,400	-	13,400
Material Exchange, Thrift Shops	6,600	-	-	6,600
Recycling				
Residential Curbside	646,700	-	-	646,700
Residential Drop-Off	79,200	-	-	79,200
Residential Buy-Back	13,200	-	-	13,200
Commercial On-Site Pickup	-	708,000	80,000	788,000
Commercial Self-Haul	-	59,400	-	59,400
School Recycling	-	71,200	-	71,200
Government Recycling	-	71,200	-	71,200
Special Collection Seasonal (regular)	5,900	-	-	5,900
Special Collection Events	-	11,900	-	11,900
Composting				
Residential Curbside Greenwaste Collection	171,600	-	-	171,600
Residential Self-Haul Greenwaste	40,300	-	-	40,300
Commercial Onsite Greenwaste Pick-up	-	23,700	-	23,700
Commercial Self-Haul Greenwaste	-	-	44,400	44,400
Food Waste Composting	133,400	93,500	-	226,900
School Composting	-	17,800	-	17,800
Government Composting	-	17,800	-	17,800
Special Waste Materials				
Tires	5,900	5,900	-	11,800
White Goods	4,700	10,700	-	15,400
Scrap Metal	-	5,900	115,500	121,400
Wood Waste	11,700	11,900	193,300	216,900
Concrete/Asphalt/Rubble	-	-	279,900	279,900
Shingles	-	-	53,300	53,300
Drywall, Other C&D	-	-	115,500	115,500
Household Hazardous Waste (HHW)				
Drop-Off Program	1,200	-	-	1,200
Mobile or Periodic Collection	600	-	-	600
Waste Exchange	-	-	-	-
Electronic Waste	1,200	1,200	-	2,400
Emerging Technology				420,000
TOTALS	1,188,200	1,156,800	881,900	3,646,900
DIVERSION RATE	81%	78%	79%	90%

**APPENDIX H –
AUGUST 25, 2008 MEETING HANDOUT**



Sustainable Alternatives Analysis

Mid-America Regional Council
Solid Waste Management District

August 25, 2008

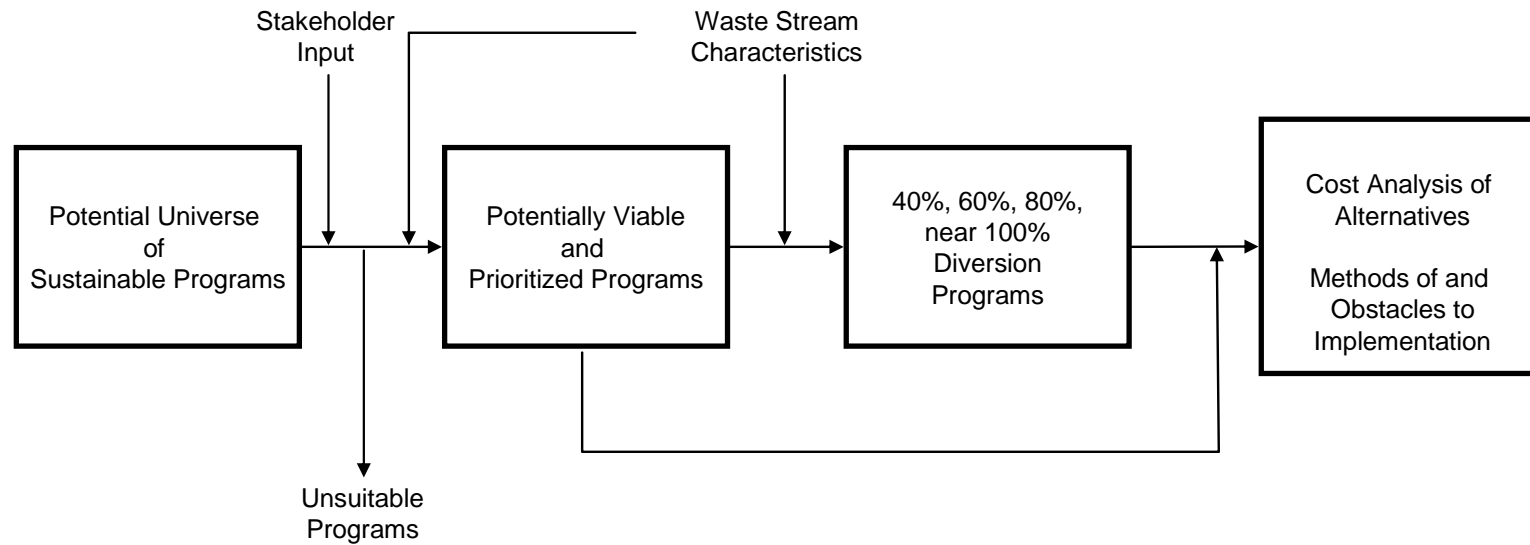
Availability of Existing Diversion Programs (% of Population)

