Presented by:

GreatWest ENGINEERING

BURNS McDONNELL

Integrated Solid Waste Master Plan

CITY OF HELENA AND LEWIS AND CLARK COUNTY

December 2024

Client Commitment *Empowered Employees* *Quality Solutions*

THE CITY OF HELENA AND

LEWIS AND CLARK COUNTY

Integrated Solid Waste Master Plan

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List of Abbreviations

Abbreviation	Term/Phrase/Name
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
City	City of Helena
County	Lewis and Clark County
DEQ	Department of Environmental Quality
E-Waste	Electronic Waste
Great West	Great West Engineering, Inc.
HDPE	High Density Polyethylene
HHW	Household Hazardous Waste
ISWMP	Integrated Solid Waste Master Plan
Landfill	Lewis and Clark County Landfill
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
PAYT	Pay As You Throw
Plan	Communication Plan
Transfer Station	City of Helena Transfer Station
US EPA	United States Environmental Protection Agency

Executive Summary

The City of Helena and Lewis and Clark County Integrated Solid Waste Master Plan (ISWMP) is intended to provide guidance for the solid waste system in the City of Helena (City) and Scratch Gravel Solid Waste District in Lewis and Clark County (County). The solid waste system includes garbage collection and disposal, as well as programs for waste reduction, recycling, organic processing, special waste handling, and the administration of these programs. This ISWMP is intended to guide program development and implementation for these activities for the next five to six years while also attempting to anticipate the needs of the solid waste system 20 years from now.

The goal of the ISWMP is to create an efficient, comprehensive system that will improve waste diversion and provide convenient waste disposal services at the best price for the people of Lewis and Clark County and the City of Helena.

Background

The City Public Works Department operates the City's Transfer Station (Transfer Station). It is the exclusive garbage hauler for approximately 11,800 single-family households (according to fiscal year 2024) within the city limits. It provides garbage and cardboard collection to over 650 businesses within the city limits. In addition, private haulers offer subscription-based programs, while Helena Recycling, LLC, contracted by the City, provides curbside recycling for a fee, collecting various recyclables such as aluminum, tin, paper, cardboard, glass jars, glass bottles, and #1 and #2 plastics. Better Roots Composting and 406 Composting, also under contract, offer yard waste and food scrap collection services. The City Public Works Department manages recycling drop-off facilities at the Transfer Station and six other sites. The Transfer Station accepts household recyclables (cardboard, paper, glass, plastic, tin & aluminum cans), electronics, and yard debris. The six outlying sites accept cardboard, paper, tin, and aluminum cans.

The City provides management of the Landfill through a partnership interlocal agreement and oversees the permitting and general management of the Lewis and Clark County Landfill (Landfill), owned by the County. Landfill account holders can dispose of specific materials like construction waste and asbestos, while other materials go to the Transfer Station.

City residents pay an annual fee of $194.10 (fiscal year 2024) for curbside collection and 3,000 pounds of disposal at the Transfer Station. In contrast, County residents pay $98 for the same disposal allowance but must self-haul or use private haulers for curbside pickup. In 2023, the City's and Scratch Gravel District's total landfill disposal (residential waste, commercial waste, roll-offs, self-haul, and construction and demolition waste) was 38,529 tons, averaging 6.23 pounds of waste per person per day.

Communication Plan

A Communication Plan (Plan) was developed for the ISWMP and was comprised of three phases: gathering general feedback, developing alternative scenarios, and selecting preferred scenarios. The first phase, "Gathering General Feedback," involved collecting feedback from the public and stakeholders of solid waste management about what people wanted to keep or change about the current system. It was also used to collect general data on the current system. Communication methods of this phase focused on surveys, a spokesperson, and open houses. A total of 1,766 responses were collected from city and county residents for Phase One of the Plan, with questions and results detailed in Appendix C. The key findings indicate that most respondents are satisfied with the current solid waste system. However, 55 percent expressed a desire for more diversion opportunities, with 59 percent of these respondents willing to pay $1-10 per month for additional diversion services. Among the diversion options, 36 percent wanted more recycling opportunities, and 23 percent wanted more composting options. Additionally, 58 percent of

city respondents showed interest in universal curbside recycling, and 63 percent were willing to pay $1-10 monthly for the service.

Regarding the Transfer Station, 91 percent of respondents reported using it, with 78 percent rating its convenience as good or excellent and 71 percent rating its cost as good or excellent. Regarding Pay As You Throw (PAYT), 72 percent of respondents answered that they did not want a PAYT program. This disinterest was more pronounced among county survey respondents (75 percent) than city survey respondents (61 percent).

Phase 2 – Alternative Scenarios

Phase 2, "Alternative Scenarios," of the Plan focused on describing different scenarios for the solid waste management system, detailing their implementation, and listing the advantages and disadvantages of each option. The public provided feedback on the most appealing scenario through surveys, spokesperson engagements, and open houses. This phase aimed to gather public opinion on various scenarios to guide decision-making for the final "Preferred Scenario."

The evaluations considered during this second phase included system-wide assessments, specific service enhancements, and capital infrastructure improvements. System-wide evaluations examined the merits of public versus private solid waste management, the effectiveness of the current collection system, and potential permit modifications, including the PAYT program and other permit changes for better waste tracking. Sub-options explored enhancements in recycling, such as universal curbside collection and additional drop sites, as well as yard waste options, including both subscription and universal curbside collection. Food waste management options were also considered. Capital infrastructure improvements included upgrades to the existing Transfer Station for traffic efficiency, upgrades to the composting facility at the Landfill to process yard waste more efficiently and evaluating the option of constructing a new transfer station. These evaluations and recommendations set the stage for selecting the "Preferred Scenario" for the third phase. The "Preferred Scenario" for each program area is presented as Key Findings and Recommendations.

Phase 3 – Preferred Scenario

According to the survey results, most city respondents rate the convenience, reliability, and cost of the current collection service provided as good or excellent. Therefore, moving to an exclusively private or public collection system does not offer city users any advantages. However, data suggests that additional city collection routes may be needed in the future, and the City should continue to evaluate the number of residences and routes collected to make necessary adjustments to maintain the same great service its customers appreciate.

Based on the survey results, most of the County respondents were happy with the current collection service that the private hauler provides. Moving to an exclusively public collection system for county users does not offer any advantages. The County does not have the equipment or staff to serve the county residents. Adding this service would be a significant capital cost to the County.

Additionally, 61 percent of city survey respondents and 75 percent of county survey respondents are not interested in the PAYT system. Special wastes are included in the 3,000-pound waste allotment. Handling special wastes is costly, and the City is unable to recover all the costs to process the materials. To recover the costs of processing and disposing of special wastes, excluding these wastes from the allowed 3,000 pounds and/or lowering the allotted permit amount could be considered. Another option to limit system abuse is to set a daily maximum for disposal. These changes to the permit system would necessitate a cost-of-service study to determine appropriate charges, which may result in a modified PAYT program. Addressing accounting discrepancies and establishing mechanisms for the City and County to improve recycling and waste tracking accuracy are necessary.

The survey results reported that 58 percent of city survey respondents are interested in universal recycling. If the City chooses to begin universal recycling, implementing single-stream recycling is recommended. Single-stream recycling offers operational efficiencies for the City and convenience for residents because it simplifies the process and encourages greater participation. Therefore, establishing a single-stream universal recycling program for city residents should be evaluated further, considering that the monthly fee is higher than survey respondents' willingness to pay. Of county survey respondents, 48 percent desired more waste diversion opportunities, including recycling and composting. To accommodate these needs, it is recommended to establish two additional drop-off sites in the county for recyclables, yard waste, and solid waste. For city residents, a subscription-based yard waste program is recommended, allowing residents to opt into curbside collection. Starting with a subscription-based service will help gauge interest and feasibility. For county residents, due to the distance between residential stops, curbside yard waste collection is not feasible; instead, yard waste should be accepted at the additional drop-off sites. This gradual approach requires minimal initial infrastructure and capital.

As determined by the survey results, the public is pleased with the existing Transfer Station, and they do not wish to relocate the Transfer Station to another property. The existing Transfer Station is undersized for the traffic. The Transfer Station gets congested, and the City would benefit from some improvements. The public would like additional locations for waste disposal and recyclables drop-off in the County. Providing additional waste disposal locations would decrease the Transfer Station's traffic. The compost facility at the Landfill should be upgraded to process yard waste more efficiently. An upgrade to the compost facility will be needed if the City and County proceed with an enhanced yard waste collection program.

A thorough financial analysis of the current system and a capital improvement plan should be undertaken to ensure informed decision-making and effective program development. A cost-of-service study is recommended to provide the City and County with a comprehensive understanding of the current system's costs and revenues and the financial impacts of the proposed program changes. This study would offer long-term direction for solid waste management and help the City and County adapt to the program's evolving dynamics.

1.0 Background

1.1 Purpose

The City of Helena and Lewis and Clark County Integrated Solid Waste Master Plan (ISWMP) is intended to provide guidance for the solid waste system in the City and the Scratch Gravel Solid Waste District. The Scratch Gravel Solid Waste District includes residents in the greater Helena Valley, Canyon Creek, and Marysville. Marysville is a sub-district of the Scratch Gravel Solid Waste District. The solid waste system includes garbage collection and disposal, programs for waste reduction, recycling, organics, and special wastes, and the administration of these programs. This ISWMP is intended to guide program development and implementation for these activities while attempting to anticipate the needs of the solid waste system 20 years from now.

1.2 Tasks Completed

The Great West Engineering and Burns & McDonnell team (project team) was hired to evaluate the system and provide guidance for the future of the solid waste system in the City and the County. The process has been ongoing and has included the following.

- Site tours of the public and private facilities in the community
    - City Transfer Station and other City facilities
    - Lewis and Clark County Landfill
    - Helena Recycling
    - Valley View Landfill/Better Roots Composting
    - Pacific Steel and Recycling
- Meetings
    - Steering Committee
    - City and County leaders
    - City and County staff
    - City and County Commissions
    - Public Meetings
- Development of a communication plan to gather public input
- Public Surveys
- System-Wide Evaluation
    - Capital Infrastructure Improvements and Additions
    - Evaluate public vs. private solid waste management
    - Evaluate the collection system
        - Permit evaluation
        - Changes to permit program
        - Modifications for tracking waste
- Sub-options
    - Recycling Options
        - Universal curbside collection
        - Additional drop sites
    - Yard Waste Options
        - Subscription curbside collection
        - Universal curbside collection
    - Food Waste Options
- Complete Integrated Solid Waste Master Plan with findings and recommendations
    - Capital Infrastructure
    - Recyclables and Yard Waste Diversion
    - System-wide efficiencies

The following sections describe the system evaluation and findings and recommendations in detail.

1.3 Public Involvement

1.3.1 Steering Committee

The Steering Committee comprised City and County leaders, City and County Commissioners, a representative of the Scratch Gravel Solid Waste Board, a representative of the private hauler and recyclers, and a member of each City and County. Many Steering Committee meetings were held to guide the project team.

- County Commissioner – Commissioner Rolfe
- City Commission – Commissioner Logan
- County Public Works – Dan Karlin or Appointee
- City Public Works – Ryan Leland or Appointee
- Scratch Gravel Solid Waste District Board – Drenda Niemann
- Citizen Conservation Board (CCB) – Richard Sloan
- Private Hauler or Recycler – John Hilton, Helena Recycling
- At Large County Resident – Cora Helm
- At Large City Resident – Tyler Emmert

1.3.2 Communication with the Public

The project team developed a public survey in March 2023 to gather input on the existing system and possible improvements. The survey was kicked off with a public meeting to introduce the project to the public. It was released to the public on March 3, 2023, and closed on April 28, 2023. It was distributed via QR code at the Landfill, Transfer Station, City utility bills, postcards to the county residents, social media posts, and the City/County Building.

The survey's goal was to provide an opportunity for the public and stakeholders to express comments about the current solid waste system in both the City and County. It provided multiple-choice and open-ended questions to create a comprehensive understanding of the public's interest.

1.3.3 Survey Results

A total of 1,766 responses were collected from city (407 respondents) and county (1,359 respondents) residents for Phase One of the Plan. The questions asked and the results are presented in Appendices A through E.

Based on the 2020 Census[1], the City of Helena had a population of approximately 32,244 residents. Collecting 407 surveys from residents represents approximately 1.26% of the total population. This sample size provides a reasonable snapshot of the community's opinions and behaviors, assuming the survey respondents represent the diverse demographics within the City.

Based on the 2020 Census[2], Lewis and Clark County had a population of approximately 38,882 residents, excluding the City. Collecting 1,359 surveys from residents provides a sample size of

[1] U.S. Census Bureau QuickFacts: United States
[2] U.S. Census Bureau QuickFacts: United States

approximately 3.5%. Statistically, this sample size can offer a reasonable level of representation, assuming the survey respondents represent the diverse demographics within the County.

