Solid Waste Master Plan

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City of Joplin

Solid Waste Master Plan
Project No. 139257

Revision 0
11/30/2022

Solid Waste Master Plan

prepared for

City of Joplin
Solid Waste Master Plan
Joplin, MO

Project No. 139257

Revision 0
11/30/2022

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
City	City of Joplin, Missouri
C&D	Construction and Demolition
CMC	Commercial Metals Company
Compost Facility	City of Joplin compost facility
Concept Design	Concept design
CSR	Missouri Code of State Regulations
District M	Solid Waste Management District M
HHW	Household Hazardous Waste
KDHE	Kansas Department of Health and Environment
MoDNR	Missouri Department of Natural Resources
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
OPCC	Opinion of Probably Construction Costs
OSWER	Office for Solid Waste and Emergency Response
PAYT	Pay-As-You-Throw
PCC	Post-Closure Care
Plan	Solid Waste Master Plan
PPE	Personal Protective Equipment

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Abbreviation	Term/Phrase/Name
RCRA	Resource Conservation and Recovery Act
Recycling Center	City of Joplin Recycling Center and Household Hazardous Waste
SARA	Superfund Amendments and Reauthorization Act
SMM	Sustainable Materials Management
SWDA	Solid Waste Disposal Act
U.S. EPA	United States Environmental Protection Agency
WCA	Waste Corporation of America
WWTP	Wastewater Treatment Plant

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EXECUTIVE SUMMARY

The City of Joplin (City) has identified the need to develop a comprehensive Solid Waste Master Plan (Plan) to evaluate the solid waste system, set goals and priorities for solid waste services, and identify recommendations for an integrated, efficient, and effective solid waste management system. The City has a dynamic recycling and solid waste management program which consists of many services including a City contract for residential curbside solid waste services, City contract for subsidized disposal at a transfer station, City operated Recycling Center and Household Hazardous Waste (HHW) drop off, tree limb drop off (Tree Limb Drop Off), and compost facility (Compost Facility). The purpose of this Plan is to provide the vision and framework to guide future program activities and to develop the infrastructure, programs and policies needed to manage solid waste in a way that supports the community's values while being fiscally and environmentally responsible.

Stakeholder Engagement

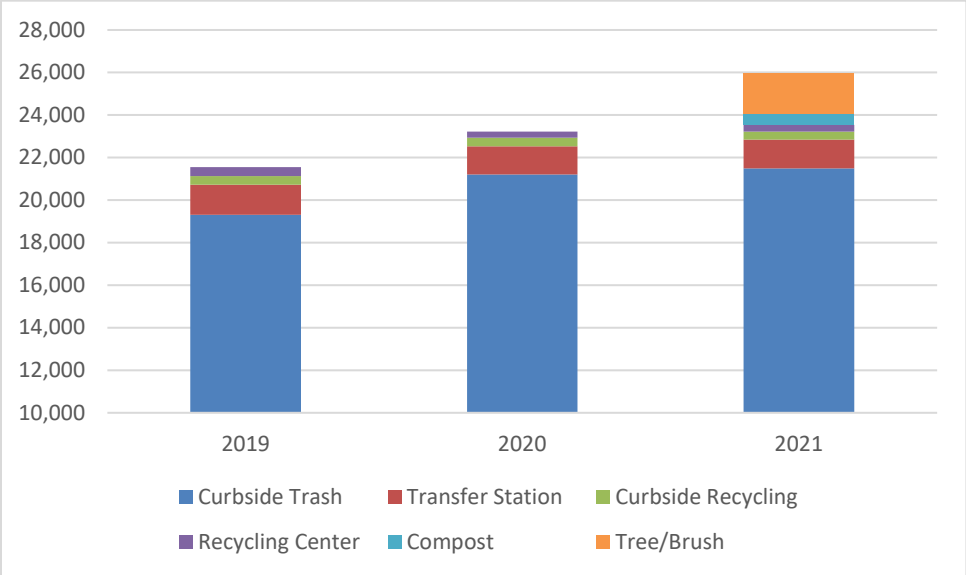
Stakeholder engagement was solicited throughout the development of this Plan to inform the existing conditions and gauge the level of support and tolerance from the community for the proposed options. Stakeholder engagement activities included facilitated workshops with the City staff and the City's Solid Waste Advisory Commission (SWAC), a public open house, a staffed table at the Joplin "Third Thursday" event, and an online community survey. The survey reached 544 participants with 515 of them being residents of the City. Demographic questions indicated that a variety of respondents representing the community responded to the survey. Questions included a diversity of ages, single family and multi-family dwellers, and a range of household sizes from one to six or more. Stakeholder input obtained through these activities has been considered throughout the planning, evaluation, and development of the recommendations contained in the Plan.

Residential Curbside Services Evaluation and Recommendations

In 2021, the City's single family residential sector generated a total of 25,985 tons of municipal solid waste (MSW) through the curbside collection program and the subsidized drop off at the transfer station. Approximately 88 percent of residential MSW is disposed in landfills, with 9.4 percent recycled through the City's yard waste and brush drop off programs, 1.4 percent recycled through the curbside recycling program, and 1.2 percent recycled through the City's Recycling Center and HHW drop-off. Figure 0-1 illustrates the trend in MSW generation and management over the past three years. Historical data on organic material is not available prior to 2021.

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Figure 0-1: Residential MSW Generation Trends, 2019-2021



The City contracts with a private hauler to provide curbside solid waste and recycling collection services. The City's current contractor, Republic Services, provides weekly trash collection in a 96-gallon cart and every-other-week recycling collection on a voluntary subscription service, also in a 96-gallon cart. The household participation rate in the recycling subscription program was 9.9 percent in 2021. Bulky items may be set out each week for no additional charge. For the majority of the year, yard waste and brush material are co-mingled with trash for landfill disposal. The City provides seasonal collection of leaves throughout the fall months. While the state of Missouri has had a ban on the landfilling of yard waste since 1991, waste from the City is hauled across the state line to Kansas where there are no restrictions on yard waste material.

The Missouri Department of Natural Resources Solid Waste Management Program (MoDNR) sponsored a statewide waste characterization study which analyzed samples of solid waste at twenty-two facilities in Missouri, including rural, small metro (including the City of Joplin), and large metro locations. The residential waste characterization for small metro areas found that the three most abundant material types are organics (36.5 percent), paper (24.9 percent), and plastics (13.4 percent). A significant amount of the disposed trash could be recycled or composted which represents great opportunity to increase diversion in the City.

Residents who responded to the survey overwhelmingly indicated support for the City of Joplin in setting goals to reduce waste, minimize consumption, conserve water use, and diversify renewable energy use. When specifically asked if they support the City contracting for recycling for all residents as part of the

base service, over 75 percent of respondents are strongly supportive or supportive, with less than ten percent being against or strongly against it. When survey respondents were asked if they support the City restricting yard trimmings from landfill disposal, over 70 percent of respondents indicated they strongly support or support it with less than ten percent being against or strongly against.

Based on the current system review, an evaluation of options, and stakeholder engagement, recommendations for the residential curbside services program include:

- **Provide recycling to all customers via the City contract.** Provide all single-family residents with convenient and equal access to curbside recycling as part of the base collection service.
- **Implement Modified Pay-As-You-Throw Program.** Charge customers for additional trash carts beyond the standard single cart allocated per residence. Customers are provided with a financial incentive to generate less waste and increase diversion efforts via recycling and composting.
- **Limit bulky item quantity and reduce collection frequency.** Restrict curbside bulky item collection to a less frequent schedule and limit the number of items.
- **Prohibit comingling of yard trimmings with refuse and provide a subscription yard trimmings collection service.** Prohibit comingling of yard trimmings with standard household trash for collection. Provide residential customers with an optional separate yard trimmings collection in paper/Kraft bags or carts.
- **Continue the City leaf program, modify to require bagged material.** Continue to provide its current seasonal curbside leaves collection service with the new provision requiring material be bagged in paper/Kraft bags.
- **Education and outreach.** Providing ongoing public education and outreach to residents for the success of the City's solid waste management system.

City Recycling and Composting Services

The City provides valuable solid waste programming and services at three City-owned and operated facilities including the Recycling Center and HHW, Compost Facility, and Tree Limb Drop Off. The City is considering co-locating all three City services at one central location to improve customer convenience, expand services, address site-specific challenges, and reduce operational costs. An evaluation of the benefits and drawbacks supports the recommendation to co-locate the three City services at one location. There are efficiencies gained through utilizing existing staff from the Recycling Center and HHW to oversee additional services at a co-located facility with improved working conditions. The community would benefit from the convenience of dropping off multiple materials at one location and increased accessibility to services.

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Concept Design & Financial Evaluation

The City identified the decommissioned Wastewater Treatment Plan (WWTP) Facility on Lone Elm Road to consider for a co-located solid waste facility (Site). The Site would include repurposing the existing building into office space, storage, and minimal recyclable material processing. It would also include public drop-off areas for recyclables, HHW, and organic materials. The Site being in the regulatory floodway and floodplain present permitting restraints that limit the availability of area for additional development such as processing organics onsite. There is, however, adequate area at the Site to provide for the collection of yard waste and tree limbs as well as the distribution of compost.

A planning level opinion of probable construction costs (OPCC) was developed for co-locating the three City services to this single location. The estimated costs were developed from concept design assumptions and are based on Burns & McDonnell's experience, qualifications, and judgement as professionals. The total OPCC for the Lone Elm concept design is just under $3.2 million and includes restoring the existing building to include offices, relocating the tree limb drop off program with an asphalt pad, and relocating the Recycling Center with a more efficient drive-through traffic pattern. The change in operating expenses to co-locate the City services is anticipated to be an increase of $32,400 annually and includes utilities, supplies, and equipment maintenance.

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1.0 INTRODUCTION

Outlined in this Section are the introductory elements of the Plan including the purpose, goals and objectives, stakeholder engagement components, and key terms used throughout the report.

1.1 Purpose

The City of Joplin (City) identified the need to develop a comprehensive Solid Waste Master Plan (Plan) to evaluate the solid waste system, set goals and priorities for solid waste services, and identify recommendations for an integrated, efficient, and effective solid waste management system. The City has a dynamic Recycling and Solid Waste Management Program which oversees a variety of services as follows:

- City contract for residential curbside solid waste services.
- City contract for discounted disposal drop off at a transfer station.
- City owned and operated Recycling Center and Household Hazardous Waste Collection.
- City owned and operated Tree and Brush Drop-off.
- City owned and operated Compost Facility.

The purpose of this Plan is to provide the vision and framework to guide future program activities and to develop the infrastructure, programs and policies needed to manage solid waste in a way that supports the community's values while being fiscally and environmentally responsible.

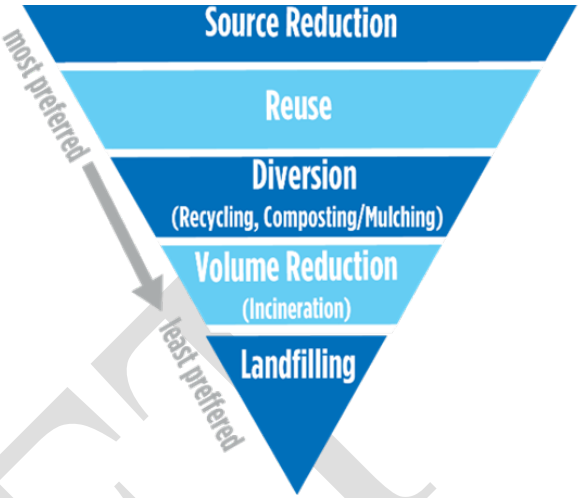
This Plan includes a comprehensive review of the existing system and identifies and evaluates options based on current trends that promote and support diversion. The Plan evaluates these solid waste system components, infrastructure, and programs to provide recommendations with the intent of having all solid waste components integrated for efficiency and effectiveness. Stakeholder input is a critical component to determine the wants and needs of the community and was solicited throughout the development of the Plan.

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1.2 Goals & Objectives

The stated goal of the Plan is to develop fiscally responsible waste management methods consistent with the waste management hierarchy to achieve as much reduction, reuse, and diversion from disposal as feasible. This goal was developed by City staff and the City's Solid Waste Advisory Commission (SWAC). Figure 1-1 illustrates the United States Environmental Protection Agency (U.S. EPA) waste management hierarchy. This Plan was developed keeping with the stated goal and waste management hierarchy.

Figure 1-1: U.S. EPA Waste Management Hierarchy



1.3 Stakeholder Engagement

Stakeholder engagement was solicited throughout the development of this Plan and informs the existing conditions and gauges the level of support and tolerance from the community for the proposed options. Stakeholder input has been considered throughout the planning and evaluation of the recommendations contained in the Plan.

1.3.1 Solid Waste Advisory Commission

The Plan has been developed in coordination with City staff and the SWAC. The SWAC advises the City Council and the administration on all matters concerning procedures or practices that involve the collection, storage, and disposal of solid waste generated within the city limits of Joplin. Facilitated workshops were held with the SWAC at key points during the planning process to communicate data, review and evaluate options, and gather input and suggestions, assisting with the identification of key issues and provide an avenue for public comment. The SWAC also served an essential role during selection of the preferred strategy and development of recommendations. Committee members are appointed by the City Council and represent the citizen and business communities.

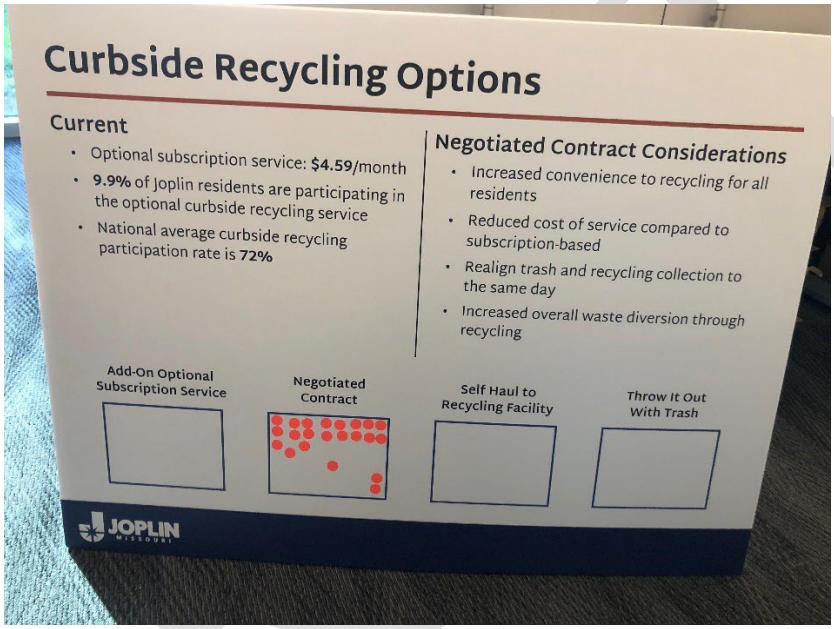
1.3.2 Public Open House & Engagement

A public open house was hosted on April 6, 2022, to gather input including discussions on potential programs that can be provided and their potential costs. The meeting was publicly advertised and promotion for the open house was conducted in tandem with the promotion of the community survey. Participants included elected officials, industry representatives, and community members. Information was provided in an open house style setting with staffed boards to guide discussion on the status of each solid waste management sector and its associated proposed recommendations. Approximately 22 people

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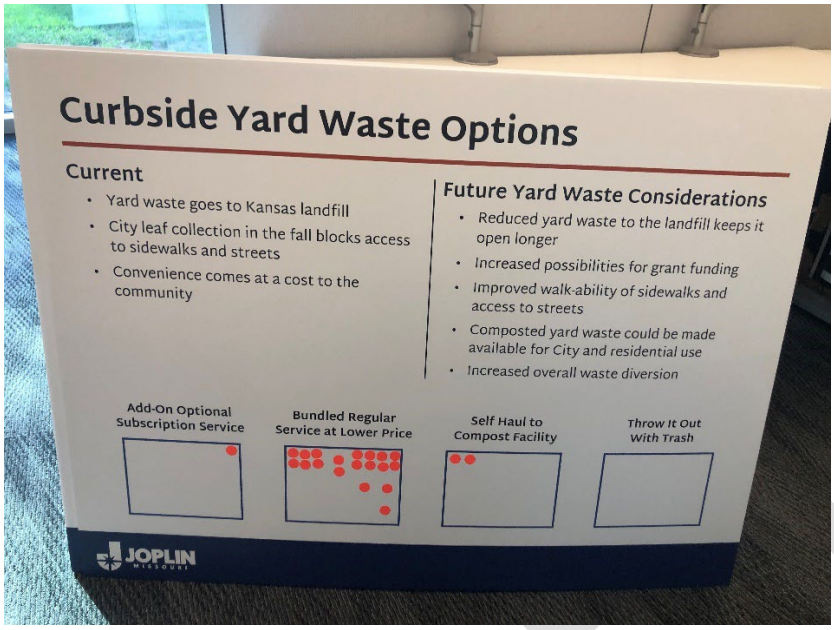
attended and provided feedback through conversations with City and Burns & McDonnell staff. Attendees were encouraged to "vote" with stickers on two display boards which presented two of the same questions that were in the community survey. The results of the sticker exercise was aligned with the results of the community survey with unanimous support for recycling to be included in the negotiated City contract for all residents and support for yard waste to be collected separately for composting. Figure 1-2 is a photograph of the curbside recycling display board and Figure 1-3 is a photograph of the curbside yard waste display board with the voting results.

Figure 1-2: Open House Display Board on Curbside Recycling "Voting" Results



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Figure 1-3: Open House Display Board Curbside Yard Waste "Voting" Results



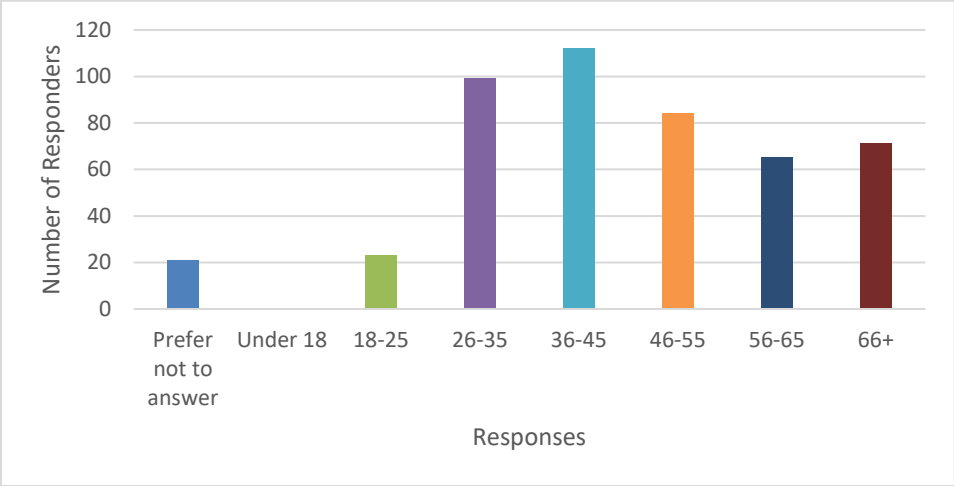
Additionally, Burns & McDonnell and City staff hosted a table at the Joplin "Third Thursday" event on September 15, 2022, to engage the public. The event was very well attended, and dozens of residents were engaged through visiting the table and talking with staff. A flier summarizing the Plan goals, outcomes, and recommendations was distributed and is provided in Appendix A.

1.3.3 Community Survey

The City developed a survey to obtain feedback from the community regarding recommendations for future solid waste management. The survey was promoted through the City's website and social media outlets as well as a printed advertisement in the Joplin newspaper. The survey was made available from March 21 to April 22, 2022, and had 544 participants during that time, 515 which were residents of the City. Demographic questions indicated a variety of respondents representative of the community including a diversity of ages, single family and multi-family dwellers, and a range of household sizes from one to six or more. A representative number of residents from each age demographic participated in the survey, as shown in Figure 1-4. Responses to questions asked in the survey are included in Sections 4.0 - 9.0 with the associated topic. Full results of the survey are included in Appendix B.

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Figure 1-4: Survey Response - Age Range



1.4 Key Terms

This section presents definitions of a selection of key terms used throughout the Plan that are necessary for a comprehensive understanding of the current solid waste management systems and strategies that may be implemented in the future.

Sectors. Municipal solid waste (MSW) is broadly categorized into two primary sectors, residential and commercial. Construction & demolition debris is not considered MSW and is handled and disposed of separately from residential and commercial MSW material. The waste generation forecast was developed only for residential MSW.

- **Residential Sector.** The residential sector includes only material generated by single-family households defined as traditional single-family homes and structures containing 1-4 individual housing units (e.g., duplexes, townhomes).
- **Commercial Sector.** The commercial sector includes material generated by commercial (offices, retail and wholesale establishments, restaurants, etc.) and institutional (schools, libraries, hospitals, etc.) entities as well as by residents living in multifamily structures. Multifamily solid waste is collected and processed in combination with other commercial material and is therefore included in the commercial sector. Generally, solid waste data specific to the commercial sector was not available.

  Construction and Demolition (C&D) Debris. C&D debris is generated by the construction, renovation, and demolition of residential and non-residential structures as well as city, county, and state projects and is further defined in the Materials portion of this section.

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Generation, recycling, and disposal. This section provides definitions used regarding the total amount of solid waste generated within the City and the material disposal or processing streams that comprise total generation quantities.

- **Generation.** Solid waste generation is the total quantity of material disposed in landfills plus the total quantity of material recovered through recycling and composting operations. Total generation is the quantity of material that the City must manage through various disposal and recycling programs and services. Reuse material quantities are not included in generation because quantities are unknown.
- **Recycling rate.** Recycling rate is defined as the proportion of MSW that is diverted from landfill disposal and has value as a commodity or as an input into other products or processes. There are various methods for measuring recycling rates (as discussed in the "Recycling Measurement" portion of Section 2.3.4). In this Plan, recycling and recycling rates include MSW material that is collected and processed through single-stream recycling programs and the Recycling Center and HHW and yard waste and organics material that is mulched, composted, or otherwise diverted from landfill disposal. Recycling rates do not include any materials that are diverted from landfill disposal through reuse activities. Quantities of reused MSW and C&D materials are difficult to measure.
- **Disposal.** Disposal refers to all remaining material placed in landfills that has not been recycled, composted, or otherwise diverted. Disposed materials include some quantities of materials that were not recovered prior to disposal but could potentially be recovered through improvement of recycling programs, infrastructure, or education. Potential for additional recyclable material recovery from disposed materials is discussed further in Section 3.4, Waste Characterization.

Materials. MSW is composed of several categories of solid waste and recyclables that are handled through various collection, disposal, and processing methods and facilities, depending on the material category. This section provides definitions for the primary categories of MSW addressed in this Plan and defines C&D debris separately because C&D debris is not considered a component of MSW.

- **Municipal Solid Waste.** MSW refers to the entirety of the waste stream that is generated by everyday activities in the residential and commercial sectors. MSW can be further categorized by material types including refuse, single-stream recyclables, organics, and household hazardous waste (HHW). Different MSW material types require different methods for best management practices. Refuse is disposed in MSW landfills. Much of the MSW generated can be recycled or

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composted at various processing facilities. MSW does not include commercial hazardous waste or industrial, agricultural, mining, or sewage sludge wastes.

- **Refuse.** Refuse is the portion of MSW that cannot practically be recycled, reused, or otherwise diverted from disposal. True refuse has no viable handling methods other than disposal in an MSW landfill. However, in most communities, a portion of material disposed as refuse has the potential to be recycled. Waste characterization and potential for increased recovery of recyclable materials from materials currently disposed in landfills is further addressed in Section 3.4.
- **Single-Stream Recyclables.** Single-stream recyclables refers to materials that are typically accepted through municipal curbside recycling programs or drop-off locations, processed through a materials recovery facility (MRF), and sold as commodities to markets where the material is then repurposed. Single-stream recyclables include items such as, but are not limited to, plastic containers, aluminum and steel cans, cardboard, and other various paper products.
- **Organics.** Organics are plant or animal-based materials. Organics have the potential to be diverted from landfill disposal through composting or mulching processes. Within the category of organics, there are the two sub-categories of yard waste and food waste. Vegetative material generated from the residential sector, commercial sector, or parks maintenance is categorized as yard waste, including materials such as leaves, grass clippings, limbs, brush, and other plant trimmings. Food waste includes materials such as fruits and vegetables, meats, eggs and dairy, coffee grounds, and food-soiled paper products such as napkins, pizza boxes, and various types of cardboard and paper food containers. Depending on available processing options, yard waste and food waste may be processed together or separately.
- **Household Hazardous Waste (HHW).** HHW refers to common household chemicals or other materials that should not be disposed of in MSW landfills due to their potential for adverse environmental and health impacts. They require special processing by an entity permitted by KDHE. HHW includes, but is not limited to, materials such as paints, fertilizers, pesticides and poisons, pool chemicals, household cleaners, automotive fluids, batteries, light bulbs, and e-waste. Section 11.0 addresses additional types of HHW and other special wastes as well as management options for these wastes within Wyandotte County. HHW generally does not include chemicals generated by commercial or industrial entities, though some processors may accept materials from small commercial facilities.

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- **Construction and Demolition Debris (as a material).** C&D debris is not included in the category of MSW. C&D debris is defined as solid waste resulting from the construction, remodeling, repair, and demolition of structures, roads, sidewalks, and utilities. Material is generated from residential, commercial, and public sector (e.g., municipal, state, or federal) projects. It includes, but is not limited to, materials such as brick, roofing materials, wood, flooring, drywall, non-asbestos insulation, concrete, and asphalt. Most C&D debris is disposed in separate C&D permitted landfills. Smaller amounts may be recycled or reused.

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2.0 PLANNING STUDIES, REGULATORY, AND TRENDS REVIEW

This section provides a broad perspective of the historic and current state of solid waste management in the City and surrounding area. It provides a review of relevant existing planning studies, a summary of relevant laws and regulations, and summarizes recent key trends in solid waste management.

2.1 Review of Prior Planning Documents

Understanding prior solid waste and community planning projects completed at the local, regional, and state levels is a critical step in effectively and efficiently developing the Plan for the City. To inform development of this Plan, Burns & McDonnell reviewed the following studies and plans.

City of Joplin 2021 Action Plan. The City developed specific targets with nearly 50 strategies outlined in the 2021 Action Plan. Each of the strategies fall under one of the eight goal areas identified by City Council. The Action Plan outlines numerous programs and processes that could be utilized to accomplish Council goals. By providing a step approach to address specific targets, the Action Plan sets the path while also identifying the anticipated resources and staffing needed for each strategy.

Missouri Solid Waste Management Plan, 2005. The purpose of the Missouri Solid Waste Management Plan is to contribute to the health, wellbeing, and quality of life for all Missourians by guiding the development of solid waste management systems which are environmentally and economically sustainable, efficient, and effective. The Missouri Department of Natural Resources is charged with a number of duties and responsibilities to help ensure that solid waste is managed in a way that protects both public health and the environment. One of the plan's most important functions is to provide a common basis for the governor, legislators, districts, communities and the department to make decisions regarding waste management programs and the resources needed to turn the plan into reality.

Missouri Solid Waste Advisory Board Annual Report, 2019. The Solid Waste Advisory Board is required by law to submit an annual report to the Missouri Department of Natural Resources (MDNR). The report includes a number of subjects including the efficacy of its technical assistance program, the solid waste management issues experienced by solid waste management districts, the effects of proposed rules and regulations on solid waste management within the districts, grant award criteria, and methods of solid waste minimization, recycling, and resource recovery.

Statewide Waste Composition Study, 2016-2017. The MDNR Solid Waste Management Program sponsored a statewide waste characterization study seeking to capture representative samples from across the state. The study included analysis of MSW samples of disposed waste at twenty-two facilities in

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Missouri, from rural, small metro, and large metro locations, including the Joplin Transfer Station and the Prairie View Landfill. Solid Waste Management Districts are encouraged to use the study results to target waste generation and support diversion programs in their respective regions.

Kansas Solid Waste Management Plan, 2021. The State of Kansas Solid Waste Management Plan was first developed in 1996, updated in 2000, 2005, 2010 and 2016. The purpose of the State Plan is to facilitate the development of environmentally sound and cost-effective methods for managing and reducing solid waste in cooperation with local governments. Data from this Plan was used to inform landfill capacity of facilities used by the City.

2.2 Regulatory and Policy Review

Prior solid waste regulations and policies, as well as the current regulatory climate and trends have largely shaped the state of solid waste management at various levels and define the environment in which this Plan was developed. This section provides a summary of federal, state, and local regulations, policies, and trends.

2.2.1 Role of the Federal Government in Regulating Solid Waste

The federal government sets basic requirements to provide consistency among states and regulations to protect public health and the environment. The United States Environmental Protection Agency (U.S. EPA) is responsible for hazardous and non-hazardous solid waste management through the Office for Solid Waste and Emergency Response (OSWER). Major federal legislation pertaining to solid waste management includes:

- Prior to 1965, solid waste management was entirely dependent on the judgement and decisions of individuals or local departments of health and sanitation. In 1965, Congress made its first attempt to define the scope of the nation's waste disposal problems by enacting the Federal Solid Waste Disposal Act (SWDA), which financed statewide surveys of landfills and illegal dumps.
- The first significant federal legislation governing the disposal of non-hazardous and hazardous waste was passed in 1976 under the Resource Conservation and Recovery Act (RCRA). RCRA established landfill construction, management, and closure guidelines as well as regulates hazardous waste management facilities that treat, store, or dispose of hazardous waste. RCRA has been amended three times since its inception[1]:

[1] U.S. Environmental Protection Agency. 2017. "History of the Resource Conservation and Recovery Act (RCRA)." Available online: https://www.epa.gov/rcra/history-resource-conservation-and-recovery-act-rcra

- 1984 Hazardous and Solid Waste Amendments, requiring the phasing out of land disposal of hazardous wastes and granting the U. S. EPA regulatory authority over landfills (Subtitle C Hazardous Waste and Subtitle D Non-hazardous waste);
- 1992 Federal Facility Compliance Act, strengthening enforcement of RCRA at federal facilities; and
- 1996 Land Disposal Program Flexibility Act, providing regulatory flexibility for land disposal of certain wastes.

- The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, known as Superfund, was enacted by Congress to address abandoned hazardous waste sites in the U.S. CERCLA has subsequently been amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). [2] The Office of Air and Radiation regulates solid waste-related air emissions, enforcing the Clean Air Act of 1976 (CAA) and subsequent amendments.

2.2.2 Role of the State Government in Regulating Solid Waste

The state of Missouri environmental laws and regulations relating to waste management include federal requirements the state has adopted, and other requirements Missouri has added. The Missouri Hazardous Waste Management Commission has the authority to adopt, amend or repeal standards, rules and regulations to implement, enforce and carry out the provisions of the state's hazardous waste laws. The Solid Waste Advisory Board advises the department on various solid waste management issues. State regulations are codified in the Missouri Code of State Regulations (CSR). The Missouri Department of Natural Resources (MoDNR) is charged with administering the state regulations found in Title 10 of the CSR. The following section of the CSR are described as follows.

- Missouri Hazardous Waste Management Law - This law creates the state equivalent to the federal RCRA Subtitle C requirements, along with other requirements Missouri has added. This law addresses hazardous waste management, permitting, inspection, enforcement and investigation and cleanup of hazardous waste and hazardous substance releases. EPA delegated authority to the department to provide oversight for and enforce most of the RCRA Subtitle C equivalent requirements in Missouri. The MoDNR inspects RCRA Subtitle C regulated facilities to make sure they are following the state-equivalent of the federal requirements the department adopted.
- Missouri Solid Waste Management Law - This law creates the state equivalent to the federal RCRA Subtitle D requirements, along with other requirements Missouri has added. This law

[2] U.S. Environmental Protection Agency (U.S. EPA). 2017. "Superfund: CERCLA Overview." Available online: https://www.epa.gov/superfund/superfund-cercla-overview

addresses solid waste management, permitting, inspection, enforcement and investigation and cleanup of solid waste. EPA delegated authority to the department to provide oversight for and enforce most of the RCRA Subtitle D equivalent requirements in Missouri. The MoDNR inspects RCRA Subtitle D regulated facilities to make sure they are following the state-equivalent of the federal requirements the department adopted.

  - In 1990, a major revision was made to the Missouri Solid Waste Management Law in Senate Bill 530. The law set a goal to divert 40 percent of the waste stream from landfill disposal. This included disposal restrictions on several items including major appliances, waste oil, yard waste and batteries. The law also created 20 solid waste management districts across the state to foster regional cooperation among cities and counties to help achieve the diversion goal. The districts have played a significant role in the development of a statewide recycling infrastructure.

- Petroleum Storage Tank Law - This law creates the state equivalent to the federal RCRA Subtitle I requirements, along with other requirements Missouri has added. This law addresses managing and removing petroleum storage tanks and cleanup of leaking petroleum storage tanks. EPA delegated authority to the department to provide oversight for and enforce most of the RCRA Subtitle I equivalent requirements in Missouri. The MoDNR inspects RCRA Subtitle I regulated facilities to make sure they are following the state-equivalent of the federal requirements the department adopted.

2.2.3 Role of the City Government in Regulating Solid Waste

The City rules and regulations pertaining to solid waste are codified in the City Code of Ordinances, Chapter 102 – Solid Waste. The City oversees a collection contract for weekly trash and recycling services for residents of Joplin. The Public Works Department investigates customer complaints regarding missed collections and enforces the terms of the contract to encourage appropriate collection of residential waste. The Public Works Department is also responsible for the management of the Recycling Drop Off and Household Hazardous Waste Center, the Compost Facility and Tree and Brush Drop Off facility.

Solid Waste Advisory Commission was established to confer and advise the council and the administration on all matters concerning procedures or practices that involve the collection, storage and disposal of solid waste generated within the city limits. They advise on waste reduction, alternate solid waste disposal methods, residential and commercial recycling, targeting of materials and quantities to be recovered, and methods of collection and disposal.

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2.3 Solid Waste Management Industry Trends

This section provides perspective on solid waste management trends that may influence the development of the Plan and the industry moving forward.

2.3.1 Overarching Trends

Waste Management Hierarchy. The waste management hierarchy developed by the U.S. EPA as shown in Figure 1-1, has also been adopted by many communities as a guide in managing municipal solid waste. This hierarchy is used as a tool in implementing a sustainable materials management (SMM) approach to waste management. The hierarchy was developed in recognition that no single waste management approach is suitable for managing all materials and waste streams in all circumstances. The hierarchy ranks the various management strategies from most to least environmentally preferred. It places emphasis on reducing, reusing, and recycling as key to SMM.[3]

Sustainable Materials Management. SMM is a systematic approach to using and reusing materials more productively over their entire lifecycles.[4] SMM represents a change in how communities think about the use of natural resources and environmental protection, and goes beyond traditional thinking about waste reduction, reuse, recycling, and disposal. SMM emphasizes consideration of a product or material's entire lifecycle, from manufacturing to disposal, and the need to make sustainable choices throughout the lifecycle. An SMM approach seeks to:

- Use materials in the most productive way with an emphasis on using less;
- Reduce toxic chemicals and environmental impacts throughout the material life cycle; and
- Provide sufficient resources to meet today's needs and those of the future.

It has been a trend for the solid waste and recycling industry for SWMPs to have the broader view of SMM to better plan for their community's economic and environmental future.

2.3.2 Collection Trends

Pay-As-You-Throw. The purpose of a volume-based variable rate structure, also known as a pay-as-you-throw (PAYT) program, is to incentivize waste reduction or waste diversion by offering a financial enticement to customers who maintain a fixed weekly maximum set out volume. Communities with

[3] U.S. Environmental Protection Agency, 2017. "Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy." https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy.
[4] U.S. Environmental Protection Agency (U.S. EPA). 2017. "Sustainable Materials Management Basics." https://www.epa.gov/smm/sustainable-materials-management-basics.

programs in place have reported significant increases in recycling and reductions in waste, due primarily to the waste reduction incentive created by PAYT. Less waste and more recycling mean that fewer natural resources need to be extracted.

One of the most important advantages of a PAYT program may be its inherent fairness. When the cost of managing trash is hidden in taxes or charged at a flat rate, residents who recycle and prevent waste subsidize their neighbors' wastefulness.

In the City, residents pay for waste collection at a set rate, regardless of how much—or how little—trash they generate. Volume-based fee structures treat trash services like other utilities such as electricity and gas. Materials set out for recycling and composting (if applicable) are collected in unlimited volumes. This creates a direct incentive for residents to reduce the amount of trash they throw away and to increase the amount they recycle and compost.

Thousands of U.S. communities have implemented some form of volume-based fee structures on trash collection including Fayetteville, Arkansas, Tulsa, Oklahoma, and Carthage, Missouri.

Carts and Automation. Nearly every top-performing program in the U.S. uses carts; they are now a critical component for first-class service. Residents benefit from the ease of maneuvering wheeled containers, the increased capacity, and cleaner neighborhoods given the tight lids. An increased receptacle size for recyclables equates to increased recyclables collected. Carts are commonly collected through an automated collection system where applicable. An automated cart system more effectively controls costs, improves efficiency, and increases customer service. Public and private haulers benefit from decreased disposal costs, smaller collection crews, more efficiency on the route, and decreased workers' compensation. The City's current contract requires carts to be provided by their service provider.

Contracting for Services vs. Municipalization. In the Midwest, many communities either provide publicly operated solid waste services, contract for services through a single private hauler, or have an open market system in which several private haulers are permitted to operate. An open market system is common for commercial services. Generally, communities of a smaller size may choose to contract for MSW services, likely due to limited resources available for operation of a municipal system. Among some smaller cities and many cities with higher populations, there is a split between those that have municipally and privately provided services. The City has a contract with one company as its exclusive provider for residential services.

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2.3.3 Facility Trends

Landfill Trends. As regulations become more restrictive and it becomes increasingly more challenging to obtain permits for new landfills, the solid waste industry is seeing an increase in the expansion of landfills by going higher (vertical expansion) and/or wider (horizonal expansion). Landfill owners are seeking to extend facilities' useful lives by expanding the footprint, improving operations or through use of technologies, such as enhanced leachate recirculation (a process where liquids or air are added into a landfill to accelerate degradation of the waste, prolonging site life). Landfill owners and regulators are also looking beyond the prescriptive 30-year post-closure care (PCC) period and are recognizing that there may be additional long-term management costs and liabilities incurred by landfill facilities after the 30-year PCC period.

Landfill Tipping Fees. Based on a 2019 study conducted by the Environmental Research & Education Foundation (EREF)[5], average per-ton landfill tipping fees in Missouri are higher than the national average, and average landfill tipping fees in the Midwest region (Minnesota, Illinois, Missouri, Wisconsin, Iowa, Indiana, Ohio, Nebraska, Kansas and Michigan). The rates shown in Table 2-1 reflect average posted gate rates at surveyed landfills. Negotiated tipping fees between a landfill and individual haulers may be lower.

Table 2-1: Average Per Ton Landfill Tipping Fees, 2019

	Per Ton
Missouri	$62.42
Midwest Region	$48.87
United States	$55.36

Use of Transfer Stations. Transfer stations are facilities that are used to consolidate material from multiple collection vehicles into larger, high-volume transfer vehicles for more economical shipment to distant disposal or processing facilities. Transfer stations can be used for material destined for landfilling, recycling, and composting. With a nationwide trend toward larger disposal and processing facilities, there has been an enhanced need for transfer facilities. When longer transport distances are required to send materials to facilities, transfer stations allow collection vehicles to be more productive by maximizing the amount of time spent collecting material rather than driving to a facility. Key factors that affect the financial feasibility of transfer stations include:

[5] Environmental Research & Education Foundation, 2019. "Analysis of MSW Tipping Fees, April 2019." www.erefdn.org

- Collection cost;
- Disposal/processing cost;
- Distance/travel time to landfill or processing facility;
- Fuel costs;
- Annual tonnage hauled; and
- Payload of transfer trailers versus collection vehicles.

2.3.4 Diversion Trends

Recycling. Local governments offer recycling programs because their citizens look for effective community services and demand is higher than ever before. Increasing recycling requires that more residents and commercial establishments participate in the existing programs and that more materials are collected from each participant. For the residential sector, there needs to be more recycling bins at the curb with more material in each bin. Increased participation can be accomplished through several approaches:

- Public education and awareness to encourage behavioral changes;
- Financial incentives to encourage behavioral changes (PAYT); and
- Contractual, licensing, or regulatory methods to require behavioral changes.