Program	Missouri	Kansas	MARC Region
Curbside Recycling	48	56	52
Yard Waste Pickup/Composting	46	60	52
HHW	84	100	91

**Projection of Existing Programs
(Quantities and Costs/Year)**

Year	Generation (MMtons/yr)	Disposal (MMtons/yr)	Total Cost (MM\$/yr)	Unit Cost (\$/ton)
2008	3.12	2.33	\$278	\$89
2013	3.35	2.51	\$361	\$108
2018	3.58	2.68	\$465	\$130
2023	3.82	2,86	\$690	\$181
2028	4.06	3.04	\$886	\$218

Mid-America Regional Council Solid Waste Management District



General Process of Diversion Alternatives Analysis

Potential Future Sustainable Solid Waste Management Alternatives

Results of May 21, 2008 Workshop

	Component Name/Program	Red	Blue	Green	Yellow	White	Average	Ranking
	Source Reduction							
1	Grasscycling	1	1	1	1	1	1.0	High
2	Backyard and On-site Composting/Mulching	3	4	1	1	3	2.4	Medium
3	Business Source Reduction	1	1	1		1	1.0	High
4	Procurement	1	1	1		1	1.0	High
5	School Source Reduction	1	1	1		1	1.0	High
6	Government Source Reduction	1	1	1		1	1.0	High
7	Material Exchange, Thrift Shops	4	3	1		1	2.3	Medium
	Recycling							
8	Residential Curbside	1	1	1	1	1	1.0	High
9	Residential Drop-off	1	1	1	2	2	1.4	High
10	Residential Buy-back	4	3	2	5	4	3.6	Low
11	Commercial On-site Pickup	1	1	1	1	1	1.0	High
12	Commercial Self-haul	4	1	1	5	1	2.4	Medium
13	School Recycling	1	1	1	2	1	1.2	High
14	Government Recycling	1	1	1	2	1	1.2	High
15	Special Collection Seasonal (regular)	1	1	1		1	1.0	High
16	Special Collection Events	1	1	1		3	1.5	High
	Composting							
17	Residential Curbside Greenwaste Collection	3	1	3	4	1	2.4	Medium
18	Residential Self-haul Greenwaste	4	1	3	4	1	2.6	Medium
19	Commercial On-site Greenwaste Pickup	5	1	3	5	3	3.4	Low
20	Commercial Self-haul Greenwaste	5	1	3	5	1	3.0	Medium
21	Food Waste Composting	2	1	3	4	3	2.6	Medium
22	School Composting	1	3	3	5	3	3.0	Medium
23	Government Composting	3	1	5	2	3	2.8	Medium
	Special Waste Materials							
24	Sludge (sewage/industrial)	5	2	5	4	3	3.8	Low
25	Tires	4	1	1	2	1	1.8	Medium
26	White Goods		1	3	4	1	2.3	Medium
27	Scrap Metal	4	1	5	5	1	3.2	Low
28	Wood Waste	1	1	3	2	1	1.6	Medium
29	Concrete/Asphalt/Rubble	1	1	3	1	1	1.4	High
30	Shingles	1	1	4		3	2.3	Medium
31	Rendering	5	3				4.0	Low
	Public Education							
32	Electronic (radio ,TV, Web, hotlines)	1	1	1	1	1	1.0	High
33	Print (brochures, flyers, guides, news articles)	1	1	1	5	1	1.8	Medium
34	Outreach (technical assistance, presentations, awards, fairs, field trips)	1	1	3	1	3	1.8	Medium
35	Schools (education and curriculum)	1	1	1	1	1	1.0	High
	Policy Incentives							
36	Product and Landfill Bans	2	4	2	1	1	2.0	Medium
37	Economic Incentives	1	1	1	1	1	1.0	High
38	Ordinances	2	1	1	1	1	1.2	High
	Household Hazardous Waste (HHW)							
39	Drop-off Program	3	1	1	1	1	1.4	High
40	Mobile or Periodic Collection	3	1	1	1	1	1.4	High
41	Curbside Collection	5	5	5	5	4	4.8	Exclude
42	Waste Exchange	5	1.5	3	1	3	2.7	Medium
43	Education Programs	1	1	1		1	1.0	High
44	Electronic Waste	1	1	3		1	1.5	High