Generally, a larger sample size would reduce the margin of error and increase the confidence level in the results. For a population of this size, a total sample of around 760-800 surveys would typically be considered sufficient for a 95% confidence level with a 5% margin of error.[3.]

1.3.4 Key Findings

The key findings of this survey are that most respondents are satisfied with the current solid waste system. A more detailed description of key findings is in Section 2.4.2.

1.4 Description of Existing System

The team of Great West Engineering and Burns & McDonnell, along with members of the City and County leadership, staff, and steering committee, toured the area's solid waste and waste diversion facilities. These included the Transfer Station, Landfill, City shop, Valley View Landfill and Better Roots Composting (owned by Tri County Disposal), Helena Recycling, and Pacific Steel and Recycling. The team was unable to schedule a tour of 406 Recycling while the Burns & McDonnell team members were available. The facilities are described in the following sections.

1.4.1 Transfer Station

The Transfer Station was built in 1993 when the old City landfill was closed, and the Landfill was permitted under the implementation of EPA Subtitle D Solid Waste Rules. The site is approximately 14 acres and includes one inbound scale, one outbound scale, scalehouse, office, transfer station building, yard waste area, recyclables area, white goods and metal area, and miscellaneous waste handling areas. The old, unlined City landfill is under the existing Centennial Park and the Transfer Station. Over time, the Transfer Station has been upgraded with a new office building, a used oil building, screens around the Transfer Station for litter control, and an addition to the Transfer Station to accommodate trucks with trailers.

The City has an extensive groundwater and landfill gas monitoring system around the Transfer Station, including active and passive gas extraction and monitoring systems to monitor the groundwater and landfill gas created by the old, unlined landfill. The Landfill gas monitoring system infrastructure is in some of the buildings on the Carroll College campus, the YMCA, other buildings near the old landfill, and all buildings on the Transfer Station property. The groundwater system comprises many groundwater monitoring wells located around the old landfill, near Bill Roberts Golf Course, Carroll College, and in the neighborhoods around Carroll College.

The Transfer Station accepts waste from city residents and Scratch Gravel Solid Waste District residents. The City transfers the waste collected at the Transfer Station to the Landfill for disposal. Municipal and construction waste is collected in the transfer station building and disposed of in the lined landfill cell at the Landfill. The City hauls approximately 150-200 tons per day of waste to the Landfill in walking floor transfer trucks.

The Transfer Station building is a three-story pit-style facility. The public and commercial trucks tip waste from the top tipping floor into the pit on the second level, and a loader pushes the waste into a transfer trailer located in a tunnel on the lowest level. The tipping floor has two sides and is separated by the pit.

[3] Sample Size Calculator | Good Calculators

The North Side of the Transfer Station building is used by commercial packer trucks and roll-off trucks only. The public uses the south side. Approximately eight vehicles can fit on the public side at one time. Trucks with trailers can tip waste on the pit level. Approximately three vehicles can dispose of waste at the pit level at the same time.

The City collects other wastes at the Transfer Station, such as yard waste, recyclables, used oil, batteries, paint, metal, white goods, and tires. Yard waste is collected at the yard waste area and transferred to the Landfill for composting. Recyclables are collected in recycling bins and picked up by Helena Recycling for consolidation. The City sells the metal to Pacific Steel and Recycling. The City also has outlying recycling collection areas available to the public 24 hours a day.

The existing Transfer Station experiences extreme congestion due to the high number of users. The congestion can back up cars on the inbound side all of the way to Benton Avenue. One congestion point is on the outbound scale, which backs up the vehicles trying to exit the Transfer Station building. This prevents vehicles from entering the Transfer Station building, ultimately causing a traffic backup on the inbound scale. The backups are caused on the outbound side by cash and credit card payments. The large intersection at the office, yard waste, and metal pile also creates traffic issues. The traffic flow through the Transfer Station needs modification. Proposed modifications to the Transfer Station are described in Section 3.1. The facility gets an average of 560 vehicles per day, 700-900 vehicles per day on the weekends, and during one peak day, the Transfer Station got 1,300 vehicles. The intersection at the main road and yard waste area can become congested when vehicles try to get back into the outbound lane. The Transfer Station needs better traffic management.

1.4.2 Landfill

The Landfill is located on Deal Lane and approximately one-half mile east of Lake Helena Drive. Access to the site is via the paved York Road, Lake Helena Drive, and Deal Lane. The total area licensed by the County for solid waste operations is approximately 160 acres, of which approximately 80 acres is used to dispose of municipal solid waste. The County also owns an additional 160 acres south of the licensed site. The County intends to license this 160-acre area for Class II waste disposal in the future. The Landfill currently services the County and the City. The Landfill is approved by the Solid Waste Management Program of the Montana Department of Environmental Quality (DEQ) to accept waste from Jefferson and Broadwater Counties and the City of East Helena. The Landfill is licensed by DEQ to accept Class II municipal solid waste (MSW) for disposal. The Landfill currently accepts approximately 45,000 tons of MSW and 7,800 tons of construction and demolition (C&D) solid waste annually. The Landfill has not seen a significant increase in tonnage for years, which could be due to more waste diversion.

The site began accepting waste in the Phase 1 Landfill cell in October 1994 and reached capacity in December 2002. Phase 2 of the Landfill began taking waste in December 2002. Approximately 7 acres of the Phase 1 Landfill cell were closed in 2004. Approximately 5 acres of the Phase 2 Landfill cell were closed in 2017. Phase 3 opened in November 2011, and Phase 4A opened in April 2022. It is estimated the overall site has approximately 85 years of capacity remaining (45,000 tons/year). The County permitted a Class IV (Construction and Demolition Waste) disposal area on the landfill property in 2005. The municipal waste landfill cells are lined with a synthetic geomembrane liner, and leachate from the landfill cells flows by gravity. It is pumped from the landfill cells to a double-lined leachate pond for evaporation. All stormwater from the landfill areas is directed to stormwater ponds on site.

The Landfill has an unmanned scale to weigh waste coming into the site. Approximately 650 public accounts are set up for disposal of Class IV wastes, but Class II (municipal household) wastes are not accepted from the public.

The Landfill accepts Class II (municipal solid waste), Class IV (construction and demolition), asbestos, dead animals, yard waste, liquid waste, contaminated soils, and restaurant waste. It does not accept special wastes such as refrigerators, tires, used oil, antifreeze, batteries, appliances, paint, electronic waste, and household quantities of hazardous waste.

The County composts yard waste and biosolids in the composting area using the static pile method. A significant amount of yard waste on site has not been processed, which takes up a lot of space. When the County finishes compost, it is available for purchase in bulk.

The landfill has not received complaints from neighboring residents about odors or noise.

1.4.3 Scratch Gravel and Marysville Solid Waste Districts

Scratch Gravel Solid Waste District includes greater Helena Valley, Canyon Creek, and Marysville residents. Residents pay an annual assessment on their tax bill for disposal of their solid waste. Marysville is a sub-district of the Scratch Gravel District. The residents of Marysville have a higher assessment to use the convenience site on Marysville Road. The annual assessment does not include any collection service. Residents must self-haul their waste to the Transfer Station or hire a private hauler to take it to the Transfer Station. The Scratch Gravel Solid Waste Management District consists of five members: serving staggered three-year terms appointed by the Board of County Commissioners, one member appointed by the Board of Health, and one County Commissioner.

Canyon Creek and Marysville residents may self-haul their waste to the solid waste container site on Marysville Road or the Transfer Station. The Marysville Container Site does not have scales, and the attendant estimates the quantity of waste dropped off by the resident. A scale should be installed at the Marysville site for more accurate waste tonnage data. An evaluation of sub-districts will be completed at a later date.

1.4.4 City Shop

The City Shop houses the collection trucks and containers. The shop does not have storage for the collection trucks to be housed inside. During the winter months, the trucks may not start, which delays collection and requires long days for the drivers. The shop has two bays for maintenance and repair on the trucks. Currently, there is only a locker room for men, not women. The shop needs a room for safety training, a meal break room, and more room to grow.

1.4.5 Private Entities

The community is serviced by many private entities for waste disposal and diversion, and they are an integral part of the solid waste handling in the area. The services include collection of recycling, yard waste collection, metal recycling, and curbside food waste collection in the City. The Public Service Commission (PSC) regulates waste hauling in the County. The following entities that are approved to conduct waste services are described below.

1.4.5.1 Helena Recycling

Helena Recycling offers curbside recycling services for residential and commercial properties in the Helena area. Helena Recycling contracts with the City for a subscription-based curbside collection of recyclables for city residents only. The customers are charged a portion ($8.00) of the monthly cost on their utility bill, and the City funds the rest ($8.20). Helena Recycling has a subscription-based curbside single-stream recycling program for county residents. Helena Recycling also collects shredded paper from Iron Mountain shredding service and provides curbside collection to local businesses. The recyclables are hauled to the Helena Recycling facility, where it is baled and shipped to recycling facilities around the western United States.

1.4.5.2 Tri County Disposal

Tri-County Disposal offers curbside collection of household waste for county residents and curbside collection of commercial waste for businesses in the City and County (subscription-based). Tri County also provides roll-off containers to customers in the City and County (one-time fee). The waste collected from residents in the County is hauled to the Transfer Station. All waste collected by Tri County Disposal in commercial bins and roll-offs is hauled to Valley View Landfill for disposal. The Tri County also collects and disposes of waste from outlying Counties.

Valley View Landfill

Valley View Landfill is located between East Helena and Montana City. It is a privately owned and run landfill that accepts municipal waste, yard waste, construction waste, appliances, and tires. Only Tri County Disposal trucks and commercial customers can dispose of waste at the Valley View Landfill; the public is not permitted to dispose of waste. The Valley View Landfill accepts approximately 40,000 tons of waste per year. The Valley View Landfill has a metal recycling area, and most of the metal is recovered by the landfill operators from the waste in the landfill cell. The Valley View Landfill is in the process of licensing more areas owned by the company.

Better Roots Composting

Better Roots Composting has a subscription-based service that collects yard waste from residents in the City Limits and in the County. The company hauls the waste to the Valley View Landfill for composting. The compost is used as a final cover on the landfill to cover dead animals, and the rest is sold to the public.

1.4.5.3 406 Recycling

406 Compost provides household and business collection for compostable items across Helena and the greater area. The collection includes meat, bones, dairy, and other compostable items such as cups, utensils, and dishware. The material collected is processed and fed to worms at a composting facility in Belgrade, MT, or composted at the Landfill.

406 Recycling provides electronic (E-Waste) collection through three different options: collection services to businesses and institutions throughout Helena, drop-off of electronics by appointment, and collection events on the last Friday of every month.

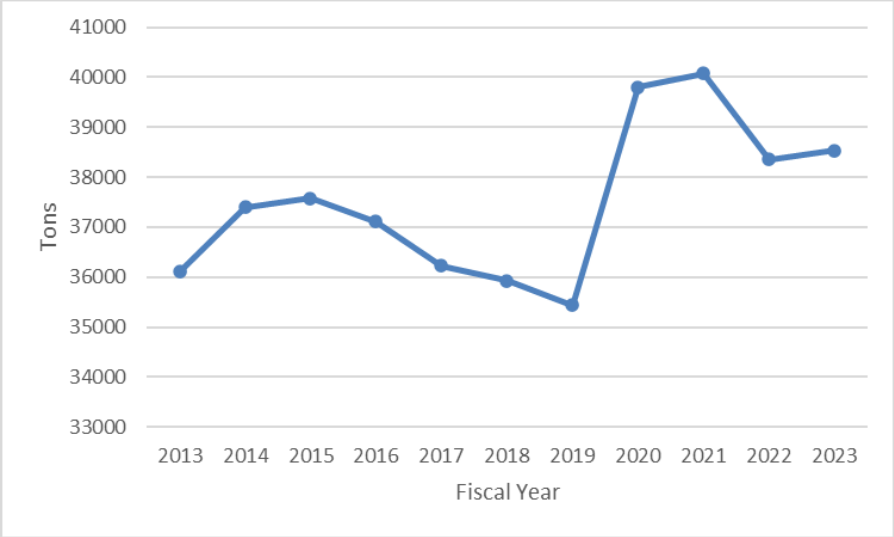
1.4.5.4 Pacific Steel and Recycling

Pacific Steel and Recycling accepts metal from the City for recycling. It purchases all varieties of scrap metal, including vehicles, catalytic converters, aluminum, brass, copper, steel, miscellaneous scrap, and ferrous and non-ferrous metal from the public. Pacific Steel also sells steel to the public. It also accepts e-waste, cardboard, and paper, but not plastic. The site is on three acres, and there is not much room for cardboard storage.