Residential recycling infrastructure is available in the City of Joplin, and it is assumed in this Plan that these systems will not only continue but could expand to accommodate larger quantities of recovered materials. In addition to increasing the accessibility of curbside recycling, there is a need to increase awareness among City residents.

Recycling Processing Fees. The per-ton fee paid for processing of recyclable materials collected is impacted by various factors, including the market value of recovered materials and the level of contamination present. Over the past 10 years, the changing market value of recovered materials has had a significant impact on single stream material (commingled collection of paper, plastics, metal, and glass) processing costs.

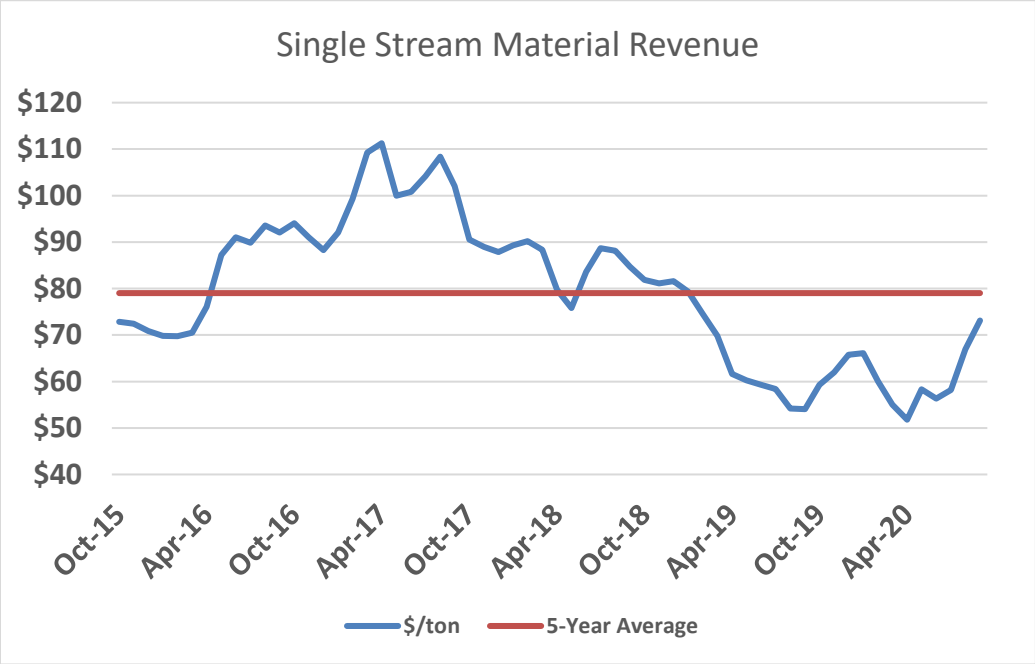
MRFs traditionally charged a cost per ton for processing recyclable materials and then offered a share of revenue generated through sale of the material back to municipalities (where municipalities facilitated organized recycling contracts). At the beginning of the 2008 recession, the market value of recyclable materials plummeted dramatically, from record highs to record lows. MRFs were no longer able to cover the entirety of their processing costs from processing fees plus material revenue sharing, and some MRFs

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experienced negative cash flows. Because of the dramatically reduced market values of recovered materials, many MRFs changed their cost recovery structure, and began charging higher processing fees that would fully recover all processing costs, rather than relying on material revenues to be made whole. MRFs were then typically willing to offer municipalities a greater share of material revenues. As a result, processing fees have increased to amounts ranging from $70-$120 per ton (up from $30-$40 per ton prior to 2008).

The average blended market value of processed recyclable materials collected as a single stream (paper, plastics, metal, and glass) in the Midwest region over the last five years was $79 per ton. In addition to commodity values, the value of single stream materials varies based on the composition of the materials (i.e. quantity of paper, plastics, metal, and glass) and quality of the materials. Figure 2-2 illustrates the changes in the average value of single stream materials from 2015 to 2020.

Figure 2-1: Single Stream Material Revenue (per Ton)



Recycling Measurement. Efforts to measure recycling have traditionally calculated a recycling rate. A recycling rate indicates the percentage of waste generated that is recycled and is typically calculated using the formula: [Total Recycled / (Total Recycled + Total Disposed)] x 100 = Percent Recycling Rate. Over the past decade, there have been several changes in the weights and composition of materials in the waste stream. For example, there is typically less newspaper, but more cardboard. Plastic bottles and aluminum

cans weigh less. Some consumer packaging contains multiple materials, making recycling more challenging. Due to these reasons, some communities are considering alternatives to recycling measurement, other than calculating a recycling rate. Some alternative measurement options include:

- **Capture Rate**: Percentage of recyclable material that is recycled versus disposed;
- **Disposal Rate**: Based on per capita/employee disposal quantities;
- **Participation Rate**: Based on how often a resident or business recycles over a defined time period (e.g. monthly);
- **Life-Cycle Analysis**: Analysis of the total environmental impacts associated with a product or process, and evaluation of opportunities to reduce impacts throughout the life-cycle, through methods such as using recycled rather than virgin materials for inputs;
- **Greenhouse Gases**: Quantification of greenhouse gas reductions through both increased use of recycled materials as product inputs (life-cycle analysis) and reduction of material landfilled, which reduces generation of greenhouse due to decomposition; and

Yard Waste Diversion. Composting is a common environmentally sound way to manage yard waste. Yard waste includes materials such as leaves, grass clippings, brush and tree limbs. Composting diverts material from the landfill and it also effectively converts yard wastes into a useful soil additive or mulch.

The single most effective source reduction measure is management of yard waste on-site. Leaving all grass clippings and leaves on the lawns with a mulching mower and use of backyard compost bins reduces MSW generation for disposal. Education programs are commonly used to promote on-site management of yard waste.

Landfill disposal bans or composting mandates are also effective tools to drive yard waste composting, as enforced in the state of Missouri. Residents in the City are permitted to set out yard waste for landfill disposal based on their contractor hauling the material to the neighboring state of Kansas, where there are no bans in effect. The City provides annual collection of yard waste and manages a drop off facility year-round.

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3.0 PLANNING AREA CHARACTERISTICS

Planning for the City's future of solid waste management needs requires an understanding of the current quantities of waste generation and recycling, the composition of waste, and solid waste facilities handling the material. This section describes the City's current residential solid waste generation profile including recycling and disposal, a review of state waste characterization data representative of the City's waste composition, and a review of the existing waste facility infrastructure.

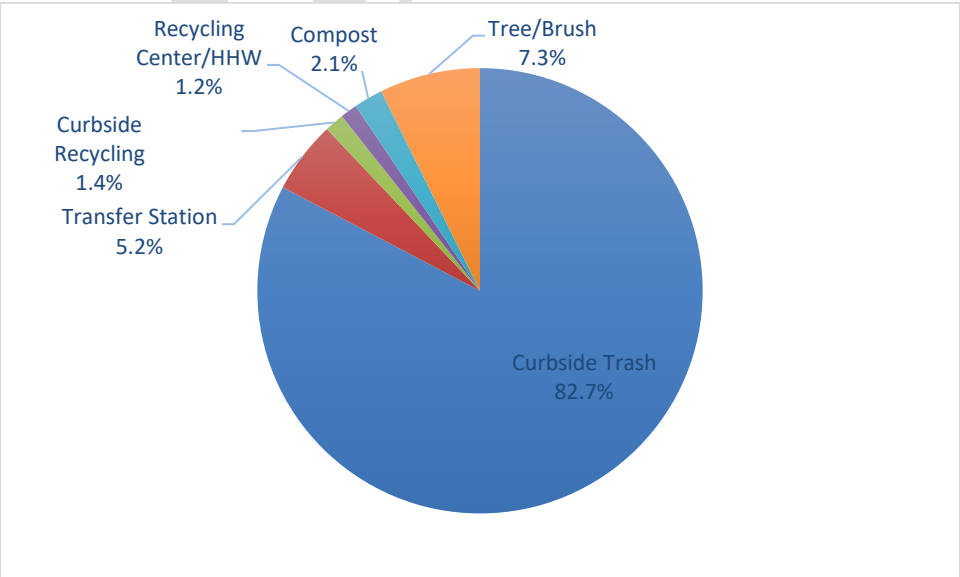
3.1 Joplin Overview

The City of Joplin is in southwest Missouri in the "four states" region encompassing Oklahoma, Kansas, Missouri, and Arkansas and has a 2020 total population of 51,762 based on estimates from the U.S. Census Bureau. During the day the population swells to approximately 225,000.

3.2 Residential Solid Waste Generation, Recycling, and Disposal

Residential solid waste and recycling refers to materials generated by the City's single-family residential customers. Multifamily-generated material quantities are addressed along with commercial material generation presented in Section 3.3. In 2021, the City's single family residential sector generated a total of 25,985 tons of MSW, equating to a total of 560 pounds of MSW per capita annually. Approximately 88 percent of residential MSW is disposed in landfills, with 9.4 percent recycled through the City's yard waste and brush drop off programs, 1.4 percent recycled through the curbside recycling program, and 1.2 percent recycled through the City's Recycling Center and Household Hazardous Waste (HHW) drop-off. Figure 3-1 shows the 2021 generation and management of residential MSW by type.

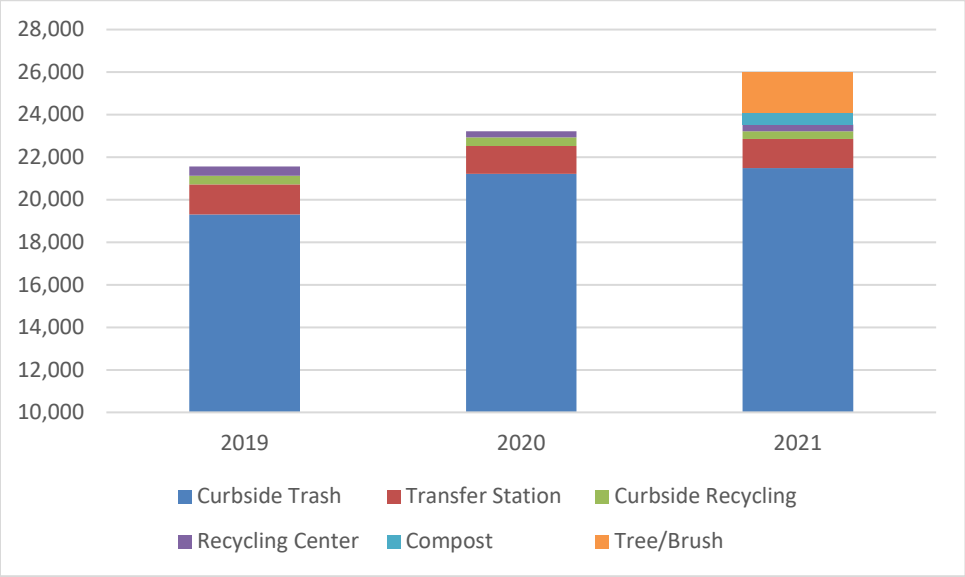
Figure 3-1: 2021 Residential MSW Generation and Management by Type



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Residential MSW generation has been relatively steadily, only slightly increasing over the past three years. While generation is increasing, curbside recycling has slightly declined. Section 2.3.4 discusses solid waste management industry trends for increasing diversion. Historical data on organic material is not available prior to 2021. Weather events and seasonal variation can contribute to annual variation in organics quantities, so no projections have been made for previous years. Figure 3-2 illustrates the trend in generation and management over the past three years.

Figure 3-2: Residential MSW Generation Trends, 2019-2021



3.2.1 Methodology and Assumptions

Table 3-1 identifies the data source, methodology, and assumptions for calculation each material type.

Table 3-1: Material Type Data Source, Methodology and Assumptions

Material	Data Source, Methodology, and Assumptions
Residential Curbside Refuse and Recycling	The City's contractor, Republic, is required to track and provide annual reporting on quantities.
Recycling Center and HHW	The City tracks quantities processed at the facility. Data is provided by each vendor for each material type.
Yard Waste Composting	The City has not historically tracked quantities. Data was collected for 2021 by taking measurements of the windrows following the end of the seasonal residential curbside collection event. A multiplier of 260 pounds per cubic yard was utilized to convert the cubic yards to pounds assuming that the piles were loose (not shredded), dry, and uncompacted given the limited time since the material had been placed.

Material	Data Source, Methodology, and Assumptions
Tree and Brush Drop Off	The material from the Tree and Brush drop off program is contracted to a private company to grind and haul away. An invoice reported the quantity of unprocessed material in cubic yards in 2021. A multiplier of 400 pounds per cubic yard was utilized to convert the cubic yards to pounds assuming the material was loose (not shredded), dry, and partially compacted over a year of settling.
Transfer Station Bulky Items	The City's former contractor, Republic, provided data on the number of customer loads. A multiplier of 0.76 tons per load was utilized to convert the number of loads to tons. This multiplier was based on an average of tons/load data from four other transfer stations. Data was not tracked by WCA in 2021 so an average of 2019 and 2020 was utilized for 2021.

3.3 Commercial and Multifamily Generation, Recycling and Disposal

The commercial sector includes material generated by commercial, institutional, and multifamily properties. While multifamily properties are occupied by the residential sector, waste from these properties is comingled with commercial sector upon collection and therefore considered commercial waste. The City's commercial properties contract for trash and recycling collection services through private haulers on an open market system and because of this, quantities of commercially generated recyclables are not known. There are no County or City solid waste regulations pertaining to commercial entities or commercial MSW haulers. Recycling is an optional additional service and is not provided by all commercial haulers.

3.4 Waste Characterization

Waste characterization is the analysis of the composition of a waste stream on a detailed level. A waste characterization study includes sorting refuse material into material types to identify the amounts of paper, glass, plastic, food waste, etc. that make up the material that is disposed in landfills. This information is valuable identifying and targeting material types or other challenges for future planning efforts and informing the development of recycling programs and educational campaigns. Waste characterization results can give an understanding of the types and quantities of recyclable materials that are currently being disposed in landfills, and therefore the potential for increased material recovery and increased recycling rates.

Composition of MSW material disposed in landfills (including recyclable and non-recyclable material) varies from region to region based on many factors, such as ratio of residential to commercial sectors, access to recycling programs, and vegetative growth. The materials that are currently disposed include both recyclable and non-recyclable materials, but the proportions of material that could potentially be

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recycled versus material that would continue to be disposed are not known. It is important to recognize that there are challenges to capturing all material that seemingly has the potential to be recycled. Even if a material has the potential to be recycled or diverted, it may be impractical from a cost and/or environmental perspective for all material to be recycled due to factors such as:

- Lack of recycling infrastructure
- Contamination of recyclable materials
- Access to end markets
- Need for additional public education and outreach

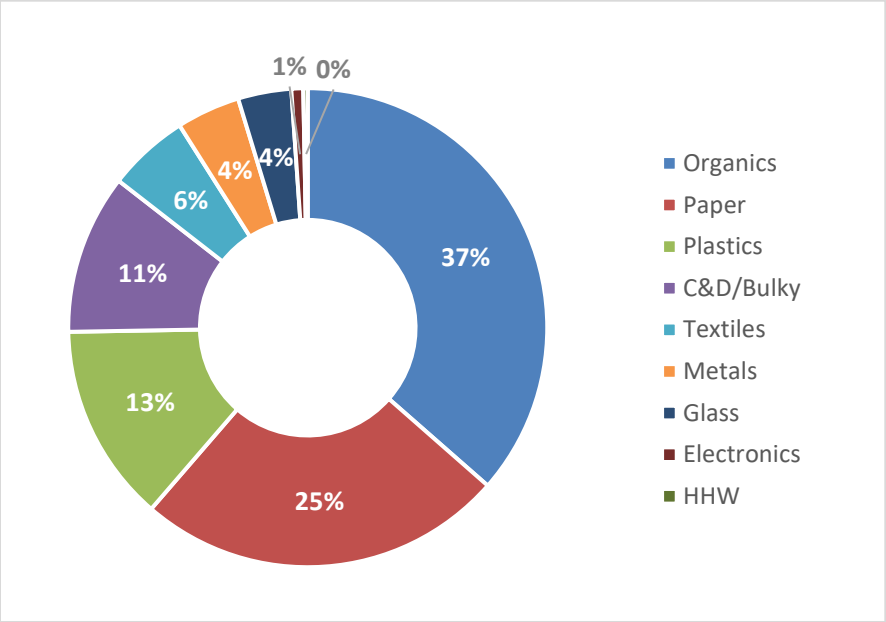
3.4.1 Missouri Waste Characterization Report

In 2016 and 2017 the Missouri Department of Natural Resources Solid Waste Management Program (MDNR) sponsored a statewide waste characterization study seeking to capture representative samples from across the state. The study included analysis of MSW samples of disposed waste at twenty-two facilities in Missouri, from rural, small metro, and large metro locations, including the Joplin Transfer Station and the Prairie View Landfill. Facilities hosted a combination of sampling and manual sorting of MSW, gate surveys, and/or visual volumetric surveying of non-MSW loads. This section presents the results of these waste characterizations for MSW material generated from small metro areas by sector (residential and commercial) based on detailed material type distribution data.

Residential Waste Characterization. Figure 3-3 presents the residential waste characterization for small metro areas. Organics (36.5 percent) and paper (24.9 percent) are the two most abundant material types, together comprising approximately 60 percent of all residential MSW disposed in landfills. Plastics account for another 13.4 percent of disposed residential MSW.

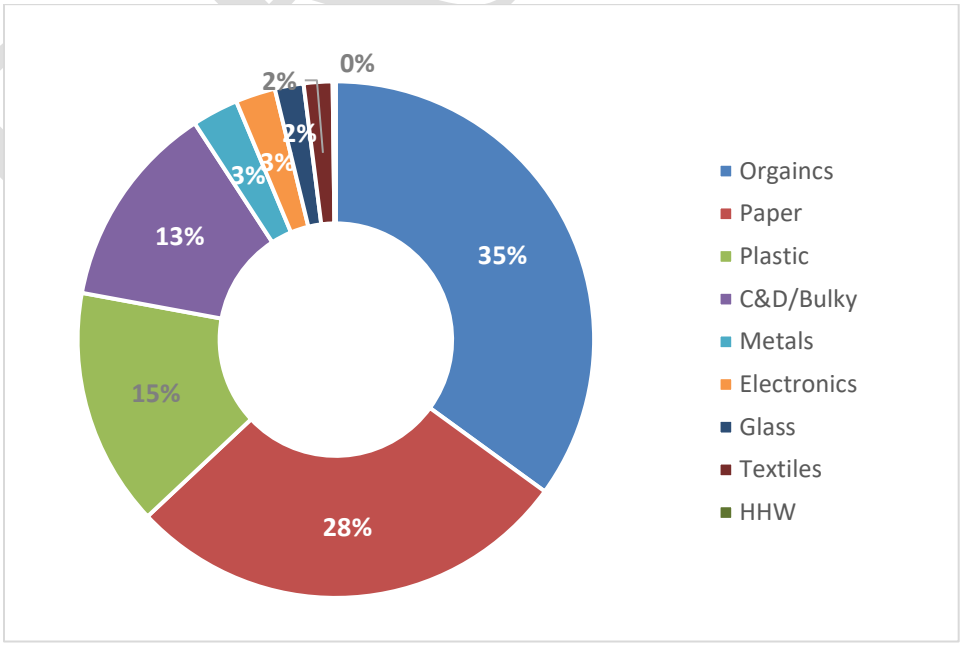
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Figure 3-3: Residential MSW Composition of Small Metro Areas



Commercial Waste Characterization. Figure 3-4 presents the commercial waste characterization for small metro areas. The three most abundant types of disposed commercial MSW are the same as for residential MSW, with organics comprising 35 percent of the stream followed by paper at 28 percent and plastics making up 15 percent. The high percentage of paper fibers can likely be attributed to the large volumes of cardboard and office paper generated by many businesses.

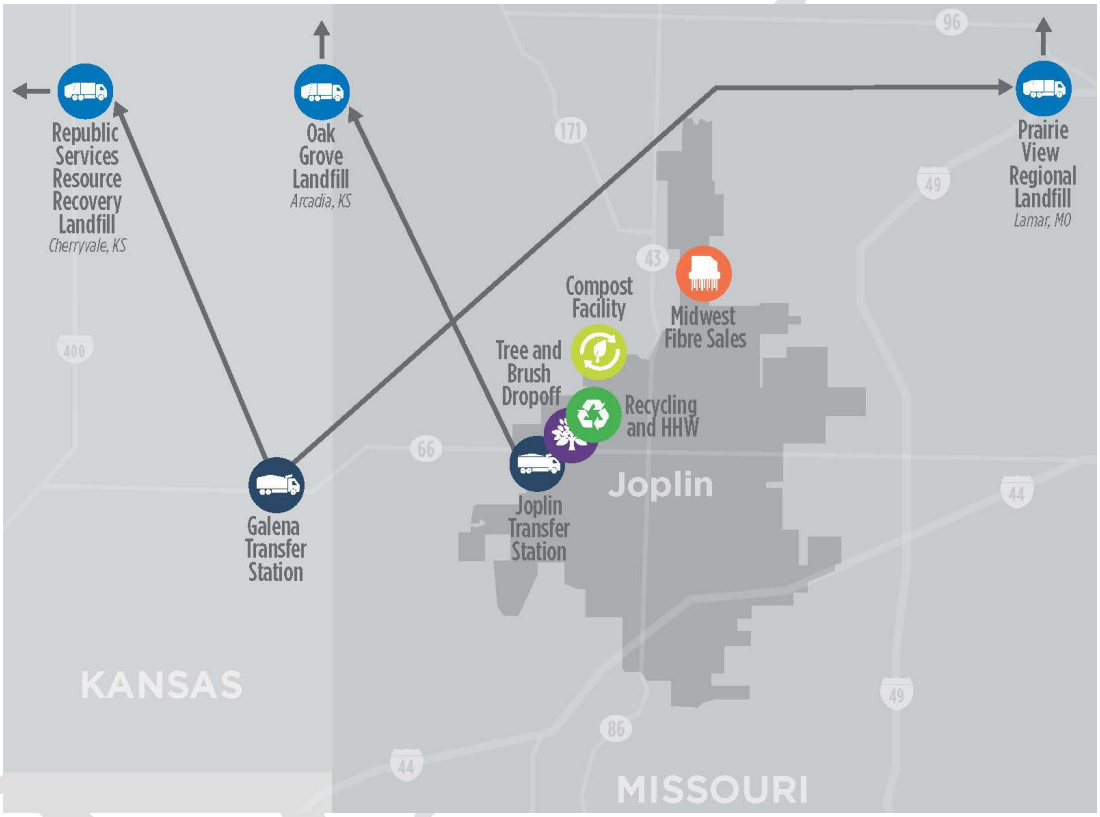
Figure 3-4: Commercial MSW Composition for Small Rural Areas



3.5 Solid Waste Facilities

This section provides an overview of existing MSW processing and disposal facilities located within the City and the surrounding region, including landfills, MRFs, transfer stations, organics processing facilities, and HHW processing facilities. Figure 3-5 identifies locations of each solid waste facility in the City and surrounding region. Additional regional facilities and their remaining life are discussed within this section.

Figure 3-5: Solid Waste Processing Facilities Utilized by the City of Joplin



3.5.1 Landfills

Landfill capacity is a finite resource in the region and permitting new landfills is becoming increasingly difficult (as discussed in the Landfill Trends portion of section 2.3). Increasing recycling and organic material diversion would serve to ease the constraint of disposal capacity in the future. This section provides an overview of regional landfill facilities, quantities and types of materials disposed, and provides an estimate of when landfills may reach capacity.

MSW Landfills. The City's residential waste is currently disposed of at the Republic Services Resource Recovery Landfill in Cherryvale, Kansas by way of the Galena Transfer Station. Waste collected at the Waste Corporation of America (WCA) Joplin Transfer Station is hauled to Oak Grove Landfill in

Arcadia, Kansas. Table 3-2 identifies the Subtitle-D landfills currently in operation in the region and provides disposal and remaining capacity data.

Table 3-2: Regional Subtitle-D Landfill Disposal and Remaining Capacities

State	County	Facility Name	Permit Holder	2020 Waste Accepted (Tons)	Estimated Remaining Life (Years)
KS	Montgomery	Resource Recovery Landfill[1]	Republic Services	61,624	11.2
KS	Crawford	Oak Grove Landfill[1]	WCA	227,442	15.1
MO	Barton	Prairie View Regional Waste Facility[2]	Republic Services	506,437	N/A
MO	Greene	Noble Hill Sanitary Landfill[2]	City of Springfield	283,002	50+

1. Kansas Department of Health and Environment Solid Waste Management Plan 2020.
2. Missouri Department of Natural Resources Tonnage Report 2020.

Resource Recovery Landfill. The Resource Recovery Landfill privately owned and operated by Republic Services is the primary disposal location for residential solid waste generated in the City. The landfill is located Cherryvale, Kansas approximately 68 miles from the City of Joplin. The Kansas Department of Health and Environment (KDHE) Solid Waste Management Plan from 2020 provides estimates of remaining life to be 11.2 years. Material is received from Kansas, Missouri, Oklahoma, and Arkansas.

Oak Grove Landfill. The Oak Grove Landfill privately owned and operated by WCA is the disposal location for waste disposed at the Joplin Transfer Station. The landfill is located in Arcadia, Kansas approximately 42 miles from the City of Joplin. The KDHE Solid Waste Management Plan from 2020 provides estimates of remaining life to be 15.1 years. Material is received from Kansas, Missouri, and Oklahoma.

Prairie View Regional Waste Facility. The Prairie View Regional Waste Facility is owned and operated by Republic Services. It is located in Lamar, Missouri approximately 42 miles from the City of Joplin.

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Noble Hill Sanitary Landfill. The Noble Hill Sanitary Landfill is publicly owned and operated by the City of Springfield. It is located in Springfield, Missouri approximately 81 miles from the City of Joplin. Currently, no waste generated in Joplin is disposed of in the Nobel Hill Sanitary but may serve the community in the future as other closer landfills reach capacity.

3.5.2 Material Recovery Facilities

Material recovery facilities (MRF) use a combination of large processing equipment and manual labor to sort and process recyclable materials and accept the typical range of materials seen in most single-stream recycling programs. Some MRFs focus on specific materials such as paper and cardboard. Generally, they accept material from both commercial and municipal collection and hauling operations, from residential and commercial sources.

Midwest Fibre Sales. The recyclable materials collected from the City's residential recycling programs are processed at Midwest Fibre Sales, located in Webb City, MO.

3.5.3 Transfer Stations

Transfer stations are facilities that are used to consolidate MSW from multiple collection vehicles into larger, high-volume transfer vehicles for economical shipment to distant disposal or processing facilities. Transfer stations can be used for material destined for landfilling, recycling, or composting. With a nationwide trend toward larger disposal and processing facilities, there has been an enhanced need for transfer stations. When transport distances are longer, transfer stations allow collection vehicles to be more productive by maximizing the amount of time spent collecting material rather than driving to a distant facility.

There are presently two active transfer stations utilized by the City. Transfer stations play an important role in the transportation of solid waste in the City and will continue to play a vital role as regional landfill capacity decreases.

Joplin Transfer Station. The Joplin Transfer Station is privately owned and operated by WCA and located west of downtown Joplin. Material is consolidated and transferred to the WCA Oak Grove Landfill in Kansas.

Galena Transfer Station. The Galena Transfer Station is owned and operated by Republic Services. It is located six miles west of downtown Joplin in Galena, Kansas. Material is consolidated and transferred to the Republic Services Resource Recovery Landfill in Cherryvale, Kansas.

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3.5.4 Organics Processing Facilities

The City owns and operates two organics processing facilities: a compost facility (Compost Facility) and a tree limb drop off site (Tree Limb Drop Off). These facilities are discussed in more detail in Section 8.0.

3.5.5 Recycling Drop Off and Household Hazardous Waste

The City owns and operates a recycling drop off facility including acceptance of household hazardous waste. This program is discussed in further detail in Section 7.0.

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4.0 PUBLIC EDUCATION & OUTREACH

Providing effective public education and outreach to residents is critical for the ongoing success of the City's solid waste management system. Guidance and support from the City can shape proper participation and positive program engagement experiences for residents which increases customer satisfaction and enables progress toward the City's goals. This section describes key points of customer engagement, potential methods for communication, key messaging, and strategies and recommendations.

4.1 Current System Review

The City provides education and outreach on the topics of recycling and yard waste management. The messaging is specific to promoting the details of the various programs the City administers or geared toward promoting a time-specific event. A variety of communication methods have been utilized to promote the messaging.

Website. The City's Solid Waste Management and Recycling webpage includes detailed information about the Recycling Center services provided, types of materials accepted, guidance for participation, and schedule. The webpage also provides information on how residents can subscribe to curbside recycling and a link to the collection schedule for those subscribed. There are links to a City brochure about the HHW collection program and brochure that thoroughly outlines all the City's solid waste programs. The webpage also has broken links, specifically to the bulky items & tree limb disposal and residential trash recycling pages. There is no information on the website about the Compost Facility other than within the brochure.

Social media. The City utilizes its social media channels periodically to provide residents with information and reminders about topics such as service delays and special collection events.

Educational programming. The City responds to requests for presentations and tours of the Recycling Center. There are generally about a handful of requests annually.

Booths at public events. They city staffs a table at the monthly "Third Thursday" community event to promote the various recycling programs.

4.2 Key Categories of Communication

There are two primary categories of customer engagement for residential MSW services. These include initial education and outreach for new programs and changes to existing programs as well as ongoing communications, and both are critical for long-term success the County's MSW management system.

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1. **Initial Education and Outreach**. There are several programmatic changes included in this Plan that the City may consider implementing. If key or substantial changes to services result from the Plan, it would require that the City develop education and outreach plans specific to each program. When existing services change or new services are implemented, it is the City's responsibility to provide adequate education, guidance, and resources to enable residents to transition successfully. Outreach and education should begin prior to implementation and should continue through a specified transition period after initial implementation. The appropriate length of a transition period will depend on the specific changes being made to the MSW system.
2. **Ongoing Communications.** In addition to developing specific, targeted public education and outreach plans for program changes, the City should ensure it has an effective plan for ongoing customer communications. Ongoing, regular communications will help to maintain strong customer engagement and proper participation habits and is important for long-term system success. Residents should have access to key information about services (e.g., collection times, collection days, accepted materials) when they need it, in the form of an up-to-date, clear website and an accessible customer service telephone number. Easy access to information will support proper participation and customer satisfaction. The City may use other methods to deliver periodic communications as needed, such as direct mail, email, flyers, etc.

4.3 Options

There are numerous public education and outreach methods the City could employ, some of which are already utilized. The most effective and appropriate outreach methods will depend on the specific objectives of each communication. The methods chosen should be determined through consideration of factors such as target audience (typically all single-family residents), timeline, available funding, specific program or service, complexity of issues (initial outreach or ongoing outreach).

Collaborate with partners. It is important that the City collaborate closely with other appropriate entities to develop and execute outreach efficiently and effectively. Primary partners for public education and outreach include:

- **Service Providers.** Cities should work with their service providers to ensure that proper participation instruction is communicated to residents. The service provider may have prior experience regarding successful participation behaviors and behaviors that may present challenges for residents or the City (such as set-out guidelines).
- **City's Public Relations.** The City's public relation resources are a key internal resource that have existing public communication channels. The City has experience conducting public

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education and outreach for community services, events, and news. They produce and distribute media content and can provide guidance regarding successful communication methods and best practices and should collaborate on development and implementation of education and outreach initiatives.

Outreach methods. Potential public education and outreach methods include, but are not limited to the following:

- Booths at public events
- Cart tags
- City communications
- Direct mail
- Flyers in public spaces
- Mobile app
- Press releases
- Public meetings or workshops
- Social media
- Utility bill inserts

4.4 Effective Messaging

The most effective customer communications have several characteristics in common:

- **Clear and simple.** Language should be direct and concise while also friendly and engaging. The City should define the primary focal points for program information and communicate them in a concise manner. Graphics-based communications should be utilized as much as possible.
- **Consistent.** Consistency in language and graphics is important to support clear customer understanding and proper program participation. Standardized language, instructions, and graphics should be used across communication pertaining to all types of services and should be consistent over time.

4.5 Key Findings and Recommendations

Based on the current system review, implementation of previous solid waste management plans, and an evaluation of options, the following recommendations are being made pertaining to the residential sector.

1. **Update City Solid Waste Webpages.** The City needs to review and refresh all the content on the website and update broken links. Additional information should be provided about the Compost

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Facility, fall leaf collection program, Tree Limb Drop-off, and source reduction options such as backyard composting.

2. **Leverage existing resources and partnerships.** Utilize communication methods already developed such as the website, social media, community events, and local newspaper. Work with service contractor to distribute consistent messaging.

3. **Commit resources.** The City should allocate resources and staff to support the communication and outreach efforts.

4. **Utilize clear, simple, consistent messaging.** The county and cities should utilize clear, simple language for all communications and employ use of graphic-based messaging where possible. Language, graphics, and information provided should be consistent across all outreach methods and all service types. Consistency will allow for the highest opportunity for proper, regular, and convenient participation in MSW management by residents.

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5.0 CITY CONTRACTED RESIDENTIAL SERVICES

This Section provides an analysis of the current City-contracted solid waste and recycling services. The analysis includes a review of the current system, diversion and participation rates, options, benchmarking, stakeholder engagement results, and recommendations.

5.1 Current System Overview

The City contracts with a private hauler to provide curbside solid waste and recycling collection services. The City's current contractor, Republic Services, began their most recent agreement on July 1, 2021, and will cover a period of five years. Republic Services hauls the material collected from the City to their transfer station in Galena, Kansas. Waste is then consolidated and hauled to the Republic Services owned MSW Resource Recovery Landfill in Montgomery County, Kansas. Details about these facilities are described in Section 3.5 Solid Waste Facilities.

Refuse. Trash is collected weekly in a 96-gallon cart provided by the contractor. Residents may request an additional cart for no additional charge and additional bags of trash are allowed at no additional cost. Bulky items may be set out each week for no additional charge. This is considered a "take-all" system. While customers have indicated that they are satisfied with their ability to set out unlimited weekly quantities, it does not support diversion or incentivize recycling.

Recycling. Recycling is provided through a voluntary subscription service for an additional fee. Recycling is collected every other week in a 96-gallon cart provided by the contractor. The capacity of the 96-gallon carts for recycling is sufficient for most participating residents; additional carts may be requested at no additional cost. Recycling service is not always provided on the same collection day as the refuse and causes confusion for participating residents. Every other week collection also lends to confusion.

Yard waste and brush. For the majority of the year, yard waste and brush material are co-mingled with trash for landfill disposal. While the state of Missouri has had a ban on the landfilling of yard waste since 1991, waste from the City is hauled across the state line to Kansas where there are no restrictions on yard waste material. The City provides seasonal collection of leaves throughout the fall months. The City collects leaves that have been piled at the curb and composts the collected material at the City's compost facility. Residents can self-haul yard waste to the City's compost facility year-round during open hours for no fee. The City also operates a free tree and brush drop-off site with limited year-round hours of operation. These two City facilities are discussed in detail in Section 8.0.

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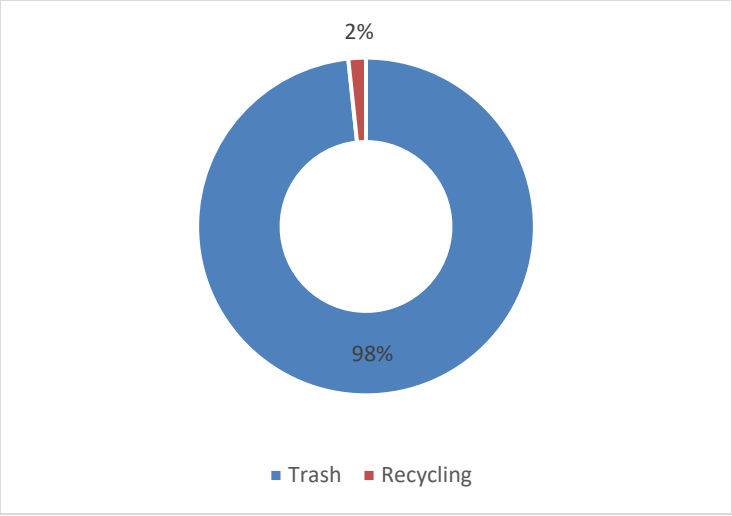
Bulky items. Bulky items may be set out each week in unlimited quantities for no additional charge. This includes furniture, mattresses, televisions, solid paint, tree limbs and brush, dry carpet, and small amounts of bundled or containerized construction and demolition debris. Bulky items are co-collected with the residential trash by the contractor. Residents may also self-haul bulky items to the Joplin Transfer Station owned and operated by WCA for a discounted disposal rate. This program is subsidized by the City and discussed in more detail in Section 8.0.

Cost of service. The cost of residential trash service is $12.66 monthly and an additional $4.59 monthly for recycling service with a planned 2% increase each year. The City is responsible for the billing and collection charges for the waste collection and disposal services through the monthly residential utility bill. The current billing and administrative fee of $0.55 is included on the utility bill and will be retained by the city to offset the cost to the city for administering the residential trash and recycling services.

5.2 Diversion and Participation Rates

In 2021, the City's single family residential sector disposed of 21,489 tons of trash and 367 tons of recyclables through the curbside collection program. Figure 5-1 depicts the relationship between the percentage of trash and recycling collected curbside in 2021. Based on the Waste Characterization Study discussed in detail in Section 3.4, a significant amount of the disposed trash is acceptable in the curbside recycling program. This represents great opportunity to increase diversion in the City by increasing participation in curbside recycling.

Figure 5-1: Tonnage of Residential Trash and Recycling Collected Curbside, 2021



The household participation rate in the recycling subscription program was 9.9 percent in 2021. Table 5-1 outlines the number of households participating in the trash and recycling programs over the past five

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years. Participation in recycling has increased steadily and slightly from 2017 to 2021; however, it represents less than ten percent of the total participating households.

Table 5-1: Residential Customer Counts and Recycling Participation Rate

Year	Refuse	Recycling	Recycling Participation Rate
2017	16,679	1,341	8.0%
2018	16,671	1,471	8.8%
2019	16,744	1,593	9.5%
2020	16,871	1,628	9.7%
2021	17,304	1,713	9.9%

5.3 Options

Continue current service. Continue combined material collection (refuse, yard trimmings, bulky items) in unlimited quantities and voluntary opt-in for recycling service. This option provides the least incentive for diversion of materials from the landfill. The collection of unlimited materials creates unpredictable weekly volumes.

Provide recycling to all residents as part of the base service. Including recycling as part of the base level of service provides all single-family residents equal access to recycling. The cost per household for service is typically reduced compared to the subscription service due to the economy of scale. It is also standard to negotiate a rebate for material collected based on the quality of material recycled. When residents are provided convenient access to curbside recycling, participation is highly likely to increase. Collection may be weekly or bi-weekly. Weekly collection is convenient; bi-weekly collection can reduce costs. If recycling is collected bi-weekly, it is recommended to provide 96-gallon carts to accommodate storage of materials.

Implement Pay-As-You-Throw (PAYT). PAYT (also known as unit pricing or variable-rate pricing) charges residents based on the amount they throw away. Residents are provided with a financial incentive to generate less waste and recycle and compost more. PAYT treats waste services just like water, electricity, gas, and other utilities. There are various ways to implement a PAYT system that include the following options:

- Set a weekly allowable maximum waste volume (i.e. one standardized 96-gallon cart) and charge for additional waste set out beyond the maximum limit by making tags or bags available for purchase.

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- Provide various cart sizes at tiered pricing. This option requires billing all customers individually to reflect the cart size price. It also requires having a stockpile of carts on hand to distribute as customers change their preferred cart sizes.
- Provide a standard cart size and offer an additional cart for an additional fee.

Limit bulky item collection. Limit the amount of bulky item set out to a specific quantity. Limiting the set out allows for collection efficiencies and prevents the abuse of the program. Restrict bulky item set out to a less frequent schedule such as monthly or quarterly. Bulky items could still be co-collected with refuse but on a less frequent basis. A separate bulky item program is likely to be more operationally efficient than current bulky item management with refuse.[6] Trucks designed specifically to collect bulky items increase efficiency and reduce staffing compared to manual collection. A separate bulky item collection service could provide financial benefit to the City by mitigating cost increases during the next procurement process. Effective implementation of a new bulky item collection program would require significant public education and outreach efforts by the City.