Overview of Programs to Reach Targeted Diversion Levels*

Program Area	40% Diversion (2013)	60% Diversion (2018)	80% Diversion (2023)	Near Zero Waste (2028) (90% Diversion)
Source Reduction	<ul style="list-style-type: none"> Public education program to encourage grasscycling, business, school and government source reduction, business procurement 	<ul style="list-style-type: none"> Increased public education to encourage grasscycling, source reduction, procurement Implementation of backyard composting program Promotion of reuse facilities (e.g., thrift shops) 	<ul style="list-style-type: none"> Expansion of existing activities 	<ul style="list-style-type: none"> Implementation of emerging technology(ies)
Recycling	<ul style="list-style-type: none"> Curbside/on-site collection of recyclables from urban residential and commercial customers On-site collection of recyclables from schools and government facilities Recycling of bulky goods collected from urban residential customers Expansion of rural drop-off facilities 	<ul style="list-style-type: none"> Transition to volume-based rates Expansion of on-site collection of recyclables from schools and government facilities 	<ul style="list-style-type: none"> Expansion of existing activities Increase in capacity/materials at drop-off facilities for rural customers Increased recycling of bulky goods collected from urban residential customers 	
Composting	<ul style="list-style-type: none"> Curbside/on-site collection of yard waste from urban residential and commercial customers Implementation of on-site collection of yard waste from schools and government facilities 	<ul style="list-style-type: none"> Transition to volume-based rates Expansion of on-site collection of yard waste from schools and government facilities 	<ul style="list-style-type: none"> Expansion of existing activities Increase in drop-off facilities for rural customers Implementation of food waste collection and composting 	
Special Wastes (Tires, White Goods, C&D)	<ul style="list-style-type: none"> Promotion of existing programs 	<ul style="list-style-type: none"> Implementation of incentive program for C&D materials; expansion of types of materials targeted 	<ul style="list-style-type: none"> Collection of special wastes from residential and commercial customers Expansion of incentive program for C&D materials 	
Household Hazardous Waste and E-Waste	<ul style="list-style-type: none"> Increased public education regarding HHW Expansion of E-waste activities 			

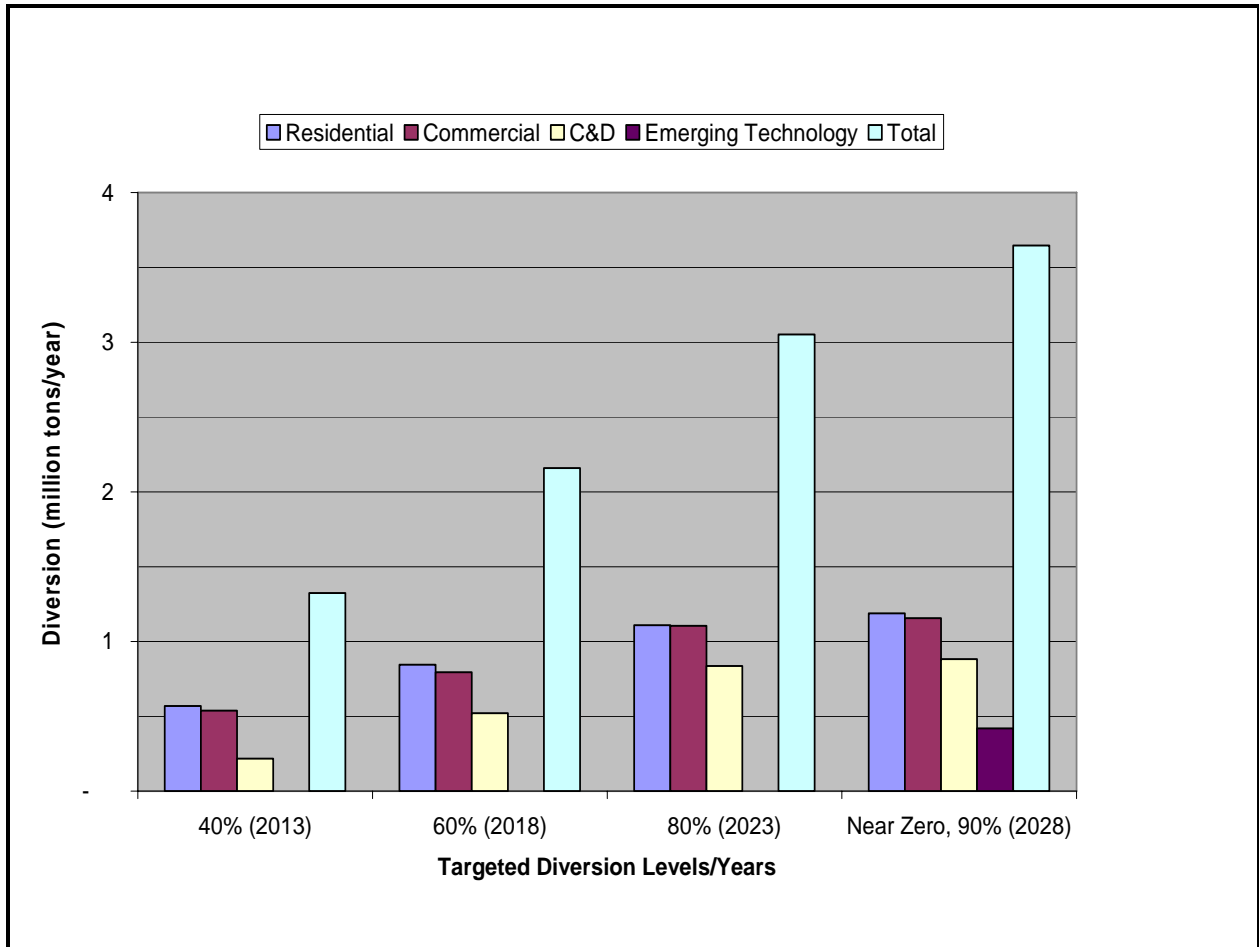
*Table presents information on program implementation/expansion. Unless indicated, assumes that existing program will continue.