1.4.6 Solid Waste and Recycling Generation

The City's total landfill disposal in 2023 (fiscal year) was 38,529 tons. This is a combined total of Transfer Station disposal data (residential, commercial, roll-offs, self-haul) and Tri-County Disposal (residential) data. The exhibit below, Exhibit 1-1, illustrates the last ten years of disposal tonnage at the Landfill.

Exhibit 1-1 - Landfilled Tons Per Fiscal Year



Based on fiscal year 2024 data, the City provided solid waste and recycling services to 11,800 residences. Every residence receives weekly curbside garbage collection, and recycling is provided through drop-off sites and a privatized curbside recycling program. The centrally located Transfer Station is available to both city and county residents as a free, source-separated drop-off site. It accepts plastics, cardboard, aluminum and steel cans, paper, yard waste, and automotive waste.

An opt-in curbside recycling program is also available to residents within the City, Lewis & Clark County, and Jefferson County limits. Within the City, approximately 12 percent, or 1,521 residents, subscribe to curbside source-separated recycling. This program is operated by a private company and offers both single-stream (county residents) and source-separated recycling (city residents) bi-weekly. The specific programs and their related costs are as follows:

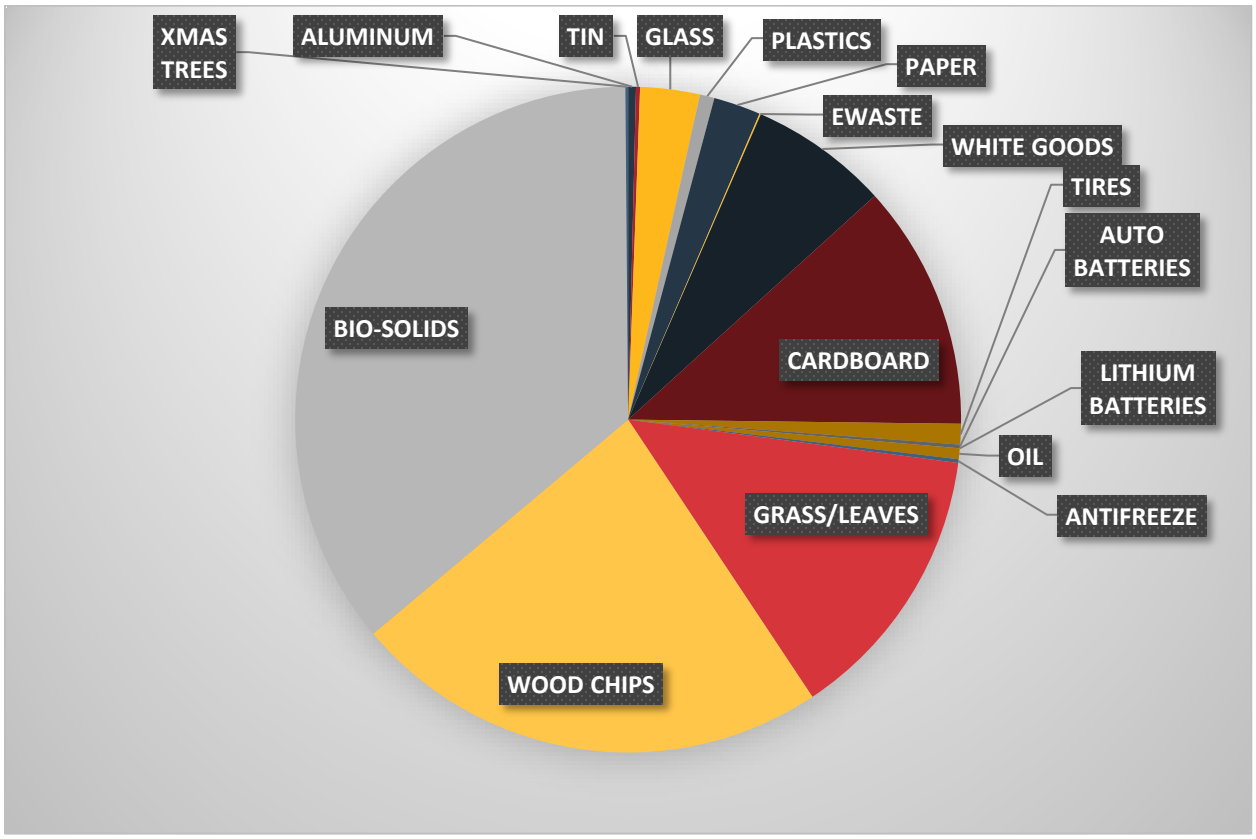
- **City Homeowners**: Source-separated curbside recycling for $8/month. This cost is subsidized by the City by $8.20 to encourage recycling, making the total cost $16.20. The City provides bins for the customers.
- **City Renters**: Source-separated curbside recycling for $16.50/month or $49.50 a quarter, plus a $40 one-time fee for bin setup.
- **County Residents**: Single-stream curbside recycling for $19.95/month or $59.85 a quarter.

The City curbside source separated recycling collects approximately 280 tons of recyclables annually.

In total, approximately 2,228 tons of recycling were diverted from the Landfill by city and county residents combined, and composting activities diverted approximately 6,787 tons from the Landfill in 2023, for a total of 9,015 tons. This results in 1.46 pounds per person per day of recyclable or compostable materials, equating to a 19 percent recycling rate.

The composition of the recyclable materials, based on data supplied by the City for fiscal year 2023, is presented in Exhibit 1-2 below.

Exhibit 1-2 - Composition of Recyclables



1.4.7 Permit System

In fiscal year 2024, city residents pay $194.10 per year for MSW curbside collection of MSW and 3,000 pounds of waste disposal per fiscal year at the Transfer Station. A County resident pays $98 and has the same 3,000 pounds of waste disposal but needs to self-haul or can contract with a private hauler for curbside pickup of MSW. The following materials count towards the 3,000-pound allotment:

- MSW
- Construction and demolition
- Freon units
- Tires
- Mattresses and bed springs
- Yard waste
- Car batteries
- Waste oil
- Antifreeze
- Electronic waste

Bulky waste collection is also provided to city residents to haul away large residential waste items with the caveats that it only takes the truck one to two minutes to load, 10 to 12 bags maximum, and items can't weigh more than 80 pounds. Residents must call ahead for the service.

For comparison, residents of the City of Bozeman pay $32.93 per month for a 100-gallon tote for curbside garbage collection and $12.23 per month for a 100-gallon tote for every-other-week, single-stream curbside recycling. Yard trimmings are collected at no additional cost, but containers must weigh less than 35 pounds. The City of Bozeman provides these services. This equates to $541.92 per year for residential service.

Republic Services provides solid waste services in the City of Missoula. Solid waste and recycling services cost approximately $48.60 per month for a 96-gallon solid waste cart collected every week and a 96-gallon recycling cart collected every two weeks. This equates to $583.20 per year for residential services.

2.0 Communication Plan

The Communication Plan (Plan) for the Integrated Solid Waste Master Plan (ISWMP) consisted of three phases: gathering general feedback, developing alternative scenarios, and selecting preferred scenarios.

2.1 Purpose

The purpose of the Plan was to provide guidance on how information about the ISWMP will be communicated. The Plan emphasized clear communication throughout the development of the ISWMP to integrate input received. The Plan set out each phase of communication that had been taken, the methods by which communication had been provided, and the key talking points used.

2.2 Goals

The goals of the communication plan were as follows:

- Optimize public engagement
- Broadly reach the impacted area
- Create clear talking points for Steering Committee members, City and County Leadership, and others involved in the development of the ISWMP
- Facilitate support of the final scenario

2.3 Phases

The Plan included three phases of communication. The first phase, “Gathering General Feedback,” involved collecting feedback from the public and stakeholders of solid waste management regarding what people wanted to keep or change about the current system. It was also used to collect general data on the current system. Communication methods of this phase focused on surveys, a spokesperson, and open houses.

The plan's second phase, “Alternative Scenarios,” focused on describing the scenarios, how they would be implemented, and a list of advantages and disadvantages for each option. Based on the descriptions, the public could provide feedback on the most appealing scenario. The communication methods of this phase also focused on surveys, a spokesperson, and open houses.

The plan's third phase, “Preferred Scenario,” focused on informing the public about the selection of the preferred scenario based on the feedback taken into account in Phase Two. The information given to the public included a more in-depth description of the scenario. It highlighted why it was chosen and gave a more detailed list of its advantages and disadvantages. During this phase, there were still opportunities for the public to input their feedback on the selection throughout its implementation. The communication methods of this phase included using the “Be Heard Helena” webpage to be available for comments both during and after the implementation of the project, as well as using a spokesperson to provide transparency over what was selected and why to the public.

2.4 Gathering General Feedback

The survey used for Phase One of the Plan was released to the public on March 3, 2023, and closed on April 28, 2023. It was distributed via QR code at the Landfill, Transfer Station, City utility bills, postcards to the county residents, social media posts, and the City/County Building.

The survey's goal was to provide an opportunity for the public and stakeholders to express comments about the current solid waste system in both the City and County. It provided multiple-choice and open-ended questions to create a comprehensive understanding of the public's interest.

2.4.1 Survey Results

A total of 1,766 responses were collected from city and county residents for Phase One of the Plan. The questions asked and the results are presented in Appendix C.

Based on the 2020 Census[4], the City of Helena had a population of approximately 32,244 residents. Collecting 407 surveys from residents represents approximately 1.26% of the total population. This sample size provides a reasonable snapshot of the community's opinions and behaviors, assuming the survey respondents represent the diverse demographics within the City.

Based on the 2020 Census[5], Lewis and Clark County had a population of approximately 38,882 residents, excluding the City. Collecting 1,359 surveys from residents provides a sample size of approximately 3.5%. Statistically, this sample size can offer a reasonable level of representation, assuming the survey respondents represent the diverse demographics within the County.

Generally, a larger sample size would reduce the margin of error and increase the confidence level in the results. For a population of this size, a total sample of around 760-800 surveys would typically be considered sufficient for a 95% confidence level with a 5% margin of error[6].

2.4.2 Key Findings

The key findings of this survey are that most respondents are satisfied with the current solid waste system.

1. **Collection—**94 percent of city respondents rated curbside garbage collection as good or excellent for convenience, 95 percent as good or excellent for reliability, and 75 percent as good or excellent for cost. Seventy-eight percent of city respondents rated curbside recycling collection as good or excellent for convenience, 92 percent as good or excellent for reliability, and 66 percent as good or excellent for cost.

For any areas of improvement, the following were noted.

2. **Diversion—**55 percent of respondents (City and County combined) would like more diversion opportunities. Of those who responded yes, 59 percent indicated they would be willing to spend $1-10 monthly for additional services. Of the diversion options presented, 36 percent indicated they would like more recycling opportunities, and 23 percent indicated they would like more composting opportunities.

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[4] U.S. Census Bureau QuickFacts: United States
[5] U.S. Census Bureau QuickFacts: United States
[6] Sample Size Calculator | Good Calculators

3. **Recycling** – 58 percent of city respondents indicated they are interested in universal curbside recycling. For those who responded as interested in universal curbside recycling, 63 percent indicated they would be willing to spend $1-10 monthly for this service.
4. **Transfer Station** –91 percent of respondents (City and County combined) indicated they use the Transfer Station. Of those respondents, 78 percent rated the convenience as good or excellent, and 71 percent rated the cost as good or excellent.
5. **Pay As You Throw (PAYT)** - 72 percent of respondents (City and County combined) indicated they are not interested in PAYT. This can be broken down into 61 percent of city survey respondents and 75 percent of County survey respondents who are not interested in PAYT.

2.5 Alternative Scenarios

The plan's second phase, “Alternative Scenarios,” focused on describing the scenarios, how they would be implemented, and a list of advantages and disadvantages for each option. Based on the descriptions, the public could provide feedback on the most appealing scenario. The communication methods of this phase also focused on surveys, a spokesperson, and open houses.

The following system-wide evaluations and sub-options were considered and are presented in the following sections with recommendations for a “Preferred Scenario” as the third phase:

1. System-Wide Evaluations
    a. Evaluate public vs. private solid waste management
    b. Evaluate the collection system
    c. Permit evaluation
        i. PAYT
        ii. Changes to permit program
        iii. Modifications for tracking waste
2. Sub-options
    a. Recycling Options
        i. Universal curbside collection
        ii. Additional drop sites
    b. Yard Waste Options
        i. Subscription curbside collection
        ii. Universal curbside collection
    c. Food Waste Options
    d. Capital Infrastructure Options
        i. Improvements to the existing Transfer Station
        ii. Construct a new Transfer Station
        iii. Additional Drop-off sites in the County
        iv. Upgrades to the County composting operation

3.0 Capital Improvements

The system infrastructure was evaluated for potential efficiencies crucial for economic development, quality of life, and sustainability. Here's how improvements in infrastructure efficiency can impact these areas:

- **Economic Development**:
  - **Cost Savings**: Efficient infrastructure reduces operational costs, such as energy consumption and maintenance expenses.
  - **Productivity**: Better infrastructure supports faster and more reliable waste handling and diversion.
- **Quality of Life and Sustainability**:
  - **Improved Services**: Efficient infrastructure ensures sustainable, reliable, and accessible services like convenient waste disposal, curbside collection of recyclables, and curbside collection of yard waste.