Prohibit yard trimmings comingled with refuse. Yard trimmings could be prohibited from being co-collected with trash. If separate collection service is not provided through the City contract, then it would be left up to customers to manage yard trimmings. Options for management of yard waste includes contracting individually with a private hauler, self-hauling to a drop off facility, or managing the material on site through mulch mowing and/or backyard composting. The benefit of this option is that only customers who use a collection service pay for the service; however, it may cause some illegal dumping of yard trimmings. Effective implementation of a new yard waste collection program would require significant public education and outreach efforts by the City (refer to Section 4.0). Options for a separate yard trimmings service include the following:

- **Regular, scheduled service.** The City may choose to provide collection of yard trimmings with regular scheduled routes and collection frequencies, similar to typical curbside refuse or single-stream services. Service frequencies can range from weekly to annually.

- **Subscription service**. The City may leave it up to each residence to decide to opt into a yard trimmings collection service. Only those residents needing the service pay for the service. This incentivizes residents to manage their yard waste on their property through mulch mowing and composting, rather than setting it at the curb to be managed off site.

[6] This is not meant to imply that total monthly customer rates would decrease with provision of a separate program.

- **Drop off facility**. Residents may self-haul yard trimmings and brush to the City's Compost Facility. The City currently offers this service for no charge. While this is the least expensive option for residents, it requires the most effort of all the options and may prohibit residents without the appropriate vehicle to self-haul.

5.4 Benchmarking and Case Studies

Peer communities have been identified and evaluated on their residential curbside solid waste services for benchmarking. There is a range in services for trash, bulky items, recycling, and yard waste. Table 5-2, Solid Waste Services Comparison, outlines the services and costs to residents per month for those services for various communities in and around the City.

Table 5-2: Solid Waste Services and Cost Comparison

Community/ Provider	Monthly Rate	Curbside Trash	Bulky Items	Curbside Recycle	Curbside Yard Waste
Joplin, MO City Contract (Republic)	$12.41 (trash only)	Cart provided, unlimited	Unlimited, included	Optional subscription, bi-weekly ($4.59/mo)	Co-mingled with trash; seasonal leaf collection
Bentonville, AR City Contract (Republic)	$13.89 (2019)	Cart provided	One item per week, included	Included, weekly, cart provided	Not allowed with trash; subscription available
Webb City, MO City Contract (WCA)	$10	Cart provided	Must schedule pick-up, free	None	None
Fayetteville, AR City Service	$10.65, $16.27, $23.09	Cart provided, PAYT, $7.20/extra bag	One per year-scheduled, free	Included, weekly, 18-gallon totes provided	Weekly collection for composting
Springfield, MO Open Market 10+ licensed haulers	$10 - $16 (trash only) (2017)	Varies	Varies	Optional subscription $3-8	Varies
Tulsa, OK City Service	$12.42, $13.92, $15.42	Cart provided, PAYT, $6/extra cart; stickers for extra bags	$10 per scheduled collection	Included, cart provided, weekly	Co-mingled with trash
Carthage, MO City Contract (Republic)	$13.08	Weekly, cart provided, $3.12/extra cart	Must schedule pick-up	None	None
Pittsburg, KS Open Market 3 waste haulers,	$16.82 - $36.50 (trash only)	Cart provided	Must schedule pick-up for a fee ($10-25)	Optional subscription, weekly $20/mo	Subscription available $2-6/mo

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1 recycling hauler					
Neosho, MO City Contract (Republic)	$10.95/mo for 1 can (55 gal), $5/additional can	Weekly, PAYT	Must schedule pick-up, free	None	None

5.4.1 Case Study – Transitioning to Recycling for All System

The City of Olathe, Kansas provides municipally provided solid waste services. Currently, services include weekly automated cart-based refuse collection, weekly yard waste collection, and bi-weekly automated cart-based recycling collection. In 2010, the city transitioned to the automated cart program for recycling and switched collection to every other week. The city distributed all customers with a 95-gallon cart for recycling collected every other week. Previously, customers were using 18-gallon totes for recycling.

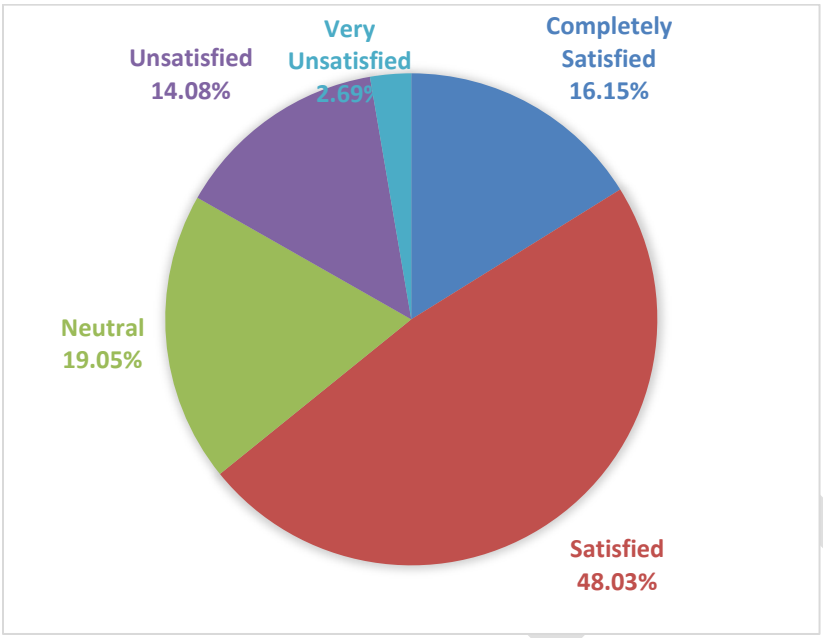
Providing all residential customers with a cart to contain recyclables contributed to nearly tripling the quantity of materials collected. The quantity of recyclables collected curbside from approximately 2,100 tons in 2009 increased to approximately 6,000 tons by 2011. The carts provide more storage capacity than recycling totes, which allowed Olathe to collect recyclables every other week and still increase quantities collected.

5.5 Stakeholder Engagement

The community survey provides insights into the opinions of the community on the residential options considered. Most respondents of the survey indicated that they live in a single-family household (97%) and those that indicated that they live in a multifamily household were directed to skip questions specific to the residential curbside program. Overall, residents are completely satisfied (16%), satisfied (48%), or neutral (19%) with the current program. Figure 5-2 depicts the satisfaction of residents with the curbside program.

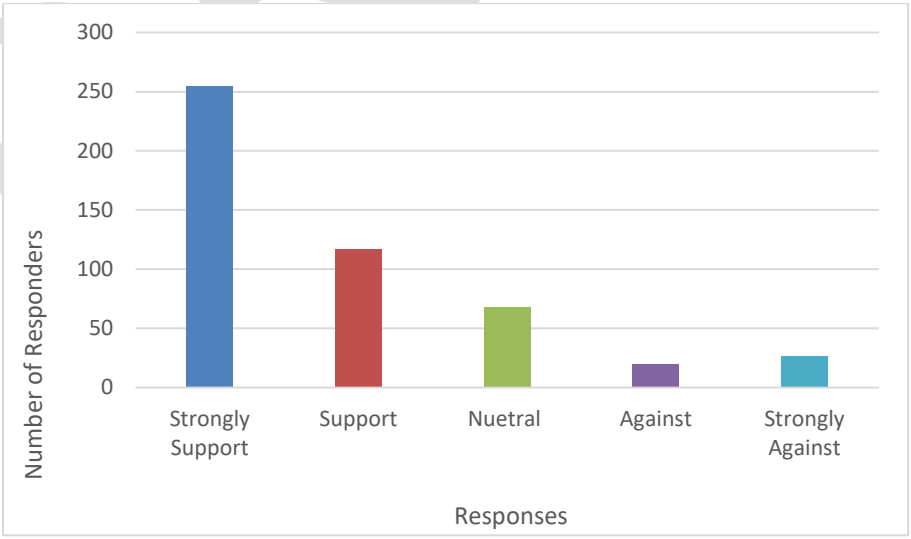
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Figure 5-2: Survey Response – Customer Satisfaction with Curbside Services



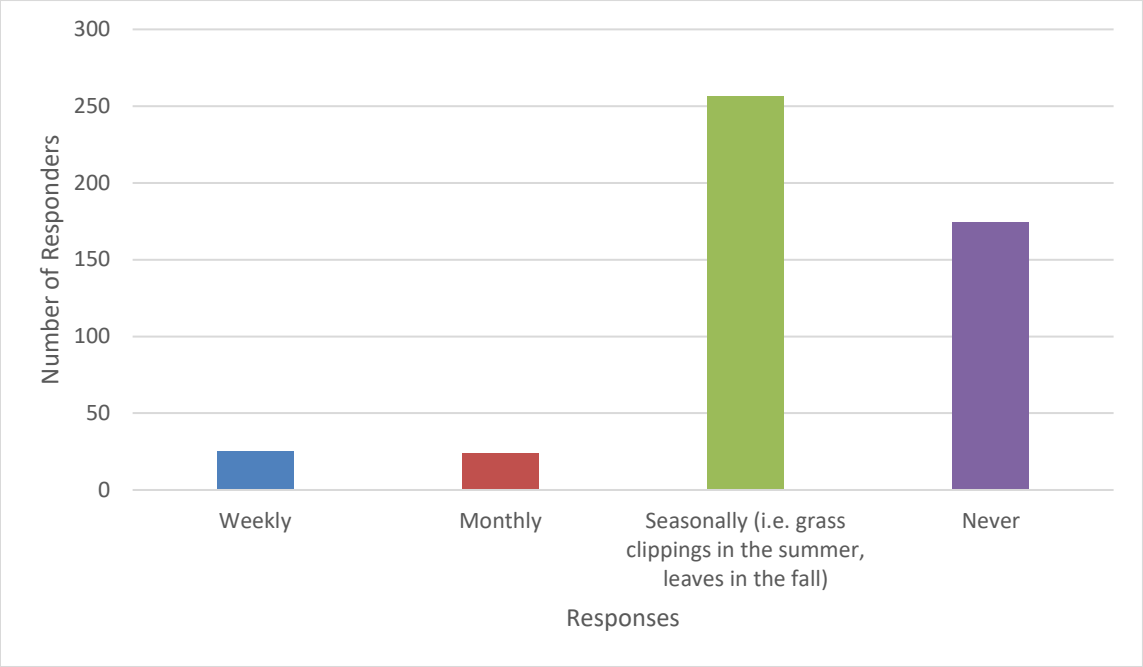
Slightly less than half of the respondents indicated that they currently subscribe to the optional curbside recycling service. When asked if they support the City contracting for recycling for all residents as part of the base service, respondents are supportive with 52 percent strongly supportive, 24 percent supportive, and 14 percent neutral and less than ten percent being against or strongly against it. Figure 5-3 depicts how likely respondents are to support the City contracting for recycling service for all residents.

Figure 5-3: Survey Response – Level of Support for City-Wide Curbside Recycling



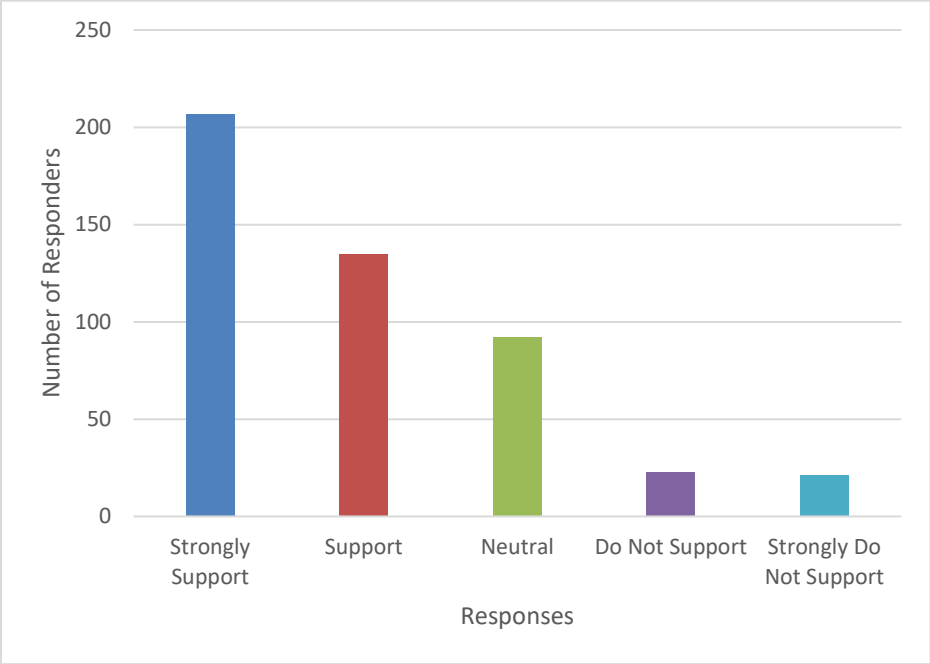
The survey included questions pertaining to the management of yard trimmings. When asked how frequently residents generate yard trimmings, the majority of respondents answered "seasonally" followed by "never". Figure 5-4 depicts the survey responses when asked about the frequency of yard trimming materials.

Figure 5-4: Survey Response – Frequency of Setting Out Yard Trimming Materials



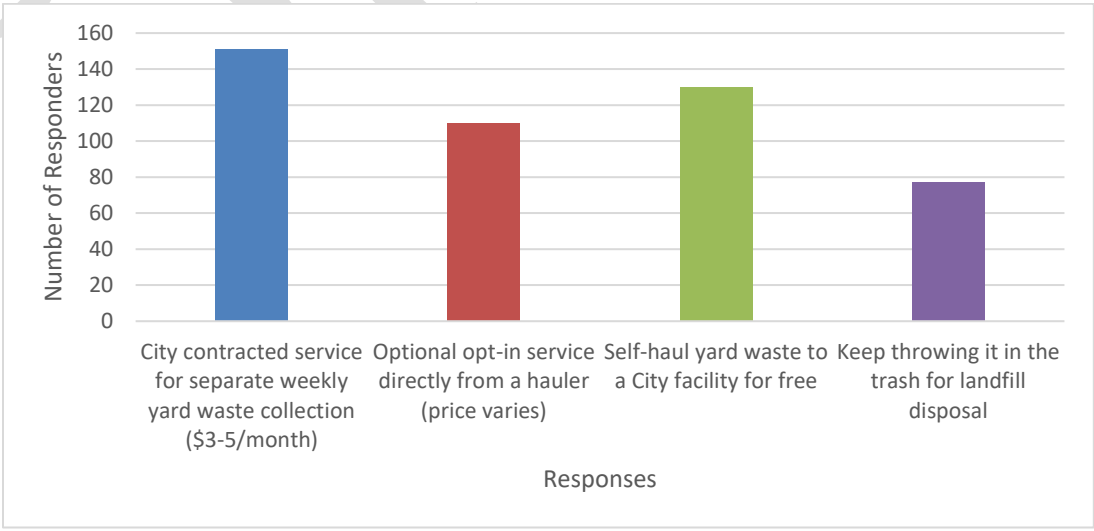
Survey respondents were asked if they support the City restricting yard trimmings from landfill disposal. Overall, there is support with respondents indicating they strongly support (43 percent), support (28 percent), or are neutral (19 percent) with less than ten percent being against or strongly against. Figure 5-5 depicts the level of support for the City to restrict yard trimmings from landfill disposal.

Figure 5-5: Survey Response – Level of Support of Separate Collection of Yard Trimmings



While resident support the separation of yard trimmings from the refuse, there was a variety of service levels preferred for management of the material. Thirty-two percent indicated they would support paying a fee for the City to contract for services, 23 percent selected they would support an optional service for a fee, 27 percent identified that they prefer to self-haul material to the City's Compost Facility for free, and 16 percent prefer to continue throwing material into the landfill. Figure 5-6 depicts the survey respondents preferred management of yard trimmings.

Figure 5-6: Survey Response – Preferred Management of Yard Trimmings



5.6 Key Findings and Recommendations

Single-stream recyclables are materials that are accepted through curbside recycling programs, processed through MRFs, and sold as commodities to markets where the material is then made into new products. The city's current recycling program consists of a voluntary subscription service for an additional fee on top of the fee for standard residential refuse. Recycling is collected every other week in a 96-gallon cart provided by the contractor. In 2021, the household participation rate in the recycling subscription program was a mere 9.9 percent. The City's single family residential sector disposed of 21,489 tons of trash, a significant amount of which was considered acceptable in the curbside recycling program.

Based on the current system review, an evaluation of options, and stakeholder engagement, the following recommendations are being made pertaining to the residential sector.

1. **Include recycling in City contract for all customers.** Replace the current voluntary recycling subscription service, which requires an additional fee, to include recycling as part of the base refuse collection service. This will provide all single-family residents with convenient and equal access to curbside recycling and encourage higher participation. All customers should be provided with a 65-gallon recycling container. Educational materials containing recycling information should accompany container delivery. It is recommended that collection occur weekly and on the same day as standard trash collection to avoid confusion for participants and provide convenience. If biweekly collection is preferred due to cost, a 96-gallon cart is recommended to accommodate storage of materials. However, the cost of weekly collection may be minimized through rebates for collected materials and reduced cost per household for service with the inclusion of all residential customers due to the economy of scale.

2. **Seek a variety of options in the procurement of services.** Request during the next bid process that vendors provide cost for a variety of service options, including weekly and biweekly collection. Providing a 95-gallon cart, for example, is sufficient capacity for most customers to switch to biweekly collection. While weekly collection is preferred for its convenience, biweekly collection may be the most cost effective. Biweekly collection may also allow other materials such as yard trimmings, to be collected on alternative weeks.

3. **Implement Modified Pay-As-You-Throw Program.** The Modified PAYT Program would charge customers for additional trash carts beyond the standard single cart allocated per residence. Customers are provided with a financial incentive to generate less waste and increase diversion efforts via recycling and composting.

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4. **Limit bulky item quantity and reduce collection frequency.** Restrict curbside bulky item collection to a less frequent schedule, such as monthly or quarterly instead of weekly. Bulky items could still be co-collected with refuse but on a less frequent basis. Limit the number of bulky items for curbside pick-up to a specific quantity (e.g., 3 items per month) to improve collection efficiencies and prevent abuse of the program. A separate bulky item program is likely to be more operationally efficient than the current combination of bulky item management with standard refuse. Trucks designed specifically to collect bulky items increase efficiency and reduce staffing needs compared to manual collection. Furthermore, a separate bulky item collection service could provide financial benefit to the City by mitigating cost increases during the next procurement process. Effective implementation of a new bulky item collection program would require significant public education and outreach efforts by the City.

5. **Continue to provide bulky item drop-off options.** Continue to provide a discounted drop off at a local transfer station for bulky items.

6. **Prohibit comingling of yard trimmings with refuse and provide a subscription yard trimmings collection service.** The City should develop regulations to prohibit comingling of yard trimmings with standard household trash for collection. This will allow the City to divert additional material from landfills and, over time, may significantly increase its overall diversion rate. Additionally, the City should work with their waste contractor to provide residential customers with an optional separate yard trimmings collection in paper/Kraft bags. Residents may decide whether they'd like to independently opt into a subscription-based yard trimmings collection service. Only residents requesting the service would pay for the service. This may incentivize residents to manage their yard waste on their property through mulch mowing and composting, rather than setting it at the curb to be managed off site. Effective implementation of a new yard trimmings collection program would require significant public education and outreach efforts by the City.

7. **Continue the City leaf program, modify to require bagged material.** The City should continue to provide its current seasonal curbside leaves collection service with the new provision requiring material be bagged in paper/Kraft bags. This program is further discussed and evaluated in section 8.0.

8. **Consider long-term potential for food scraps diversion.** Significant quantities of food scraps that have the potential to be diverted through composting are currently being landfilled and

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curbside options for food scraps collection and processing are not being offered. In the long-term, the City should consider food scraps diversion, depending on development of markets, local processing options, and residential demand. These should be used as factors in determining if, when, and how the provision of a food scraps collection service may be financially feasible for the City.

9. **Education and outreach.** Providing initial and ongoing public education and outreach to residents is critical for the success of the City's solid waste management system. Guidance and support from the City can shape proper participation and positive program engagement experiences for residents, which increases customer satisfaction and enables progress toward the City's goals. Distributed materials covering waste reduction, recycling, and composting are typically broad in topic unless the messaging is geared toward promoting a time-specific event. A variety of communication methods, including newsletters, social media, in-person community programs, and the City's website, may be utilized to promote the messaging. Initial education and outreach for new programs and changes to existing programs as well as ongoing communications, are critical for the long-term success of the City's waste management system. Detailed recommendations for education and outreach are provided in Section 4.0.

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6.0 TRANSFER STATION AND CITY CONTRACTS

This Section includes an analysis of the City contract for subsidized service at a local transfer station and the City contract for solid waste services from municipal buildings.

6.1 Transfer Station Drop Off Service

The City contracts with a local transfer station to provide subsidized disposal service for residents. Residents may dispose of up to 2,000 pounds of brush, tree limbs, and bulky items at a discounted rate, subsidized by the City. The City entered a contract in April 2021 with WCA at the Joplin Transfer Station located at 3700 West 7th Street. Previously, the City contracted with Republic Services for this service at the Galena Transfer Station at 1715 East Front Street in Galena, Kansas.

6.1.1 Participation and Diversion

Participation is tracked by the transfer station personnel and reported to the City. Customers are charged per vehicle size from one of two categories, "small trailers" or "large trailers". Quantities are not weighed or tracked so the actual quantities of material collected through this program are unknown. A multiplier of 0.76 tons per load was utilized to convert the number of loads to tons. This multiplier was based on an average of tons/load data from studies conducted by Burns & McDonnell at four other transfer stations. Table 6-1 indicates the annual number of MSW loads received through the subsidized residential transfer station program and the estimated associated tonnage.

Table 6-1: Annual Transfer Station Vehicle Count and Estimated Tons

Year	2019	2020	2021*
Number of Loads	1,855	1728	--
Estimated Tons	1410	1313	--

*WCA did not report data in 2021.

6.1.2 Illegal Dumping

Currently, the City's Parks or Streets Departments collects illegally dumped material from public property. Material is disposed through a City serviced dumpster. The City provides an annual tire collection event. Programs are funded through a citywide cleanup tax.

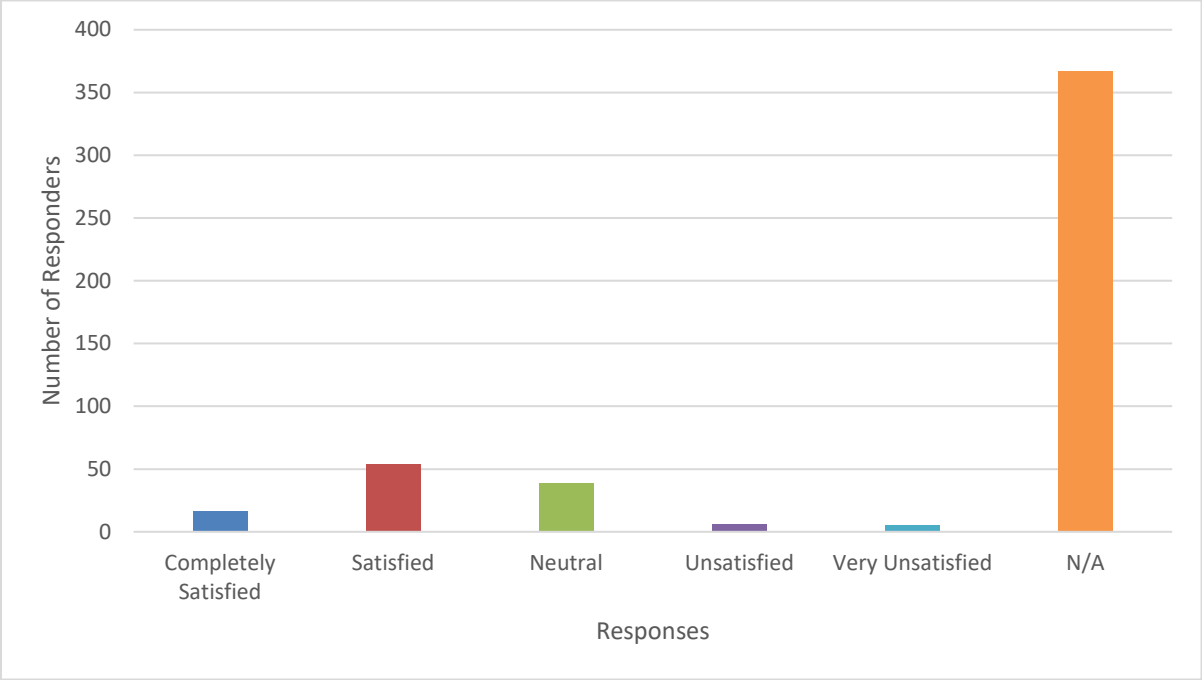
6.1.3 Stakeholder Engagement

The community survey asked one question specific to the discounted service at the transfer station. Respondents are generally very satisfied, satisfied, or neutral with the service. However, 75 percent of

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respondents indicated that they have never utilized the service. Multiple comments were received stating that residents were unaware of the service. Figure 6-1 depicts the responses to the level of satisfaction with the service at the WCA Joplin Transfer Station.

Figure 6-1: Survey Response – Satisfaction with Transfer Station Service



6.2 City Facilities Trash and Recycling Services

The City contracts for solid waste collection services at City facilities through the same contract for residential services. The City's current contractor, Republic Services, began their most recent agreement on July 1, 2021, and is for a period of five years. The contract includes service for both trash and recycling services. Recycling is collected as single stream. The cost for trash and recycling collection is the same.

The City is currently engaged in very little recycling from municipal buildings. Cardboard is collected at select locations and contracts with Midwest Fiber for collection services.

6.3 Key Findings and Recommendations

The discounted disposal at a local transfer station is a valuable service for the community that provides a cost-effective option for proper disposal of bulky items and brush. The program is well received by those that utilize it; however, it appears that community awareness is low.

1. **Continue to provide discounted disposal at a local transfer station.** The City-subsidized disposal program at a local transfer station provides residents with discount disposal. This supports a system with less frequent collection of bulky items as well as promotes appropriate disposal over illegal dumping.
2. **Promote the program.** Promote awareness of the program through the various methods described in Section 4.0, Education and Outreach.
3. **Lead by example**. Implement a comprehensive recycling program at all City occupied buildings utilizing the current vendor contract. The City is underutilizing the contract with Republic Services to provide recycling. The current contract includes negotiated pricing and service. Recycling more would result in reducing waste and could be cost neutral.

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7.0 RECYCLING CENTER AND HOUSEHOLD HAZARDOUS WASTE

Recycling drop off facilities provide a valuable service to a community. Recycling diverts material from the landfill, conserves natural resources, reduces negative impacts on the environment, strengthens the economy, and creates jobs. Recycling drop off facilities are especially valuable for the multifamily sector and small businesses to have access to recycling. The purpose of an HHW collection program is to provide residents with access to safe and proper disposal options for household materials that are not suitable for disposal in a landfill or for collection with other curbside residential programs.

7.1 Current System Overview

The City operates a Recycling Center which includes the collection of HHW located at 1310 West A Street. The Recycling Center is free and open to the public regardless of residency. The HHW collection program is limited to residents of McDonald, Newton, Jasper, Barton, and Vernon Counties and no commercial HHW waste is accepted. The Recycling Center accepts and recycles a wide variety of materials for recycling and reuse. All material is source separated into the appropriate collection containers. Customers sort their own material with assistance from staff and volunteers. Table 7-1 outlines the accepted materials and the management methods.

Table 7-1: Recycling Center Acceptable Materials and Management Methods

Material	Management Method
Corrugated Cardboard and Paperboard	Midwest Fiber – Webb City
Paper: Newspapers, Magazines, Office Paper, Junk Mail	Midwest Fiber – Webb City
Plastic #1 and #2	Midwest Fiber – Webb City
Plastics #5	Recycler – Individual (unknown)
Aluminum Cans	Commercial Metals Company (CMC) Recycling - Joplin
Steel/Tin Cans, Scrap Metal	Commercial Metals Company (CMC) Recycling - Joplin
Batteries (all)	Call to Recycle; Safety Clean
Electronic Waste (fees apply for select items)	Computer Recycling Center - Joplin
Cooking Oil	Brooks Grease Service – Tulsa (FOG hauler)
Glass	Ripple Glass – Kansas City
HHW	Tradebe

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Paper, cardboard, plastics, scrap metal, aluminum cans. These materials are collected and processed by local, established recycling vendors. The City receives a rebate for the value of the recyclable material and there is a charge for the hauling service.

Glass. The City recently switched to a new vendor for glass recycling. The new vendor allows glass to be collected loose, while the previous vendor required the glass to be sorted by color and crushed; therefore, safety is greatly improved onsite. However, the new vendor is unable to provide a roll-off collection container and staff are having to improvise with temporary IBC storage containers. When the vendor comes to pick up the material it is being moved from the temporary storage containers to a roll-off using a fork truck. The vendor, Ripple Glass, proposed that a bunker system is the most preferred method of collection and storage, however, the current facility size prohibits this option.

Batteries. All battery types are accepted and recycled through a contractor which specializes in battery recycling for a fee. Some batteries such as lead-acid batteries, if separated, may generate a rebate for the value of the material.

Electronic waste. Electronic waste or ewaste is a difficult to recycle material stream so it is a valuable service to provide. The City collects a fee from customers for the disposal of televisions and computer monitors to support the program. The City only accepts checks or money orders and does not accept cash or credit cards due to the facility location and security concerns. The limited payment types causes an inconvenience for customers.

HHW. The Recycling Center provides the safe management and disposal of harmful household chemicals for all residents located in Solid Waste Management District M (District M). District M supports this program financially through annual grant funding. HHW material is collected and temporarily stored on wire shelves in a trailer. The containers on the shelves are not sorted by chemical properties and there is no secondary containment in the event that there is a leaking container. When time is available, staff are responsible for packing the containers into appropriate drums based on chemical properties. The vendor collects the drums and generates a manifest. Staff do not receive formal training on handling and storage of HHW materials and there are many safety issues with the current operation. Considerations for improvements to the HHW collection trailer include the following:

- Provide secondary containment of materials on the shelves waiting to be sorted such as plastic bins or totes.
- Designate and label shelves for compatible materials and distinct separation of potentially reactive materials.

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- Provide appropriate personal protective equipment (PPE) for staff handing the materials (i.e. nitrile gloves, steel-toed boots, Tyvek aprons or suits) and materials for testing unknown products (pH test strips, oxidization test strips).
- Ensure there are stocked emergency spill supplies to handle a variety of chemicals such as oil-dry pads and booms, kitty litter or similar, acid neutralizer, mercury spill kits, overflow drum, etc.
- Provide a minimum of 8-hours of hazardous materials management training for all fulltime staff and managers at the Recycling Center.

7.2 Location and Accessibility

The Recycling Center is centrally located near the City center on navigable roads. It is on City property in the parking lot of the Public Works Center. The permanent facility is open year-round on a regular schedule, Tuesdays and Thursdays from 12:00 – 6:00PM; Wednesdays, Fridays, and Saturdays from 9:00AM – 3:00PM; and closed holidays. These hours provide accessibility for a wide range of work schedules accommodating weekday, evening, and weekend hours.

Flooding issues. The Recycling Center location experiences significant flooding on a regular basis. Staff reported as much as four feet depth of water has been recorded during a flooding event. Due to the nature of the material that is being handled at the facility, this issue needs to be addressed to prevent harmful materials, liter, and debris from entering natural waterways. This report discusses in detail the option for relocating the Recycling Center to be co-located with other City services in Section 9.0: Facility Location Evaluation. If the Recycling Center is to remain at the existing location, it is recommended that engineering controls be evaluated to reduce flooding and prevent stormwater runoff through the facility.

Traffic flow. Customers enter the facility from West A Street and exit through North Porter Avenue. Figure 7-1 provides an aerial view of the Recycling Center depicting the entrance, exit, and parking lot spaces visibly painted in yellow. Customers must pull their vehicles forward into parking spaces and reverse to exit. There are limited parking spaces, and they are full during peak hours of operation. Customers assist with unloading their vehicles and carrying out the sorting of their materials into the appropriate locations on the facility. Pedestrians cross traffic with vehicles during the sorting of their materials. This increases potential for accidents and more of a distinction between vehicle traffic and pedestrian traffic is advised.

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Figure 7-1: Aerial of Joplin Recycling Center from Google Map Data 2022



Signage. There is adequate signage for directing traffic and identifying the appropriate bin for each material type, however, all the signage is different. There is no cohesion to the signage and staff spend time verbally directing customers toward the appropriate collection containers for materials. Formalizing and updating all the facility's signage to include the City's branding will improve the customers experience, reduce workload for staff, and provide a positive impressing for the customers. Figure 7-1 provides visual examples of the variation in signage at the Recycling Center.

Figure 7-2: Examples of Signage Variation at the Recycling Center



Capacity. The City utilizes all the available area on the property. Staff have found ways to make the most efficient use the space available to collect the desired materials. There is no additional space to address a growth in the program or expansion of services to additional materials. The only way to meet the growing demand of the community is to increase the frequency of collection by the vendors or relocate to a larger facility.

7.3 Participation and Diversion

In 2019[7], the Recycling Center collected 422 tons of materials from approximately 32,991 visitors (repeating customers counted per trip). Table 7-2 displays the annual participation and diversion over the past five years. The pounds per participant remains relatively steady over time, between 22-30 pounds per participant. Tonnages are reported by vendors and visitor counts are estimated and recorded daily by staff.

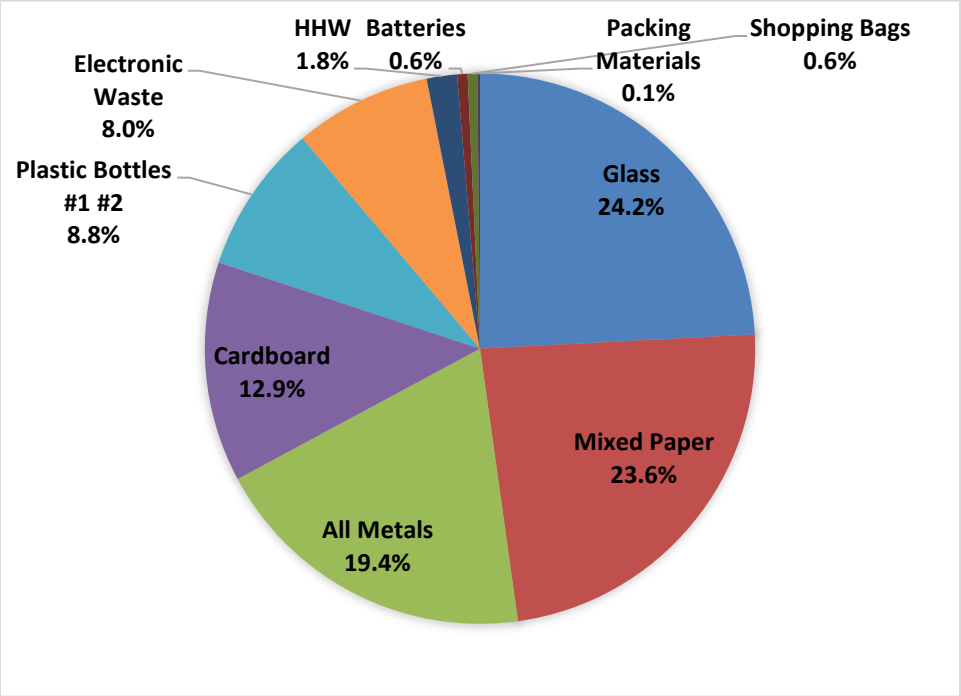
Table 7-2: Annual Participation and Diversion from Recycling Center

	2017	2018	2019	2020	2021
Total Tons	415	519	422	286	318
Total Pounds	830,620	1,037,520	844,351	571,240	636,080
Total Participants (Cars)	33,290	34,566	32,991	25,920	--
Pounds per Participant (Car)	25	30	26	22	--

[7] The year 2019 was selected as the example due to variations brought on by Covid and report tracking data availability.

Figure 7-3 shows the distribution of materials collected in 2019 by weight. Glass comprises 24.2 percent of the total material collected followed by mixed paper at 23.6 percent, metals at 19.4 precent, cardboard at 12.9 percent, and plastic bottles at 8.8 percent. The remaining materials comprise less than 12 percent of material collected but provide a valuable service in difficult to recycle and hazardous materials including ewaste, HHW, batteries, shopping bags and packing materials.

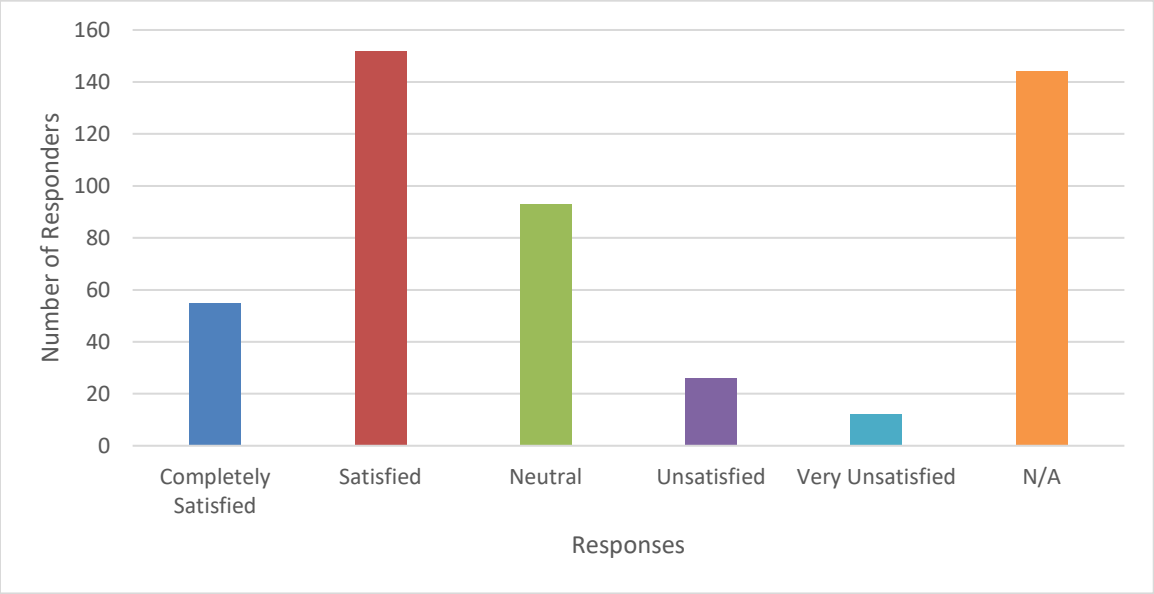
Figure 7-3: Distribution of Materials Collected in 2019 by Tons



7.4 Stakeholder Engagement

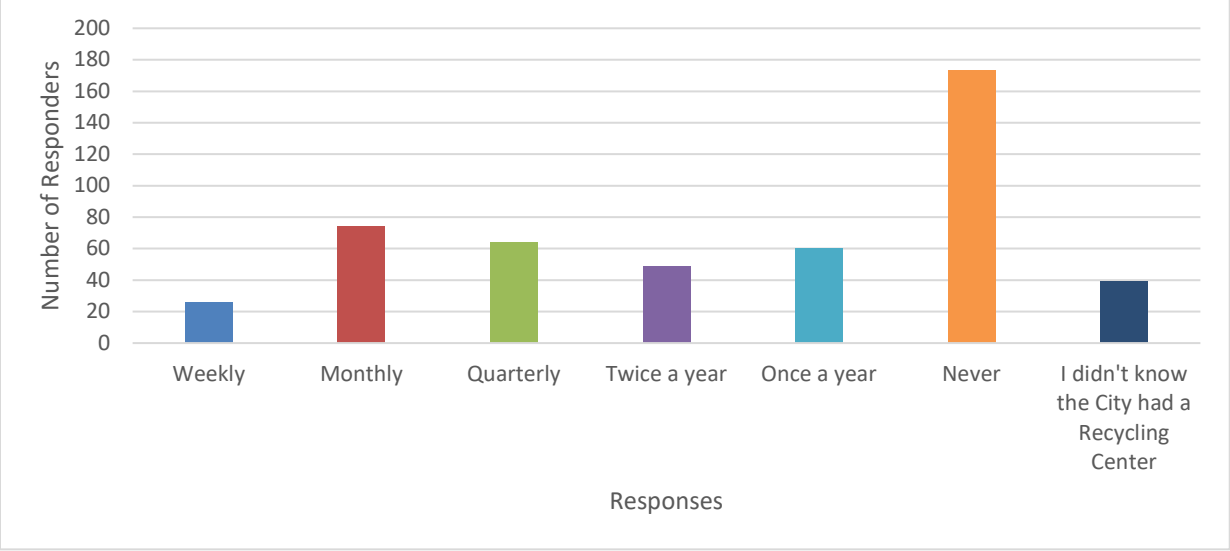
The community survey included two questions specific to the Recycling Center Program: one question on the satisfaction with the program and the other on the frequency of use. Most survey respondents are completely satisfied (11 percent), satisfied (32 percent), or neutral (19 percent) with the City's Recycling Center and HHW Drop Off. Only eight percent are unsatisfied (5 percent) or very unsatisfied (3 percent). Thirty percent of respondents identified this question as not applicable, presumably because they have never visited the facility. Figure 7-4 depicts the survey responses for the customer satisfaction with the City Recycling Center.