Mid-America Regional Council Solid Waste Management District

**Projected Diversion by Waste Type
(tons/yr)**

Year (Diversion Goal)	Residential	Commercial	C&D	Emerging Technology	Total
2013 (40%)	569,000	539,000	217,000		1,325,000
2018 (60%)	844,400	795,000	520,600		2,160,000
2023 (80%)	1,109,300	1,104,700	837,400		3,051,400
2028 (Near Zero Waste) (90%)	1,188,200	1,156,800	881,900	420,000	3,646,900

Mid-America Regional Council Solid Waste Management District



Projected Diversion by Waste Type

Breakdown of Programs to Reach Targeted Diversion Levels (tons/yr)

	40% Diversion (2013)				60% Diversion (2018)				80% Diversion (2023)				Near Zero Waste (2028) (90% Diversion)			
	Res	Com	C&D	Total	Res	Com	C&D	Total	Res	Com	C&D	Total	Res	Com	C&D	Total
<i>Tons Generated</i>	1,183,632	1,219,712	945,158	3,348,502	1,275,216	1,305,290	999,619	3,580,125	1,369,215	1,393,225	1,054,675	3,817,115	1,466,400	1,484,177	1,110,739	4,061,316
Source Reduction																
Grasscycling	5,900			5,900	9,600			9,600	12,300			12,300	13,200			13,200
Backyard and On-site Composting/Mulching	9,500			9,500	38,300			38,300	49,300			49,300	52,800			52,800
Business Source Reduction		6,100		6,100		19,600		19,600		25,100		25,100		14,800		14,800
Procurement		3,000		3,000		9,800		9,800		12,500		12,500		7,400		7,400
School Source Reduction		3,000		3,000		9,800		9,800		12,500		12,500		11,100		11,100
Government Source Reduction		3,000		3,000		9,800		9,800		12,500		12,500		13,400		13,400
Material Exchange, Thrift Shops					3,200			3,200	6,200			6,200	6,600			6,600
Recycling																
Residential Curbside	365,400			365,400	562,400			562,400	603,800			603,800	646,700			646,700
Residential Drop-off	32,700			32,700	35,200			35,200	73,900			73,900	79,200			79,200
Residential Buy-back	4,700			4,700	5,100			5,100	12,300			12,300	13,200			13,200
Commercial On-site Pickup		387,900		387,900		553,400		553,400		664,600	75,900	740,500		708,000	80,000	788,000
Commercial Self-haul		24,400		24,400		26,100		26,100		55,700		55,700		59,400		59,400
School Recycling		36,600		36,600		54,800		54,800		66,900		66,900		71,200		71,200
Government Recycling		36,600		36,600		54,800		54,800		66,900		66,900		71,200		71,200
Special Collection Seasonal (regular)	1,500			1,500	1,600			1,600	5,500			5,500	5,900			5,900
Special Collection Events										11,100		11,100		11,900		11,900
Composting																
Residential Curbside Greenwaste Collection	112,300			112,300	149,200			149,200	160,200			160,200	171,600			171,600
Residential Self-haul Greenwaste	32,500			32,500	35,000			35,000	37,600			37,600	40,300			40,300
Commercial On-site Greenwaste Pickup		12,200		12,200		20,900		20,900		22,300		22,300		23,700		23,700
Commercial Self-Haul Greenwaste											42,200	42,200		44,400		44,400
Food Waste Composting		1,600		1,600		1,800		1,800	124,600	87,800		212,400	133,400	93,500		226,900
School Composting		9,100		9,100		13,700		13,700		16,700		16,700		17,800		17,800
Government Composting		9,100		9,100		13,700		13,700		16,700		16,700		17,800		17,800
Special Waste Materials																
Tires									5,500	5,600		11,100	5,900	5,900		11,800
White Goods	2,200	5,400		7,600	2,300	5,800		8,100	4,400	10,000		14,400	4,700	10,700		15,400
Scrap Metal							65,000	65,000		5,600	109,700	115,300		5,900	115,500	121,400
Wood Waste							108,700	108,700	11,000	11,100	183,500	205,600	11,700	11,900	193,300	216,900
Concrete/Asphalt/Rubble			217,000	217,000			251,900	251,900			265,800	265,800			279,900	279,900
Shingles							30,000	30,000			50,600	50,600			53,300	53,300
Drywall, Other C&D							65,000	65,000			109,700	109,700			115,500	115,500
Household Hazardous Waste (HHW)																
Drop-Off Program	900			900	1,000			1,000	1,100			1,100	1,200			1,200
Mobile or Periodic Collection	500			500	500			500	500			500	600			600
Waste Exchange																
Electronic Waste	900	1,000		1,900	1,000	1,000		2,000	1,100	1,100		2,200	1,200	1,200		2,400
Emerging Technology																420,000
TOTALS	569,000	539,000	217,000	1,325,000	844,400	795,000	520,600	2,160,000	1,109,300	1,104,700	837,400	3,051,400	1,188,200	1,156,800	881,900	3,646,900
DIVERSION RATE	48%	44%	23%	40%	66%	61%	52%	60%	81%	79%	79%	80%	81%	78%	79%	90%