Efficiency improvements in infrastructure often involve technological advancements, better management practices, and strategic investments.

Evaluated improvements included upgrading the existing transfer station, building a new recycling consolidation facility, constructing additional container sites throughout the County, upgrading the County compost facility, and building a new transfer station. The potential projects are detailed throughout Section 3.1.

3.1 Upgrades to the Existing Transfer Station

The existing Transfer Station experiences periods of extreme congestion due to the high number of users. The congestion can back up cars on the inbound side all the way to Benton Avenue. One point of congestion is on the outbound scale, which backs up the vehicles trying to exit the transfer station, which does not allow the vehicles to enter the transfer station, ultimately backing up traffic on the inbound scale. The large intersection at the office, yard waste, and metal pile also creates traffic issues. The traffic flow through the Transfer Station needs modification. Proposed modifications to the transfer station are described throughout Section 3.1.

3.1.1 Transfer Station Size

The existing Transfer Station Building has room for about eight public vehicles to unload on the top level and three vehicles to unload at the pit level. On average, the transfer station receives about 560 vehicles per day on weekdays and 700-900 vehicles per day on weekends, with a peak vehicle count of 1,300 in one day. Not all vehicles go to the transfer station building; some vehicles have loads of yard waste, special waste, or recyclables that do not require entrance into the transfer station.

The following formulas were used to determine the size of the Transfer Station Building required to have zero queue time on peak traffic days, assuming the vehicles are spread out over the operating hours of the transfer station. This calculation used 900 vehicles per day as the current peak day. The Transfer Station is open from 8:00 a.m. to 4:15 p.m. (8.25 hours daily). Per industry standards, tipping floor bays should be 12 feet wide to accommodate all passenger cars and pickups with trailers to commercial packer trucks.

Sizing number of bays for peak usage of public users:

Design Peak Day = 900 customers per day

900 customers per day / 8.25 hours / day = 110 customers / hour

12 minutes per customer for unloading:

60 min/hour / 12 minutes per customer = 5 customers / hour / bay

110 customers / hour / 5 customers / hour / bay = 22 bays

Sizing number of bays for average usage of public users:

Design Average Day = 560 customers per day

560 customers per day / 8.25 hours / day = 68 customers / hour

12 minutes per customer for unloading:

60 min/hour / 12 minutes per customer = 5 customers / hour / bay

68 customers / hour / 5 customers / hour / bay = 14 bays

The Transfer Station currently has a maximum of 8 bays on the upper level of the public side and three additional bays on the pit level, for a total of 11 bays. However, the existing transfer station is undersized for the current peak day. To adequately service the traffic with no wait times, the transfer station needs 11 additional bays for the peak day.

3.1.2 Description of Transfer Station Upgrades

The Transfer Station upgrades are described throughout Section 3.1.2. The potential upgrades are shown in Figure 1.

3.1.2.1 Traffic Flow

The interior roads at the transfer station will be rerouted and lengthened to increase traffic queuing space. One access point will control the green waste/recyclables area and reduce traffic congestion. The public will still utilize one side of the transfer station, and trucks with trailers will drop waste at the pit level. The interior roads will be designed to eliminate large intersections by making the access points to the disposal areas narrower and more controlled.

3.1.2.2 Disposal Areas and Buildings

New Scalehouse and Scales

The new scale plaza will be reconstructed north of the existing scale plaza, including the scale house and scales. The plaza will include one inbound scale, two outbound scales, and additional space for the opportunity to expand to a second inbound scale in the future. The second outbound scale will be equipped with an automated kiosk for customer transactions allowing the traffic to exit the Transfer Station quicker, relieving congestion.

The building will have potable water and sanitary sewer to serve a restroom. The building will also have a camera system to view transactions and other areas of operations. Monitors for the camera system will be placed in the scale house.

Recycling Area

The recycling area can be relocated near the existing office or remain in the same location.

Recycling Consolidation Building

A new recycling consolidation building will be constructed south of the existing transfer station. One end will be heated and house a recycling baler, while the other end will be used for cold

storage with exterior electrical plugs for truck block heaters and miscellaneous electrical needs. The warm section will feature a conference room, break room for transfer station staff, locker rooms, and restrooms.

Recyclables will be tipped onto the floor in the heated portion of the building and pushed into the recycling baler. The baler will consolidate recyclables, and depending on market conditions, they will be hauled to a regional recycler.

The new recycling consolidation facility could be built on a separate parcel. If the City adopts universal curbside recycling, this facility will be necessary at the existing transfer station or a new site.

Truck Storage/Maintenance Building

The City will construct a warm storage building to house its fleet of collection trucks and provide space for essential equipment maintenance. This initiative aims to reduce operating costs, improve fleet efficiency, and provide a more centralized location for vehicle storage and maintenance.

The building will be capable of housing a minimum of 30 collection trucks, with the potential for expansion to accommodate future fleet growth. The facility will also provide space for maintenance work on the trucks and related equipment.

The location of the building has not yet been determined. However, the site should be strategically chosen to ensure easy access for trucks and adequate space for future expansion. Additionally, the site should be located near other City divisions, allowing for the potential to share resources such as utilities, security, and operational costs.

The construction of this facility offers an opportunity for collaboration with other city divisions. Shared use of the building could result in cost savings for the divisions, as they could pool resources for construction, utilities, and maintenance. Collaboration could also streamline operations and reduce redundancy, ensuring that the facility is used to its full capacity.

HHW/E-waste/Covered Used Oil Building

The household hazardous waste and electronic waste will be one steel frame metal building with a lean-to. The HHW portion of the building will be an open-air structure with a metal roof and no wall paneling on three sides. Holding areas and cabinets with spill protection will contain the waste. The e-waste portion of the building will be enclosed and be a pull-through structure to protect the waste and the depositors from the elements. Manual roll-up doors on both building ends will be open during business hours. The covered used oil area will be a lean-to that is covered on three sides, with one side open to place storage tanks. The E-waste portion of the building may be heated, requiring the two areas to be separated by a firewall or making them two separate structures.

Z-Wall

A z-wall can be constructed to dispose of special wastes, recyclables, or small loads. Adding a z-wall to the existing transfer station will reduce traffic inside the transfer station building because it will give the customers another location to dispose of waste. The four-container z-wall shown in the figure adds eight bays to the system. With the addition of a z-wall, the City will have 19 bays for waste disposal, almost accommodating the peak day traffic volume.

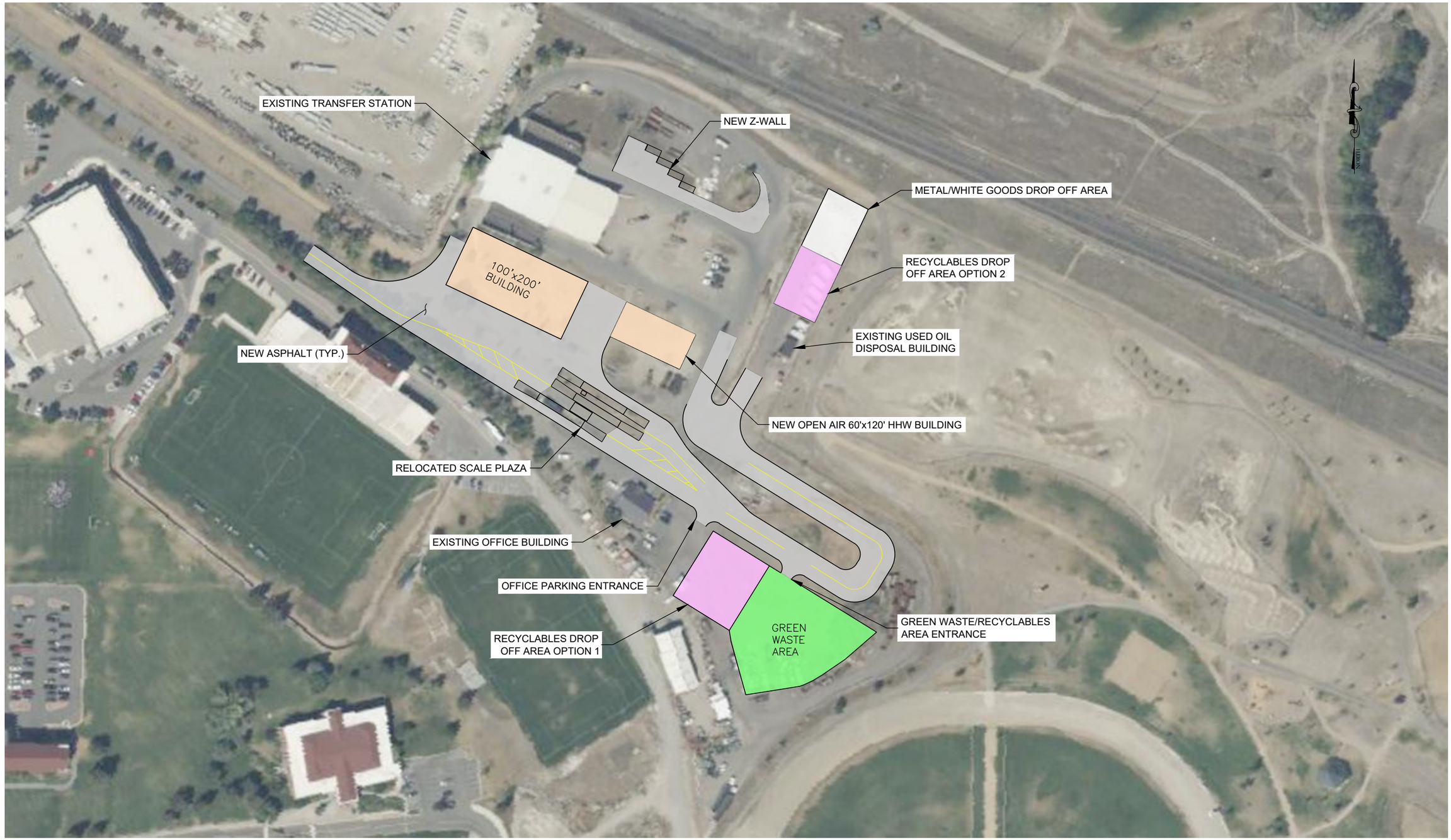

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Figure 1
Transfer Station Improvements

CITY OF HELENA - LEWIS AND CLARK COUNTY
INTEGRATED SOLID WASTE MASTER PLAN

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3.1.2.3 Cost Considerations

Infrastructure

Table 3-1 includes the estimated capital cost for improvements to the existing transfer station. The construction costs are estimated at 2024 construction rates.

Table 3-1 - Estimated Capital Costs for Transfer Station Improvements

ESTIMATE OF PROBABLE CONSTRUCTION COST City of Helena Transfer Station Improvements 2024		
ITEM NO.	**DESCRIPTION**	
Scale Plaza		
1	Scale/Foundation/Approaches	
2	16'x 32' Scale House	
3	Earthwork	
4	4" Asphalt Surfacing	
5	Miscellaneous Drainage Improvements	
6	Miscellaneous Traffic Improvements (Striping, Guardrail)	
7	Mobilization/Traffic Control	
	Scale Plaza Subtotal	$1,810,000
Z-Wall		
1	Earthwork	
2	Structural Concrete - Container Walls	
3	Concrete Slabs - Container Pads	
4	Barrier Gates/Fencing/Signage	
5	Miscellaneous Drainage Improvements	
6	Earthwork	
7	Mobilization/Traffic Control	
	Z-Wall Subtotal	$275,000
Truck Storage/Recyclables Building		
1	Metal Building (100' x 200')	
2	Site Work (Pavement, Utilities)	
3	Compacting Equipment	
4	Mobilization	
	Truck Storage/Recyclables Building Subtotal	$5,550,000
Household Hazardous Waste Building		
1	HHW Building	
2	Mobilization	
	HHW Building Subtotal	$523,000
	SUBTOTAL	$8,158,000
	Contingency 20%	$1,631,600
	Construction Subtotal	**$9,789,600**
	Engineering Design and Construction Administration 20%	$1,958,000
	TOTAL	**$11,747,600**

Labor
The labor should remain the same. As the population rises, additional labor will be required, but no significant changes will be necessary immediately.

Trucking Costs
Trucking costs to transfer waste from the transfer station should remain the same. However, the costs associated with collection will decrease with decreased mileage on the collection trucks.