Figure 7-4: Survey Response – Satisfaction with Recycling Center



Those survey respondents who utilize the recycling center utilize it multiple times each year. Very few respondents did not know that the City provides this service. Figure 7-5 depicts the frequency that customers visit the recycling center.

Figure 7-5: Survey Response – Frequency of Visiting the Recycling Center



7.5 Key Findings and Recommendations

The Recycling Center is a well-known and well-appreciated City service. There are opportunities to promote the service more broadly. The City does not currently collect data from the patrons of the

Recycling Center or track participation. Additional data collection would assist in identifying the user statistics. The following recommendations were identified:

1. **Provide hazardous waste training.** Provide safety training for full time staff including the technicians and manager of the Recycling Center and HHW Drop Off. They should receive a minimum of 8-hours training annually on the safe handling of HHW material. It is common for service vendors, such as Tradebe, to provide this type of training as part of a contract. Funding for training may also be requested as part of the District M grants.

2. **Review vendor contracts.** Conduct a comprehensive review of each of the vendors and contracts, where applicable, to ensure that the material is being appropriately handled and that the best price and service is obtained.

3. **Update signage.** Update and formalize all signage to include the City's branding. Consider utilizing professional services to develop a comprehensive site plan for signage. This will improve the customer's experience, reduce workload for staff, and provide a positive impression on the customers.

4. **Identify funding for a permanent glass collection solution.** Grant funds may be available through District M and other resources. Glass recycling is a popular service and while the recent changes have improved the safety for workers, a glass bunker is the preferred solution. The City could become a glass recycling hub in the region if they were able to locate a glass bunker and store more material.

5. **Reduce flooding.** Evaluate engineering controls that could be implemented to reduce flooding.

6. **Collocate City services.** Consider co-locating services with the City's Composting Facility and Tree Limb Drop Off. Refer to Section 9.0 Facility Location Evaluation for more details.

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8.0 COMPOST FACILITY AND TREE LIMB DROP OFF

Organic material comprises a significant portion of the waste stream and diversion of organics presents a significant opportunity for decreasing material sent to the landfill. The City operates a Compost Facility and a Tree Limb Drop Off facility. This section reviews current programs, provides options for improvement, and recommendations.

8.1 Compost Facility Overview

The City compost facility is located at the Turkey Creek Wastewater Treatment Plant (WWTP) at 3457 West Eddy Lane. Because the WWTP operates 24/7, the compost facility is always open. The Compost Facility is unstaffed and there is minimal oversight, however, there is not a significant issue with illegal dumping. Acceptable materials include grass clippings, leaves, and other vegetative garden waste. Trees, brush, and limbs are not accepted at this location. The Compost Facility serves anyone regardless of residency for both drop off of material and pick up of finished compost.

The Compost Facility uses aerated windrow technology to process the raw materials into finished compost. The windrows are turned infrequently using primarily a passive approach to composting. Figure 8-1 is a photograph of the entrance to the Compost Facility. The finished compost is distributed for free to the public to self-load and self-haul.

Figure 8-1: City Compost Facility



The majority of material handled at the Compost Facility is generated during the fall months from the City's seasonal leaf collection program. The City allows residents to rake leaves into piles at the curb and the City then collects the material using a City-owned vacuum truck. The material is hauled to the

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Compost Facility and placed into windrows without any grinding. There are a number of challenges with the current collection program for both the residents and the City staff. The primary issue is the loose piles of leaves which often block sidewalks and roadways, blow throughout the neighborhood before they are collected and must be re-raked, and there is no concise schedule for collection.

Location and Accessibility. The Compost Facility is located approximately five miles northwest of the city center and is accessible from navigable roadways. The hours of operation provide maximum convenience as the facility is never closed.

Capacity. This report did not include a formal capacity study, primarily because the quantities of material are not tracked. Generally, the current location is adequate for processing material currently collected using the current composting method. There are opportunities to increase the capacity of the site through technology. Grinding the material will decrease its size and allow it to breakdown more quickly. Increasing the frequency of turning the material will introduce oxygen and contribute to the material composting more quickly. The City indicated that each windrow takes one year to process into compost, while it could be as quickly as 24 weeks. It would require additional staffing and equipment resources to implement changes to increase the processing time. If the City increases the amount of material handled at the current location, it may be necessary with the limited footprint of the current location.

8.2 Tree Limb Drop Off Program Overview

The City provides a free drop off service for tree and brush material, located at 1702 North Schifferdecker Avenue. The drop off facility is open to residents (no commercial) on the third Saturday of the month between March and November. There are no load limits, however, this service is for tree and brush only and no leaves or grass clippings are accepted. The events are staffed to provide quality control of acceptable material and limit participation to residents only. The facility is often accessed by City staff throughout the week and the gates are frequently left open; this presents the opportunity for illegal dumping of unacceptable materials, which occurs occasionally. The lack of staffing oversight also leads to potential dumping by the commercial sector which is not allowed.

The material is collected and stored overtime until there is enough material to process. The City contracts with a company to bring grinding equipment and grind the material into mulch. The facility has an asphalt pad that allows for the necessary grinding equipment to operate. The mulch is primarily utilized by City projects by the Parks and Recreation Department and Public Works Department. A significant amount of the mulch is used as a bulking agent for the biosolids. When there is excess mulch, it is transported to the Compost Facility and distributed to residents for free.

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Location and Accessibility. The Tree Limb Drop Off location is about three and a half miles northwest of the city center on navigable roads. The driveway from the road to the drop off is rough and may be intimidating for some drivers or challenging for smaller vehicles. The facility has limited signage and lacks information such as hours of operation, acceptable materials, and opportunities for education on end use of mulch. The hours are limiting.

Capacity. The capacity of the facility is limited to the amount of material that can be stored on the asphalt pad. As material increases over time, the contractor will need to perform grinding or hauling more frequently to adequately manage the material.

8.3 Participation and Diversion

The quantities of material processed at the Compost Facility and the Tree Limb Drop Off site have not historically been tracked. Participation is also unknown due to the Composting Facility being unstaffed and the lack of tracking at the tree limb drop off events. Quantities for 2021 were estimated using the measurements of the collection piles and converting the cubic yards to tons with a multiplier appropriate for the material characteristics. Section 3.2.1 of this report further describes the methodology and assumptions for calculating the quantities of materials collected by these programs. In 2021, the City collected 9,500 cubic yards of tree and brush material for an estimated 1,900 tons and 4,228 cubic yards of leaves and grass for an estimated 550 tons. Organic materials diverted through these two programs accounts for 9.4 percent of the total waste generated by residents of the City. It is recommended that the City implement a tracking system to capture the quantities and participation in these programs.

8.4 Stakeholder Engagement

The community survey included questions specific to each of the organics collection facilities. The overwhelming majority of respondents indicated that they were either not aware that the City had either a Compost Facility or a Tree Limb Drop Off or had never used the facilities. Figure 8-2 and Figure 8-3 display the survey responses to the frequency of visiting each of the facilities.

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Figure 8-2: Survey Response – Frequency of Visiting the Compost Facility

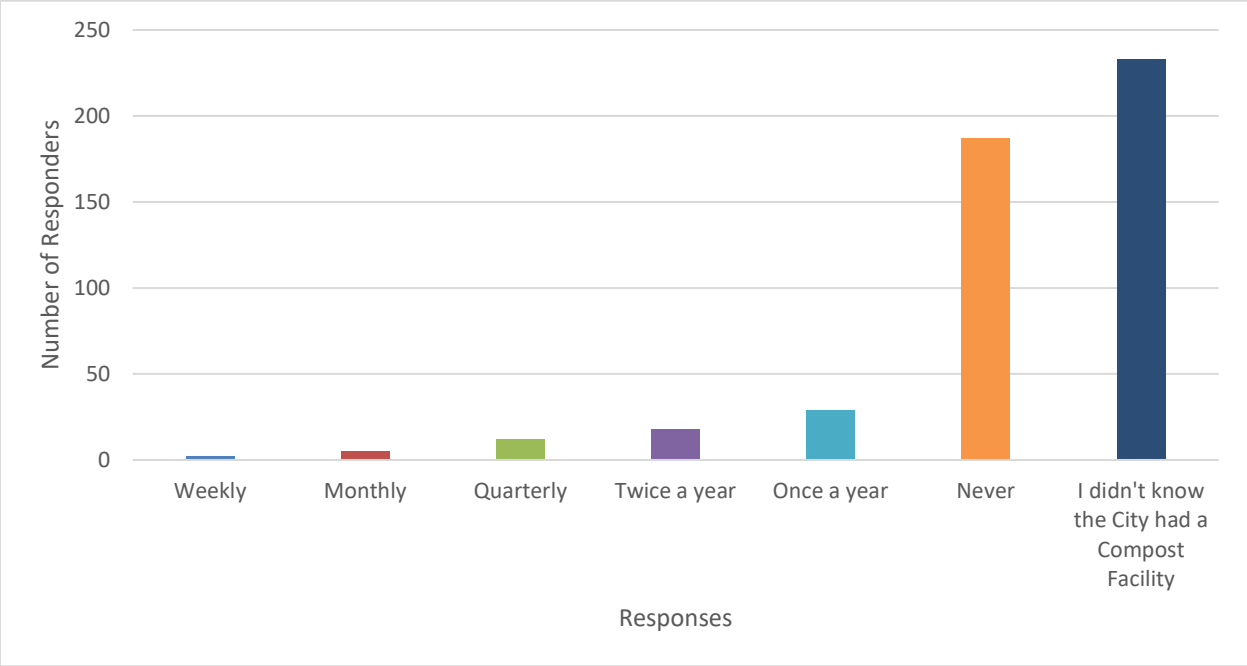
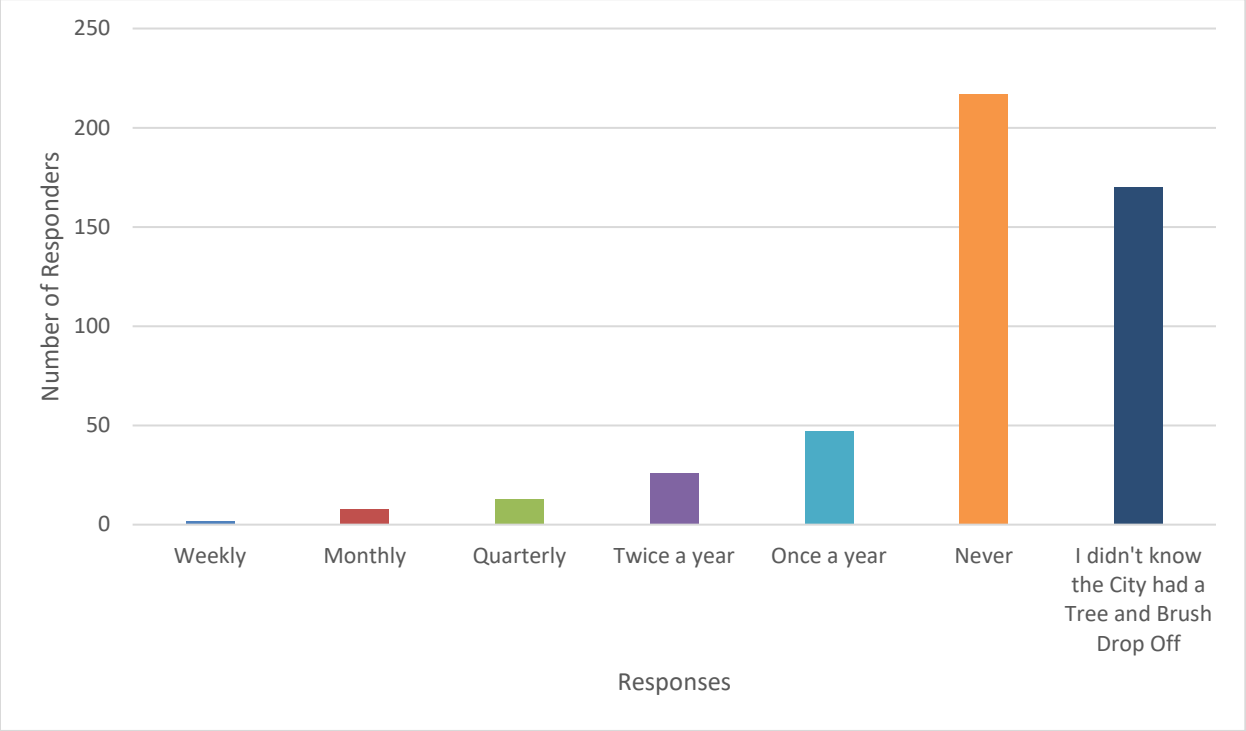


Figure 8-3: Survey Response – Frequency of Visiting the Tree Limb Drop Off



8.5 Key Findings and Recommendations

The City's organic diversion programs provide value to the community as an opportunity to manage yard trimmings and tree limbs. Both the Compost Facility and the Tree Limb Drop Off have opportunities for improvement. The seasonal fall yard trimmings collection program generates a significant amount of material as well as issues for the residents and City staff. The following recommendations include programmatic and systematic opportunities to increase diversion and customer satisfaction.

1. **Track quantities.** Implement a tracking system to capture the quantities and participation in these programs. Use a standard methodology to track and convert units to a volume or weight on annual basis.
2. **Require leaves to be bagged.** Continue to provide the seasonal collection of fall leaves but require residents to bag leaves and vegetation in paper or Kraft bags. This will improve the aesthetics and walkability of the community as well as reduce the blowing of leaf litter.
3. **Develop a collection schedule.** Develop a collection schedule for the community and advertise the potential dates for given communities to expect pick up of materials. While volumes and staffing may be unpredictable, by providing a schedule, residents can plan to set out material for shorter periods, reducing the impact on the sidewalks and leaf blown potential.
4. **Promote the programs.** Increase the community awareness around the availability of the Compost Facility and Tree Limb Drop Off through education and outreach. Specific recommendations for successful education and outreach are outlined in Section 4.0.
5. **Actively engage in composting**. Increase the processing time for composting yard trimmings through active composing including turning, testing soil temperatures and moisture to generate finished product every four to six months. Actively managing compost will allow for handling additional material and potential for sale of compost products.
6. **Contract for yard trimmings disposal.** Require as part of future solid waste contracts that yard trimmings be brought to the facility for processing.
7. **Consider collocating the Compost Facility and Tree Limb Drop Off.** While the Compost Facility has excellent accessibility, the Tree Limb Drop Off has limited accessibility. By collocating these tow material streams, the community would gain the convenience of dropping off multiple materials at one location. Additional discussion on this recommendation is considered in Section 9.0.

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9.0 FACILITY LOCATION EVALUATION

The City provides valuable solid waste programming and services at three City-owned and operated facilities. Programmatic evaluations have been provided in Sections 6.0 Recycling Center and HHW Drop-off, 7.0 Compost Facility, and 8.0 Tree Limb Drop-off. This section evaluates the location and service offerings at each facility for collocating the three services and provides recommendations.

9.1 Goals & Priorities

The City is considering co-locating all three City services at one central location. The purpose of the evaluation is to analyze the benefits, efficiencies, cost-savings, and challenges with co-locating the three City services. The City's goal is to improve customer convenience, expand services, address site-specific challenges, and reduce operational costs.

9.2 Recycling Center and HHW Drop Off Evaluation

As described in Section 7.0, the Recycling Center and HHW Drop Off is a popular City service and is well utilized and appreciated. The location is convenient for residents, however, there are numerous challenges facing the current location. While relocating a popular City service may have drawbacks initially, relocating to a larger facility may provide opportunities to expand service offerings, improve working conditions, and create efficiencies. Table 9-1 identifies and compares the benefits and considerations of the current location to potentially relocating to a new facility.

Table 9-1: Recycling Center and HHW Drop Off Evaluation Matrix

	Current Location	Relocating
Benefits	• Convenient location for the public • Well known and utilized program	• Convenience of dropping off multiple materials in one location • Opportunity to improve facilities, i.e. staff office, signage, storage of materials (HHW) • Opportunities to expand services • Opportunities to collect and store more materials for potential revenue generation from direct sale of recyclables • Improve pedestrian and vehicle traffic patterns • Provide more optimal working conditions for staff • Mitigate flooding potential through engineering and design

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Considerations	• Recuring flooding of site and poor stormwater management • Staff facilities (shed) is exposed to the weather • No restrooms onsite • Current location is at capacity • Limited parking for customers • Vehicle and pedestrian traffic crisscross causing safety concerns • Noise concerns related to proximity to residential neighborhood	• Capital cost associated with relocating (staff office area, roadways/parking, product storage, fencing, etc.) • Education and outreach to the public of new location • Convenience of new location for the public

9.3 Compost Facility Evaluation

As described in Section 8.0, the Compost Facility supports the City's fall leaf collection program and provides a value to the community. The Compost Facility has convenient hours and is always open, however, the drop off service offered to the community is underutilized and not well known. The facility is also at capacity and unstaffed, limiting the level of service offered. Relocating to a larger facility with on-site staffing, would provide opportunities to improve the level of service, generate revenue, create efficiencies, and receive additional yard trimmings from residents year-round. Table 9-2 identifies and compares the benefits and considerations of the current location to potentially relocating to a new facility.

Table 9-2: Compost Facility Evaluation Matrix

	Current Location	Relocating
Benefits	• Open hours 24/7 • Stormwater runoff management through existing WWTP holding pond • Compost is picked up for beneficial reuse by residents	• Convenience of dropping off multiple materials in one location • Staffing oversight; reduced illegal dumping • Increase capacity for processing additional material • Potential revenue for City to charge private business to drop off (landscaping companies) • Potential to sell compost • Expand residential curbside collection of yard waste
Considerations	• Unstaffed, concerns with illegal dumping • Limited space, at capacity • Street crew manages the operation; brings equipment to site (turning windrows with scarab 6 mo)	• Capital cost associated with relocating (pad construction, stormwater management, roadways, etc.) • Ongoing costs for hauling compost to WWTP for use in biosolids • Equipment location, use, maintenance, and/or transporting between facilities

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9.4 Tree Limb Drop Off Evaluation

As described in Section 8.0, the Tree Limb Drop Off facility provides an opportunity for residents to appropriately manage their tree and brush material, adding value to the community. The Tree Limb Drop Off has very limited hours of operation due to the need for staffing oversite at an isolated location. While residents who utilize the program are satisfied with the service, it is an underutilized and relatively unknown service to the community. Relocating to a facility with on-site staffing would provide opportunities to increase the level of service, generate revenue, and create efficiencies. Table 9-3 identifies and compares the benefits and considerations of the current location to potentially relocating to a new facility.

Table 9-3: Tree Limb Drop Off Evaluation Matrix

	Current Location	Relocating
Benefits	• Paved	• Convenience of dropping off multiple materials in one location • Increased accessibility and hours of operation • Staffing oversight; reduced illegal dumping • Increase capacity for processing additional material • Potential revenue for City to charge private business to drop off (landscaping companies)
Considerations	• Limited hours open to public • Unstaffed, concerns with illegal dumping • Limited space, at capacity • Rough terrain for public vehicles	• Capital cost associated with relocating (pad construction, roadways, etc.) • Mulch is mixed with biosolids as bulking agent – hauling distance difference from current site

9.5 Key Findings and Recommendations

This evaluation supports the recommendation to co-locate the three City services at one location. There are significantly more benefits than drawbacks. There are efficiencies gained through utilizing existing staff from the Recycling Center to oversee additional services at a co-located facility. On-site staff oversite would allow the City to generate revenue from additional services. The community would benefit from the convenience of dropping off multiple materials at one location and increased accessibility to services. The following are opportunities for improving the facility and programs specific to a new co-located facility:

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1. **Improve working conditions for staff.** Provide workstations, a breakroom, restroom, and meeting space adequately sized for the number of staff onsite, including the technicians and program manager.
2. **Improve pedestrian and vehicle traffic patterns.** Reduce pedestrian and vehicle crossover through traffic design.
3. **Improve safety of glass handling.** Include a bunker designed for storing glass to improve safety and quality. Design the bunker to be large enough to handle glass from a regional area to support surrounding communities with glass recycling.
4. **Bale and store recyclables onsite.** Brokering recyclables may present an opportunity to generated revenue.
5. **Generate revenue.** Charge commercial landscapers to drop off yard trimming and brush material to generate a revenue.

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10.0 CENTRALIZED FACILITY CONCEPT DESIGN

This section sets forth a concept design (Concept Design) to develop an existing City-owned property into a centralized solid waste facility. The City owns a decommissioned Wastewater Treatment Plant (WWTP) Facility in the northern extents of the City along Lone Elm Road (Site) where limited existing infrastructure is available. The necessary improvements to the Site for the City to operate a centralized solid waste facility are anticipated to include repurposing the existing building into office space, storage, and minimal recyclable material processing, developing areas of the Site to accommodate public drop-off areas for recyclables, household hazardous waste, and organic materials as well as the City-operated tree & brush operation. The proposed conceptual Site design components described in this section have been analyzed at a conceptual level and are therefore not a final engineered design or intended for construction. A detailed engineering design for the Site is necessary should the City choose to proceed with permitting and construction.

An opinion of probable construction costs and anticipated change in operation and maintenance costs associated with this conceptual plan is also provided in this section to assist the City in their decision on the feasibility of developing this Site for future operations.

10.1 Site Location Evaluation

The Site parcel proposed by the City for a centralized solid waste facility is located at the northwest corner of the intersection of North Lone Elm Road and West Soccer Field Road in northwest Joplin, Missouri. The parcel is approximately 21.7 acres along Turkey Creek and was previously a wastewater treatment plant. A map depicting the parcel boundary from the Joplin Local GIS online mapping tool is provided in Figure 10-1[8].

[8] Joplin Local GIS & Survey Section webpage accessed October 31, 2022. http://www.joplinmo.org/905/GIS-Survey-Section

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Figure 10-1: Lone Elm Site Parcel



A basic desktop evaluation of this Site was conducted using publicly-available data to review a few key location siting constraints such as zoning, flood hazards, wetlands, and topography. A summary of the Site location findings is outlined below:

- **Zoning.** The parcel is zoned R-1 for residential. This zoning designation will need to be confirmed by the City Planning Department and potentially rezoned to operate a solid waste facility.
- **Flood hazards.** According to the Federal Emergency Management Agency (FEMA) Flood Maps, the entire Site is within a special flood hazard area. The 100-year base flood zone encompasses the entire Site and over half of the Site is within the regulatory floodway. Developing in the floodway is not recommended as it would require considerable engineering evaluations and approvals to even determine if any development would be allowed at this location along Turkey Creek. Although not ideal, development within the 100-year flood zone is feasible, assuming certain additional development criteria and permitting requirements can be met.

- **Wetlands.** There are no wetlands indicated on the Site according to the U.S. Fish and Wildlife National Wetlands Inventory.
- **Topography.** The topography was identified from the U.S. Geological Survey and informed the concept design. Detailed topography at a greater level of accuracy will need to be obtained with a survey of the Site prior to development to determine detailed grading and drainage.
- **Proximity to Residential.** The Site is bordered by undeveloped land to the north, east, and west. There is sparsely developed residential properties to the south and a pocket of more densely populated residential properties to the southeast. Potential considerations that may impact neighboring properties include increased vehicle and truck traffic, noise from operations, and odors associated with compost operations.

A more thorough investigation of the Site characteristics will be required for permitting and design if the City pursues the development of this Site, including but not limited to, environmental impacts, threatened and endangered species, cultural resources, soil infiltration conditions, geologic and hydrologic conditions, and base flood elevations.

10.2 Permitting Considerations

Although not a comprehensive list, permitting requirements for developments within the City of Joplin may include the following:

- **Floodplain Development Permit.** A floodplain development permit must be obtained from the Department of Public Works for development within Special Flood Hazard Areas designated on the Flood Insurance Rate Maps for Joplin, Missouri.
- **Grading Permit.** A grading permit must be obtained before any land is graded for non-agricultural purposes. This permit includes an application and associated fee, a sediment and erosion control plan, and bonding requirements.
- **Stormwater Permit.** An application for a National Pollution Discharge Elimination System (NPDES) stormwater discharge permit must be submitted to the Missouri Department of Natural Resources when the area of land disturbance is one (1) acre or more.
- **404 Permit**. Grading activities that impact streams or wetlands may require a permit under Section 404 of the Clean Water Act be submitted to the U.S. Army Corps of Engineers (Corps of Engineers). It is the obligation of the property owner or operator to contact the Corps of Engineers to determine whether a permit is required whenever working in these areas. A copy of the Corps of Engineers written determination, where applicable, shall be provided prior to issuance of the grading permit by the City.

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10.3 Site Layout Assumptions and Components

The Site is approximately 22 acres and is limited for development by the floodway extents of the adjacent creeks. The components for this consolidated Site include relocation areas for the Recycling Center, tree and limb drop off, and a public drop off and pick up area for yard waste and compost. Active composting is not proposed to take place at this Site because there is not adequate space to manage the material outside of the floodway.

Key design considerations used to develop the conceptual site layout included access control, traffic flow, operational efficiencies and limitations, and stormwater management. Existing infrastructure and the floodway limitations also provided considerable restrictions to the development of the conceptual site layout. Figure 10-2 on the following page illustrates the conceptual site layout for the centralized solid waste facility as well as the floodway extents posing limited potential use of the parcel.

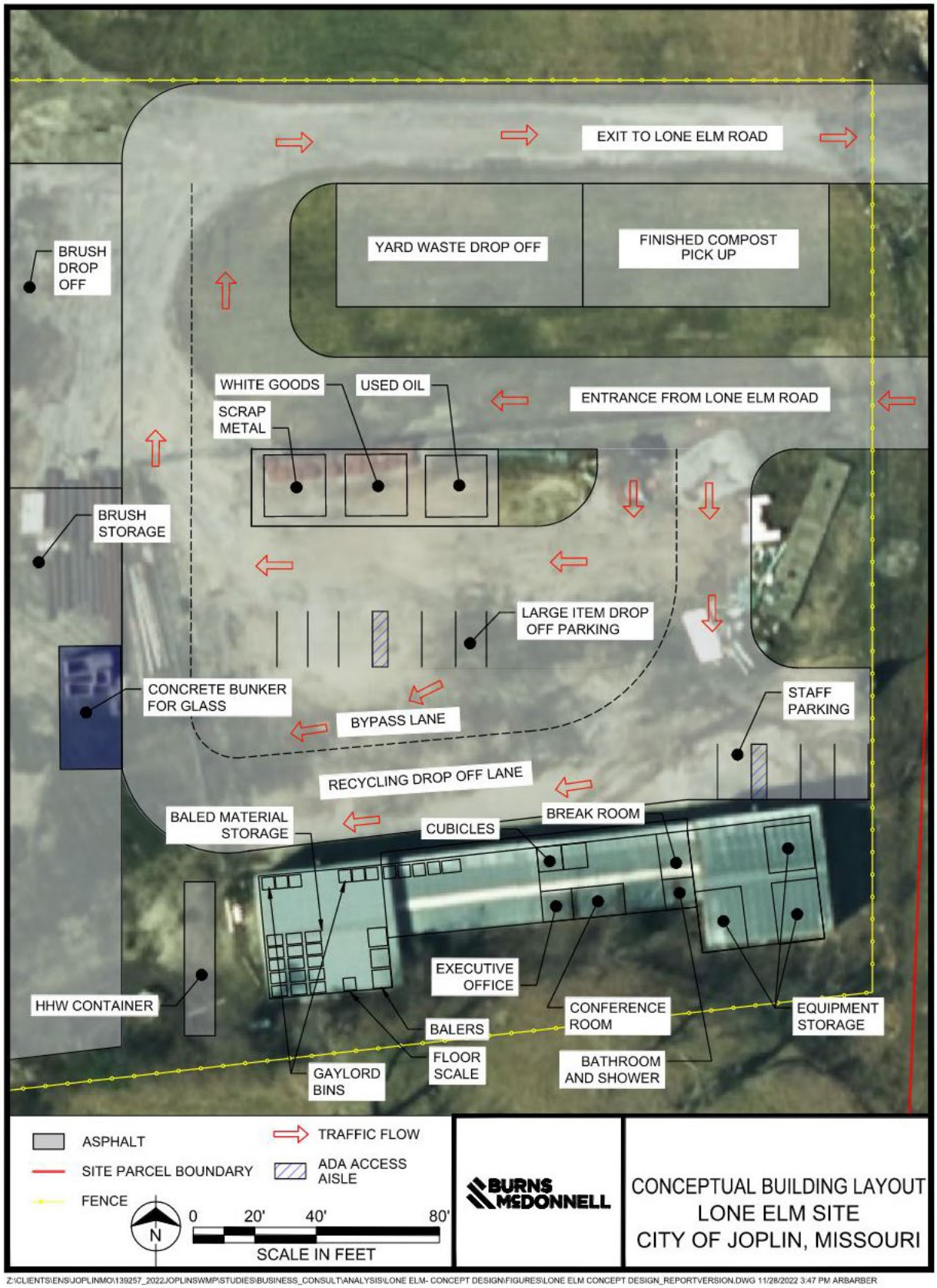
A more detailed layout of the relocated City drop off services centralized around the existing building and excluding the western extents of the brush storage area is shown in Figure 10-3. The traffic enters from Lone Elm Road and follows the traffic patterns displayed by the red arrows. Cars follow the recycling drop off lane and drop off their recyclables in the cubic yard boxes, which are located inside the garage bay, and can then exit using the bypass lane. Parking is available for residents who need to unload scrap metal, white goods, or used oil. Brush drop off is located on the west side of the recycling facility where vehicles can stop to unload their brush. Yard waste drop off and finished compost pick up are located next to each other near the exit to keep organics traffic from congesting recyclables traffic. Vehicles can pass those who are parked by the yard waste drop off and compost pick up locations, exiting back onto Lone Elm Road.

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Figure 10-2: Lone Elm Conceptual Site Layout



Figure 10-3: Lone Elm Recycling Center Concept Design



10.3.1 Recycling Center and HHW Operations

The Concept Design for the Recycling Center and HHW operations assumes that the City will implement the recommendations supported in the Plan including the transition to baling material rather than collection in roll-off containers (for most of the materials received) and the transition to a glass bunker system for the management of glass. The collection of materials will be in either IBC totes or palletized cubic yard boxes under the protection of the existing garage bay of the building. The collection in smaller containers densifies the distance that customers must travel to sort their material and theoretically shortens their time on site. A floor scale would be needed within this bay to weigh the material baled. As discussed in Section 10.3.5 below, the traffic approach is a drive-through design to limit the need for parking and reversing. The single traffic lane is modeled after other regional recycling communities including Neosho, Carthage, and Nevada, Missouri.

A paved drop off area for white goods, scrap metal, and used oil is also proposed north of the existing building at a location convenient for operational staff to easily bring the material into the building for protected storage as needed and for the public to easily access for drop off without clustering in front of the building. This material can easily be loaded for off-site transportation from this centralized location as well. The collection of HHW materials will remain the same with storage in the current container, located to the west of the building.

10.3.2 Building Operations

The proposed improvements to the existing building for an office area includes one executive office, two cubical workspaces, a breakroom area, meeting area, bathroom, and locker room/shower. The modifications to the office building include flooring, drop ceilings, HVAC, insulation, fire suppression, lighting, and security, and compliance with Americans with Disabilities Act (ADA) access requirements.

The proposed use for the garage to the east includes the storage of City equipment including a tractor, pull behind turner, golf cart, forklift, portable ramp for tractor trailer and a front loader. The proposed use for the garage to the west is to house the baling operations including the collection containers, three downstroke balers, and storage of baled materials. The proposed use for the open truck bays in the center of the building includes the storage of collected electronic waste, white goods, glass, and other materials.

10.3.3 Organics Management

The conceptual layout includes a paved customer drop off area for organic materials including yard trimmings, tree limbs, and the pickup of compost. The yard trimmings collected at the Site are anticipated to be periodically hauled to the existing compost operation at the Turkey Creek WWTP. The Site is not

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large enough to handle the relocation of the composting operation; however, the Site can offer convenient drop off service for residential customers. The tree limb drop off operation is assumed to be relocated to this Site as well. The tree limb storage area is presented as an asphalt pad due to the use of heavy equipment. It is sized to store one year's worth of material along with six months of woodchips. Spatial calculations for both the composting operation and the tree limb operation have been developed and are provided in Appendix C.

10.3.4 Access Control

A new fence is proposed to surround the recycling and organics drop off area to provide site security and consolidation. It will provide controlled access via separate entrance and exit gates along Lone Elm Road that can be locked to prevent unwanted access to assets at the Site. A gate on the west side of the fence would also be included to provide access for staff to move brush to the storage area outside the fence to the west. There are currently some existing extents of fence at the Site that are damaged and would need to be removed prior to installation of the new perimeter fence.

10.3.5 Traffic Flow Considerations

Public safety is the top priority for the proposed traffic flow at the Site. All traffic would enter the site from a designated entrance along Lone Elm Road. Upon entering the facility, general traffic can turn left to the recycling drop off lane. There is a bypass lane for cars to easily exit after dropping off their recyclables. Cars are also able to park and unload scrap metal, white goods, and used oil. They can then pull forward to the recycling drop off lane or use the bypass lane to continue towards the exit. The exit back on to Lone Elm Road is also designated for a single direction of traffic to avoid potential conflicts with vehicles trying to enter and exit at the same time.

At the entrance, cars can also bypass the recycling area all together and go straight to the brush drop off, yard waste drop off, and finished compost pickup areas. Staff members enter and exit the site the same way the general public does, but the staff parking is out of the way to the east adjacent to the building for easy access. Commercial trucks picking up baled recyclables or glass should be timed to avoid peak business hours, but space is available for the public to use the bypass lane to avoid these trucks and still drop off their materials.

10.3.6 Stormwater Management

Stormwater management requirements (as outlined in Section 13.3 of the City of Joplin Stormwater Management Criteria manual) for all development within the City of Joplin include the following:

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a) Stormwater runoff from any new development for which the total impervious area exceeds ten percent (10 percent) of the total land area of the development, must be directed through an extended wet or dry detention basin, or other properly designed BMP, prior to discharge from the site.
b) Runoff from fueling areas and other areas having a high concentration of pollutants will be required to be directed to a sand filter or other properly designed BMP which provides filtration as well as settling.
c) The required volume for capture and treatment shall be designed as the water quality capture volume (WQCV), and shall be determined as set forth in Section 13.4.1 of the City of Joplin Stormwater Management Criteria manual.
d) Detention storage must be provided to limit the peak flow rate from the fifty percent (50 percent) AP (2-year) storm to pre-project values.

These stormwater management requirements will be the basis for detailed design of the Site development, should this location be selected. Although not detailed on the conceptual site layout, the preliminary stormwater management concept assumed for the development of probable construction costs for this Site includes perimeter vegetative filter strips and drainage swales along the edge of the proposed pavement extents. A minimum 30-foot wide buffer was included between the edge of the proposed pavement extents and the floodway boundary to accommodate these stormwater management features.

One important consideration related to impervious area is that if the Site pavement is limited to only the area within the fence shown on the concept layout (surrounding the immediate Recycling Center/public service area and excluding most of the brush storage area to the west), the total impervious area would be less than 10 percent of the total land area of the development, thus eliminating the stormwater storage requirement as outlined in bullet item “a” above.

10.4 Opinion of Probable Construction Cost

A planning level opinion of probable construction costs (OPCC) was developed for the development of co-located City services. The estimated costs are based on concept design assumptions and are based on Burns & McDonnell’s experience, qualifications, and judgement as professionals. Costs are inclusive of anticipated engineering, indirect costs, and a contingency appropriate to the level of concept-level design currently completed. Cost estimates are provided at current 2022 values and are not to be used for construction contracting, without further permitting and design efforts to refine. Since Burns & McDonnell has no control over weather, cost and availability of labor, cost and availability of material and equipment, cost of fuel or other utilities, labor productivity, construction contractor’s procedures and

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methods, unavoidable delays, construction contractor's methods of determining prices, economic conditions, government regulations and laws (including the interpretation thereof), competitive bidding or market conditions, and other factors affecting such estimates or projections, Burns & McDonnell does not guarantee that actual rates, costs, quantities, etc., will not vary significantly from estimates and projections enclosed. Table 10-1 below summarizes the OPCC for the Lone Elm Concept Design. A detailed breakdown of categories and expenses is provided in Appendix D.

Table 10-1: OPCC for Lone Elm Concept Design

Description	Total
Civil	$1,524,500
Electrical	$190,000
Building	$347,400
Total Direct Costs	**$2,061,900**
Total Indirect Costs	**$1,111,600**
Total Project Costs	**$3,173,500**

10.4.1 Operating Expenses and Revenue

The new Site will have different operation expenses from the current operations of the three services. These differences include a change in utility expenses, operational and maintenance costs incurred from the baler equipment and scale, and revenue from the sale of recyclable materials. The three City services (Recycling Center and HHW, Compost Facility, and Tree Limb Drop Off) are currently operating with limited infrastructure. There are no permanent structures at any of the facilities and the utilities are limited to electricity, phone (presumably cell service), and sanitation. The utility operating expenses related to the infrastructure at the proposed Lone Elm site will include electricity, gas, water, network, phone, and sanitation. The estimated annual operating expenses for the anticipated utilities at the Site is approximately $28,800. This is an operational difference of $25,800 annually from the current utility expenses. The estimated utilities were based on utility data from the City's fire stations with comparable size and function (office plus garage space), as well as data from the Solid Waste program budget. A contingency of 50 percent has been added to adjust for the unknowns such as building efficiency and unknown/variable utility costs.

The recommendation to add three balers will require the ongoing supply of wire strapping. The estimated annual cost of baling wire is $4,600, and the estimated maintenance costs are $2,000, based on discussions with equipment and supply vendors, and the City of Neosho, Missouri Recycling Center operations, which processes a comparable amount of materials annually. The revenue from the sale of

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recyclables is anticipated to greatly increase, however, the calculation of the revenue from the sale of recyclables was not part of the scope for this evaluation. A contingency of 50 percent has been added to adjust for the unknowns and a more thorough study on the financial impacts of the transition to baling recycling material would be recommended.

The current Solid Waste and Recycling staffing levels are assumed to be carried over to the new co-located facility. Staff would be responsible for the oversite of customer service and processing materials. The design of the customer drop off system is intended to streamline the drop off activities to a consolidated area, reducing time required for customers to be onsite, and improve staff efficiencies in supporting customers with material sorting. These efficiencies for staff would be offset by the additional responsibilities with baling the material. Public Works staff would continue to be responsible for the management of the organic materials. If the City were to implement a more proactive management of the compost facility, additional equipment and staffing should be considered.

A summary of anticipated operational costs in addition to the current operational expenses is summarized in Table 10-1.

Table 10-2: Operational Expenses

Operational Expense	Cost - Annual
Utilities (Electric, Gas, Water, Sewer, Phone, Network, Sanitation)	$25,800
Baling Supplies	$4,600
Baler Maintenance	$2,000
Total	**$32,400**

10.5 Summary of Site Evaluation and Recommended Next Steps

A co-located facility would provide community benefit from the convenience of dropping off multiple materials at one location and increased accessibility to services. The Site being in the floodway and floodplain present permitting restraints that will limit the availability of area for processing organics onsite, however, there is adequate area to provide for the collection of yard waste and distribution of compost. If the City decides to develop the proposed Site, additional permitting, design, and construction activities would be recommended including, but not limited to, the following:

- Develop a detailed implementation schedule to include permitting, design, and construction.