**Projected Costs of Diversion Scenarios
to Reach Targeted Diversion Levels**

Year (Diversion Goal)	Diversion Cost (MM\$/yr)	Disposal Cost (MM\$/yr)	Total Cost (MM\$/yr)	Unit Cost (\$/ton)
2013 (40%)	141.7	235.5	377.2	113
2018 (60%)	275.6	201.1	476.8	133
2023 (80%)	443.6	156.5	600.1	157
2028 (Near Zero Waste) (90%)	717.8	103.1	820.8	202

**Comparison of Projected Unit Costs for Existing Programs
and for Diversion Scenarios (\$/ton)**

Year	Existing Programs (\$/ton)	Diversion Scenarios (\$/ton)
2008	89	89
2013	108	113
2018	130	133
2023	181	157
2028	218	202

Policy/Implementation Issues Related to Diversion Scenarios

Year (Diversion %)	Programs	Policy/Implementation Issues
2013 (40%)	Public education to encourage source reduction	<ul style="list-style-type: none"> • Regional or local level, or combination
	Curbside/on-site collection of recyclables and greenwaste in urban areas – residential, commercial, schools, government	<ul style="list-style-type: none"> • Design of 3-stream collection system • Cooperation of private haulers • Implementation activities • Capacity of existing processing facilities
	Expansion of rural drop-off facilities	<ul style="list-style-type: none"> • Demand and siting requirements
2018 (60%)	Promotion of backyard composting	<ul style="list-style-type: none"> • Availability of trained personnel
	Transition to volume-based rates	<ul style="list-style-type: none"> • Availability of reliable data • Design of rate structure to ensure cost recovery • Projection of capacity requirements and economic incentives
	Incentive program to expand C&D recycling	<ul style="list-style-type: none"> • Design of incentive program (e.g., C&D ordinance, building permit rebate)
2023 (80%)	Increase in drop-off facilities in rural areas	<ul style="list-style-type: none"> • Define need for additional locations and/or recovery of additional types of materials
	Implementation of food waste collection and composting	<ul style="list-style-type: none"> • Design of collection system that controls nuisances • Availability of processing capacity
	Incentives to further expand C&D recycling	<ul style="list-style-type: none"> • Availability of processing capacity
2028 (Near Zero Waste) (90%)	Utilization of emerging technology to maximize diversion of difficult-to-recycle materials	<ul style="list-style-type: none"> • Analysis of composition and quantity of disposed waste • Selection of proven technology • Siting of processing facility