3.1.2.4 Timeline
The improvements may be phased in to accommodate the City's needs.

3.1.2.5 Other Options for a New Transfer Station Complex
The City may consider moving some of the operations to a new location. This might include moving the yard waste and providing a small facility to drop off small loads of household waste. The site will require scales, scale houses, office buildings, maintenance, extra equipment, a small transfer station building, maintenance building, extra labor, and other costs. The bulk of the waste will still go through the existing transfer station until the City has outgrown the existing transfer station, at which time, all of the operations will move to the new site. This location could also house the recycling consolidation building.

3.1.2.6 Project Funding
A cost-of-service analysis will need to be completed to determine how these projects would be funded. The project may be funded with a combination of reserve funds, loan programs, and rate adjustments.

3.1.2.7 Waste Diversion Impacts
Waste diversion may increase with the addition of a recycling consolidation building. This building will allow more recyclables to be processed by the City and will be needed if the City moves forward with a city-run universal curbside recycling program. More information about waste diversion potential with curbside recycling is included in Sections 8, 9, and 10 of the report.

Additional flexible operations space at the Transfer Station will allow for more collection of yard waste, food waste, E-waste, and HHW.

3.1.2.8 Public Response Considerations
- "No change" or "Do not want change" (822 out of 1766 responses)
- Approximately 10 percent of city and county residents filled out the form, indicating a lack of interest or neutral opinion in the solid waste program.
- City and County survey respondents are content with the current Transfer Station location (City and County rate the Transfer Station predominantly as a 4 out of 5 for convenience).
- Concern for traffic congestion near Carroll College (1 out of 1766 comments).
- Complaints over the existing Transfer Station emitting an unpleasant odor (3 out of 1766 comments).

3.1.2.9 Existing Transfer Station Upgrades Advantages and Disadvantages

Advantages	Disadvantages
•More affordable than a new transfer station facility •Projects can be phased •All operations in one location - cost savings by less mileage on collection trucks •Additional space for recycling compacting facility •Better traffic throughput with rerouting roads and additional scales •Location is convenient for city residents •Upgrades to yard waste area	•The space is limited and may not have room for growth •Carroll College residents want the facility to relocate •Location is not convenient for county residents •Grass piles release unpleasant odor and can be smelled from Centennial Park

3.2 Additional Container Sites Throughout the County

The existing Transfer Station experiences extreme congestion due to the high number of users. Approximately 75 percent of the customers using the Transfer Station are Scratch Gravel Solid Waste District residents who travel a long distance to dispose of their waste. During the public comment period, 48 percent of the county survey respondents expressed a desire to see more waste diversion opportunities, and other survey respondents expressed the desire to have a waste disposal area closer to their residences. The construction of additional container sites throughout the County will accommodate the needs of the public and address some of the existing issues.

3.2.1 Description of Container Site Facility Concept

Section 3.2.1 describes the container site facility. See Figure 2 for the potential layout of the Landfill. An additional location in the County will be identified later. The two sites will be similar in layout and operations.

3.2.1.1 Disposal Areas and Buildings

Scale House/Scales

A scale plaza with an inbound and outbound scale and scalehouse will be located at each container site. The scale house will have transaction windows on both sides, large enough to allow the attendants to see the incoming loads and provide natural light to the structure. The building will have potable water and sanitary sewer to serve a restroom. The scale house will be equipped with networking capabilities and computers to utilize the County's specialized software for waste tracking. The building will also have a camera system to view transactions and other areas of operations. Monitors for the camera system will be placed in the scale house.

Recycling Area

The recycling area will consist of bins outside the fence for 24/7 access to recycling. The materials that will be accepted will depend on the site's power availability. Plastics must be compacted for economical recycling. The plastic recycling compactors require power; if no power is available, the plastics cannot be recycled. The site will accept cardboard, paper, tin, and aluminum cans at a minimum.

Perimeter Fencing
Ten-foot-tall chain link fencing with 12 inches of barbed wire will surround the site for security. Two electric sliding gates will be installed at the container site facility entrances.

Z-Wall
A four-container z-wall will be constructed. Customers will dispose of their waste in 40-yard roll-off containers. The County will haul the containers to the active face of the landfill. The sites will be equipped to accept household waste, possibly having additional containers to accept small loads of construction waste.

Yard Waste
Yard waste will be accepted at the container sites in a dedicated area. The County will take it to the County Landfill for composting.

Special Waste
Special wastes may not be accepted at the container sites.

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Conceptual Figure 2
Landfill Improvements

CITY OF HELENA - LEWIS AND CLARK COUNTY
INTEGRATED SOLID WASTE MASTER PLAN

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3.2.1.2 Cost Considerations

Infrastructure

Table 3-2 includes the estimated capital cost for a container site at the Landfill. The construction costs are estimated at 2024 construction rates.

Table 3-2 - Estimated Capital Costs for Container Site Facility at Landfill

ESTIMATE OF PROBABLE CONSTRUCTION COST Lewis and Clark County Landfill Container Site Facility 2024		
ITEM NO.	**DESCRIPTION**	
1	Earthwork	
2	Scale/Foundation/Approaches	
3	16'x 32' Scale House	
4	Structural Concrete - Container Walls	
5	Concrete Slabs - Container Pads	
6	Barrier Gates/Fencing/Signage	
7	Miscellaneous Drainage Improvements	
8	Site Security - Fencing/Gates	
9	4" Asphalt Surfacing	
10	Mobilization	
	SUBTOTAL	$1,500,000
	Contingency 20%	$300,000
	Construction Subtotal	**$1,800,000**
	Engineering Design and Construction Administration 18%	$324,000
	TOTAL	**$2,124,000[1]**

[1] This cost estimate is for a container site at the Landfill and does not include the cost of land purchase, which would be required for a container site in another location.

Labor

Additional labor is required to run a new container site. A scale attendant/site attendant will be required at each site, and at least two more truck drivers will be needed to haul the waste to the Landfill.

Trucking Costs

Adding haul routes to haul waste from the container sites to the Landfill will add cost to the County's operations costs. The trucking costs for the container site at the Landfill will not be significant due to the close haul distance. The trucking cost of hauling waste from a different container site is unknown until a location is determined.

Other Costs

The County may need to purchase additional haul trucks and containers for the new site. The County has haul trucks and containers for the Marysville site, but more may need to be purchased to service the new sites. Other operational costs will increase, such as buying a haul truck, power, water, sewer, insurance, supplies, etc.

The cost of an additional site in the County may be higher than the one at the Landfill if the purchase or long-term lease of property is required.

3.2.1.3 Timeline

The County can add a container site at the Landfill without land acquisition or DEQ permitting. The container site could be constructed and operational soon after the County proceeds with the project.

A container site at another location will take longer due to land acquisition, potential DEQ permitting, and public comments.

In addition to new license requirements or the siting of a new container site, it must comply with growth plans and local zoning regulations.

3.2.1.4 Project Funding

A cost-of-service analysis will need to be completed to determine how this project would be funded. It may be funded with a combination of reserve funds, loan programs, and rate adjustments.

3.2.1.5 Waste Diversion Impacts

Waste diversion will increase with access to recycling. The ability for residents to haul yard waste to a location closer to their home increases the likelihood that it will not be thrown away with household waste.

3.2.1.6 Public Response Considerations

- County survey respondents want more access to recycling and yard waste disposal (48 percent or 652 out of 1,359 responses).

3.2.1.7 County Container Site Advantages and Disadvantages

Advantages	Disadvantages
•Traffic reduction at the City of Helena Transfer Station •More potential for recycling and waste diversion for county residents •Locations closer to population centers in the County •Upgrade the landfill scale from manual to attended by county employee •Reduce yard waste at the Transfer Station	•Capital costs •Increased labor and operational costs

3.3 Landfill Compost Facility

The City and County could benefit from an upgraded composting facility. Currently, the City collects yard waste from residents at the Transfer Station. The City hauls the yard waste to the Landfill, where it is shredded and mixed with biosolids. A static pile compost system is utilized to create compost for final cover at the Landfill, or it is available for purchase in bulk by residents. Static pile composting is highly weather-dependent and takes three to six months to cure the compost. The County currently hires a company to shred the yard waste. Biosolids are trucked to the Landfill from the City. The County has large piles of uncompleted compost on site, and if the curbside yard waste diversion program is implemented in the City and the County adds drop-off sites for yard waste, the yard waste volume will increase. Therefore, the compost will need to be processed quickly.

3.3.1 Description of Compost Facility Upgrades

A description of the Landfill compost facility upgrades is provided below. See Figure 3 for the potential layout of the Landfill compost facility.

There are many ways to process yard and food waste into compost, but this analysis focused on Covered Aerated Static Pile (CASP) compost systems. CASP compost systems are an efficient tool to control odors and make great compost. CASP systems feature dynamically controlled aeration with a wide range of air delivery rates required to keep oxygen and temperature at Best Management Practice levels throughout the pile. At the same time, CASPs offer great energy efficiency for creating compost compared to turned or enclosed processes. In a CASP system, the aeration fan blows air through large diameter manifold ducting, to smaller diameter zone ducting, and finally into high-density polyethylene (HDPE) piping or trenches underneath the compost piles. Temperature probes placed in the compost relay information to the computer system, which modulates butterfly dampers in the zone piping. The butterfly dampers modulate airflow based on temperature feedback to maintain optimal process conditions. A layer of finished compost is placed over the composting piles to insulate the processing compost.

Additional options such as in-vessel recovery, conventional in-vessel, reversing only aeriation with trench-style floor, and positive aeration only with a sparger pipe-style floor were analyzed at a high level. The in-vessel options were not further explored because of the high costs. Reversing only aeration with trench style floor option was not further explored because it was anticipated to cost the same and perform inferior to a CASP system. The positive aeration with a sparger floor option was not explored because it was expected to cost more and perform inferior to a CASP system.

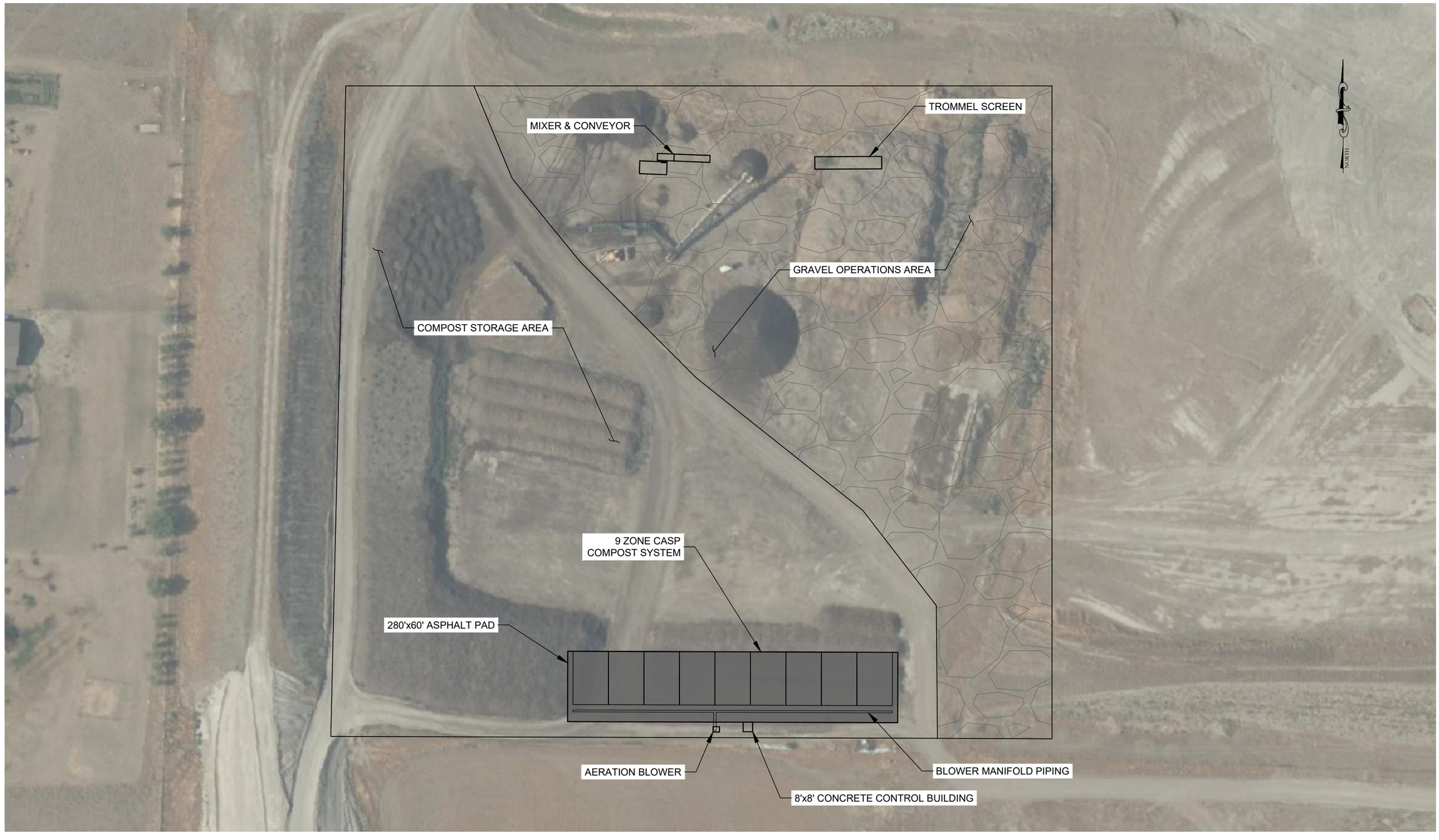

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Figure 3
Landfill Compost Facility

CITY OF HELENA - LEWIS AND CLARK COUNTY
INTEGRATED SOLID WASTE MASTER PLAN

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3.3.1.1 Cost Considerations

Infrastructure

Table 3-3 includes the estimated capital cost for a composting facility at the Landfill. The construction costs are estimated at 2024 construction rates.