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- Initiate discussions with state regulatory entities highlighting the desire for development, applicability of site general concept design, and schedule of proposed development efforts.
- Perform a subsurface geotechnical investigation. This will provide additional information regarding depth to groundwater (if shallow) and the underlayment material at the site to design the proposed pavement sections.
- Perform a sensitive species study to evaluate impact that development at the site would have on potential sensitive species to satisfy requirements of the Endangered Species Act of 1973 if sensitive species are discovered.
- Perform floodplain modeling to demonstrate that the proposed development would not adversely affect the base flood elevations of the surrounding area.

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11.0 IMPLEMENTATION PLAN

An Implementation Plan is provided in Appendix E where the key findings and recommendations included throughout each of the Sections of this Plan are summarized. The Implementation Plan describes the specific activities associated with implementing each of the strategies and details the timeline for carrying out the activity, responsible parties, and priority.

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APPENDIX A – SOLID WASTE MASTER PLAN COMMUNITY FLIER

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SOLID WASTE MASTER PLAN
Project Fact Sheet

The City of Joplin has developed a Solid Waste Master Plan with the purpose of establishing priorities to achieve diversion goals, improve customer satisfaction with solid waste services, and plan for necessary infrastructure for the next 20 years.

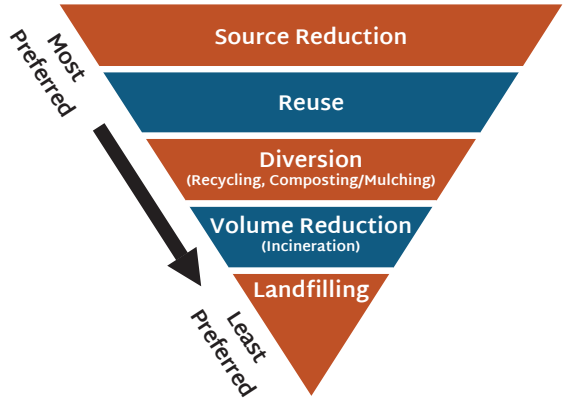
The Plan addresses the following services provided by the City:

- Curbside residential collection contract for trash, recycling, and yard waste
- Recycling Center and Household Hazardous Waste Drop-Off
- Composting Facility
- Tree & Brush Drop-Off
- The City subsidized disposal at the WCA Joplin Transfer Station

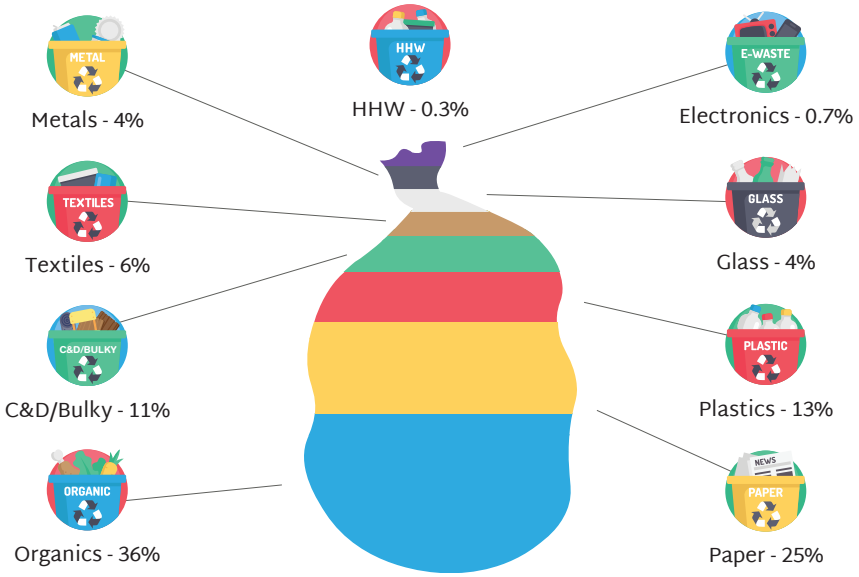
GOALS

- To develop affordable methods consistent with the waste management hierarchy and to achieve as much reduction, reuse and diversion from disposal as feasible.
- To collaborate on curbside residential services that prioritize recycling, yard waste and bulky item pick-up for Joplin residents.

U.S. EPA Waste Management Hierarchy



Residential Waste Composition*



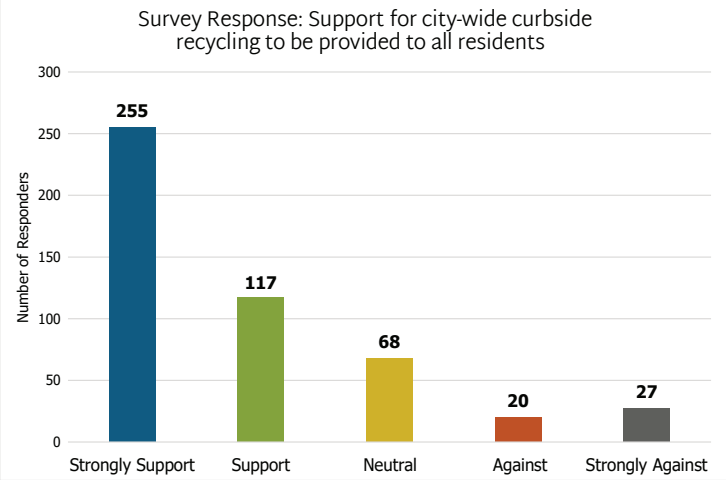
WHAT'S IN YOUR TRASH?

A waste characterization was conducted to see what Joplin's residents throw away. The results indicate how much paper, plastic, metal, organics, and other types and quantities of materials that are currently being disposed in landfills, and therefore the potential for increased recycling.

*MO Department of Natural Resources 2017

To learn more about the City's Solid Waste Master Plan and the work being done to develop it, please visit: joplinmo.org/293/Recycling-Solid-Waste-Management

RESIDENTIAL CURBSIDE RECYCLING



The Plan recommends providing curbside recycling for all customers in the City contract.

Future Benefits:

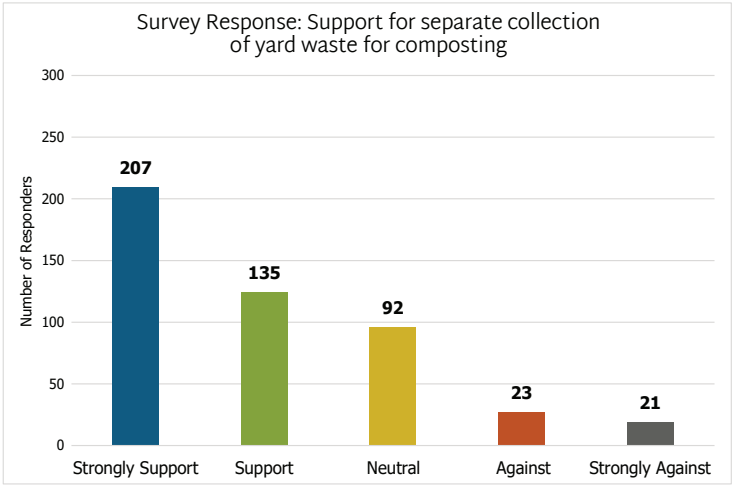
- Increased recycling convenience for all residents
- Reduced cost of service compared to subscription-based
- Realign trash and recycling collection to the same day
- Increased overall waste diversion

RESIDENTIAL YARD WASTE

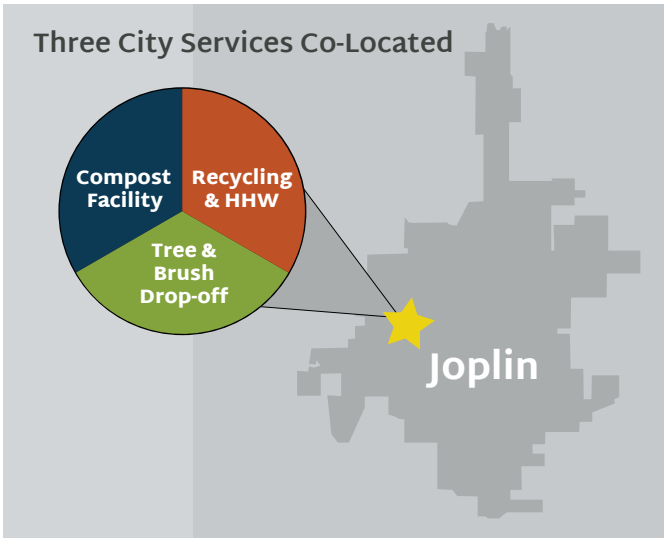
The Plan recommends prohibiting yard waste from landfill disposal.

Future Benefits:

- Reduced yard waste to landfill keeps facility open longer
- Increased possibilities for grant funding
- Improved sidewalk walkability and street access
- Composted yard waste could be available for City and residential use
- Increased overall waste diversion



CO-LOCATING THREE CITY SERVICES



The Plan recommends co-locating the Compost Facility, Tree & Brush Drop-Off, and Recycling & HHW Center

Future Benefits:

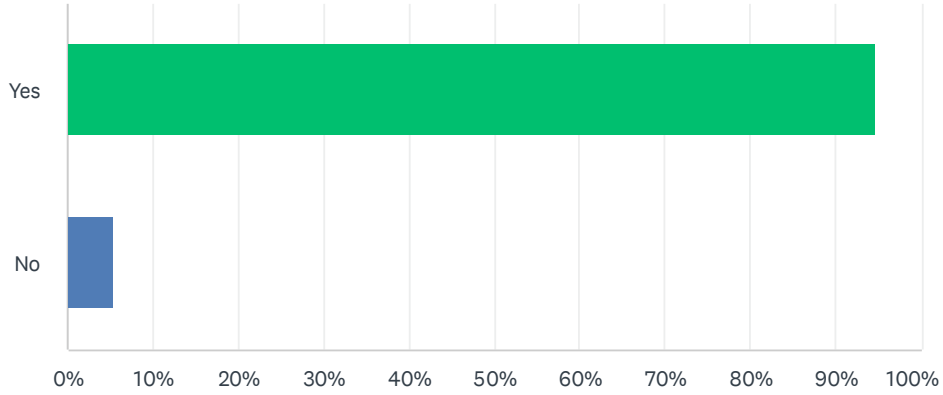
- Increase the number of services in one location and decrease the number of trips for you
- Increase the efficiency of staff resources and convenience for Joplin residents
- The City has identified a location that is City-owned and includes existing infrastructure

APPENDIX B – COMMUNITY SURVEY RESULTS

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Q1 Are you a resident of the City of Joplin?

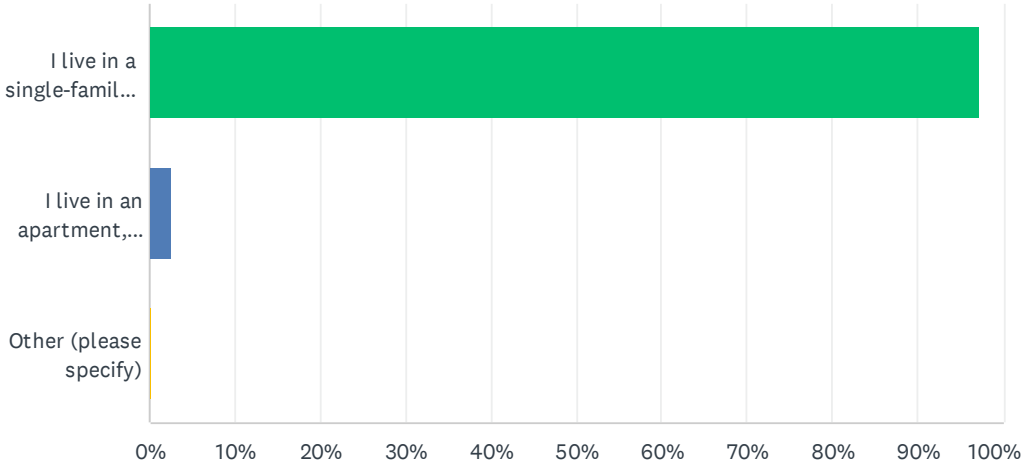
Answered: 544 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	94.67%	515
No	5.33%	29
TOTAL		544

Q2 What type of housing describes where you live?

Answered: 545 Skipped: 1

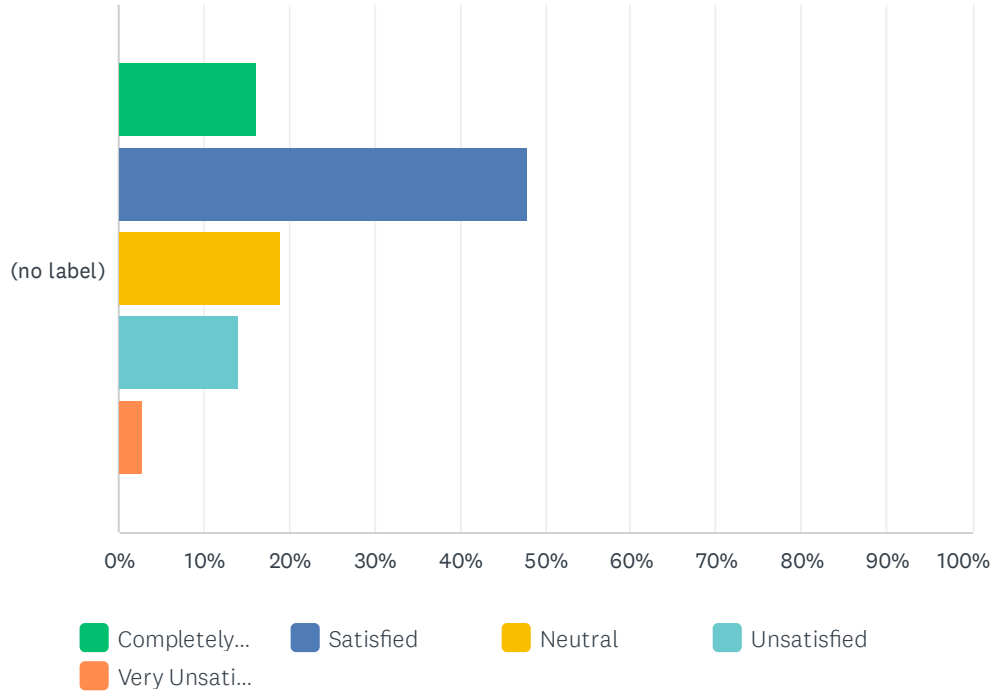


ANSWER CHOICES	RESPONSES	
I live in a single-family home.	97.25%	530
I live in an apartment, multiplex, or mobile home complex	2.57%	14
Other (please specify)	0.18%	1
TOTAL		545

#	OTHER (PLEASE SPECIFY)	DATE
1	live outside city but am there frequently	4/4/2022 10:49 AM

Q3 The City contracts for residential curbside trash and recycling services. How satisfied are you with your household's OVERALL trash, recycling, and yard waste collection service?

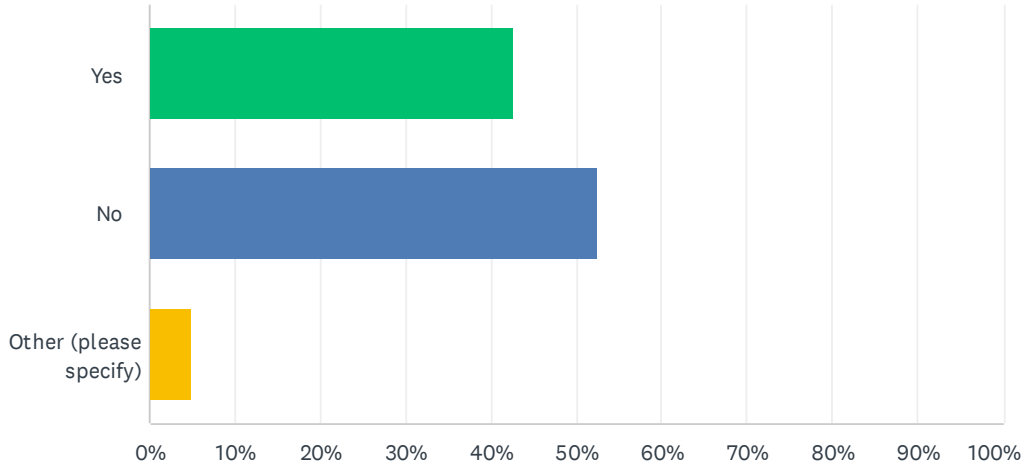
Answered: 483 Skipped: 63



	COMPLETELY SATISFIED	SATISFIED	NEUTRAL	UNSATISFIED	VERY UNSATISFIED	TOTAL	WEIGHTED AVERAGE
(no label)	16.15% 78	48.03% 232	19.05% 92	14.08% 68	2.69% 13	483	2.39

Q4 Curbside recycling is available to residents for an additional $4.59/month. Are you currently subscribed to the curbside recycling collection?

Answered: 488 Skipped: 58



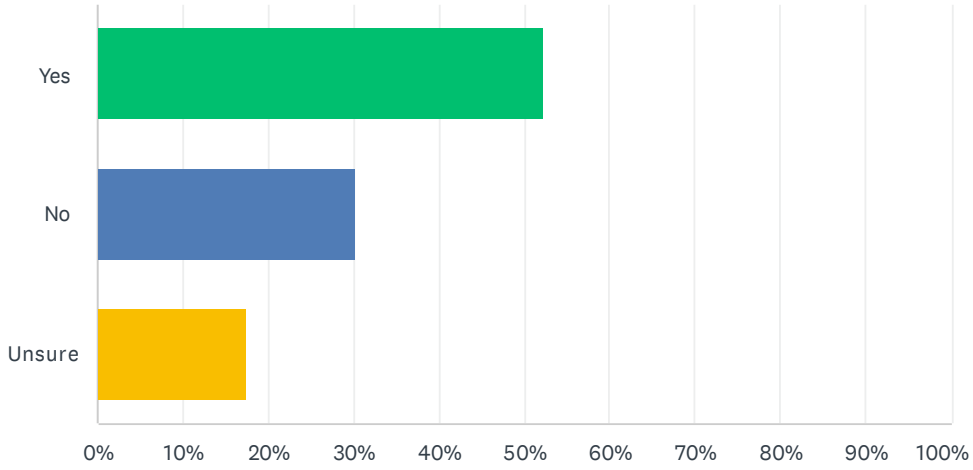
ANSWER CHOICES	RESPONSES	
Yes	42.62%	208
No	52.46%	256
Other (please specify)	4.92%	24
TOTAL		488

#	OTHER (PLEASE SPECIFY)	DATE
1	M	4/23/2022 4:54 AM
2	I was told that I was paying for it regardless of if I use it or not	4/22/2022 8:10 PM
3	I was...and stopped b/c they seldom picked it up when they should	4/17/2022 6:57 AM
4	already too much for sewage & trash	4/16/2022 9:19 PM
5	I don't, but I take all my recycle to the recycling center	4/16/2022 8:03 AM
6	City won't give me recycling services	4/16/2022 6:56 AM
7	Was subscribed but it was too expensive.	4/15/2022 9:56 PM
8	Plan to in near future, glad it is an available option	4/15/2022 9:56 PM
9	They cancelled us when we requested a new bin to replace the stolen one	4/15/2022 9:50 PM
10	Not available in Loma Linda. We are anxious to have this service. We recycle.	4/8/2022 9:34 AM
11	We use the city's recycling center.	4/8/2022 6:44 AM
12	Wasn't aware this was an option	4/7/2022 8:13 PM
13	No but I would if it did not cost money.	4/7/2022 3:33 PM

14	No but I use the recycling center	4/7/2022 12:27 PM
15	I take my recyclables to the Joplin site.	4/7/2022 11:14 AM
16	It is not available where I live.	4/7/2022 9:31 AM
17	What all do they recycle?	4/6/2022 8:28 PM
18	I am outside of City limits so this is not offered that I am aware of	4/6/2022 11:26 AM
19	I did for a few months but couldn't get it picked up as scheduled. It took over an hour on the phone to cancel and I wouldn't go back because of that. It was a nightmare. I would like to recycle again but not with them!	4/6/2022 8:35 AM
20	Not a City resident, but wish I had curbside recycling	4/5/2022 4:46 PM
21	No I am not. This service should be free.	4/2/2022 1:25 PM
22	Outside city limits shoal creek	3/30/2022 5:16 PM
23	I am not a Joplin resident.	3/28/2022 7:30 AM
24	I would subscribe if it was an option in my town (CJ).	3/26/2022 10:42 AM

Q5 Do you feel like the $4.59/month fee for bi-monthly curbside recycling provides a valuable service?

Answered: 485 Skipped: 61



ANSWER CHOICES	RESPONSES	
Yes	52.16%	253
No	30.31%	147
Unsure	17.53%	85
TOTAL		485

#	UNSURE	DATE
1	Too expensive	4/24/2022 7:34 AM
2	M	4/23/2022 4:54 AM
3	Recycling should be free	4/22/2022 6:31 PM
4	I see videos where recycling really doesn't happen the way it's supposed to.	4/19/2022 5:11 PM
5	Not using	4/17/2022 7:51 AM
6	This current system needs improved	4/17/2022 6:57 AM
7	Should be weekly	4/16/2022 11:19 PM
8	Don’t use	4/16/2022 2:34 PM
9	Don’t use it	4/16/2022 1:40 PM
10	Ours is only one day a month and we always miss it because of the poor map chart provided	4/16/2022 12:31 PM
11	I haven’t tried it.	4/16/2022 11:30 AM
12	It should be standard for all citizens to have a recycling bin.	4/16/2022 11:18 AM
13	I want them on the same as trash pickup	4/16/2022 9:11 AM
14	I have watched the trash truck take my recycling too so not sure what I’m paying for	4/16/2022 8:10 AM

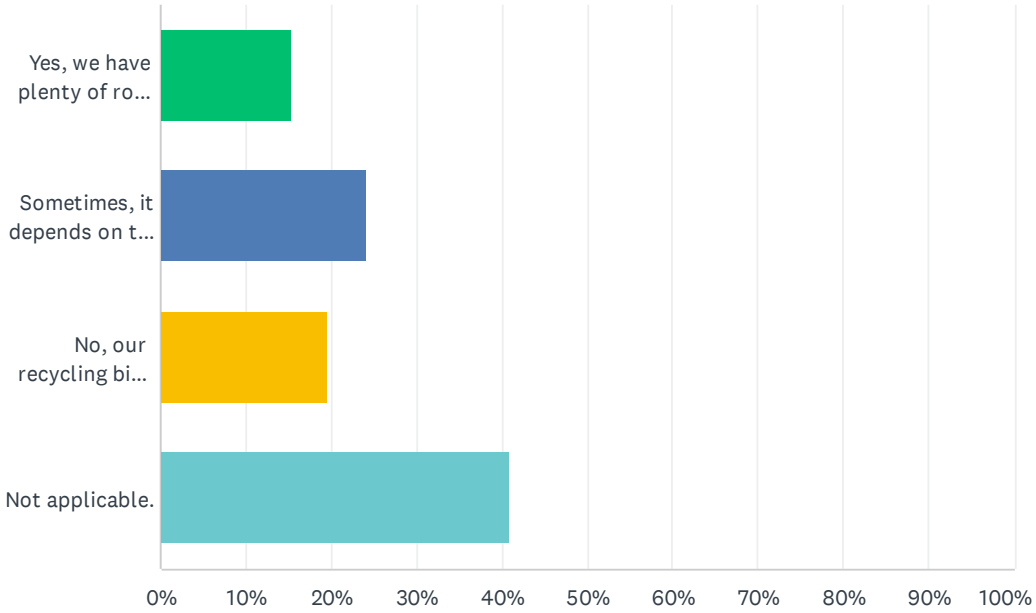
15	I bring in my own recycle. Every other week would not be often enough	4/16/2022 8:03 AM
16	It should be weekly	4/16/2022 6:59 AM
17	I don't have it.	4/16/2022 5:45 AM
18	I do not know enough about the service to comment.	4/16/2022 1:38 AM
19	Don't use it currently	4/15/2022 11:18 PM
20	Every other month? Twice a month?	4/15/2022 11:01 PM
21	Unsure	4/15/2022 10:59 PM
22	Seems it should not be an extra charge	4/15/2022 10:36 PM
23	Unsure	4/15/2022 10:10 PM
24	Have not used it yet	4/15/2022 9:56 PM
25	We don't use it, but we do take our stuff to the recycling center.	4/15/2022 9:50 PM
26	Don’t use	4/15/2022 9:03 PM
27	n/a	4/13/2022 10:55 AM
28	n/a	4/13/2022 10:46 AM
29	I thought we got that weekly	4/10/2022 1:14 AM
30	Should not be charged to do something beneficial!	4/8/2022 6:09 PM
31	I feel that it is high for not excepting all items that are recyclable	4/8/2022 5:51 PM
32	I have been paying for it but I do not receive recycling service	4/8/2022 2:02 PM
33	I don’t know anything about the recycling orogram	4/8/2022 7:07 AM
34	Don’t want to pay	4/8/2022 6:52 AM
35	It's more cost effective to go to the recycling center. I believe the overall cost should increase marginally and trash, recycling and green barrels should be provided with every service address.	4/8/2022 6:44 AM
36	weekly was preferable	4/7/2022 9:11 PM
37	Haven't used it to have input	4/7/2022 8:13 PM
38	Don’t use	4/7/2022 5:38 PM
39	Not sure what the extra $5 is for each month, but recycling is extremely important and is just something we as a community should be doing automatically.	4/7/2022 3:33 PM
40	It should be included in our service for trash.	4/7/2022 3:25 PM
41	It needs to be weekly again.	4/7/2022 1:37 PM
42	I take my recycling to the recycling center to avoid the fee.	4/7/2022 1:03 PM
43	Over TWO YEARS with No Recycle Pick Up is a huge scam, we have paid our bill each moth for curbside recycling!	4/7/2022 12:45 PM
44	Won’t take glass	4/7/2022 11:52 AM
45	I take my own things toi be recycled	4/7/2022 11:37 AM
46	It currently does not include glass items.	4/7/2022 11:14 AM
47	The last I checked they did not take glass. We opted out on that alone.	4/7/2022 10:56 AM
48	It needs to be available to everyone especially those who are low-income.	4/7/2022 9:02 AM
49	Don’t have much	4/7/2022 8:47 AM
50	How large is the bin? Do you have to separate the media? Is that price for all recyclables or do	4/6/2022 10:15 PM

	you pay that fee for each type?	
51	What all do they recycle?	4/6/2022 8:28 PM
52	Not convinced recycling actually occurs	4/6/2022 7:50 PM
53	Do not pay for recycling at this time	4/6/2022 6:32 PM
54	Recycle myself	4/6/2022 5:27 PM
55	Thinking about droping th service. On use every 2 months	4/6/2022 3:41 PM
56	Prefer going to recycling center, go at least twice a month	4/6/2022 9:10 AM
57	I can not afford another 5.00 for recycling cost.	4/3/2022 12:51 AM
58	I am fine with the current charge, but I don't want to pay more.	4/2/2022 6:43 PM
59	I feel our household is in the minority utilizing curbside recycling. Not sure it’s worth it for the trash company.	4/2/2022 3:20 PM
60	Unsure	4/2/2022 1:30 PM
61	I don't know what people pay in pother markets, but I imagine if the price goes up much, many more Joplin residents will opt out	4/2/2022 8:06 AM
62	Expensive- especially if you forget a week (since it’s every other week) and only get it picked up up once that month!	4/1/2022 4:13 PM
63	recycling should be free	4/1/2022 7:18 AM
64	I pay enough for trash, this should be included to encourage more folks to recycle. I just take mine into the center on A Street.	3/31/2022 5:25 PM
65	Weekly I’d participate. We do it ourselves.	3/31/2022 5:07 PM
66	Expense adds up	3/31/2022 10:27 AM
67	If it was every week and the same day as trash collection the fee would be appropriate.	3/31/2022 10:27 AM
68	Would love weekly recycling pickup	3/31/2022 9:24 AM
69	I do not have this service	3/31/2022 7:43 AM
70	Not familiar	3/31/2022 3:45 AM
71	Cant pay more!	3/30/2022 9:49 PM
72	Doesn’t apply	3/30/2022 5:16 PM
73	Would prefer a set price that includes both trash and recycling.	3/30/2022 2:02 PM
74	There shouldn't be a fee to recycle it should already be included in waste management services	3/30/2022 1:05 PM
75	Once a month would be ok for me	3/30/2022 12:20 PM
76	I don't use it	3/30/2022 11:49 AM
77	I think there should be more education about reducing single-use plastic consumption.	3/30/2022 10:43 AM
78	My recycling is frequently missed pickup at one point going 2 months without pickup despite multiple calls.	3/30/2022 10:42 AM
79	The city I lived in before provided recycling containers to its residents at no cost.	3/30/2022 10:17 AM
80	The fee may be an appropriate one. Is probably less expensive than making a trip to the recycling center. I do not usually go there but about once every 6 weeks.	3/28/2022 12:25 PM
81	Unknown	3/28/2022 8:14 AM
82	We are only getting 1/2 services now for the same price.	3/28/2022 5:32 AM
83	Hard to know that the materials are actually being recycled. Also very limited in what can be collected.	3/27/2022 10:57 AM

84	I don’t use the service	3/26/2022 12:37 PM
85	Not used it	3/26/2022 10:51 AM

Q6 Is bi-monthly recycling collection frequent enough to meet the recycling needs of your household?

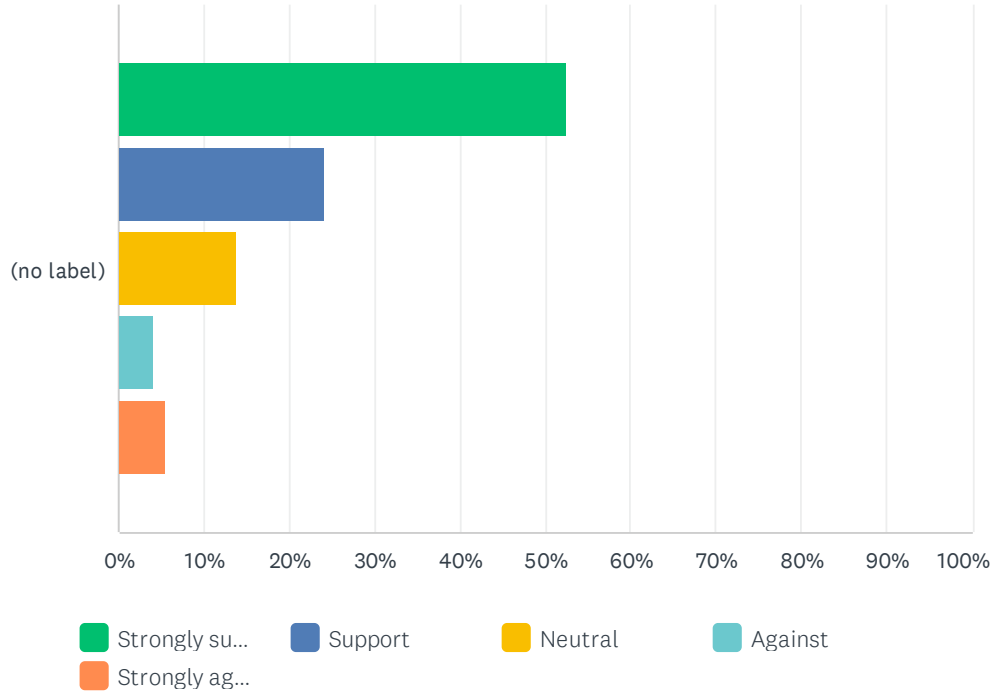
Answered: 484 Skipped: 62



ANSWER CHOICES	RESPONSES	
Yes, we have plenty of room in our recycling bin for two weeks of material.	15.29%	74
Sometimes, it depends on the week.	24.17%	117
No, our recycling bin is often overflowing and needs to be collected more frequently.	19.63%	95
Not applicable.	40.91%	198
TOTAL		484

Q7 Recycling materials from your home reduces waste that ends up in landfills, prevents pollution, saves resources, and creates jobs. How likely are you to support the City contracting for curbside recycling to be provided to all residents?

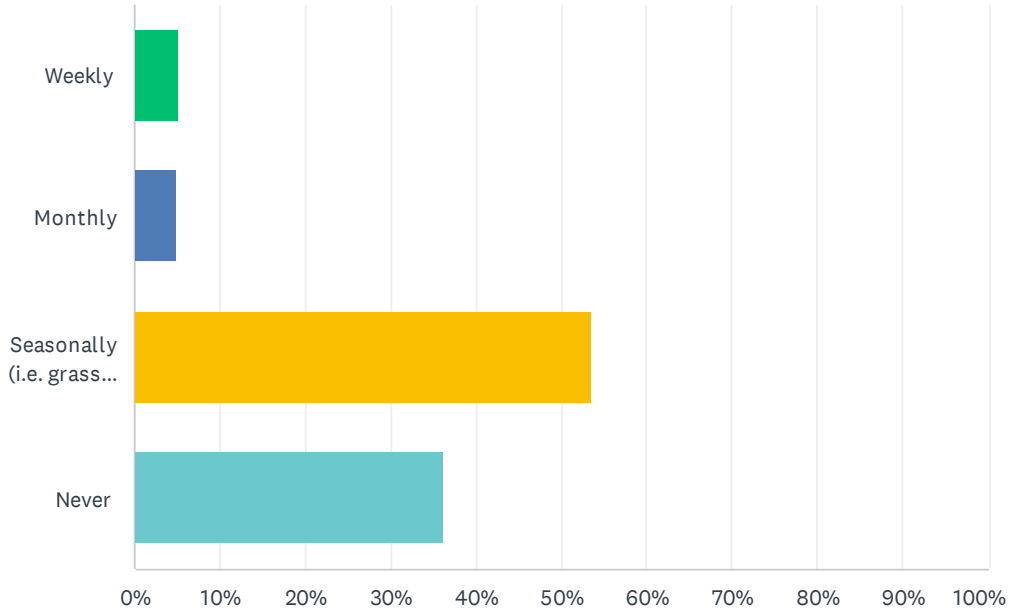
Answered: 487 Skipped: 59



	STRONGLY SUPPORT	SUPPORT	NEUTRAL	AGAINST	STRONGLY AGAINST	TOTAL	WEIGHTED AVERAGE
(no label)	52.36% 255	24.02% 117	13.96% 68	4.11% 20	5.54% 27	487	1.86

Q8 How frequently do you set out yard waste (grass clippings, leaves, garden waste, branches) for disposal throughout the entire year?

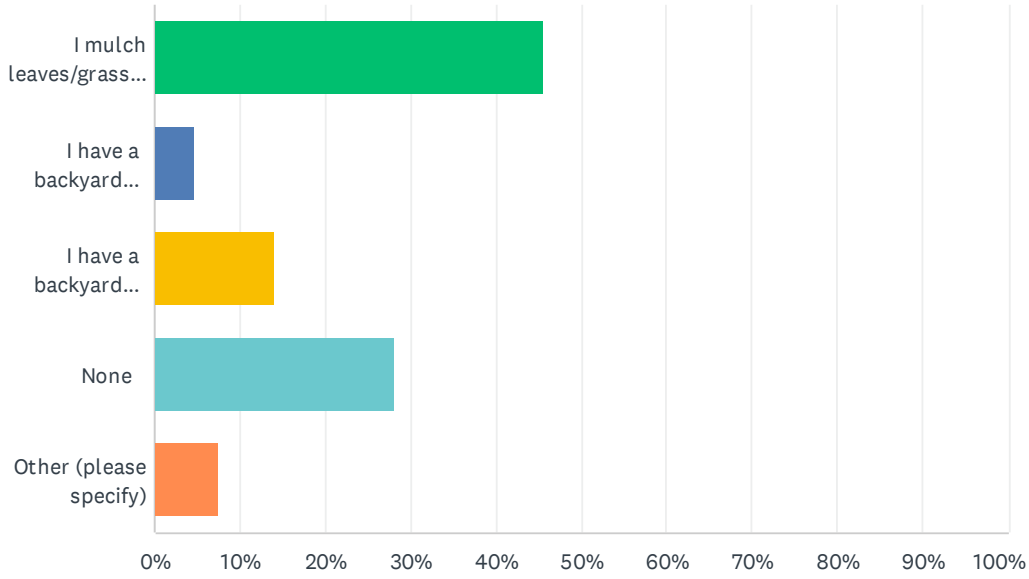
Answered: 479 Skipped: 67



ANSWER CHOICES	RESPONSES	
Weekly	5.22%	25
Monthly	5.01%	24
Seasonally (i.e. grass clippings in the summer; leaves in the fall)	53.44%	256
Never	36.33%	174
TOTAL		479

Q9 Do you engage in any of the following waste reduction activities regarding yard waste?

Answered: 478 Skipped: 68



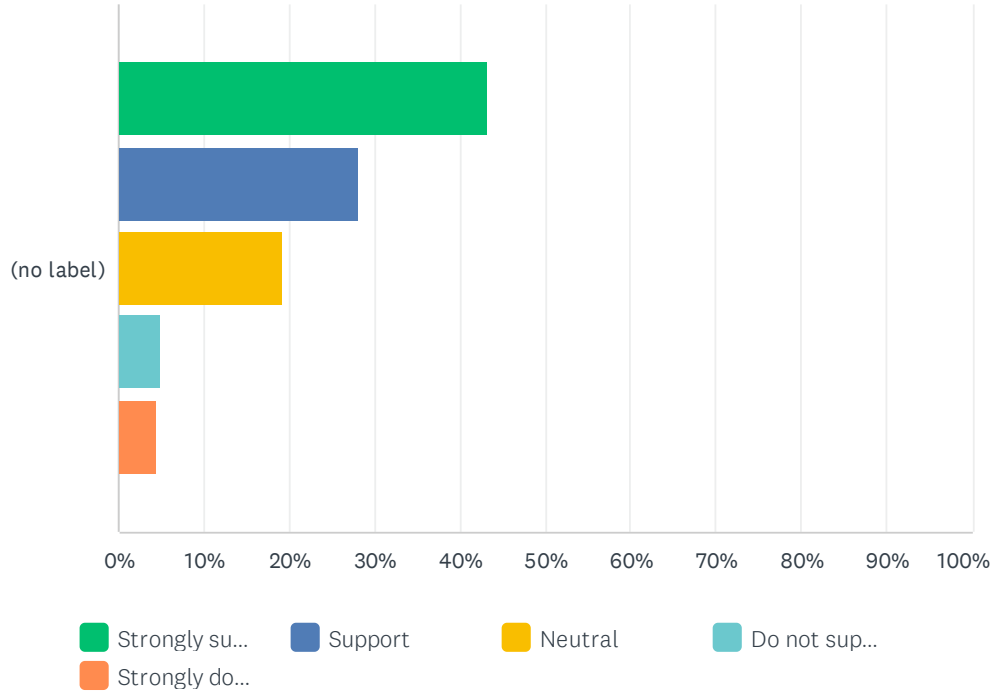
ANSWER CHOICES	RESPONSES	
I mulch leaves/grass clippings with a mulching mower	45.61%	218
I have a backyard compost bin for leaves/grass clippings	4.60%	22
I have a backyard compost bin for leaves/grass clippings AND food scraps	14.02%	67
None	28.24%	135
Other (please specify)	7.53%	36
TOTAL		478

#	OTHER (PLEASE SPECIFY)	DATE
1	i own a woodchipper/shredder for leaves and small branches and i compost leaves, grass clippings, food scraps, and other compostible yard waste.	4/20/2022 1:10 PM
2	Much with mulching mower AND we have a backyard compost bin for some leaves/grass and food scraps	4/18/2022 11:57 AM
3	We mulch grass and fireplace burn limbs	4/17/2022 7:01 AM
4	Burn pile	4/17/2022 1:54 AM
5	Burning	4/16/2022 12:24 PM
6	Brush pile at our out of town land	4/16/2022 9:22 AM
7	None	4/15/2022 11:01 PM
8	Put most in a fire pit. The rest I mulch up.	4/15/2022 10:01 PM
9	Plan to mulch/compost in the future	4/15/2022 9:57 PM

10	We tried the compost bin for leaves, grass & food scraps one year. We got a letter from the city that we were not allowed to have food waste outside. We got the "bin" from the city, it was like rounded fencing, and had egg shells in it. Everything we put in it was recommended by the city in the pamphlet that came with the fencing.	4/15/2022 9:55 PM
11	Would love to get into it!	4/15/2022 9:33 PM
12	I	4/15/2022 9:24 PM
13	occasionally take larger limbs to city compost facility	4/13/2022 10:53 AM
14	My subdivision has a law against composting/bins. The city should overrule this.People should be able to compost and mulch in their yard for the health of the land.	4/11/2022 7:40 AM
15	I haul my leaves to the Joplin Leave drop off area and when available I take limbs to the limb drop off area	4/8/2022 6:23 PM
16	All of the above.	4/8/2022 6:46 AM
17	We live in the city of Joplin but just outside of city limits we burn some of these things instead	4/7/2022 8:15 PM
18	Put leaves and yard waste down our hillside	4/7/2022 3:10 PM
19	All above.	4/7/2022 12:48 PM
20	Compost bin for kitchen wastes	4/7/2022 12:46 PM
21	I mulch leaves when there aren’t a ton of them	4/7/2022 11:54 AM
22	I have a patio fire pit for small branches	4/7/2022 11:08 AM
23	We burn small piles in our backyard fire pit.	4/7/2022 9:15 AM
24	1 & 3	4/6/2022 7:57 PM
25	Take to city drop off spot	4/6/2022 5:31 PM
26	I don't know how to use the yard waste collection I guess, I just throw it in the trash	4/6/2022 9:32 AM
27	My yard is so small that it isn't necessary to mulch or compost	4/6/2022 8:39 AM
28	Allow city to pick up leaves once a year	4/2/2022 12:57 PM
29	Compost bin for food scraps	3/31/2022 1:55 PM
30	Transport to city site for brush/limbs.	3/30/2022 10:19 PM
31	Annual city leaf pick up	3/30/2022 2:02 PM
32	I would be awesome if little burn bins with lids would be provided. Help keep skeeters away and little weenie roasts or s’mores would be fun.	3/30/2022 11:31 AM
33	I place leaves and some small branched in my back yard.	3/30/2022 11:30 AM
34	I burn yard waste	3/30/2022 10:15 AM
35	all of the above	3/27/2022 10:59 AM
36	I put clippings in the trash	3/26/2022 12:39 PM

Q10 Missouri has banned yard waste in landfills since 1992. However, yard waste collected from Joplin residents goes to a landfill in Kansas were there are no restrictions. The current system allows residents to throw away yard waste in the trash which can impact our rates. Joplin also misses out on potential grant funding dollars. Separate collection of yard waste would be financially beneficial to the region as well as environmentally beneficial.Do you support the separate collection of yard waste for composting?