Table 3-3 - Estimated Capital Costs for Composting Facility at Landfill

ESTIMATE OF PROBABLE CONSTRUCTION COST Lewis and Clark County Landfill Composting Facility 2024		
ITEM NO.	**DESCRIPTION**	
1	CASP Mechanical	
2	CASP Electrical	
3	Concrete Control Building	
4	4" Asphalt	
5	Gravel Surfacing	
6	Miscellaneous Drainage Improvements	
7	Trommel Screen	
8	Mobilization	
	SUBTOTAL	$2,484,700
	Contingency 20%	$496,000
	Construction Subtotal	**$2,980,700**
	Engineering Design and Construction Administration 12%	$357,000
	TOTAL	**$3,337,700**

Labor and Operations Costs

Operations and maintenance costs include labor, fuel, monitoring, testing, and repairs and a reserve for replacing equipment at the end of its service life. Labor estimates used for the operation are based on the existing landfill staff being able to supplement labor needs at the compost facility when high volumes of compost are being produced or compost employees are absent. In the same respect, during slow periods at the compost facility, the compost employees will assist with the landfill operation.

3.3.1.2 Timeline

The County can add an upgraded compost system to the Landfill without land acquisition. Approval from DEQ is required. The container site could be constructed and operational soon after the County proceeds with the project.

3.3.1.3 Project Funding

A cost-of-service analysis will need to be completed to determine how this project would be funded. The project may be funded with a combination of reserve funds, loan programs, and rate adjustments.

3.3.1.4 Waste Diversion Impacts

Waste diversion will increase with the ability to process yard waste faster. The composting facility will be needed if the City implements a curbside yard waste collection program.

3.3.1.5 Public Response Considerations

- County survey respondents want more access to yard waste disposal (48 percent or 652 out of 1,359 responses).
- The survey respondents would like to have access to finished compost.

3.3.1.6 County Compost Site Advantages and Disadvantages

Advantages	Disadvantages
•Enhance yard waste collection •Complete composting faster •Provide a higher quality compost •Increase opportunities to provide additional compost for purchase •Less odor from the compost operations	•Capital costs •Increased labor and operational costs

3.4 New Transfer Station

The existing Transfer Station was evaluated based on a few comments received by the public regarding the location being in the middle of the City, the odor from the yard waste, and the congestion at the site. A new transfer station was evaluated to develop a cost estimate and feasibility study. The existing transfer station is located in the center of the City population but not the center of the overall user population.

A new Transfer Station would be sited on a parcel of land capable of handling the high traffic volumes, have extra room for expansion, have all of the operations located at one site, and have better traffic throughput.

3.4.1 Description of New Transfer Station Concept

Section 3.4.1 describes the new transfer station. Figure 4 shows the potential layout of the facility.

3.4.1.1 Transfer Station Entrance

All public, commercial, and transfer vehicles will enter the Transfer Station through separate access points with electric access gates that will be adequately lit for safe usage during dark times in the mornings and evenings. The perimeter of the Transfer Station will be landscaped with trees and visual berms with grass, flowers, and shrubs for an aesthetically pleasing camouflage to hide the transfer station from the road. The electric gates will only be open during business hours. A large entrance sign with the City's name and logo will be displayed at the public entrance.

3.4.1.2 Traffic Flow

The Transfer Station roadways will be paved and will accommodate two-way traffic. Divider lines will also be painted on the roadways to separate opposing traffic. The separate entrance points will segregate traffic types to improve safety and reduce congestion.

3.4.1.3 Public Traffic Flow Through Transfer Station

Public traffic will enter the Transfer Station through the public entrance gate. After entering the Transfer Station, traffic will either go to the inbound scale or turn into the recycling areas or the office building.

Customers with recyclables will turn into the recycling area and drop off recyclables in bins. Customers who only dispose of recyclables can exit the facility without passing over the scales. Customers with recyclables and waste can drop off recyclables in the recycling area, queue back into traffic, and cross the scale to dispose of other materials. The office can be accessed using the same road as the recyclable area on the right side of the main access road.

All public customers disposing of non-recyclables will weigh in on the inbound scale. The scale attendant will direct the customer to the appropriate disposal areas. After the scale, the customer can dispose of various waste materials at the yard waste, hazardous waste, e-waste, and/or covered used oil areas before entering the transfer station. Customers utilizing these areas will place their items and re-enter traffic. The public will then continue to the transfer station building.

Public vehicles entering the transfer station will go through the door on the side of the transfer building, dump their load onto the tipping floor, and exit via the door on the front of the public tipping area. Entering from the side will allow the public a line of sight visual to the entire tipping floor and their target dump bay. All vehicle maneuvering will be done inside the transfer building. The customer will weigh out, make transactions at the scale house, and exit the Transfer Station. Proper signage and road markings will ensure the public follows traffic routes.

3.4.1.4 Commercial Truck Traffic Flow Through Transfer Station Facility

Commercial trucks will enter the Transfer Station through the commercial/packer truck entrance gate. The trucks will use a dedicated commercial inbound scale. The trucks will stop on a scale that is operated by a kiosk. The truck will proceed through the door in the commercial truck tipping area, turn around, and back into one of the bays. The outbound trucks will not be required to weigh out as the system will have a tare weight for the truck. The City can re-tare the commercial trucks at any time. The commercial trucks and the public will be kept separate by entering and exiting through separate doors of the transfer station.

3.4.1.5 Disposal Areas and Buildings

Recycling Area

The recycling area features a pull-through design that will utilize dumpsters for depositing recyclables such as aluminum and metal cans, paper, cardboard, plastic, etc. The recycling containers will be placed on a large paved operating area that will allow access, easy placement, and removal of the dumpsters.

Office Area

This building will feature a reception area, offices, a break room with a kitchen area, a conference room, and two ADA-compliant restrooms. The restrooms will also include emergency eyewash stations.

Maintenance/Recycling Consolidation Building

The maintenance building will be a steel-frame metal building with pull-through bays long enough to store a transfer trailer with the semi-tractor attached. The building will feature an office, break room, and ADA-compliant restroom for maintenance and operation staff.

A portion of the building will be dedicated to a recycling consolidation compactor. The recyclables will be tipped onto the floor and loaded into the compactor. Depending on the recyclable markets, the compacted loads will be hauled to a regional recycler.

Scale House/Scales

The scale house the public utilizes will be a steel frame metal building. It will have transaction windows on both sides, large enough for the attendants to see the incoming loads and provide

natural light to the structure. The building will have potable water and sanitary sewer to serve a restroom. It will also have a camera system to view transactions and other areas of operations. Monitors for the camera system will be placed in the scale house.

Public traffic will utilize three scales, and an optional second inbound scale of the same construction could be installed later to reduce queuing times.

A scale will be placed for inbound commercial truck traffic. A keypad kiosk will operate on this scale. Commercial truck drivers will use the kiosk, eliminating the need for an additional scale house and attendant. The driver will drive on the scale and enter their truck number in the keypad. The kiosk will print a transaction receipt for the driver's records, and a receipt will be printed in the scale house for the City's records. An electronic transaction record will also be kept in the City's computer system. An intercom will allow the driver to communicate with the scale house if needed.

HHW/E-waste/Covered Used Oil Building
The household hazardous and electronic waste will be one steel frame metal building with a lean-to. The HHW portion of the building will be an open-air structure with a metal roof and no wall paneling on three sides. Holding areas and cabinets with spill protection will contain the waste. The e-waste portion of the building will be enclosed and be a pull-through structure to protect the waste and the depositors from the elements. Manual roll-up doors on both building ends will be open during business hours. The covered used oil area will be a lean-to that is covered on three sides, with one side open to place storage tanks. The E-waste portion of the building may be heated, requiring the two areas to be separated by a firewall or making them separate structures.

Brush Pile/Yard Waste and Metal/White Goods Areas
This area will have adequate space to allow the City to be flexible with the exact size and location of the individual waste stream areas. The public will enter the area after weighing in on the scale.

Gravel Operations Area
The Gravel Operations area is next to the Z-wall and will have adequate room to accommodate multiple functions. The space can be used for equipment storage or as the City sees fit.

Trailer Storage Area
The trailer storage can store loaded or unloaded transfer trailers. It will have a gravel surface with an additional operations area for more flexible usage.

Stormwater
The Transfer Station roadways will be paved with curbs and gutters to control stormwater. The curbs and gutters will direct stormwater to drop inlets and ultimately to an on-site stormwater retention pond. Valley gutters will be installed on the roadways before the tunnels to minimize stormwater in the contact water tank. Collected stormwater will infiltrate, evaporate, and be used to irrigate the landscaping.

Utilities
The scale house, office, and transfer building will have potable water and sanitary sewer.

Vegetation
The site will feature large portions of grassy areas to increase aesthetics. Trees will be planted along the road to provide a visual barrier.

Perimeter Fencing
Ten-foot-tall chain link fencing with 12 inches of barbed wire will surround the site for security. Two electric sliding gates will be installed at the Transfer Station entrances.

Sign
The entrance gate will display a large sign with the City's logo and name. This will be the public's first impression of the Transfer Station.

Z-Wall
A z-wall can be constructed to dispose of special wastes, recyclables, or small loads.

3.4.1.6 Transfer Station Building

This section describes the transfer station building features, operations area, and waste loadout features.

Metal Building
The new transfer station building will be a fully enclosed, uninsulated steel frame metal building. Three 24-foot tall by 16-foot-wide automatic roll-up doors will be installed on one side of the transfer building, and one roll-up door will be installed on the adjacent side of the building. The four door locations will restrict wind flow into the building, reducing litter. Proper ventilation is essential for vector and odor control and will be achieved by a series of intake louver-dampers and exhaust fans.

The tipping floor will be 10-inch-thick concrete, and the cantilevered floor over the tunnels will be 20-inch-thick concrete to support the weight of the equipment. The tipping floor will be sized for adequate space to store one full day's waste. The public and commercial truck tipping areas will be separated by movable temporary barriers to adjust the sizes of the commercial and public tipping areas based on the amount of traffic on a given day. The large tipping floor allows public vehicles and commercial trucks to maneuver inside the building, decreasing queuing times and litter.

Waste Loadout Features
The transfer building features two tunnels with three hoppers to feed top-loading transfer trailers. Behind each hopper will be a Grizzly crane to situate and compact the waste efficiently into the trailer. Each hopper will have a scale deck beneath it to properly weigh each load for maximum efficiency. A digital readout board will be mounted in the line of sight of the Grizzly operator so the operator knows when the truck is at maximum capacity. The hoppers will have a push wall to easily direct waste into the hopper.

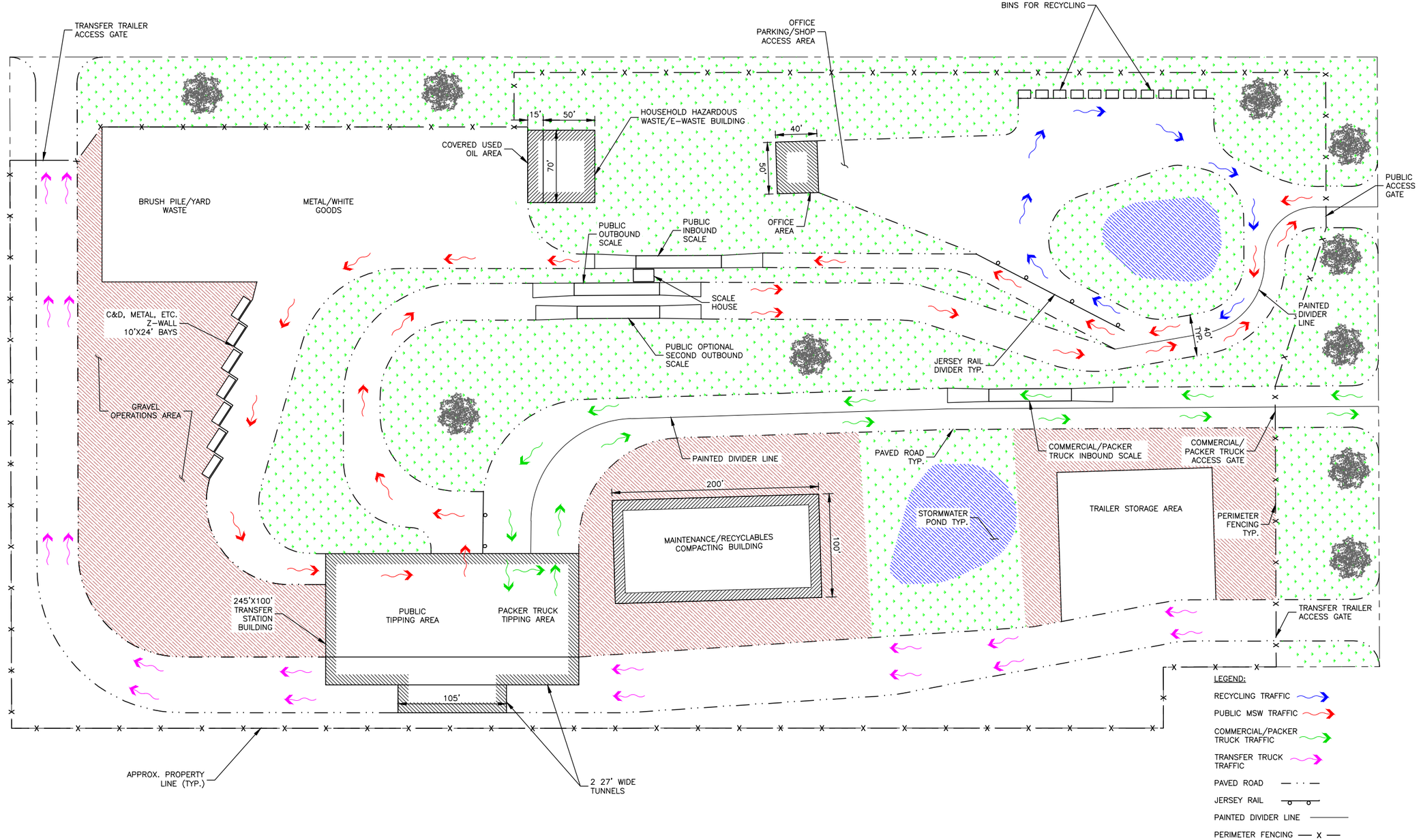

Figure 4
Transfer Station Facility Conceptual Layout

CITY OF HELENA - LEWIS AND CLARK COUNTY INTEGRATED SOLID WASTE MASTER PLAN

GreatWest ENGINEERING

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3.4.1.7 Cost Considerations

Infrastructure

Table 3-4 includes the estimated capital cost for a new transfer station. The construction costs are estimated at 2024 construction rates.

Table 3-4 - Estimated Capital Costs for New Transfer Station Facility

ESTIMATE OF PROBABLE CONSTRUCTION COST City of Helena New Transfer Station 2024		
ITEM NO.	**DESCRIPTION**	
Site Work		
1	Property Purchase[1]	
2	Site Preparation, Clearing & Grubbing	
3	Landscaping	
4	Earthwork	
5	Structural Embankment	
6	Asphalt	
7	Gravel Surfacing	
8	Stormwater Improvements	
9	Curb & Gutter	
10	Signage	
11	Perimeter Fence	
12	Automatic Gates	
13	Security System	
14	Sanitary Sewer Mains and Services	
15	Water Service and Connection	
16	Power Service	
17	Frontage Road Improvements	
18	Traffic Impact Study	
	Site Work Subtotal	$10,720,000
Transfer Building		
1	Tipping Floor & Cantilever Concrete	
2	Retaining Walls/Push Walls Structural Concrete	
3	Lower Level Concrete	
4	Transfer Station Metal Building	
5	Transfer Station Electrical/Mechanical	
6	Fire Protection System	
7	Tunnel Scales (3-70 ft scales)	
8	Grizzly Crane	
9	Contact Water System	
	Transfer Building Subtotal	$15,060,000

Maintenance Building			
1	Maint. Building Metal Building/Structural Concrete		
2	Maint. Building Electrical/Mechanical		
3	Fire Protection System Maintenance Building		
		Maintenance Building Subtotal	$2,500,000
Truck Storage/Recyclables Building			
1	Metal Building (100' x 200')		
2	Site Work (Pavement, Utilities)		
3	Compacting Equipment		
		Truck Storage/Recyclables Building Subtotal	$5,000,000
Scale Plaza			
1	Scale/Foundation/Approaches		
2	16'x 32' Scale House		
		Scale Plaza Subtotal	$1,400,000
Z-Wall			
1	Structural Concrete - Container Walls		
2	Concrete Slabs - Container Pads		
3	Barrier Gates/Fencing/Signage		
		Z-Wall Subtotal	$350,000
		SUBTOTAL	$35,030,000
		Mobilization 10%	3,500,000
		Traffic Control 2%	700,600
		Direct Construction Costs	**$39,230,600**
		Contingency 20%	$7,850,000
		Engineering Design and Construction Administration 15%	$5,885,000
		Permitting	$300,000
		TOTAL	**$53,266,000**

[1] Property purchase price depends on land availability and the real estate market. The purchase price for the purposes of this report is estimated at $5,000,000 for 20 acres of commercial land.

Labor
The labor to run the new transfer station should remain the same. As the population rises, additional labor will be required, but no significant changes will be necessary immediately.

Trucking Costs
The new transfer station location may be closer to the Landfill, so trucking costs to transfer waste from the Transfer Station could decrease. The cost difference will be determined after the new Transfer Station's location is determined.

Other Costs
Other operational costs, such as power, water, sewer, insurance, supplies, etc., should remain similar at the new Transfer Station to those at the existing Transfer Station.

3.4.1.8 Timeline
The new site must be licensed as a Class II Solid Waste Facility with the Montana DEQ Solid Waste Department. The licensing process is a lengthy process of engineering design, DEQ review, and public

comments. If the City decides to move forward with a new transfer station, a location will be determined, and the property will be purchased. An engineer and architect will work together to design the buildings and site. An engineer will complete the solid waste license application and submit it to the Montana DEQ Solid Waste Division. The DEQ will review the license and design, put an Environmental Assessment out for public comment, potentially have a public meeting, address public comments, and then issue a license. At that time, the Transfer Station can begin construction. This process may take upwards of five years before construction can begin.

3.4.1.9 Other Options for a New Transfer Station

The City may consider moving some of the operations to a new location. This might include moving the yard waste and providing a small area to drop off small loads of household waste. The site will require scales, scale houses, office buildings, maintenance, extra equipment, a small transfer station building or z-wall, a maintenance building, extra labor, and other costs. The bulk of the waste will still go through the existing transfer station until the City has outgrown the existing transfer station, at which time, all of the operations will move to the new site. This location could also house the recycling consolidation building.

A site for a stand-alone recycling consolidation building may be a project in the future, and its completion may depend on implementing a curbside recycling collection program. If the City decides to split the operations and/or build a stand-alone recycling consolidation building, the City should purchase a parcel large enough for the entire transfer station facility for potential growth.

3.4.1.10 Project Funding

A cost-of-service analysis will need to be completed to determine how this project would be funded. It may be funded with a combination of reserve funds, loan programs, grant opportunities, and rate adjustments.

3.4.1.11 Waste Diversion Impacts

Waste diversion may increase with the addition of a recycling consolidation building. This building will allow more recyclables to be processed by the City and will be needed if the City moves forward with a city-run universal curbside recycling program. More information about waste diversion potential with curbside recycling is included in Sections 8, 9, and 10 of the report.

Additional flexible operations space at the Transfer Station will allow for more collection of yard waste, food waste, E-waste, and HHW.

3.4.1.12 Public Response Considerations

- “No change” or “Do not want change” (822 out of 1766 responses)
- Approximately 10 percent of city and county residents filled out the form, indicating a lack of interest or neutral opinion in the solid waste program.
- The existing location is near the City population center.
- A new location may be closer to the population center of the City and Scratchgravel District users. Complaints over the existing Transfer Station emitting unpleasant odor (3 out of 1766 comments).
- Concern for traffic congestion near Carroll College (1 out of 1766 comments).
- City and County survey respondents are content with the current Transfer Station’s location (Both City and County rate the Transfer Station predominantly as a 4 out of 5 for convenience).

3.4.1.13 New Transfer Station Advantages and Disadvantages

Advantages	Disadvantages
•Extra room for expansion •All operations in one location •Better traffic throughput •Relocate yard waste from the center of town •Reduce odor complaints from the public and Carroll College	•Extensive licensing process •Expensive capital costs •Costs associated with decommissioning existing Transfer Station

4.0 Hybrid Versus Public Versus Private Solid Waste Management

Garbage and recycling collections can be managed by public or private entities. Each approach has its own advantages and disadvantages, and the choice often depends on a community's specific needs and preferences.

The City is the exclusive garbage hauler for Helena's 11,800 single-family households (fiscal year 2024 data) and also provides garbage and cardboard collection to more than 650 businesses within the City. Private haulers offer subscription-based programs to residents and businesses. Helena Recycling has a contract with the City as the exclusive curbside recycling contractor. This type of system is a hybrid solid waste management system whereby services are provided by both public and private entities.

A change to all privatization or all public solid waste management would be a drastic change from the current solid waste collection system in the city. As 94 percent of City respondents rated curbside garbage collection as good or excellent for convenience, 95 percent as good or excellent for reliability, and 75 percent as good or excellent for cost, the current city system offering garbage collection is more than satisfactory to the survey respondents. This holds true for curbside recycling collection as well. Seventy-eight percent of City respondents rated curbside recycling collection as good or excellent for convenience, 92 percent as good or excellent for reliability, and 66 percent as good or excellent for cost. Given this data, the current hybrid collection system meets the needs of the city survey respondents.

As for county survey respondents, curbside garbage collection and recycling is exclusively private. Ninety-six percent of county respondents rated curbside collection of garbage as good or excellent for convenience, 98 percent as good or excellent for reliability, and 81 percent as good or excellent for cost. The satisfaction of service holds true for curbside collection of recycling as well. Seventy-six percent of county respondents rated curbside collection of recycling as good or excellent for convenience, 87 percent as good or excellent for reliability, and 63 percent as good or excellent for cost. Given this data, the current private collection system meets the needs of the County survey respondents. The equipment needed for the County to begin curbside garbage collection is very costly, which could increase user rates. The current system meets the needs of most survey respondents.

5.0 Collection Assessment

According to data from the fiscal year 2024, the City provides approximately 11,800 residences with refuse collection services. Up to four refuse collection routes are performed daily, five days per week. Table 5-1 summarizes the City's refuse collection routes.

Table 5-1 - Residential Refuse Collection Routes

Weekday	Routes	Totals
Monday	Above Euclid	901
	Below Euclid	877
Tuesday	Below 6th	643
	Rodney	613
	Mansion-Hawthorne	778
Wednesday	Carson	678
	Saddle/MNT Meadows	754
	Gold Rush	820
	Runkle/Mtn Meadows	487
Thursday	Triangles	777
	Phoenix	607
	Flats	805
Friday	Sunhaven	719
	Rocks/Birds	935
	Hill	809
	Total	**11,203**

[1]Not every residence has its own route stop. Some residences (e.g., multi-family units and condos) are serviced by large containers collected multiple times per week. The collection route data is from 2023.

Several metrics were evaluated as part of the Collections Review. Assumptions used in the route analysis include the following:

- **Collection Workday** – 8.5-hour day
- **Pre-Trip Check at Yard Time** – Go through the pre-trip checklist and complete vehicle fueling: 15 minutes
- **Yard to Route Time** – The time from when the truck leaves the Transfer Station to begin its route to when it arrives at its first collection stop: 15 minutes
- **Lunch Time** – Staff are allocated one lunch break per route: 30 minutes
- **Break Time** – Staff are allocated two 15-minute breaks per route: 30 minutes
- **Route to Yard Time** – Time from when the truck leaves its final collection stop to when it arrives back at the Transfer Station: 15 minutes

- **Post-Trip Time** – Check equipment at the end of the route and complete the post-trip checklist: 15 minutes
- **Average Solid Waste Facility Roundtrip Time** – Includes the time it takes for the truck to leave a collection stop, arrive at the Transfer Station, unload its waste, leave the Transfer Station, and arrive at the next collection stop: 30 minutes (average number of disposal trips to the Transfer Station averaged one per day for refuse)
- **Average Calculated Time on Route** – 6.0 hours

The assumptions presented above were used to calculate residential refuse collection efficiency for refuse collection routes, which is presented in Table 5-2.