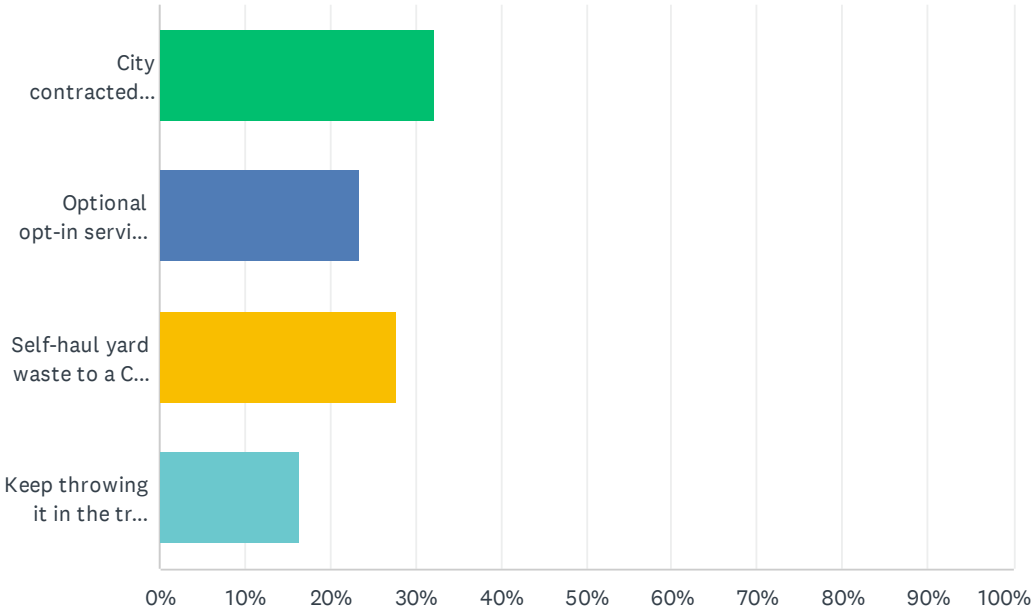
Answered: 478 Skipped: 68



	STRONGLY SUPPORT	SUPPORT	NEUTRAL	DO NOT SUPPORT	STRONGLY DO NOT SUPPORT	TOTAL	WEIGHTED AVERAGE
(no label)	43.31% 207	28.24% 135	19.25% 92	4.81% 23	4.39% 21	478	1.99

Q11 What level of service options do you support to receive separate collection of yard waste and divert material from the landfill for composting?

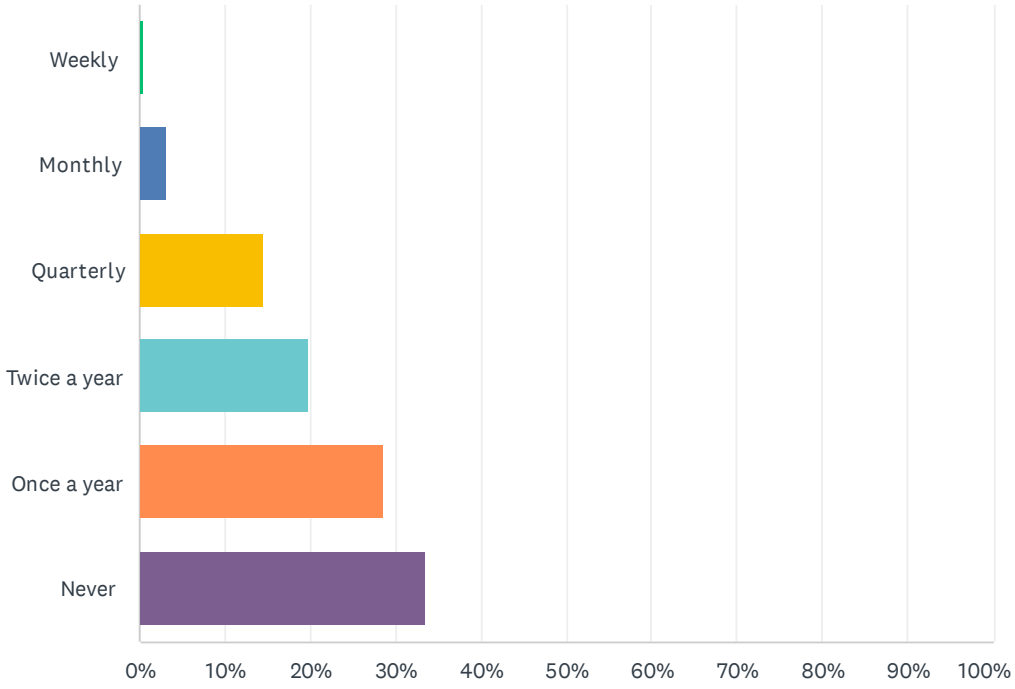
Answered: 468 Skipped: 78



ANSWER CHOICES	RESPONSES	
City contracted service for separate weekly yard waste collection ($3-5/month)	32.26%	151
Optional opt-in service directly from a hauler (price varies)	23.50%	110
Self-haul yard waste to a City facility for free	27.78%	130
Keep throwing it in the trash for landfill disposal	16.45%	77
TOTAL		468

Q12 How frequently do you set out bulky items (i.e. furniture, appliances, tree limbs, carpet, lumber) with your residential curbside trash?

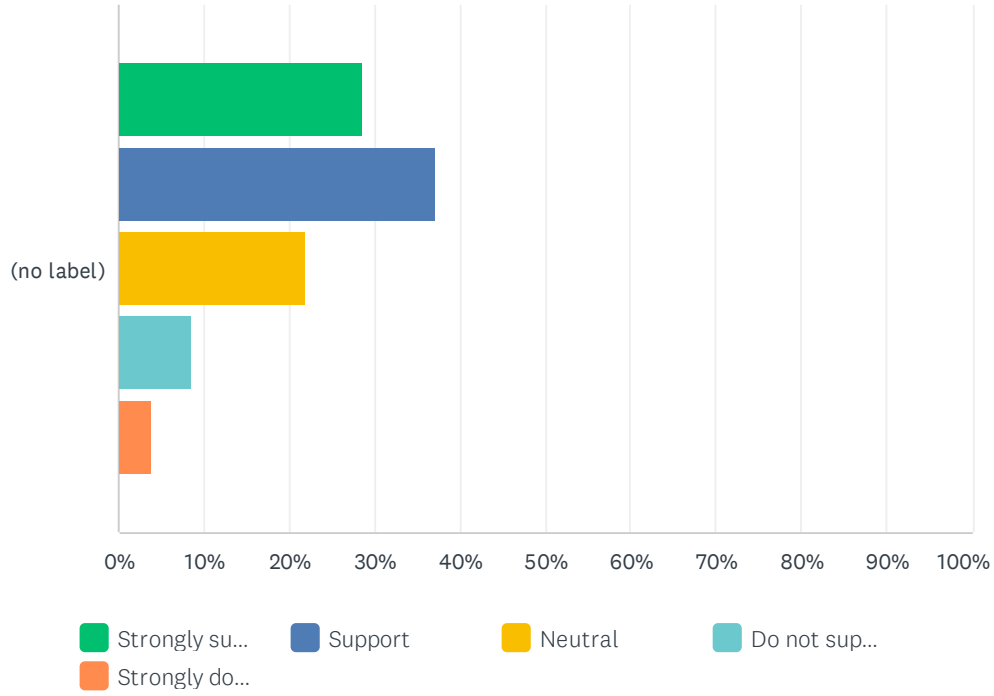
Answered: 480 Skipped: 66



ANSWER CHOICES	RESPONSES	
Weekly	0.42%	2
Monthly	3.13%	15
Quarterly	14.58%	70
Twice a year	19.79%	95
Once a year	28.54%	137
Never	33.54%	161
TOTAL		480

Q13 Would you support a less frequent collection of bulky items than weekly to keep service and collection costs low in future contracts?

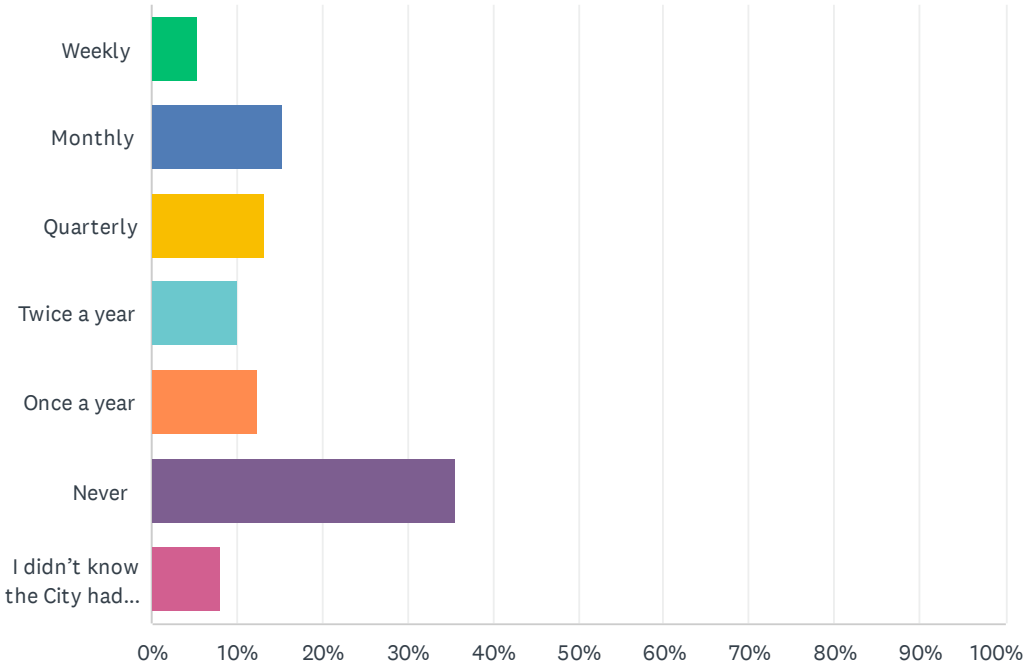
Answered: 478 Skipped: 68



	STRONGLY SUPPORT	SUPPORT	NEUTRAL	DO NOT SUPPORT	STRONGLY DO NOT SUPPORT	TOTAL	WEIGHTED AVERAGE
(no label)	28.66% 137	37.03% 177	21.97% 105	8.58% 41	3.77% 18	478	2.22

Q14 How often do you visit the City's Recycling Center and Household Hazardous Waste Drop Off (located at 1310 West A Street)?

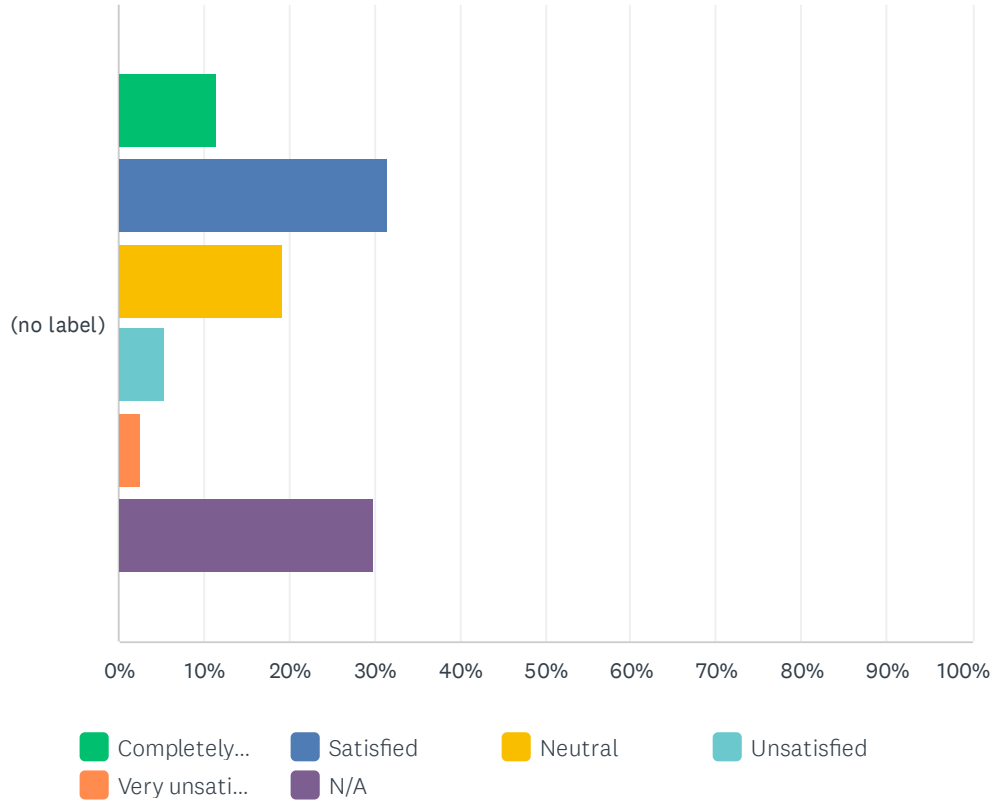
Answered: 485 Skipped: 61



ANSWER CHOICES	RESPONSES	
Weekly	5.36%	26
Monthly	15.26%	74
Quarterly	13.20%	64
Twice a year	10.10%	49
Once a year	12.37%	60
Never	35.67%	173
I didn't know the City had a Recycling Center	8.04%	39
TOTAL		485

Q15 How satisfied are you with the City's Recycling Center and Household Hazardous Waste Drop Off?

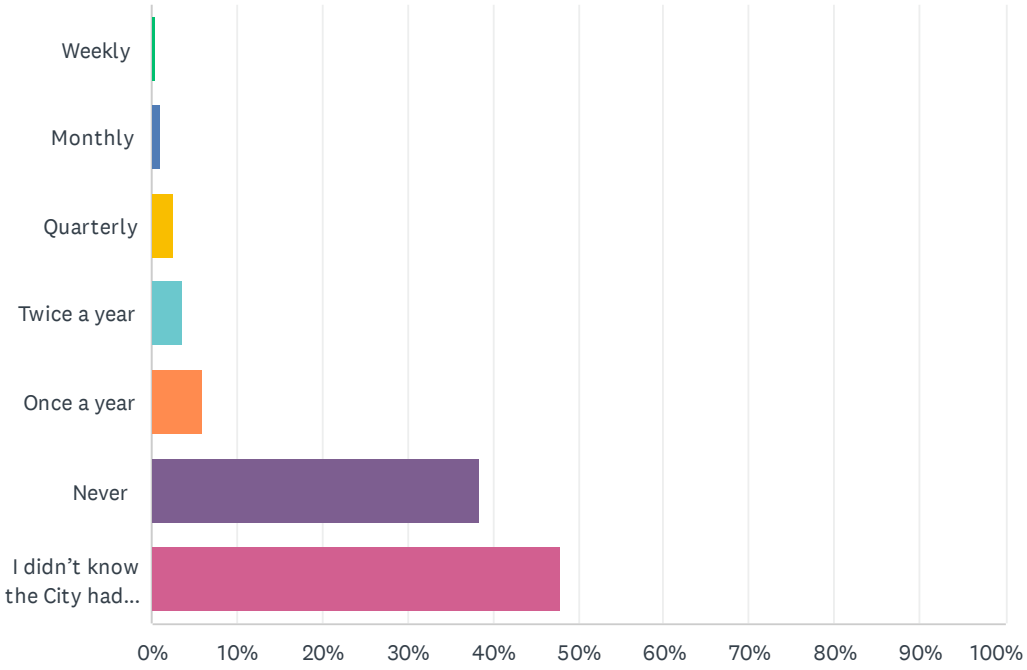
Answered: 482 Skipped: 64



	COMPLETELY SATISFIED	SATISFIED	NEUTRAL	UNSATISFIED	VERY UNSATISFIED	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	11.41% 55	31.54% 152	19.29% 93	5.39% 26	2.49% 12	29.88% 144	482	2.37

Q16 How often do you visit the City’s Compost Facility (located at 3457 West Eddy Lane)?

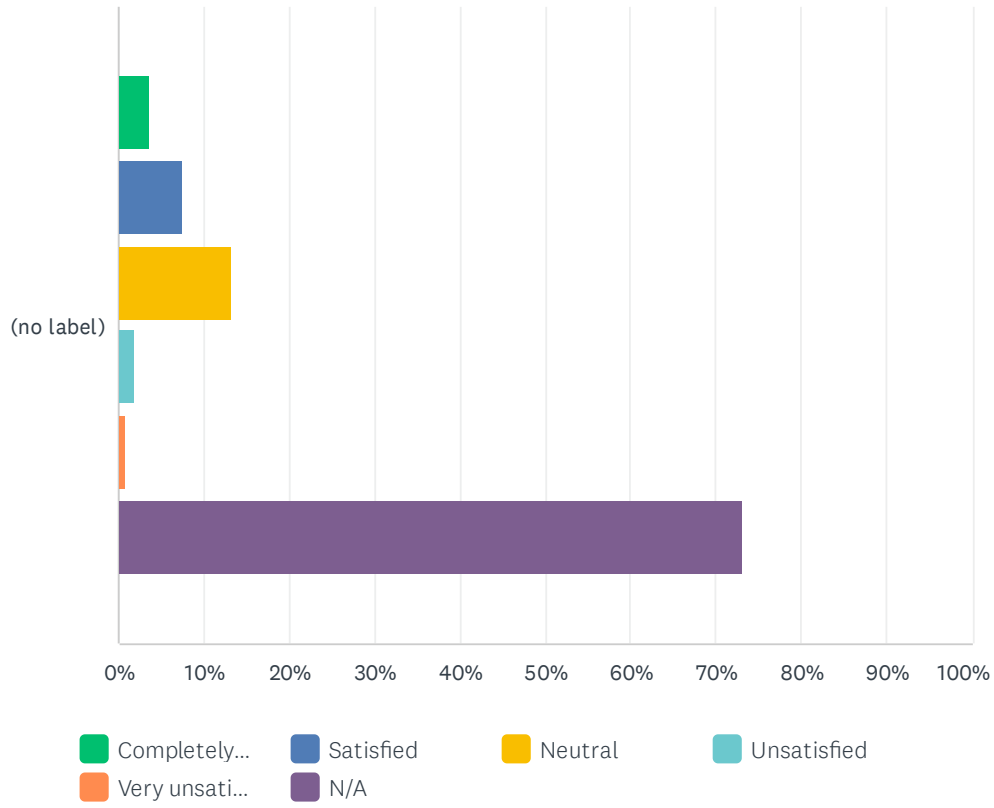
Answered: 486 Skipped: 60



ANSWER CHOICES	RESPONSES	
Weekly	0.41%	2
Monthly	1.03%	5
Quarterly	2.47%	12
Twice a year	3.70%	18
Once a year	5.97%	29
Never	38.48%	187
I didn’t know the City had a Compost Facility	47.94%	233
TOTAL		486

Q17 How satisfied are you with the City’s Compost Facility?

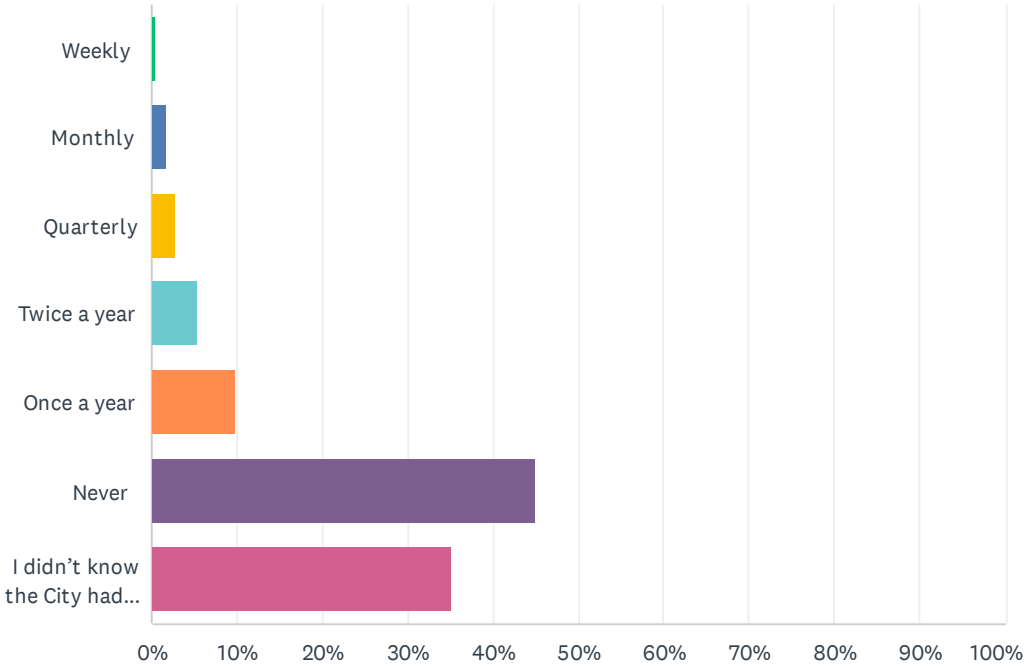
Answered: 480 Skipped: 66



	COMPLETELY SATISFIED	SATISFIED	NEUTRAL	UNSATISFIED	VERY UNSATISFIED	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	3.54% 17	7.50% 36	13.13% 63	1.88% 9	0.83% 4	73.13% 351	480	2.59

Q18 How often do you visit the City's Tree and Brush Drop Off (located at 1702 N Schifferdecker Ave)?

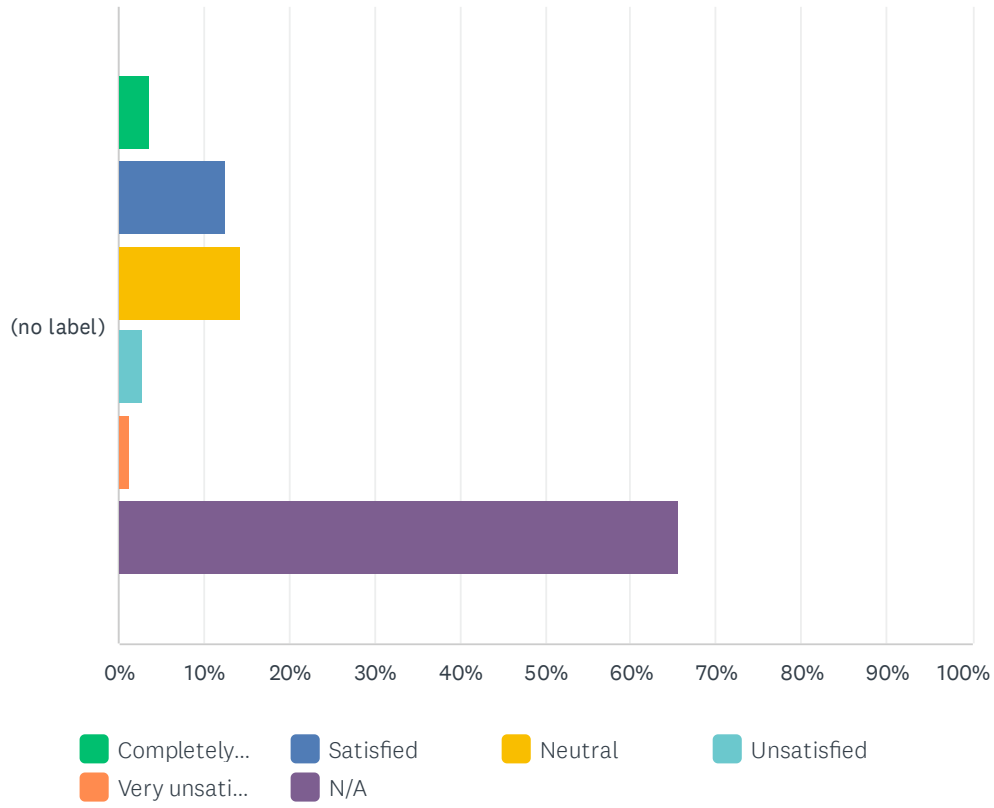
Answered: 483 Skipped: 63



ANSWER CHOICES	RESPONSES	
Weekly	0.41%	2
Monthly	1.66%	8
Quarterly	2.69%	13
Twice a year	5.38%	26
Once a year	9.73%	47
Never	44.93%	217
I didn't know the City had a Tree and Brush Drop Off	35.20%	170
TOTAL		483

Q19 How satisfied are you with the City’s Tree and Brush Drop Off?

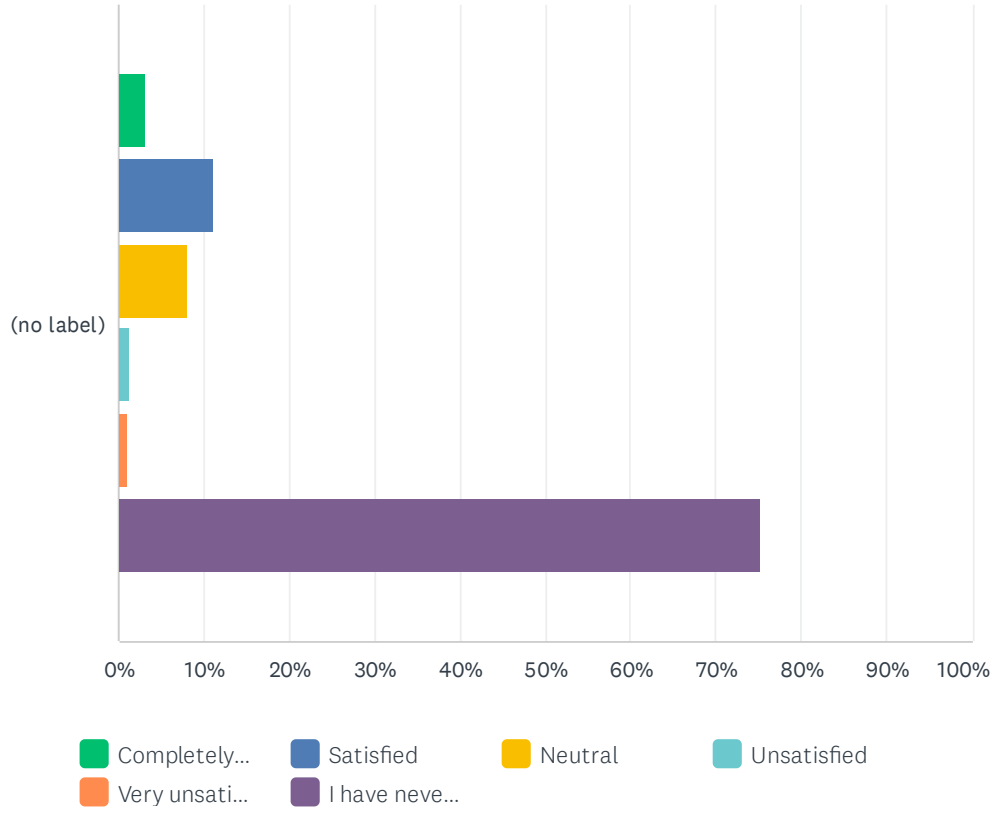
Answered: 483 Skipped: 63



	COMPLETELY SATISFIED	SATISFIED	NEUTRAL	UNSATISFIED	VERY UNSATISFIED	N/A	TOTAL	WEIGHTED AVERAGE
(no label)	3.52% 17	12.63% 61	14.29% 69	2.69% 13	1.24% 6	65.63% 317	483	2.58

Q20 The City discounts disposal costs for residents by 50 percent to dispose of material at the WCA Joplin Transfer Station (located at 3700 W 7th Street). How satisfied are you with this service?

Answered: 487 Skipped: 59



	COMPLETELY SATISFIED	SATISFIED	NEUTRAL	UNSATISFIED	VERY UNSATISFIED	I HAVE NEVER DROPPED ANYTHING OFF AT THE WCA JOPLIN TRANSFER STATION	TOTAL	WEIGHTED AVERAGE
(no label)	3.29% 16	11.09% 54	8.01% 39	1.23% 6	1.03% 5	75.36% 367	487	2.42

Q21 Please share any comments about your experience with the Recycling Center/HHW, Compost Facility, Tree & Brush drop off, and/or subsidized drop off at the WCA Joplin Transfer Station or any suggestions for improvement.

Answered: 152 Skipped: 394

#	RESPONSES	DATE
1	If yard waste can't go in my normal trash I need curbside pickup from the city because I don't have a truck. I hate the leaf pickup system. Following the Scheduling once an actual schedule is found is frustrating. I'm thinking of dropping my recycling service and just using the recycling center. I wish curbside recycling pick up allowed more things like plastic bags.	4/22/2022 11:43 PM
2	N/A	4/22/2022 10:37 PM
3	I do not support any new fees. Especially for services that I was told was included. Also, pay your workers more than minimum wage to do landscaping and other menial tasks that need to be done	4/22/2022 8:13 PM
4	Do not change to WCA. Republic is just fine.	4/22/2022 6:33 PM
5	i recently tried to use the tree & brush drop off. this was in march of 2022. the facility was not open as it was supposed to be. a young man at the recycling center took the time and trouble to drive the drop off and open it for me. i attempted to notify the main office of his gesture but never got a call back from anyone at extension 1501. i also attempted to obtain a paper copy of this survey at city hall, but no one there ha a clue what i was talking about. a lady at the CVB tried to help me by calling another to get the form sent to me, and i was assured that a copy would be sent to me. eight days later, i still have not received the survey in the mail. therefore, i resorted to using the library to fill out the survey(i do not own a computer.) i feel the people in city hall, especially those in positions of responsibility, should more responsive to their constituents. after all, we, as a group, pay their salaries.	4/20/2022 1:23 PM
6	I wish we had a way to recycle Styrofoam.	4/19/2022 4:56 PM
7	Perhaps you could consider starting neighborhood cleanup activities that would involve picking up yard waste in a dedicated dumpster that could then be taken to the transfer station and sorted for mulching/composting/etc.	4/18/2022 11:04 AM
8	I didn’t know about 90% of those services…	4/17/2022 1:55 AM
9	Accessibility is terrible, location and hours are inconvenient. Recycle center is disorganized, cluttered, papers waste is not properly handled.	4/16/2022 11:23 PM
10	For our family, it would be better to have recycling picked up weekly and trash bi-weekly.	4/16/2022 10:20 PM
11	Do not have a way to transport yard & big waste	4/16/2022 9:24 PM
12	I would like to see more dates available for tree and limb drop off disposal.	4/16/2022 4:04 PM
13	I support adding various pickup options but keep them voluntary.	4/16/2022 2:47 PM
14	Recycling is a joke—in that they miss us frequently and because the bill through the city they can’t refund us for missed service. So, there is no recourse for the company for providing poor service. I would support a big trash day once a year where you set out your bulk items. I would support a quarterly or twice a year yard waste option for curbside pick-up.	4/16/2022 11:26 AM
15	We are old. We are on oxygen. We cannot rake leaves and this is rental property. Nothing to haul off but we do give furniture etc to the DAV. We keep things clean inc our yard	4/16/2022 10:14 AM
16	They charge me contractors price even when I show my address, it’s happening everyday to my friends.. she just finds an excuse to over charge…	4/16/2022 10:01 AM

17	The recycle center is not user-friendly and the last time I was there, which was years ago, the lady was as hopefully she could be. I stopped recycling because of my experience so I was glad when the city started offering curbside recycling	4/16/2022 8:47 AM
18	How can I learn more about the city's services? Is there a flyer detailing each step on how to be involved in brush disposal and the recycling center? Can you post this on Facebook at minimum?	4/16/2022 8:39 AM
19	I got a nail in my tire dropping off tree limbs, so I am hesitant to go back there myself. I pay someone to take limbs for me. I will start utilizing the composting place (love that!) And am at the recycling center about 2x a week. Would love if the recycling center was able to take plastic bags - I take those to Walmart for recycling. I am very pro-recycling and appreciate that the city has offered this survey :)	4/16/2022 8:18 AM
20	We don't use the recycling center due to the curbside. However LOVE the compost facility and tree/brush drop off. better advertisement of times would be good.	4/16/2022 7:59 AM
21	I have small limbs that fall during storms. I don't want to load the in the car. Not enough to have an extra fee. My neighbors often a LOT of yard waste. Maybe a community bin for small yard waste? Or different sizes for different fees. It doesn't seem right to charge a fee if a person has small limbs maybe 3 weeks a year.	4/16/2022 7:54 AM
22	Please do more frequent pick ups of recycling!!	4/16/2022 7:07 AM
23	I think we need definitely need to have mandatory recycling as a part of our trash pick up. I can see having yard waste pick up as well, although there are many of us who would not use it due to how we manage our yards. However, our ultimate goal should be to limit what is going into landfills and we need to work together on it.	4/16/2022 6:31 AM
24	I'm not paying to recycle.	4/16/2022 6:25 AM
25	Tree & Brush drop off is a nice service.	4/16/2022 5:48 AM
26	Keep the services the same and add cost to those who want to add the services they want to utilize.	4/16/2022 5:03 AM
27	This should not cost and should be included in trash costs that are reasonable. Also, if these other services were available then the city should of let us know more in Ada mace to plan other than a notice 2 days before. Also, if the city would make it to where individuals could get leaves picked up timely then I would trust the city more. But the city fails on this as well. Which is why we put our leaves out in trash. Maybe consider a pickup service for yard waste separate and by address reporting so that it could be picked up timely when resident it ready.	4/16/2022 2:57 AM
28	The city should Do something to lower the cost of trash service not raise the price.	4/16/2022 1:54 AM
29	Please don't take away yard waste from the normal collection. It's such an advantage. Coming from Springfield where they didn't have this. I love that we have it in Joplin. Don't separate.	4/15/2022 11:04 PM
30	I work for the school district (school bus driver during school year, utility during summer) and frequent Snowball. Wouldn't this location be suitable for grass & leaves?	4/15/2022 10:56 PM
31	They should NOT be allowed to turn off our water!!!!	4/15/2022 10:39 PM
32	The limb drop off needs to be open more than once a month! We need green clippings and yard waste to be composed by the city. The recycling center needs to accept more plastic items!!!	4/15/2022 10:26 PM
33	I'm concerned about the city staffs un-natural fascination with recycling.	4/15/2022 10:22 PM
34	Na	4/15/2022 10:12 PM
35	I would support any of the above mentioned changes if you passed the savings on to us!	4/15/2022 10:04 PM
36	I wish there was curbside glass recycling as well	4/15/2022 10:00 PM
37	Glad they are available options, would love to see more curbside recycling/yard collecting for mulch. I think more awareness on these available options would be useful as well, a lot of people my age didn't know these existed or are too busy to use them. Collecting yard waste for composting/mulch, and either selling it back to people or providing as a free service would be great to see as well.	4/15/2022 10:00 PM

38	We would recycle, but cannot afford the extra cost & since I am disabled it makes it difficult to take myself sometimes.	4/15/2022 9:49 PM
39	Would love to see a city program that takes yard wastes and turns it into a compost. Just studied this in class at the college and it has many benefits. Example: creating jobs, creating a valuable service to the community, possibility of income from compost piles, and ecological benefits.	4/15/2022 9:36 PM
40	We always trim trees in November. Trimming should be done after a tree loses its leaves and we have found October to be too early or the weather is not cooperative. Our opinion is for you to look at Carthage for a model of how a recycling center along with trash drop, bulky items drop off, tree limbs, leaves and grass clippings works all out of one facility with an attendant always on site Monday through Saturday year round. In Joplin we have a very narrow window of opportunity to actually trim the trees and take limbs to the drop off location and get it accomplished by 2:00pm. In the past after finding out your facility was not open we had 4 truckloads of limbs and had to find a local contractor that had a brush pile and agreed to take our limbs. Scheduling tree limb maintenance along with your once a month availability is next to impossible. We have put limbs to the curb that have met the requirements and they were not picked up. Also, Joplin needs to sponsor more shredding events, we find ourselves having to go to neighboring communities that schedule them about the same time every year.	4/15/2022 6:38 PM
41	#15 -- Recycling Center is nice, but needs a better layout/larger footprint	4/13/2022 10:48 AM
42	Would be good to have a way to dispose of shredded paper since can no longer put in brown paper bags	4/11/2022 1:42 PM
43	I enjoy being able to take trash to the transfer station, but I would be very interested in lowering our trash rates any way possible	4/11/2022 9:14 AM
44	The city should make sure residents are not allowed to make neighborhood rules in HOS and communities that are bad for environment. Right now much of the city cannot compost in yard and are required to do yard related activities that are bad for the environment. You should check into no mow May and other conservation efforts to keep the city clean. Especially air quality restrictions to move Tamco the shingle factory outside of town. It is polluting a school next door and air quality of residents is such that our children can't play outside without lung damage in the evenings. City planning would be better focused making the neighborhoods air safe and after that residents able to compost their small amounts themselves.	4/11/2022 7:50 AM
45	I think Our trash service is excellent.	4/10/2022 8:35 PM
46	I love the ease of the recycling center but it needs to be cleaned up. Loose items often escape and create litter. I haven’t used the composting or tree/brush drop off because we don’t have a good way to get materials there (we don’t have a truck), so they aren’t practically accessible for us.	4/9/2022 8:21 AM
47	I have two comments: 1. Biologically the best time to do major tree trimming is in the winter but the limb and brush drop off is closed. I wish it were open through out the year and at least once or twice per week. 2. I wish the curbside recyling service would accept glass. I do try to take my glass to the Joplin Recyling Center.	4/8/2022 6:27 PM
48	We have lived in many different communities and Joplins recycling center is by far one of the best. Kudos. Would like to see one document that has all of the facilities and services listed, as we had no idea about the compost and yard waste.	4/8/2022 1:00 PM
49	Very satisfied with Recycling Center. Attendants are always very helpful.	4/8/2022 11:59 AM
50	I wish that styrofoam could be included in the Recycling Center. Another concern about the Recycling Center's document container to go to shredding, is that the opening is big enough that someone with nefarious intentions could reach in and remove things. I love that it's available but I don't feel 100% secure about dropping things there.	4/8/2022 9:42 AM
51	I don’t think the city has provided enough information on these available services. Recycling should be required.	4/8/2022 7:13 AM
52	The recycling center could be larger with a better flow for parking/drop-off, but it works. In my experience, an overall increase to a bill and then additional services provided is psychologically easier than asking people to "opt in" for additional services for added fees. This model does not typically lead to buy-in (I'm a former enviro specialist). Also, it is unlikely	4/8/2022 6:51 AM

	anyone will use the WCA transfer station when a few miles from there you can go to Galena/Republic transfer station for just over $13.	
53	There are some municipalities where recycling is free and trash service is charged per use, obviouslyat an increased rate. This model encourages residents to minimize use of the landfill and recycle as much as possible, which is much more environmentally conscious. I know this community would be outraged at that level of personal responsibility and environmental focus, at least until it is shown to be financially beneficial to them personally. Please consider moving toward this model for our future!	4/8/2022 5:59 AM
54	I've lived in Joplin for 7-8 years and never knew about the majority of these locations, especially not that they are open to the public. Communication and letting people know about these services, maybe on a yearly basis to grab new people to the area would be great. I can't tell you how many times over the years I've been here I could have used the services mentioned in this survey. I just never knew they existed. It would also be nice to actually be able to call and talk to the trash service providers themselves, instead of having a go-between with the city. More often than not, who I speak to on the phone can't tell me what the servicer could have.	4/7/2022 11:21 PM
55	We should have a place to put yard grass clippings and leaves and light brush to recycle correctly but please do not add to our charges. There used to be a bin at the police lot on 2nd street, could bring that back. I feel this survey is a ploy to increase charges on us using the grass clippings issue.	4/7/2022 9:01 PM
56	The recycling center hours are limiting- it would be nice to have more available hours to drop things off. Also, some centers offer plastic bag drop off and that’s something that would be beneficial to offer at ours too.	4/7/2022 8:44 PM
57	I think recycling should be mandatory for everyone and the cost should be shared by every household. Please keep encouraging recycling, it is an extremely easy and effective way to help our planet.	4/7/2022 7:16 PM
58	Right now the bi-monthly recycling program is a joke. Our bin is filled weekly and we're lucky if it's collected once a month. Recycling needs to be picked up EVERY week. They should have never cut the service in half without adjusting the price.	4/7/2022 5:41 PM
59	Tree brush drop off needs to be open more frequently	4/7/2022 5:16 PM
60	This winter there 3 no-pick -up snow days in row on Thursdays for curbside recycling.	4/7/2022 3:12 PM
61	I love the recycling center!! I've been going there for 15 years now. We need tetrapack recycling in our area.	4/7/2022 1:40 PM
62	I would like to recycle but have no place to put it until pick up. I’d be more inclined to do it if the cost was included without raising current rates	4/7/2022 1:28 PM
63	I appreciate the recycling center so much! It is organized, clean, and very user friendly. The people working there are very helpful and willing to assist me when I’m there.	4/7/2022 1:09 PM
64	The guys at the Recycling Center do a very good job!!! I just wish the curbside recycling took glass!!!	4/7/2022 1:03 PM
65	Please keep costs down. Do not add on anymore fees or costs to our current bill.	4/7/2022 12:51 PM
66	Seems so odd because... 1. Curbside Recycling has been billed but not provided for over two years. Come on! And so much trash falls out of the tops of garbage trucks. Good ideas but fail in actual operation.	4/7/2022 12:51 PM
67	Would like to see the limb drop-off open more than once per month	4/7/2022 12:48 PM
68	If separate yard waste collection is supposed to make it less expensive, why is there an additional charge?	4/7/2022 12:48 PM
69	I would like the brush/limb drop off to be open more. At least every other week.	4/7/2022 12:38 PM
70	Lines at the recycling center can back up and cause traffic issues. Also, a more centralized option might make people more apt to use these services.	4/7/2022 12:17 PM
71	use it regularly. I wish they could still take styrofoam.	4/7/2022 12:07 PM
72	Recycling center has odd hours	4/7/2022 11:55 AM

73	The Recycling Center is amazing and well managed.	4/7/2022 11:17 AM
74	The city has done a good job of making these facilities easy to use.	4/7/2022 11:12 AM
75	I wish the recycling center would go back to allowing books and other small items to be placed for others to take.	4/7/2022 9:37 AM
76	We love the recycling center and often make it a teaching lesson for my 6yo daughter.	4/7/2022 9:33 AM
77	We are mostly happy with our trash/recycling service, but a discount would be much appreciated during inclement weather-during winter our trash/recycling is picked up once a month.	4/7/2022 9:17 AM
78	This should be a service provided to all of Joplin regardless of income. Those who can't afford the service would recycle but do not have the expendable income. Taking care of the environment isn't really an option and needs to be treated with that attitude. Our air quality is terrible and we need to limit the pollution. We need to reduce our impact as much as possible including options for the recycling trucks we use (diesel vs. electric).	4/7/2022 9:07 AM
79	I had no idea any of these things existed. How about you send out an informational post card to residents so they're aware of the various services available. Be detailed.	4/6/2022 10:20 PM
80	I would like a way for glass to be part of curbside recycling. I can put everything in the bin but that one type of material.	4/6/2022 10:07 PM
81	You can do whatever you want really because we need our trash picked up and would pay whatever within reason.	4/6/2022 9:20 PM
82	I am apt to do more from my home than to take my waste anywhere else. Glass is the only thing that I make an effort to take somewhere. I wish that could be done from the home. However, I have heard from others that when it becomes complicated (cleaning it, separating it) they won't participate period, even if it were free.	4/6/2022 9:35 AM
83	Recycling center is a great resource, very useful.	4/6/2022 9:13 AM
84	City curb side should go to Service Recycling!	4/6/2022 8:58 AM
85	An additional location to drop off items would be preferred.	4/6/2022 8:57 AM
86	The line at the recycling center is always very long when I go. I try to go at different days and time throughout the week and it is always full. Having an expanded parking lot would be helpful. Also, several recycling options have been taken away at the recycle center. You can no longer drop off plastic bags or Styrofoam and no additional recycling options took their place.	4/6/2022 8:08 AM
87	Wish home recycling took glass items, this is why I cancelled my service. I was going to recycling center anyway	4/5/2022 11:00 PM
88	A pamphlet with all of these options spelled out in one place would be nice. Or perhaps something digital too	4/3/2022 6:02 PM
89	Use the recycling center regularly. Still need a place for styrofoam. Also, it would be nice if the recycling center folks could clean up the trash around the perimeter fence, etc. Hopefully it would set an example for others.	4/3/2022 2:38 PM
90	A day or semi-annual day for electronic recycling would be fantastic	4/3/2022 12:48 PM
91	I'd love a glass pickup option though I know it's probably not feasible.	4/3/2022 11:21 AM
92	We need to up our recycle game big time.	4/3/2022 7:14 AM
93	When I call the recycling center I always get a voice mail. They never answer the phone. Hard to get questions answered. Inconsistent hours	4/3/2022 6:48 AM
94	Wish could put glass in my recycling bin	4/3/2022 6:45 AM
95	I would support recycling more if it didn't cost extra. I still don't understand What the transfer station is for or the compost facility. I have alot of plastic trash but don't recycle bc I can't afford the extra for a bin. I'd be happy to drop it off somewhere like i do my cans if it is available somewhere.	4/3/2022 1:03 AM

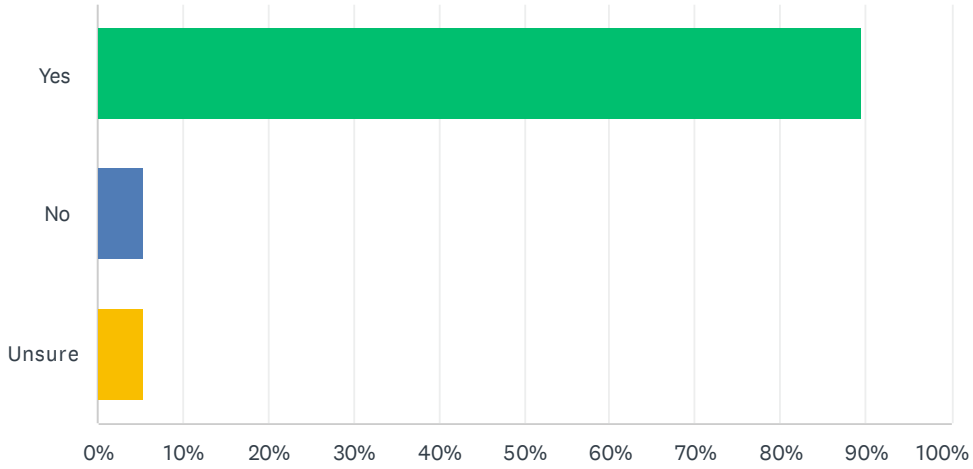
96	Tree limb and yard waste pick up is valuable. Simply because some residents do not have the availability to drop off said items	4/2/2022 8:19 PM
97	As a family we were going weekly to biweekly to the recycle center. It seemed very reasonably priced to just pay the additional five dollars to have the recycle service added to our bill. We are happy with the service thus far. It would be nice if Joplin offered a quarterly service for paper shredding along with bulky item/small appliance pick up.	4/2/2022 6:34 PM
98	I used to visit the compost facility. Not anymore because it is not composted well at all	4/2/2022 4:53 PM
99	I feel there should more things that the recycling center accepts	4/2/2022 3:19 PM
100	Who is really throwing out lawn clippings? Suggestion to help with lawn clippings. Stop enforcing regulations that forsee individuals to mow lawns. First off, not cutting lawns for 3-4 weeks at a time increases pollinator abundance by up to 80%. We need those Peaky flying insects to eat. Second, fine anyone caught throwing out lawn clippings, the nutrients in those clippings need to be available to the environment not locked in a land fill. The city should outright cover cost of curbside recycling. The city has a maxed out local tax rate, various bonds, and still I need to pay additional money to save this planet? Mind you I already pay twice for my water, seeing how the city can not afford to treat water I already paid for, so i need to pay for it again. Oh yeah, then i pay for trash service. Short and sweet stop wasting our tax money. Put it to use trying to lessen the cities environmental impact.	4/2/2022 1:34 PM
101	There are items that the Recycling Center used to accept (e.g. styrofoam) that they no longer accept, so they end up in the landfill. I'll like to see more types of things accepted for recycling (either curbside or at the center).	4/2/2022 1:10 PM
102	Recycle center is poorly managed	4/2/2022 1:03 PM
103	I didn't know they existed	4/2/2022 12:59 PM
104	hours are not the best time to come to the center and the center could be better managed to reduce time and labor costs.	4/2/2022 12:58 PM
105	Stop the panhandling. It's out of control!!	4/2/2022 12:50 PM
106	I garden on 2 1/2 lots; while I compost what I can, I have no way to take excess brush, weeds, etc. to the compost/brush stations and instead bag and send it to the land fill. If I could have 2-3 bins for compostable materials I would gladly pay monthly.	4/2/2022 12:41 PM
107	The recycling centre is portly managed. Piles of trash sitting out. Waste is not efficiently handled, sorted, and disposed of. Needs better over sight to lead the direction and encourage recycling. Currently it looks and is managed like an after thought.	4/2/2022 12:22 PM
108	Unaware of companies/ persons to haul off yard waste other than our trash.	4/2/2022 12:00 PM
109	I would like weekly recycling if possible, but obviously still cost effective. During the snow time, republic missed multiple weeks (the way the weather hit, it affected our day for trash and recycling), and we weren’t ever credited back on our bill since they didn’t run trucks or pay workers. I would also love to see a semi-annual bulk trash day for spring cleaning, etc- if it was held 2-4 times per year, it might save on weekly bulk trash.	4/1/2022 4:17 PM
110	I think $70 for trash and sewer is high enough.I put out very little. All my neighbors use my can because its in an alley. I don't think you guys should charge more for recycling because it should take the place of trash pickup. With recycling there shouldn't be a garbage bin so exclude the garbage can and replace with 3 bins. I use to do it in California so i know it works. A compost pile is great soil for plants and gardens. Please don't raise the prices!	3/31/2022 5:47 PM
111	Seriously! I and other people in Joplin should know about this stuff!?! A discount on disposal cost, tell us more.	3/31/2022 5:30 PM
112	Weekly pick ups would help with the confusion I see very often from neighbors about when recycling is being collected.	3/31/2022 5:11 PM
113	N/A	3/31/2022 12:47 PM
114	We need WEEKLY pick up of recycling PLEASE!	3/31/2022 12:45 PM
115	Increase hours of operation @ the Recycling Center.	3/31/2022 7:48 AM
116	The more that can be picked up versus needing to be hauled to a center is better for the	3/31/2022 4:40 AM

	elderly. For example, it's too physically demanding for an elderly person to haul tree limbs or yard waste somewhere.	
117	I am disabled and cannot physically do any of this. I cannot afford to pay any more.	3/30/2022 9:51 PM
118	I would love to have recycling services, and curbside bulky item Pick up! Thanks	3/30/2022 7:37 PM
119	I see a lot of other cities have twice a week pick up for trash and recycling. Makes more sense to have more collections weekly then let it just pile up. Make everyone recycle. It just needs to be done. Our creeks and water don't need this crap in it.	3/30/2022 6:03 PM
120	I highly recommend keeping the limb drop off and the compost station.	3/30/2022 5:32 PM
121	Provide load out of the compost couple times a month. You have the equipment, just man it	3/30/2022 5:24 PM
122	The cost was prohibitive for me to throw my old house carpet and pad away at the transfer station. At the time We lived outside city limits although still in the 64801 zip code.	3/30/2022 3:38 PM
123	We need recycling pick up more often! Please!	3/30/2022 3:23 PM
124	I like the recycle center, but wish there were pickup services in Joplin	3/30/2022 3:12 PM
125	I enjoyed the old recycling center set-up, where you could bring things and leave them in a free section for others to take. It was a great way to dispose of nice items others could use. I visited it frequently, but noticed they ended that & I stopped going to the center. Please bring that back if they have not already!	3/30/2022 2:51 PM
126	Have more drop off sites for recycling	3/30/2022 2:14 PM
127	The city's recycling center is in disrepair and poorly run. I feel more comfortable leave my recyclables in a landfill where they will be handled correctly. Items are disorganized and the condition of the recycle center is very poor. In addition the hours are inconvenient. The brush and composting facility could use better management. The use of compost or mulch availability to residents could be better advertised. The locations of the Brush and leave site are inconvenient.	3/30/2022 2:08 PM
128	Would be nice to have food waste collected for compost as well. Would also like to be able to collect wood chips from the tree and brush drop off	3/30/2022 1:49 PM
129	Maybe get a trash service that provides better service. They leave trash everywhere that falls off the truck. They dump over trash cans. They drive past 3 or 3 times before dumping my trash can wasting gas and causing prices to go up. They dump smelly liquid from the truck that stains the street and smells horrible.	3/30/2022 12:01 PM
130	The city's recycling center is too small. I avoid going because I dread the possible wait time to get into the parking lot. We need a wider space, especially to accommodate future population growth.	3/30/2022 11:33 AM
131	I am very curious about the success of the cities curbside recycling. Are things being recycled or do residents do things that prevent the items from being recyclable?	3/30/2022 11:13 AM
132	We would love a more user friendly way to dispose of yard waste! We currently fill our trash bins when needed and would rather it go somewhere useful.	3/30/2022 10:44 AM
133	The tree and brush drop off site needs to be open more frequently and predictably. Nothing worse than loading your vehicle, driving 30 minutes only to find the gate locked. Then what? Take it back home? Illegally dump it which I won't do but many will? The compost facility is much better with their 24/7 unlocked gate. Also, a more southern location would help us that live on the SE side of town. By having better access to these types of facilities, I believe citizens will properly dispose of their lawn debris and keep their properties in better shape. Convenience is key. Without proper facilities and convenience, outdoor property maintenance lacks which is detrimental to the look and feel of the city.	3/30/2022 10:24 AM
134	We do not own vehicles that allow for the transport of waste material or lawn waste or large items. We are concerned that adding multiple pickups each week adds a lot of vehicle emissions, so would like to see energy conservation as a consideration in future planning. We should not rely on out of state laxity for our future waste plans. Partner with Extension to highlight how residents can use compost and mulch in their yards. Consider a give and take site for these things.	3/30/2022 9:50 AM

135	Recycling for all is a great thought, but I worry many people wouldn't care enough to sort out the stuff that can't go in the recycling bins (glass, grocery bags, etc), and then it's just a mess for the recycling service. I wish the recycling center would start taking grocery bags again. I love the free leaf compost the city provides, and the tree-drop area. They are a blessing. The only time the bi-weekly recycling goes awry is when the weather makes it skip a week, because then it's a month between services. So it if our cardboard goes in the trash.	3/30/2022 9:29 AM
136	Make it easier for us to actually help the environment. Weekly recycling pick-ups, better marketing/advertisement for ancillary services like composting and tree& bush drop off!	3/30/2022 9:19 AM
137	Never had any issues with trash or recycling in Joplin. I feel like it's a great value compared to what I use to pay in Oklahoma.	3/30/2022 9:12 AM
138	Allow for more items to be recycled from the curbside pickup(especially glass), go back to weekly recycle pickup, and please put recycle and trash on the same day.	3/30/2022 9:11 AM
139	Recycling should be included for all residents in the price of trash service. We moved here from out of state and our previous city included recycling and provided the separation bin	3/30/2022 9:10 AM
140	Recycling should be free of charge, most people I know don't do it because they have to pay for the service. Tax should be increased to allow free Recycling pickup.	3/29/2022 7:50 PM
141	I would appreciate more frequent recycling pickup. Mine is frequently overflowing, if I miss a pickup, that means I will have a months worth of recycling items.	3/28/2022 11:46 PM
142	I utilize the City of Joplin's Recycling Center quite often and am overall very pleased with it. I would love to see the return of plastic shopping bags and styrofoam to the list of items that can be recycled there.	3/28/2022 3:40 PM
143	I think the recycling center is very good for people like me who recycles, but don't have much, so I only go to Recycling center about every 6-8 weeks..	3/28/2022 12:29 PM
144	Recycling Center is Awesome. Thanks. Compost and Tree & Brush services are also top notch. The city of Joplin should provide curbside recycling services at ZERO fee. Get out of the 80's, have separate trucks pick the recycling vs paying to sort elsewhere. A minimum of business acumen should be able to justify the same.	3/28/2022 10:13 AM
145	The method of trash collection by Republic is terrible. They litter neighborhoods significantly. There are so many polycarts that are significantly damaged and missing lids that are never monitored and replaced by the trash company. You have to call Republic and be put on hold for up to 20 minutes to request a replacement and then are usually given incorrect information. When you do receive a new polycart it is only slightly better than the one you are replacing. It should be a requirement of their contract to evaluate and regularly replace damaged carts.	3/28/2022 8:34 AM
146	I appreciate it as curb side doesn't accept glass or everything.	3/27/2022 8:51 PM
147	Would like to see the recycling center go back to collecting styrofoam and plastic bags, so we could dispose of them properly.	3/27/2022 6:31 PM
148	The city mulched the limbs and was giving away the mulch, to residential users, then, without notice or warning, gave it all away to a commercial project! It should have been available to residents for a fixed and advertised period and not had the rig pulled out from under residents in a surprise move. The facility should be open for drop offs more frequently and for more convenient hours.	3/27/2022 11:04 AM
149	There should be an option for less frequent trash pickup service. My blue dumpster is never full in one week's time, yet I have to pay for the same weekly pickup frequency.	3/27/2022 9:34 AM
150	The two of us would love a monthly pick up of trash instead of weekly, at a very reduced rate. Maybe the lids of the trashcan could be a different color for that service.	3/26/2022 11:51 AM
151	I don't feel like this is an issue in the community!! However police and fire turnover rates are higher than ever!! How about focusing on that... The trash in this town is from the homeless community that is uncontrolled... Why don't we employ the correct amount of officers to deal with that issue if your wasting people's time asking about trash!	3/26/2022 10:56 AM
152	As an CJ resident, we use the recycling center weekly. It's a convenient service and we're thankful we are able to use it. We really have no complaints other than the restrictions on what plastics will be accepted is frustrating (types, necked-only, no bags, etc).	3/26/2022 10:48 AM

Q22 Do you feel you have a personal responsibility to help make a difference on environmental issues like minimizing waste, conservation, water use, and energy use?

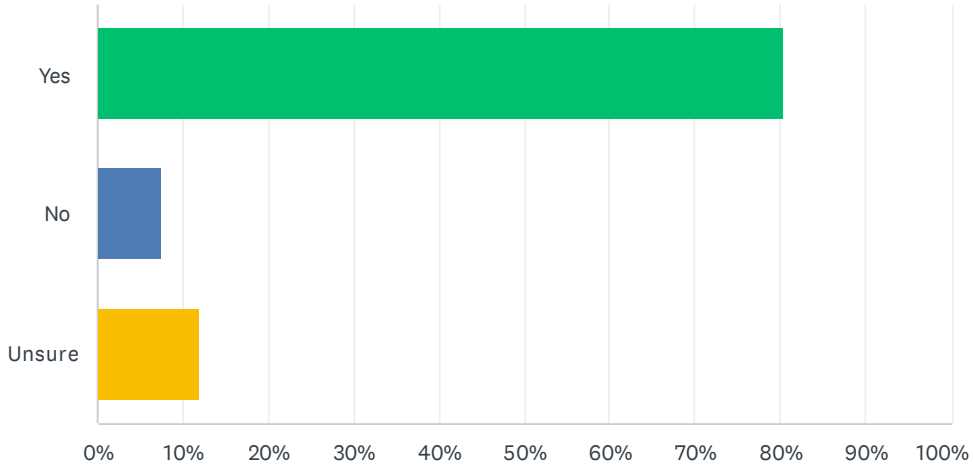
Answered: 476 Skipped: 70



ANSWER CHOICES	RESPONSES	
Yes	89.50%	426
No	5.25%	25
Unsure	5.25%	25
TOTAL		476

Q23 Do you support the City of Joplin setting goals to reduce waste, minimize consumption, conserve water use, and diversify renewable energy use?

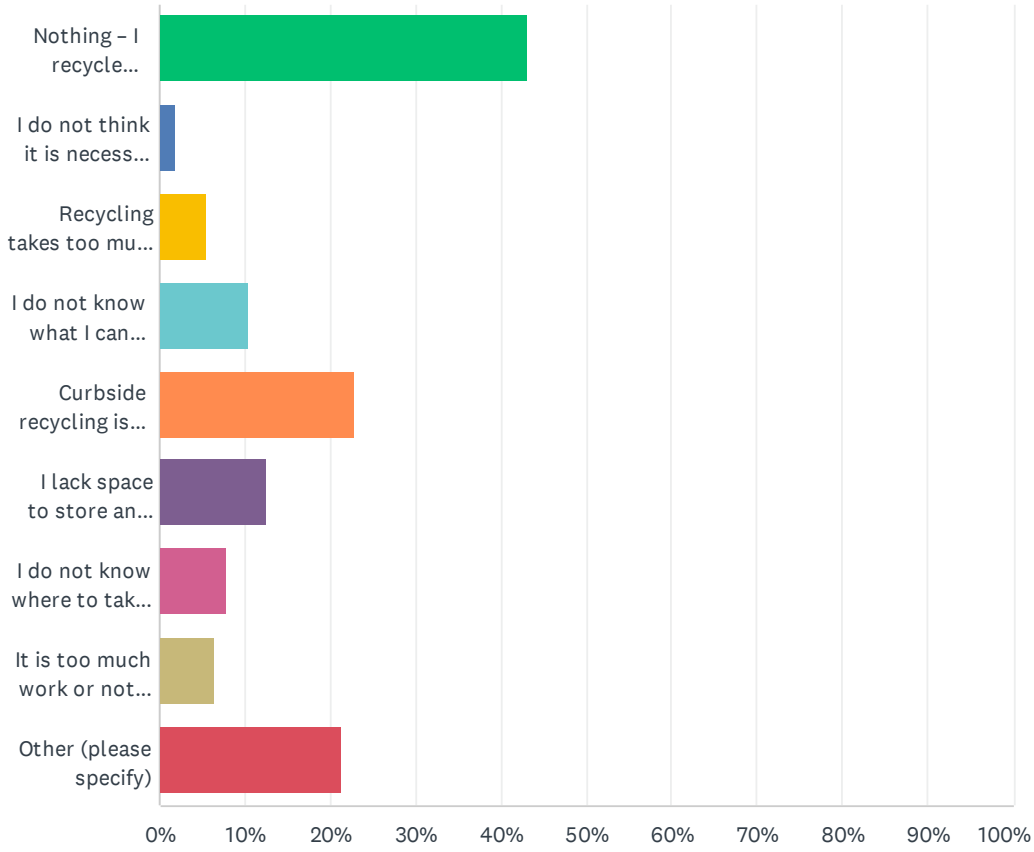
Answered: 476 Skipped: 70



ANSWER CHOICES	RESPONSES	
Yes	80.46%	383
No	7.56%	36
Unsure	11.97%	57
TOTAL		476

Q24 What prevents you from recycling or recycling more than you currently do?

Answered: 469 Skipped: 77



ANSWER CHOICES	RESPONSES	
Nothing – I recycle everything possible	43.07%	202
I do not think it is necessary to recycle	1.92%	9
Recycling takes too much time	5.54%	26
I do not know what I can recycle	10.45%	49
Curbside recycling is too expensive	22.81%	107
I lack space to store an additional container	12.58%	59
I do not know where to take materials	7.89%	37
It is too much work or not physically able	6.40%	30
Other (please specify)	21.32%	100
Total Respondents: 469		

#	OTHER (PLEASE SPECIFY)	DATE

1	You should not limit anything for other people.	4/22/2022 8:14 PM
2	accept more items for recycling at the recycling center.	4/20/2022 1:25 PM
3	We recycle	4/18/2022 10:21 PM
4	I recycle everything possible, except when I'd use so much water that cleaning single use plastic doesn't seem worth it: like peanut butter containers	4/18/2022 11:59 AM
5	I lack space in my home for separate collection containers…I want to be more educated about recycling	4/17/2022 7:08 AM
6	Unaware of services/options to recycle	4/17/2022 1:57 AM
7	Inconvenience	4/16/2022 11:24 PM
8	Disability prevents the tasks required and limits income	4/16/2022 4:40 PM
9	single, i dont generate that much waste 51.00 is plenty	4/16/2022 2:49 PM
10	We quit because the pick up service changed	4/16/2022 12:35 PM
11	Not frequent enough pickup, forget which week it is. Items accepted via curbside recycling is too limited.	4/16/2022 11:23 AM
12	I take it to recycling	4/16/2022 10:03 AM
13	I don't have time to go to the center, so I don't recycle glass	4/16/2022 7:57 AM
14	I’m not paying	4/16/2022 6:26 AM
15	I've never considered it.	4/16/2022 5:49 AM
16	I try to buy less & repurpose. Prefer to see more trash companies incinerate the trash vs burying it	4/15/2022 11:37 PM
17	I have curbside recycling. It is frustrating that we don't have a place to recycle glass so it ends up in in landfill.	4/15/2022 10:27 PM
18	Nothing prevents this. It is available, it has always been available.	4/15/2022 10:25 PM
19	I try to recycle as much as I can. Sometimes when I am out & have a can or bottle of soda (rare), if the place only has trash & not a place to recycle I will just throw it away.	4/15/2022 10:05 PM
20	I hate that my recycling day is different from trash day and I have not been able to get my recycling picked up since they changed.	4/15/2022 9:50 PM
21	dont live in the area	4/15/2022 9:18 PM
22	I should do more to help	4/13/2022 10:52 AM
23	I recycle aluminum cans only because I am reimbursed for them	4/11/2022 10:34 AM
24	There is no light bulb recycling.	4/11/2022 7:52 AM
25	For people that live in the dense residential areas of Joplin, like myself, we don’t have a truck to haul things so curbside is much more beneficial for that group.	4/9/2022 8:15 AM
26	lack of time to take glass to the recycling center	4/8/2022 5:55 PM
27	I pay for the service but I do not have a recycling bin and no one has ever come by to pick anything up. I have been paying for it since 2020 and no one at the office can help me with my issue so I am paying for nothing currently.	4/8/2022 2:07 PM
28	While the recycling center is awesome, it is tedious to store glass and other items at home to be taken to the recycling center. Perhaps we could look at a special collection bin that could be used curbside and collected monthlyfor these rarer recycled materials.	4/8/2022 6:03 AM
29	I recycle everything I can. I wish I could recycle more items. It still bewilders me that I can't recycle glass.	4/7/2022 11:24 PM
30	you cut hours at the recycling center during covid and blocked us from using it a lot, I used to do that every 2 days, now you have much reduced hours and services, that is not good.	4/7/2022 9:04 PM

31	Even though I have a Joplin address since it's considered outside of city limits we are not included in multiple services	4/7/2022 8:19 PM
32	The schedule for them is a bit confusing.	4/7/2022 6:37 PM
33	Your program needs to be better organized.	4/7/2022 5:42 PM
34	Need glass recycling	4/7/2022 5:03 PM
35	My recycling isn't getting picked up like it should be	4/7/2022 4:49 PM
36	Curbside needs to pickup glass containers.	4/7/2022 3:13 PM
37	I recycle curbside but don't make a separate trip for glass	4/7/2022 3:06 PM
38	No place to keep until pick up day	4/7/2022 1:28 PM
39	Older single person not enough to warrant cost and seperate bin etc	4/7/2022 12:24 PM
40	I feel recycling is great but don’t feel we should be charged for it because we are helping just by recycling	4/7/2022 12:01 PM
41	Recycling center location/ hours are inconvenient. No curbside recycling has been made available to us even after multiple attempts to start participating in the program.	4/7/2022 11:52 AM
42	I curb recyle but not physical able to haul tree limbs to the designated areas. Grass is mulched and leaves are vacuum off the property.	4/7/2022 10:00 AM
43	Curbside pickup doesn't accept things like glass	4/7/2022 9:45 AM
44	I take all paper and cardboard to local containers. We don’t have much else.	4/7/2022 8:54 AM
45	Very expensive for a single retiree on a fixed income. With the increase in sewer rates, making recycling mandatory with mandatory costs is unreasonable.	4/7/2022 8:30 AM
46	Lack of information on recycling	4/6/2022 10:27 PM
47	When curbside stopped accepting plastics and metals	4/6/2022 8:13 PM
48	don't like paying someone else to make money off my trash.	4/6/2022 6:13 PM
49	We really have nothing to recycle	4/6/2022 3:21 PM
50	not in city limits for curbside	4/6/2022 11:31 AM
51	I do curbside. However anything that isn't in it such as yardwaste and glass can't be done from my home and requires me to dirty my car to recycle it.	4/6/2022 9:39 AM
52	The bi-weekly pick up forces me to throw recyclables away a couple of times each month.	4/6/2022 8:58 AM
53	I've already stated that. I want to recycle but I wouldn't get involved with the current program due to the headache it caused trying to cancel.	4/6/2022 8:45 AM
54	Curbside does not pick up enough (ie glass)	4/5/2022 11:01 PM
55	not available where I live	4/5/2022 4:55 PM
56	I have very little trash or recyle materials.	4/5/2022 4:54 PM
57	Lack of places to take other materials	4/3/2022 2:41 PM
58	Try to use less already	4/3/2022 12:49 PM
59	The only thing we don't recycle regularly is glass because it's burdensome to haul off. We also just let our yard waste pile up for a year before discarding.	4/3/2022 11:22 AM
60	My apartment doesn’t have (or not required) to have recycling or compost.	4/3/2022 7:17 AM
61	If I recycled I would like to be able to put it out on the same day I put out the trash	4/3/2022 6:51 AM
62	My address doesn't qualify for service. Have to take in. Which is a pain.	4/2/2022 7:22 PM
63	I never recieved papers with my recycle container other than I was told not to put glass in it. They should taper some sort bbn of flyer when delivered so folks know exactly which plastics	4/2/2022 6:40 PM

	are and are not acceptable.	
64	I do and do not recycle sometimes I do, sometimes I just throw everything away.	4/2/2022 5:28 PM
65	I am one person, I strive to not use disposable items as much as possible	4/2/2022 4:56 PM
66	Glass recycling cannot go in the recycling bin and there's no separate container for glass pickup	4/2/2022 2:36 PM
67	Disorganized	4/2/2022 1:46 PM
68	Not having weekly pickup encourages pests. Can not just store, and set out a buffet for them.	4/2/2022 1:37 PM
69	There are not local dropoff or pickup options for all types of recyclables.	4/2/2022 1:13 PM
70	there is no market for recyclables at this time--pretending to recycle is an expensive charade	4/2/2022 12:43 PM
71	Make it required and one price. Each house gets a revalue bin and trash bin. We would engaged at that time. But the recycle centre is poorly managed and opt in services are inconvenient.	4/2/2022 12:26 PM
72	Recycle center only has certain days/hours open	4/2/2022 12:02 PM
73	Tracking the weeks gets confusing	4/2/2022 12:25 AM
74	I don't want to pay more	3/31/2022 5:48 PM
75	Glass - We need to be able to recycle glass in the bins.	3/31/2022 10:35 AM
76	Senior widow	3/31/2022 10:31 AM
77	Would love glass recycling added!	3/31/2022 9:28 AM
78	I requested recycling services, and never received a canister for it.	3/30/2022 7:38 PM
79	Frequency of pickup and limited items that they accept to recycle	3/30/2022 5:34 PM
80	I didn’t know curb side recycling was an option	3/30/2022 4:16 PM
81	Once our bin is full, we often put recyclables in the normal trash.	3/30/2022 3:24 PM
82	Significant hassle taking all recyclables to the center, would be much happier with curbside solutions, large dumpsters etc	3/30/2022 3:18 PM
83	I reduce & reuse. I certainly don't trust the city of Joplin to have anyone's best anything in mind.	3/30/2022 2:53 PM
84	Running out of space in my recycle can because of bi-weekly pick ups	3/30/2022 2:27 PM
85	Not signed up for curbside	3/30/2022 2:16 PM
86	Inconvenient	3/30/2022 2:12 PM
87	I don't have an outdoor recycle bin	3/30/2022 1:14 PM
88	Republic would not return my calls when I requested a cart	3/30/2022 12:39 PM
89	I would like to recycle glass items but I do not know where to go.	3/30/2022 12:22 PM
90	No glass option for curbside and limited plastics that can be recycled curbside	3/30/2022 11:51 AM
91	I can't recycle glass from the curbside pickup so I take to the center. The space needs to be much larger for more traffic flow.	3/30/2022 11:35 AM
92	Too much red tape on what can and cannot be accepted by Joplin facility. Have to drive to Lamar to recycle some plastics.	3/30/2022 10:24 AM
93	Other family members won’t pay an additional charge. If it were all in one charge we would recycle	3/30/2022 9:53 AM
94	I'm not in the habit of recycling everything yet.	3/30/2022 9:43 AM
95	Some recyclable materials aren’t recycled through the curbside pickup	3/30/2022 9:12 AM
96	The hours at the recycling center do not always make it available to me as I work nights.	3/28/2022 11:47 PM

97	Provide the service. Hence, use taxes properly.	3/28/2022 10:16 AM
98	The curbside recycling schedule is very inconvenient.	3/28/2022 8:35 AM
99	i do a lot of personal reduction and reuse, the most important of the three R's.	3/27/2022 11:15 AM
100	I’m dealing with a disabled family member and still working - I’m 72!	3/26/2022 12:46 PM

Q25 Please provide any comments you have regarding trash, recycling, yard waste, bulky items, energy, or City services and facilities.

Answered: 161 Skipped: 385

#	RESPONSES	DATE
1	N/A	4/22/2022 10:39 PM
2	Trash should resume twice weekly and run by the city	4/22/2022 8:28 PM
3	Crappy service.	4/22/2022 8:14 PM
4	Please consider returning to weekly recycle collection!	4/22/2022 7:15 PM
5	see previous comments	4/20/2022 1:25 PM
6	I am all for being environmentally friendly but do not believe it is the city governments place to mandate conservation. For example, low flow water devices being required would be an overstep.	4/19/2022 4:58 PM
7	It would be nice to have glass recycle pickup provided by the city	4/19/2022 7:14 AM
8	If someone wants yard waste removal then let them pay for it.	4/18/2022 10:21 PM
9	I'd love to see food waste be a part of these conversations.	4/18/2022 11:59 AM
10	I think of older people and impoverished people trying to take if waste properly...the cost and physically managing it if they're weak. It's a tough job to keep our city clean and looking nice. Everyone has a different situation. Our neighborhood is older, we help each other . It is very nice to be able to get rid of a broken lawn chair etc. I appreciate the city working on this and I know you need the $$	4/17/2022 7:08 AM
11	Bulky pickup needs to be annually. Piles of trash in the street create public health issues	4/16/2022 11:24 PM
12	too expensive in today's world with everything going up in cost	4/16/2022 9:25 PM
13	It took two months to pick up a mattress so why does it say that bulky pickup is weekly?!	4/16/2022 4:40 PM
14	It would be nice to be able to recycle plastic bags such as Walmart bags	4/16/2022 4:06 PM
15	Yard waste should not be so far away!	4/16/2022 2:41 PM
16	Our recycling bin frequently gets missed for pickup. It was an issue when it was a weekly service, but now that it’s biweekly, it’s an even bigger issue. Consistency would be welcomed, as we are paying additionally for the service, with half the frequency… skipping a pickup is unacceptable.	4/16/2022 11:42 AM
17	The City's sewer charge is ridiculous now. Adding more charges will get people to move where its less expensive	4/16/2022 10:16 AM
18	None	4/16/2022 10:03 AM
19	I have a hard time remembering to put out recycling on a different day from my trash. When I put out branches they sit for weeks without being picked up. I have to contact the trash company every time even though they say I don't need to I have to every single time! The hours of the transfer station are too short and my ID should be sufficient instead of finding and printing a bill Most of our bills are automatically withdraw and we don't get a paper copy to reduce waste.	4/16/2022 9:19 AM
20	Our trash service here has much to be desired. I have called multiple times trying to get a hold of them because they break our trash cans. My husband has repaired ours I don’t know how many times. I can never get anybody to answer or call me back. When you guys went to every other week recycling that was a bunch of crap. My recycle bin overflows constantly. I have more recycling than trash and so now a lot of my recycling Hass to go in the trash bin because	4/16/2022 8:49 AM

	I have nowhere to put it. Also I see trash blowing out of trucks constantly. Joplin has become a very dirty city if you look around while you drive	
21	I would benefit from more information.	4/16/2022 8:40 AM
22	Wrote on last page	4/16/2022 8:19 AM
23	I'm not sure of the diversify renewable energy. The city seems to do nothing to fight the cost of the electric company continually raising rates.	4/16/2022 8:01 AM
24	I live alone, often only put trash and recycling out once a month yet I have to pay the same as if I had 2 bins of trash and recycling every week. I think trash charges by volume would be more fair. I pay $65.00 monthly to the City and so does a large family.	4/16/2022 7:57 AM
25	Recycling, composting and trash services should be a no-brainer and need to be ridiculously easy for citizens. I grew up in upstate NY where we always recycled everything. The systems were in place and there was awareness everywhere. Recycling bins were everywhere as accessible as regular trash. Culture shock moving to the south.	4/16/2022 7:08 AM
26	I think Joplin should lead the way in helping citizens be more earth-friendly and recycle, compost, and dispose of trash in the best way possible.	4/16/2022 6:35 AM
27	none	4/16/2022 5:49 AM
28	It would be nice to be able to dispose of bulky items that are larger than requirements of trash service	4/16/2022 5:33 AM
29	If you want people to party then make it free and don’t raise trash to cover the costs. Also, the recycling center hours suck for individuals that work. Make better hours for everyone to access the service. Also lots do not have transportation to haul this material and this should be easier.	4/16/2022 3:01 AM
30	I can't afford all the increases for utilities and services now.	4/16/2022 1:55 AM
31	I can afford more costs.	4/16/2022 12:55 AM
32	I would like the option for weekly recycling. I would also like to see commercial recycling program. I work at a school And we throw away so much paper!	4/15/2022 11:58 PM
33	I'm frustrated the monthly they forget me and I have to call in, in 2021 and 2022, I've had to call them 17 times for a missed pick up	4/15/2022 11:03 PM
34	I would like to have recycling at my house but live along so don’t have enough to pay the fee so I go to the recycle center	4/15/2022 10:49 PM
35	We shouldn’t have to call for bulky items. You should NOT be allowed to turn off water!!!!	4/15/2022 10:40 PM
36	Start collecting all plastic. Ban plastic bags!	4/15/2022 10:28 PM
37	The city strangely fascinated with my trash?	4/15/2022 10:25 PM
38	Na	4/15/2022 10:14 PM
39	Lift the fees for burning, or do not require a burn permit on certain days when weather is favorable for burning.	4/15/2022 10:07 PM
40	Once a year we have a big bash for Independence day, at a friend's house that lives just outside city limits. We set up trash bins & recycle bins. My spouse & I go to great lengths to bring the recycle items to the recycle station. We also bring the recycle from their house about once a quarter, especially after Christmas. We try to recycle as much as we can & encourage our friends & family to also. I have even got my mom on board for recycling, over the past couple of years. She is getting older though & doesn't always have a chance to go to the recycle station. My mom I on a fixed income (ssi) and wouldn't always be able to pay for curbside pickup.	4/15/2022 10:05 PM
41	If we get rid of bulky items we will have mattresses in ditches. The recycling center and brush drop off don't have working people friendly hours.	4/15/2022 9:50 PM
42	a possible solution would be to have a location where everything is shredded to bits, and allow the mulch to be taken for yard projects within the city and outlaying areas. might take away	4/15/2022 9:18 PM

	sales from home improvement stores that sell mulch/bark/etc. but with this it's a reusable product.	
43	Add glass to curbside pickup.	4/15/2022 9:14 PM
44	Would recycle more if the process in Joplin was more convenient. Refer to my comment about Carthage.	4/15/2022 6:44 PM
45	I wish it were easier to recycle glass	4/13/2022 10:54 AM
46	Having a centralized site as shown by the final display would aid in all positive aspects	4/13/2022 10:48 AM
47	Paying additional for bi-monthly recycling to reduce landfill waste but paying the same trash fee when my contribution to landfill is greatly reduced, I could have my trash collected once a month and a third of that is trash I pick up around the neighborhood (alleyway, sidewalks and streets).	4/11/2022 12:49 PM
48	I am open to changing what we do, with the main focus being a price reduction	4/11/2022 10:34 AM
49	Please work on air quality we are considering moving because the shingle factory puts out so much toxic air near our home and school. It should be moved out of town and surrounded by trees to mitigate the damage to children in the area.	4/11/2022 7:52 AM
50	You don’t recycle enough items; you’re very limited.	4/11/2022 7:15 AM
51	Requirements to bag trash placed in bins might help the amount of loose trash blowing around our streets and neighborhoods.	4/9/2022 8:23 AM
52	Glass is a major item I want to recycle and take the the recycle center as I can’t put it in the bin. Expanding the options of plastics they take to recycle would be good.	4/9/2022 8:15 AM
53	Joplin added a secure document disposal bin to the recycling center a couple of years ago. I appreciate that!	4/8/2022 6:29 PM
54	Help people when they tell you they are paying for a service they are not receiving.	4/8/2022 2:07 PM
55	I do not support renewable energy. However, as to recycling I believe many people don't use the recycling center because it's inconvenient for them. Suggestion: put large recycling bins for newspapers, cardboard, alum cans, plastics in many locations around the city. Could this be worked into the curbside recycling system?	4/8/2022 12:02 PM
56	Recycle recycle recy!	4/8/2022 9:52 AM
57	Requirement is the only way to ensure it happens.	4/8/2022 7:14 AM
58	I used to do curbside recycling until it became an extra fee.	4/8/2022 6:56 AM
59	You can also set a bulk trash schedule that allows for this type of waste once a quarter. Although, I do enjoy the benefit of knowing that our large items will be picked up and believe that it helps keep Joplin cleaner than if you did not offer this. Also, I'd like to applaud the waste worker who do pickup; they do a great job. Please see my comments in the other field about provided 3 bins with an overall increased bill for every residence: trash, blue for recycling, green for yard waste. This will give you the highest level of buy-in.	4/8/2022 6:54 AM
60	Trash is the past. We need to look toward the future.	4/8/2022 6:03 AM
61	I have asked by e-mail, calls and online form to get replacements for damaged containers, to no avail. And my daughter has not received a recycling container, even though both of us have asked. Republic's customer service is severely lacking!	4/8/2022 2:01 AM
62	Please mail out info on each of these locations so people actually know about them and can properly utilize them!	4/7/2022 11:24 PM
63	I don’t generate much trash,only setting out both recycling and garbage once or twice a month. I’d like to see a big reduction in the fee for single person households. Also I think recycling should be free for everyone.	4/7/2022 10:42 PM
64	I want to recycle and do so but you make it hard to do that, now you are trying to just raise rates.	4/7/2022 9:04 PM
65	I hadn’t thought about the yard waste aspect but offering alternatives to sending it to landfills in another state sounds like a good idea	4/7/2022 8:50 PM

66	All Joplin residents should be able to use waste disposal services/recycle please	4/7/2022 8:19 PM
67	I want recycling to go back to the weekly schedule. I think my bill went down $.50. I would rather pay the extra and have weekly pickup.	4/7/2022 7:46 PM
68	Our schools should all be recycling. They are not.	4/7/2022 7:17 PM
69	Get your sh*t together please, so more people can utilize recycling.	4/7/2022 5:42 PM
70	Have to throw half my recycling in trash. Every other week is not enough and the last 2 months has only been picked up once a month	4/7/2022 4:49 PM
71	It would be worth it to pay for recycling curbside for me if I could put yard waste in it too.	4/7/2022 3:41 PM
72	Maybe a reduced cost to seniors and lower income citizens.	4/7/2022 3:33 PM
73	I love the opportunity to have curbside recycling. I think if every citizen had it they would recycle more	4/7/2022 1:41 PM
74	n/a	4/7/2022 1:13 PM
75	Wish glass could be done w/ curbside	4/7/2022 1:04 PM
76	Still mad about paying for two years for curbside recycling but not a peep about the fact there was/is No Real Curbside Recycling in Joplin.	4/7/2022 12:54 PM
77	Excellent service	4/7/2022 12:24 PM
78	Our power grid and monopoly on electrical service is a bigger issue than any listed here. Fiber internet at an affordable rate (without data caps) to the home throughout the city would also be welcomed. Solar incentives from the city might also encourage people to remove themselves from Liberty's grid if they continue to raise rates.	4/7/2022 12:22 PM
79	As I said we should not be charged separately for each service disposal is disposal and the more the people do they are helping the city, as with recycling and composting.	4/7/2022 12:01 PM
80	City recycling center is great, and staff is very very helpful.	4/7/2022 10:52 AM
81	I think curbside recycling should be free, included in the trash bill.	4/7/2022 10:40 AM
82	We would like to get curbside recycling in Redings Mill. We have a Joplin address.	4/7/2022 9:35 AM
83	We've found it is difficult to communicate with our trash/recycling service. Any messages we give to the office staff don't go through to the collectors.	4/7/2022 9:19 AM
84	We've had numerous issues with trash and recyclables not being picked up for multiple weeks in a row due to weather. Weather interruptions are not a valid excuse. I expect republic services to make other arrangements rather than canceling entire weeks worth of pickup. We are being billed for services not rendered.	4/7/2022 9:10 AM
85	I pay for WEEKLY trash service. Multiple times ths year and last, due to inclement weather, my trash was not picked up for TWO WEEKS! I did not receive a refund. Why? I paid for a service when the service was not provided. For the city to even consider mandatory recycling and mandatory costs is unconscionable. If the city makes it mandatory, then the city needs to figure out how to refund citizens money when service is not rendered for any reason.	4/7/2022 8:30 AM
86	Residents should be charged more for trash service if they require extra trash bins. I typically have one bag of trash per week yet some residents have 3-4 carts totally full and overflowing.	4/7/2022 8:08 AM
87	I have used the tree/limb dropoff once and glad its an option along with the bulky items available for pickup but have only needed it a few times. The incentive to recycle should be in our favor and not the hauler but not sure how that needs to be handle, ie deposit on goods and redeemed when recycled.	4/7/2022 5:33 AM
88	I LOVE we have curbside recycling “now!!” I used to have to take all of it to A st. My garage would fill up so bad I almost gave up by the time you implemented curbside! Thank you , thank you, thank you for giving us curbside!!! I still go to A st. for glass but it doesn’t pile up as fast.	4/6/2022 10:44 PM
89	Does it cost money to bring any items to the city’s various facilities?	4/6/2022 10:27 PM
90	If people were limited in how much trash they could put out for pickup more people would	4/6/2022 9:31 PM

	probably recycle.	
91	The map given for recycling pick up was so tiny it was useless.	4/6/2022 8:13 PM
92	Satisfied with current trash service company	4/6/2022 7:08 PM
93	don't like paying someone else to make money off my trash.	4/6/2022 6:13 PM
94	Landlords abusing bulk pickup every time tenant moved out.	4/6/2022 5:35 PM
95	I support anything that makes it more convenient and easier to do.	4/6/2022 5:00 PM
96	If it's simple and no added cost, many others would participate!	4/6/2022 9:39 AM
97	I would love it if the city's curbside service also picked up glass recycling!!	4/6/2022 9:30 AM
98	I think the City does an amazing job of trash collecting. Kudos to them!	4/6/2022 8:45 AM
99	I would be more tolerable if I knew it wasn't going to result in higher fees. Also do not support if fees start low to gain support just to be raised after approval.	4/6/2022 8:20 AM
100	Having the option to recycle glass at curb side would be very helpful. That is the only reason I go to the recycle center.	4/6/2022 8:10 AM
101	Please pick up for items for curbside recycling	4/5/2022 11:01 PM
102	I don't think a family of 1 should pay the same trash service as a family of 4 or l10. I put out my trash container once a month, but pay the same as the big households!	4/5/2022 4:54 PM
103	The only thing we don't recycle regularly is glass because it's burdensome to haul off. We also just let our yard waste pile up for a year before discarding.	4/3/2022 11:22 AM
104	Wish the city accepted glass. Also curious what actually happens to our recycling.	4/3/2022 8:50 AM
105	There isn’t city recycling receptacles downtown. I’m not sure of other areas.	4/3/2022 7:17 AM
106	Just fyi, I really like the company we have now for our regular trash. Our driver is very nice. 1 time I forgot to pull the can to the alley and he was nice enough to get it for Me. It was only about 8 feet but it was nice of him to get out of the truck to get it and turn it around so he could empty it.	4/3/2022 1:09 AM
107	N/A	4/2/2022 7:46 PM
108	I would sign up for all services if my address qualified. But 919 W Zora Joplin Mo 64801 doesn't. Even though my address is Joplin and I am literally a block from city limits.	4/2/2022 7:22 PM
109	Energy? Never knew of energy programs. Are these just to assist the city and it's financial responsibilities?.	4/2/2022 6:40 PM
110	Please maintain bike lanes and keep clean with street sweeper. They are often full of debris and cause flat tires.	4/2/2022 5:27 PM
111	I think Joplin has excellent services available for those who use it	4/2/2022 4:56 PM
112	If recycling stays biweekly we need the option of a second bin.	4/2/2022 2:36 PM
113	My comments here focus on the time at which collection happens. When I'm routinely woken up in the wee hours of the night by the collection process and they are given a pass to disturb the peaceful hours it makes me wonder why. Why are citizens held accountable for violating a law, and a business is allowed to violate said law?	4/2/2022 1:41 PM
114	Elimate waste water treatment fees, well my city of joplin bill as a whole. Why in god's name do we pay taxes, then still get a monthly bill from the city?	4/2/2022 1:37 PM
115	I believe recycling should be mandatory for all Joplin residents (or at least every household has a recycling cart) and it should be picked up weekly	4/2/2022 1:00 PM
116	Stop the panhandling!!!	4/2/2022 12:50 PM
117	Our service from Republic is excellent	4/2/2022 12:43 PM
118	The recycle center is very messy and un organized. Trash blowing around everywhere.	4/2/2022 12:41 PM

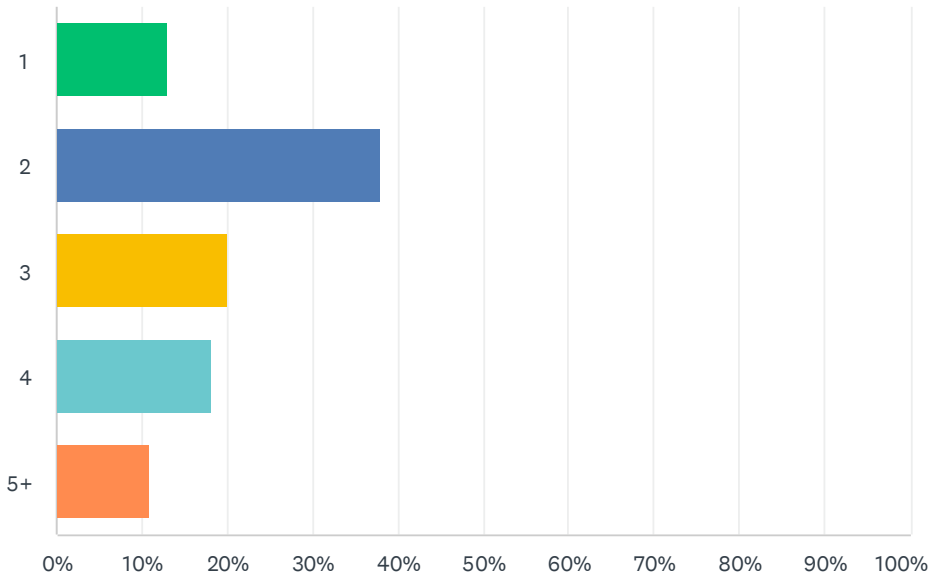
119	Free drop of pay per pick should be the way yard waste should be handled. The bulky item pick up service is abused by landlords. This should go away. Bulky items should by annually, or get a roll off, or haul to transfer station. Piles of junk/trash on the curbs hurts neighborhoods and is a health hazard.	4/2/2022 12:26 PM
120	Limited hours/days recycling center open. More days better times	4/2/2022 12:02 PM
121	I wish glass could be put in recycling container.	4/2/2022 8:50 AM
122	Recycling- maybe offer 2 bins for collection since it's only every other week? We fill ours up and then put in the trash.	4/1/2022 4:18 PM
123	We the common working people want this stuff but we can't give the city more. Please, just make budget cuts and help get our community working together for a sustainable future that doesn't bleed out banks, use taxes wisely, look for small businesses to help, just try to help us. We want to work with you.	3/31/2022 5:33 PM
124	They've been extremely helpful!	3/31/2022 5:13 PM
125	We need weekly pick up of recycling!	3/31/2022 12:46 PM
126	Glass should be allowed in the recycling bins. When glass is recycled it gets turned in to more glass. It can be recycled endlessly. Plastic is not recycled into new plastic bottles and plastic loses its integrity and needs to be turned into something different such as plastic lumber or carpet padding. Because of this, some people say that plastic isn't truly recycled; it's downcycled	3/31/2022 10:35 AM
127	It would be helpful to know what happens to the items I recycle. I am more likely to recycle if I know what I drop off is being handled responsibly.	3/30/2022 10:29 PM
128	It's hard to remember which weeks recycling is picked up.	3/30/2022 10:05 PM
129	I am careful with utility and water usage. Also, try to reduce my trash but I am doing all that I can.	3/30/2022 9:53 PM
130	Recycling for businesses should be reduced or a group service, or provided a greater option as they may provide the bulk of recycling items.	3/30/2022 9:36 PM
131	Please make recycling pickups weekly it would greatly help me from over filling my bin.	3/30/2022 7:37 PM
132	Bulky items need to be limited to so many times a year then start charging that household for more big items	3/30/2022 6:05 PM
133	The limb drop off and compost center is highly useful.	3/30/2022 5:34 PM
134	I'm still confused what offerings you have. Can limbs be placed anytime? Leaves in the trash? I'm confused	3/30/2022 5:26 PM
135	I understand that collecting recyclable products comes with a cost. But I barely have half of my trash can full weekly. So I don't want to pay for a recycling service even biweekly if it's not going to be full. From a single person household it's just not worth the cost. Due to a transplant my parents looked into recycling the enormous amount of water bottles(he cannot drink tap) but they found it cheaper to just take them to the city center that recycles.	3/30/2022 3:48 PM
136	I believe pick up services should be implemented and cheaper. I believe that this is very important and does not seem to be a priority for Joplin	3/30/2022 3:13 PM
137	Recycling services should be required along with trash and a combined fee for both. Bulkly items should be minimized to annual. Rentals properties should not be able to throw the household of trash, furniture ect to the curb. Landlords running a commercial Bussiness are unfairly benifiting compared to other commercial and industrial sites. Yard waste should be a per pull fee and take to city sites as needed by the citizen.	3/30/2022 2:12 PM
138	I moved here from Fayetteville, AR. A yard waste truck went around weekly. Same day as trash day. Leaves/lawn clippings were put into huge paper bags. I much preferred this method. My leaves get out of control. Trying to keep them in a nice pile and off the street within a broad time line is tricky. I manage and still do it. But would prefer to set out weekly tall paper bag fulls. Sticks/limbs needed to be broken down and bundled.	3/30/2022 2:09 PM
139	Leaf pickup is hard because I put them on the edge of the road. Not knowing when people are coming, my leaves have just blown down the street. Not sure how to fix this and not a huge	3/30/2022 2:01 PM

	complaint. I took leaves to the drop off myself this year.	
140	The City should require enclosures and/or screening of dumpsters. There is too much litter in town as noted by a recent citizen survey.	3/30/2022 12:39 PM
141	Wish we could put glass in recycling	3/30/2022 12:38 PM
142	Washing recycle items uses another precious natural recourse water. Some municipalities do not require washing of recycled items.	3/30/2022 12:32 PM
143	Biweekly recycle isn't sufficient. And when there are weeks that they have to miss due to weather, or they occasionally just don't show up, they don't pick up again until the next scheduled day, which then makes it once a month. I, and other customers I know, have spent multiple hours on the phone with the trash service since they went biweekly trying to get them to pick up when they skip. At the time they went biweekly they said we could request another container, which I have done twice and have yet to receive.	3/30/2022 12:10 PM
144	Make recycling free.	3/30/2022 12:02 PM
145	It would be really nice to have an option to have glass and other plastics not currently supported through the curbside recycling included in that service in the future.	3/30/2022 11:51 AM
146	We utilize curbside recycling, and would support the addition of a better yard waste system for those without trucks to haul to the compost facility. Maybe a pickup option? We raked our leaves to the curb this year and we're skipped over on leaf pickup. We have lots of yard waste yearly and always have trouble disposing of it. We like curbside recycling but have had issues with republic services, they skipped pickup for 2 months despite multiple calls for missed pickup. Otherwise no issues.	3/30/2022 10:47 AM
147	I like the idea of quarterly dates when large items can be put out for curbside recycling. Leaf pickup has been haphazard and delayed too long from notice to pickup. Use technology (texts, emails, social media) to better communicate with neighborhoods.	3/30/2022 9:53 AM
148	Green waste containers (both yard and food waste) would be fantastic. It could create compost that could be used by local consumers. Glass recycling needs to be easier. It should not be excluded from recycling curbside. I try to buy glass over plastic for health reasons and it is difficult to recycle glass here. Weekly recycling needs to be resumed or at the least on the same day as trash pick up. It is cumbersome and a hassle to remember what day/week to put a separate can out. I do not leave my cans in the alley other than pick up	3/30/2022 9:51 AM
149	When trash is not picked up due to weather conditions, we should receive a back the expense for that week that trash service was not performed.	3/29/2022 6:06 PM
150	Recycling Center, limb drop off and composting services are an excellent provided free benefit to Joplin residents. The City needs to provide the same on curbside recycling.	3/28/2022 10:16 AM
151	The recycling center has become an unkept mess in the last two years.	3/28/2022 8:35 AM
152	Waste water fee is way too high compared to other utilities. It is a ripoff of citizens. That is of far greater concern than trash fee.	3/27/2022 8:55 PM
153	We need more enforcement of unsecured trash as it blows around and looks trashy, commercial and residential. We need better battery recycling or better known.	3/27/2022 8:54 PM
154	Sewer bills are to high. Along with other bills, this is ridiculous. Double my water usage.	3/27/2022 7:24 PM
155	At times on trash service days, the container doesn't get emptied before it is lifted back down and trash is littered along the street for the residence to pick up.	3/27/2022 5:27 PM
156	Some of the questions on this survey should have allowed multiple selections and did not. The city should focus on efficiency, keeping costs down, and services available. The city should consider alternatives to contracting waste pickup such as an in house operation or allowing residents to contract with a provider of their own chooseing. I would like to see a full cost benefit analysis. The an option to drop off yard waste like we have now, with expanded hours, coupled with an option to contract removal with a hauler, would be better if it had a financial advantage to having the regular trash hauler doing it. Bluky item pickup could be one a month or so.	3/27/2022 11:15 AM
157	There should be more promotion and advertising done by the City of recycling options and benefits. Talk about it. Encourage it. Normalize it.	3/27/2022 9:36 AM

158	I'll get a Recycling Container for my house soon - I used to do it in California— it's the right thing to do!	3/26/2022 12:46 PM
159	We would love our trash to be picked up only monthly or by monthly at a reduced rate. The lids could be a different color for that service.	3/26/2022 11:53 AM
160	Should not be a priority of the city!! Maybe in the future but there are bigger problems...	3/26/2022 10:58 AM
161	The City needs to make an investment into alternative energy sources, reduced emission vehicles, etc. Be the example.	3/26/2022 10:50 AM

Q26 How many people reside in your household?

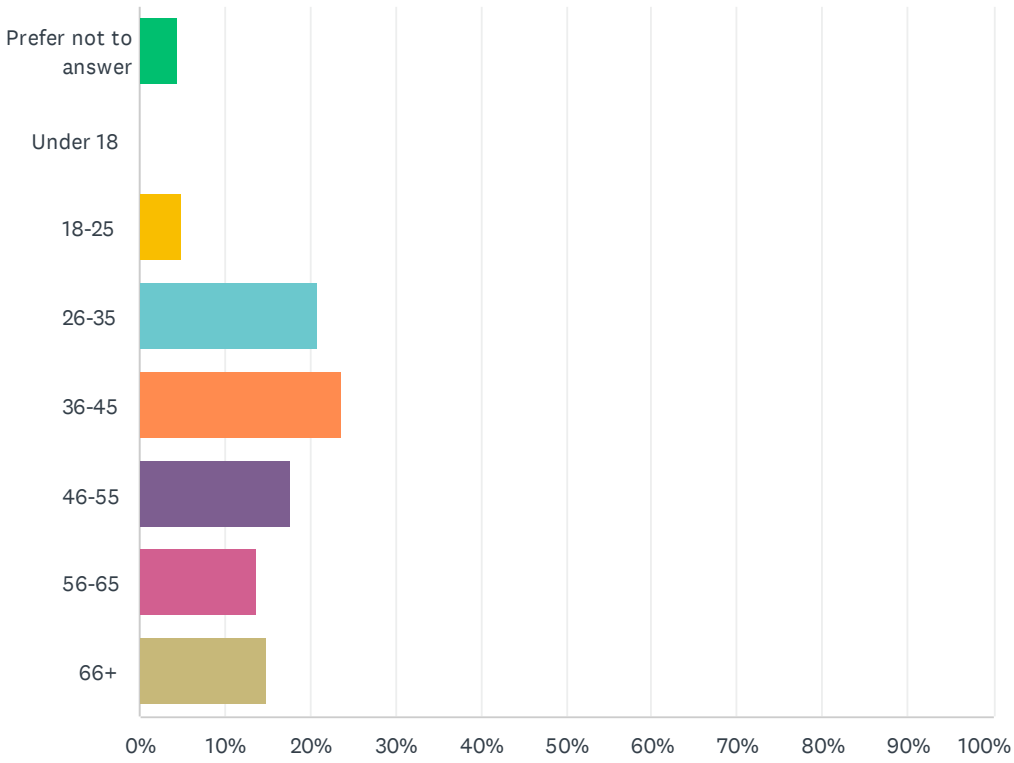
Answered: 475 Skipped: 71



ANSWER CHOICES	RESPONSES	
1	13.05%	62
2	37.89%	180
3	20.00%	95
4	18.11%	86
5+	10.95%	52
TOTAL		475

Q27 What is your age range?

Answered: 475 Skipped: 71



ANSWER CHOICES	RESPONSES	
Prefer not to answer	4.42%	21
Under 18	0.00%	0
18-25	4.84%	23
26-35	20.84%	99
36-45	23.58%	112
46-55	17.68%	84
56-65	13.68%	65
66+	14.95%	71
TOTAL		475

APPENDIX C – ORGANICS OPERATIONS CALCULATIONS

DRAFT

LONE ELM CONCEPT DESIGN
SPATIAL REQUIRMENT CALCULATIONS

Prepared By:	ARB	Date:	10/21/2022
Revised By:		Date:	
Approved By:		Date:	

WINDROW PILE

Operating Parameters

Active Composting Time	48	weeks
Active Composting Time	12	months

Volume of In-Process Materials On-Site

Leaves	362	tons/mo
Grass Clippings	362	tons/mo
Leaves	723,333	lbs/mo
Grass Clippings	723,333	lbs/mo
Leaves	342	yd^3/mo
Grass Clippings	342	yd^3/mo
Monthly Feedstock Prepared	684	yd^3/mo
Annual Feedstock Prepared	8203	yd^3/yr
Total Volume of In-Process Material	221481	ft^3

Active Composting - Windrows

Windrow Height	8	ft
Windrow Width	25	ft
Cross Sectional Area of Windrow	100	ft^2
Total Length of All Windrows	2215	ft
Individual Windrow Length	550	ft
Number of Windrows	5	
Total Width of Windrows	125	ft
Number of Work Alleys	5	
Width of Work Alley	20	ft
Total Width of Work Alleys	100	ft
Width of Perimeter	30	ft
Total Pad Width	255	ft
Total Pad Length	610	ft
Active Composting Footprint	155550	ft^2
Active Composting Footprint	3.57	acres

LONE ELM CONCEPT DESIGN
SPATIAL REQUIRMENT CALCULATIONS

Curing Area/ Finished Compost Area

Monthly Raw Feedstock Stored	684	cu. yd./month
Maximum Storage Duration	12	month
Storage Requirement Footprint	132889	cu. ft.
Feedstock Pile Height	12	ft
Feedstock Pile Width	182	ft
Cross Sectional Area of Pile	2187	ft^2
Storage Pile Length Total	182	ft
Individual Pile Length	182	ft
Number Piles	1	
Total Width of Piles	182	ft
Number of Work Alleys	0	
Width of Work Alley	20	ft
Total Width of Work Alleys	0	ft
Width of Perimeter	30	ft
Total Pad Width	212	ft
Total Pad Length	212	ft
Feed Stock Storage Footprint	45058	ft^2
Total Feedstock Processing and Storage Footprint	45058	ft^2
Total Feedstock Processing and Storage Footprint	1.03	acres

Brush Storage

Annual Brush Volume	8800	vd^3/vr
Maximum Storage Duration	12	month
Finished Brush Volume Required	237600	ft^3
Storage Pile Height	10	ft
Storage Pile Width	267	ft
Cross Sectional Area of Pile	2670	ft^2
Total Storage Pile Length	267	ft
Individual Storage Pile Length	267	ft
Number Piles	1	
Total Width of Piles	267	ft
Width Perimeter	30	ft
Total Pad Width	297	ft
Total Pad Length	297	ft
Storage Footprint	88199	ft^2
Brush Grinding Equipment Footprint	500	ft^2
Total Finished Compost Storage Footprint	88699	ft^2
Total Finished Compost Storage Footprint	2.04	acres

Woodchip Storage

Annual Woodchip Volume	9500	vd^3/vr
Maximum Storage Duration	6	month
Finished Woodchip Volume Required	237600	ft^3
Storage Pile Height	10	ft
Storage Pile Width	267	ft
Cross Sectional Area of Pile	2670	ft^2
Total Storage Pile Length	267	ft
Individual Storage Pile Length	267	ft
Number Piles	1	
Total Width of Piles	267	ft
Width Perimeter	30	ft
Total Pad Width	297	ft
Total Pad Length	297	ft
Storage Footprint	88199	ft^2
Total Finished Compost Storage Footprint	88199	ft^2
Total Finished Compost Storage Footprint	2.02	acres

Storm Water Control Structure

25-Year Design Storm Runoff Volume	185,150	ft^3
100-Year Design Storm Runoff Volume	0	ft^3
Stormwater Retention Pond Footprint	30,858	ft^2
Stormwater Retention Pond Footprint	0.7	acres

TOTAL COMPOST FOOTPRINT	9.37	acres
	6.64	acres without RCS

LONE ELM CONCEPT DESIGN
SPATIAL REQUIRMENT CALCULATIONS

Prepared By: ARB Date: 10/21/2022
Revised By: Date:
Approved By:

Input Data - Projected Feedstock

Assumption/Design Criteria	Value	Unit	Reference	
Leaves	4,340	tons/yr	Mix Calculator	
Grass Clippings	4,340	tons/yr	Mix Calculator	
Leaves Bulk Density	220	lbs/yd^3	NRAES	
Grass Clipping Bulk Density	650	lbs/yd^3	NRAES	
				Given:
Leaves	4102	yd^3/yr		8203 yd^3
Grass Clippings	4102	yd^3/yr		
Post Composting Volume Reduction Factor	0.6	yd^3/yd^3	NRAES	
				Given:
Curing - Maximum Storage Duration	12	month	2008 Report	8203 yd^3
Curing- Volume Required	132889	ft^3		
Curing- Pile Height	12	ft		221481 ft^3
Curing- Pile Width	182	ft	Google Earth	
Curing- Pile Length	182	ft	Google Earth	
Curing- Width of Work Alleys	0	ft	Google Earth	
Curing- Width of Perimeter	30	ft	Google Earth	
Finished Compost - Maximum Storage Duration	12	month	2008 Report	
Finished Compost- Volume Required	132889	ft^3		
Finished Compost - Screening Equipment Footprint	0	ft^2	Google Earth	
Finished Compost - Storage Pile Height	12	ft	NRAES	
Finished Compost - Storage Pile Width	182	ft	NRAES	
Finished Compost - Storage Pile Length	182	ft		
Finished Compost - Width of Perimeter	30	ft	Google Earth	
				Given:
Brush Storage- Maximum Storage Duration	12	month		8800 yd^3
Brush Storage- Volume Required	237600	ft^3		237600 ft^3
Brush Storage- Grinding Equipment Footproint	500	ft^2		
Brush Storage- Storage Pile Height	10	ft		
Brush Storage- Storage Pile Width	267	ft		
Brush Storage- Storage Pile Length	267	ft		
Brush Storage- Width of Perimeter	30	ft	Google Earth	
				Given:
Woodchip Storage- Maximum Storage Duration	6	month		9500 yd^3
Woodchip Storage-Volume Required	128250	ft^3		256500 ft^3
Woodchip Storage- Storage Pile Height	12	ft^2		
Woodchip Storage- Storage Pile Width	257	ft		
Woodchip Storage- Storage Pile Length	125	ft		
Woodchip Storage- Width of Perimeter	30	ft	Google Earth	

LONE ELM CONCEPT DESIGN
SPATIAL REQUIRMENT CALCULATIONS

Prepared By: _____ Date: _____
Checked By: _____ Date: _____
Approved By: _____ _____

Input Data - Windrows

Assumption/Design Criteria	Value	Unit	Reference
Active Composting Time	52	weeks	2008 Report
Active Composting - Windrow Height	8	ft	2008 Report
Active Composting - Windrow Width	25	ft	2008 Report
Active Composting - Windrow Length	550	ft	Google Earth
Active Composting - Width of Work Alleys	20	ft	Google Earth
Active Composting - Width of Perimeter	30	ft	Google Earth

Assuming half of woodchips present at 1 time

APPENDIX D – OPINION OF PROBABLE CONSTRUCTION COSTS FOR LONE ELM CONCEPT DESIGN

DRAFT

Opinion of Probable Construction Cost – Lone Elm Concept Design

Item	Description	Total	
CIVIL			
1.01	Earthwork	$	15,000
1.02	Asphalt Pad	$	1,277,800
1.03	Concrete Bunker Pad	$	14,800
1.04	Concrete Bunker Walls	$	8,400
1.05	Vegetative Filter Strip	$	13,800
1.06	Drainage Swales	$	55,200
1.07	Reseeding grass area	$	4,100
1.08	Chain-Link Fence	$	54,900
1.09	Chain-Link Gates	$	54,000
1.10	Pavement Marking	$	25,000
1.11	Signage	$	1,500
ELECTRICAL			
2.01	Light Poles	$	10,000
2.02	Utility Pole with power for equipment plug in	$	15,000
2.03	Heat utility in one garage	$	20,000
2.04	Upgrade electrical service to building	$	145,000
BUILDING			
3.01	Bare warehouse to office space updates	$	140,000
3.02	Re-paint exterior of building	$	16,500
3.03	Floor scale	$	7,500
3.04	Recycling Downstroke Balers	$	75,000
3.05	AMA estimated repairs	$	108,400
	TOTAL DIRECT COST	**$**	**2,061,900**
	CONSTRUCTION MANAGEMENT & INDIRECTS (12%)	$	247,428
	ENGINEERING SERVICES (9%)	$	185,571
	CONTINGENCY (20%)	$	498,980
	CONTRACTOR FEE (6%)	$	179,633
	TOTAL PROJECT COST	**$**	**3,173,512**

APPENDIX E – IMPLEMENTATION PLAN

DRAFT

	ID	Recommendation	Priority	Timeframe	Key Action Items and Notes	Responsible Party
Education and Outreach	4.1	Update city solid waste webpages	High	0-3 months	Review and refresh all the content on the website and update broken links. Additional information should be provided about the Compost Facility, fall leaf collection program, Tree and Brush Drop-off, and source reduction options such as backyard composting.	Recycling Coordinator City PIO
	4.2	Leverage existing resources and partnerships	High	Ongoing	Utilize communication methods already developed such as the website, social media, community events, and local newspaper. Work with service contractor to distribute consistent messaging.	Recycling Coordinator City PIO
	4.3	Commit resources	High	Ongoing	The City should allocate resources and staff time to support the communication and outreach efforts.	Recycling Coordinator City PIO
	4.4	Utilize clear, simple, consistent messaging	High	Ongoing		Recycling Coordinator City PIO
Residential Curbside Services	5.1	Include recycling in the City contract for all customers	High	Next procurement cycle (2025)	Include recycling as part of the base refuse collection service. All customers should be provided with a 65-gallon recycling container for weekly collection or a 96-gallon container for every-other-week.	Public Works Procurement Consultant
	5.2	Seek a variety of options in the procurement of services	High	Next procurement cycle (2025)	Request during the next bid process that vendors provide cost for a variety of service options, including weekly and biweekly collection, various frequencies of bulky item collection, subscription yard waste.	Public Works Procurement Consultant
	5.3	Implement Modified Pay-As-You-Throw	Med	1-2 years	Develop a policy to charge customers for additional trash carts beyond the standard single cart allocated per residence.	Public Works Legal Consultant
	5.4	Limit bulky item quantity and reduce collection frequency	Med	1-2 years	Develop a policy to limit the number of bulky items for curbside pick-up to a specific quantity (e.g., 3 items per month) to improve collection efficiencies and prevent abuse of the program. Restrict curbside bulky item collection to a less frequent schedule, such as monthly or quarterly instead of weekly.	Public Works Legal Consultant
	5.5	Continue to provide bulky item drop off options	Med	Ongoing	Continue to provide a discounted drop off at a local transfer station for bulky items.	Public Works
	5.6	Prohibit comingling of yard trimmings with refuse and provide a	Med	1-2 years	Develop regulations to prohibit comingling of yard trimmings with standard household trash for collection. Work with the waste contractor to provide residential customers with an optional separate yard trimmings	Public Works Legal Consultant

	ID	Recommendation	Priority	Timeframe	Key Action Items and Notes	Responsible Party
		subscription yard trimmings collection service			collection in paper/Kraft bags for composting.	
	5.7	Continue the City leaf program, modify to require bagged material	High	Ongoing	Continue to provide its current seasonal curbside leaves collection service with the new provision requiring material be bagged in paper/Kraft bags.	Public Works
	5.8	Consider long-term potential for food scraps diversion	Low	5+ years	Consider food scraps diversion, depending on development of markets, local processing options, and residential demand.	Recycling Coordinator
Transfer Station Contract	6.1	Continue to provide discounted disposal at a local transfer station	High	Ongoing		Public Works
	6.2	Promote awareness of the transfer station program	High	Ongoing	Utilize the various methods described in Section 4.0, Education and Outreach	Recycling Coordinator City PIO
City Contra	6.3	Lead by example	High	6 months	Utilize the current vendor contract to implement a comprehensive recycling program at all City occupied buildings.	Recycling Coordinator
Recycling Center and HHW	7.1	Provide safety training for full time staff	High	1 year	Staff should receive a minimum of 8-hours training annually on the safe handling of HHW material. It is common for service vendors, such as Tradebe, to provide this type of training as part of a contract. Funding for training may also be requested as part of the District M grants.	Recycling Coordinator Hazardous Waste Contractor
	7.2	Review vendor contracts	Med	6 months–1 year	Conduct a comprehensive review of each of the vendors and contracts, where applicable, to ensure that the material is being appropriately handled and that the best price and service is obtained.	Recycling Coordinator
	7.3	Update all signage	Med	1 year	Update and formalize all signage to include the City's branding. Consider utilizing professional services to develop a comprehensive site plan for signage.	Recycling Coordinator City PIO
	7.4	Identify funding for a permanent glass collection solution	Med	1 year	Grant funds may be available through District M and other resources.	Public Works Recycling Coordinator

	ID	Recommendation	Priority	Timeframe	Key Action Items and Notes	Responsible Party
	7.5	Reduce flooding	Med	1 year	Evaluate engineering controls that could be implemented to reduce flooding.	Public Works Consultant
	7.6	Collocate City services	Med	1-2 years	Consider co-locating services with the City's Composting Facility and Tree Limb Drop Off. Refer to Section 9.0	Public Works
Compost Facility and Tree Limb Drop Off	8.1	Track quantities	High	Immediately	Implement a tracking system to capture the quantities and participation in these programs. Use a standard methodology to track and convert units to a volume or weight on annual basis.	Public Works Recycling Coordinator
	8.2	Require curbside leaves to be bagged	High	1 year	Continue to provide the seasonal collection of fall leaves but require residents to bag leaves and vegetation in paper or Kraft bags.	Public Works City PIO
	8.3	Develop collection schedule	Med	3 months	Develop a collection schedule for the community and advertise the potential dates for given communities to expect pick up of materials.	Public Works City PIO
	8.4	Promote the programs	High	Ongoing	Increase the community awareness around the availability of the Compost Facility and Tree Limb Drop Off through education and outreach. Specific recommendations are outlined in Section 4.0	Recycling Coordinator City PIO
	8.5	Collocate City services	High	1 year	Consider co-locating the City's Composting Facility and Tree Limb Drop Off. Refer to Section 9.0	Public Works
Collocated City Services	9.1	Improve safety of glass handling	Med	1 year	Include a bunker designed for storing glass to improve safety and quality. Design the bunker to be large enough to handle glass from a regional area to support surrounding communities with glass recycling.	Design Consultant
	9.2	Conduct a financial evaluation for baling and storing recyclables onsite	Med	6 months	Brokering recyclables may present an opportunity to generated revenue.	Consultant
	9.3	Actively engage in composting	Med	1 year	Increase the processing time for composting yard trimmings through active composing including turning, testing soil temperatures and moisture to generate finished product every four to six months	Public Works Recycling Center Staff
	9.4	Contract for yard trimmings disposal	Low	Next procurement cycle (2025)	Require as part of future solid waste contracts that yard trimmings be brought to the facility for processing.	Public Works Purchasing

	ID	Recommendation	Priority	Timeframe	Key Action Items and Notes	Responsible Party
	9.5	Generate revenue	Med	1-2 years	Charge commercial landscapers to drop off yard trimming and brush material to generate a revenue.	Public Works

BURNS McDONNELL

CREATE AMAZING.

DRAFT

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