Table 5-2 - Residential Refuse Collection Rates – Current and Calculated

	Current Routes
Number of Routes	3.0
Collection Time (hours)	6.0
Number of Route Stops	11,203
Average Number of Carts per Hour	124
Average Seconds per Residence	30

Table 5-3 presents rates that have been benchmarked for other municipalities that collect refuse. The number of residences per square mile is also presented for community comparison purposes.

Table 5-3 - Benchmarking Collection Rates at Other Communities

City	Residential Collection Rate (Route Stops Per Hour)	Residences Per Square Mile
Helena, MT	124	719
Norman, OK	120	650
Corpus Christi, TX	170	670
Rapid City, SD	124	1,370
Williston, ND	120	1,170
Average	**131**	**915**

Based on the current route analysis, the City is operating at the average efficiency when compared to other cities benchmarked. However, this is not based on field observations, and other factors, such as alleys, challenging terrain, equipment, and staffing, can affect efficiency rates.

6.0 Permit Evaluation

Based on fiscal year 2024, a city resident pays $194.10 per year for MSW curbside collection of MSW and 3,000 pounds of disposable per fiscal year at the Transfer station. A County resident pays $98 and has the same 3,000 pounds of disposal but needs to self-haul or can contract with a private hauler for curbside pickup of MSW. The Marysville District users pay $65 more per year. The following materials count towards the 3,000-pound allotment:

- MSW
- Construction and demolition
- Freon units
- Tires
- Mattresses and bed springs
- Yard waste
- Car batteries
- Waste oil
- Antifreeze
- Electronic waste

Bulky waste collection is also provided to city residents to haul away large residential waste items with the caveats that it only takes the truck one to two minutes to load, 10 to 12 bags maximum, and items can't weigh more than 80 pounds. Residents must call ahead for the service.

6.1 Pay As You Throw System Alternative

PAYT is a solid waste management approach where residents are charged based on the amount of trash they dispose of rather than the current flat fee system. This system operates under the principle that those who generate more waste should pay more for its disposal, similar to utilities like electricity and water. Residents are provided with different options for trash disposal, typically in containers of varying sizes. The cost is directly proportional to the volume or weight of the waste they produce. By linking the cost of waste disposal to the amount of waste generated, PAYT encourages households to reduce, reuse, and recycle.

Advantages. The PAYT system offers several advantages for solid waste management. By charging residents based on the amount of trash they dispose of, PAYT encourages waste reduction and recycling, leading to lower overall waste volumes and increased diversion from landfills. PAYT also enhances economic efficiency by aligning costs more closely with usage, potentially lowering waste management expenses for municipalities and taxpayers. Additionally, it fosters equity as households pay according to their waste generation, ensuring a fairer distribution of costs across the community.

Disadvantages. The major challenge of PAYT is resistance to this alternative. As discussed above, 61 percent of City survey respondents and 75 percent of county survey respondents are not interested in PAYT. Additionally, this system can introduce equity concerns by potentially burdening low-income households with higher waste disposal costs. Payment delinquencies may also be a problem, and the City may not be able to collect fees if the program changes from a yearly assessment. Behavioral changes among residents, such as illegal dumping or burning, may arise in response to perceived high disposal fees. Administratively, implementing PAYT requires substantial initial investments in infrastructure and education, along with ongoing costs for managing billing systems and enforcing regulations.

6.2 Permit Program Alternatives

An alternative to the current system would be to remove “special wastes” from the allotted 3,000 pounds. These wastes could include freon units, tires, mattresses and bed springs, yard waste, car batteries, waste oil, antifreeze, and electronic waste. The special wastes would be charged a fee based on the cost of properly disposing of or recycling them.

Another alternative to the current system would be to lower the allotted pounds. This change could reduce inequities by addressing those who may be abusing the system by including their business waste or taking waste from someone outside of the County. Implementing a maximum pounds per day limit could also reduce any abuse of the system by businesses or residents taking waste from individuals outside the County.

Advantages. Charging customers based on the amount or type of special waste they generate can create an additional revenue stream for the City. Fees cover the costs of handling, processing, and disposal of special wastes, which often have a higher processing fee than MSW. When customers pay directly for disposal, they are motivated to minimize waste generation, leading to better waste management practices.

Reducing the tonnage allowed by the residents could promote waste diversion.

Disadvantages. This would be a change to the current system, which can be challenging to get public buy-in for. This change would require changing how public accounts are charged and billed.

Reducing the tonnage allowed by the residents could lead to illegal dumping once the permit holder exceeds their allowed tonnage.

7.0 Modifications for Tracking Solid Waste

In fiscal year 2024, City residents pay $194.10 per year for MSW curbside collection of MSW and 3,000 pounds per fiscal year of disposable at the Transfer station. County residents pay $98 and have the same 3,000 pounds per fiscal year of disposal but need to self-haul or can contract with a private hauler for curbside pickup of MSW. The Marysville District users pay an additional $65 per year.

Under the current collection system for county residents, solid waste hauling companies do not pay a tipping fee for waste generated in the Scratch Gravel Solid Waste Management District. The tipping fee is covered under the assessment fee charged to county residents. Currently, the customer type associated with a location and generation data is not documented. This information is vital to understanding the integrated solid waste management system. To address this issue, waste bins could be equipped with technology such as a Radio-frequency identification (RFID) tag to track the amount of waste collected. The technology could also include developing a mobile app for residents to track their waste.

Additionally, neither the County nor City resident can track their allotted pounds without calling the City. Consideration could be given to creating a centralized database that tracks each household's waste disposal data. An online portal could be developed to allow residents to access information on their solid waste generation.

8.0 Recycling Options

This section evaluates the existing recycling system as well as alternatives to the existing recycling system.

According to fiscal year 2024 data, the City provides recycling services to its 11,800 residences through recycling drop-off sites and a privatized curbside recycling program. The centrally located Transfer Station is available to City and Scratch Gravel Solid Waste District residents as a free, source-separated drop-off site. It accepts plastics, cardboard, aluminum and steel cans, paper, glass, yard, and automotive waste.

An opt-in curbside recycling program is also available to residents within the City and County limits. Within the City, approximately 12 percent, or 1,521 residents, subscribe to curbside source-separated recycling. A private company operates this program and offers bi-weekly single-stream (county residents) and source-separated recycling (city residents). The specific programs and their related costs are as follows:

- **City Homeowners**: Source-separated curbside recycling for $8/month. The City subsidizes this cost by $8.20 to encourage recycling, making the total cost $16.20. The City furnishes the bins for recycling.
- **City Renters**: Source-separated curbside recycling for $16.50/month or $49.50 a quarter, plus a $40 one-time fee for bin setup.
- **County Residents**: Single-stream curbside recycling for $19.95/month or $59.85 a quarter.

The City curbside source separated recycling collects approximately 280 tons of recyclables annually.

8.1 Recycling System Alternatives

8.1.1 Universal, Single Stream Curbside Recycling

This alternative would include the City providing the necessary containers, trucks, and staff to implement a universal curbside recycling program within the boundaries of the City. A universal, single-stream recycling program would allow all residents to receive a recycling cart/bin and access curbside recycling. All residents would also pay for curbside recycling service, regardless of whether they used the service. This generally lowers the cost of curbside recycling compared to a subscription program because the costs are spread out over a larger number of households. Acceptable recycling materials would include cardboard, paper, plastic, tin, and aluminum cans. Glass would not be accepted as part of this single-stream recycling program. In single-stream recycling, all recyclables are mixed. Glass can break during collection and processing, contaminating other recyclables like paper and cardboard, making them less valuable or unrecyclable.

Two route drivers would collect recyclables in a fully automated truck (two frontline trucks and one backup truck) every other week. Nine weekly routes are anticipated. Recyclables would be consolidated in a new building at the Transfer Station for trucking to a Material Recovery Facility (MRF). The consolidation point at the Transfer Station would require a manager and one staff member.

While the City should consider a universal recycling program, it is not feasible for county residents due to the distance between residential stops.

The following table summarizes the estimated costs of implementing a residential curbside collection program in the City:

Table 8-1 - Estimated Cost of Implementing Universal Curbside Recycling

Equipment Capital						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**	**Payback Duration (years)**	**Total**
Frontloading truck	3	Each	$325,000	$975,000	5	$195,000
New carts	11,800	Each	$77	$908,600	12	$75,720
Recycling compactor	1	Each	$500,000	$500,000	10	$50,000
			Subtotal	**$2,383,600**		**$320,720**
Collection Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Manager	1	Each	$90,000	$90,000		$90,000
Route driver	2	Each	$71,565	$141,130		$141,130
Consolidation point staff	1	Each	$50,000	$50,000		$50,000
					Subtotal	**$283,130**
Hauling and Processing Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Hauling and processing cost per ton	1,955[1]	Tons	$150	$293,250		$293,250
					Subtotal	**$293,250**
					Annual Total	**$897,100**
					Annual Total with Contingencies/Inflation +30%	**$1,166,230**

The current recycling program operates on a subscription basis, with approximately 12% of the eligible residents participating. The program collects approximately 280 tons of curbside recycling annually for $16.20 per residence per month, which includes an $8.20 contribution from the city. With the implementation of a universal recycling program, it is projected that 1,965[7] tons of recycling will be collected each year. Residents' costs are expected to increase from $8 per month to approximately $11-14 per month. As noted above, this anticipated monthly cost exceeds the amount survey respondents indicated they are willing to pay.

Advantages. A universal, single-stream curbside recycling program would increase participation and diversion, with approximately 600 percent more recycling collected curbside. In addition, the City of Helena Strategic Plan for Waste Reduction identified single-stream as the optimum recycling method for curbside collection. It offers convenience to residents and operational efficiency for the city.

Disadvantages. Challenges of a universal, single-stream recycling program include the collection of new carts in some areas of the city where alleyways are tight. The program does not include recycling collection for apartments or businesses. In addition, glass would not be accepted. It is also worth noting that a universal single-stream recycling program would likely experience greater contamination compared

[7] Strategic Plan for Waste Reduction

to the current subscription-based, source-separated recycling program. Some of the more avid recyclers have expressed this concern. Increased contamination means more waste and inefficiency in the recycling program. While a universal program offers more convenience, it comes at the expense of clean, recyclable materials and overall recycling system efficiency. A robust education program is necessary to reduce waste and prohibit materials from entering recycling carts. This change would also require a compactor to process the recyclables for transportation. Lastly, the anticipated monthly cost is greater than the amount survey respondents indicated they are willing to pay.

8.1.2 Expanded Recycling Drop-sites in the County

Additional drop-sites are an option to expand access to recycling in the County. As discussed above, universal curbside recycling is not recommended in the County due to the distance between households and public feedback from survey results, which showed the public was not interested. The collection efficiency would be low and likely cost-prohibitive.

If implemented, two additional drop-off sites for recyclables, yard waste, and solid waste are recommended. These drop-off sites would have a scale and an operator for solid waste management. The solid waste area would be separated from the recyclables and yard waste area. The recycling area would be open 24 hours a day, similar to existing recycling drop-off sites. Recycling would include cardboard, paper, glass, plastic, tin, and aluminum cans.

The universal curbside recycling alternative proposes that recyclables be collected by one driver (0.05 FTE) in a fully automated truck. The recyclables would be consolidated in a new building at the Transfer Station for trucking to an MRF. The same manager and staff member utilized in the curbside recycling program should be sufficient by adding two drop-sites.

Based on the survey results presented above, it is anticipated that adding additional drop-sites could get 25 percent more residents to recycle. This is approximately 1,518 residences at 0.384 tons per year or approximately 583 additional tons per year of recyclables. The cost to add two additional drop-sites for recycling is summarized in the following table, Table 8-2. This cost estimate does not include adding solid or yard waste to the drop-off site.

Table 8-2 - Estimated Cost of Drop-off Sites

Equipment Capital						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**	**Payback Duration (years)**	**Total**
Site prep	See Great West Engineering Estimate of Probable Cost					
Drop site containers	2	Each	$33,000	$66,000	5	$13,200
Frontloading truck	Proposed Universal Curbside Trucks					
				Subtotal	**$66,000**	**$13,200**
Collection Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Manager	Existing					
Route driver	0.05	Each	$71,565	$3,579		$3,579
Consolidation point staff	Existing					
					Subtotal	**$3,579**
Operations Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Processing Costs	583	Tons	$45.29	$26,401		$26,401
Operation Costs	1	LS	$5,500	$5,500		$5,500
					Subtotal	**$31,901**
					Annual Total	**$48,680**
					Annual Total with Contingencies/Inflation +30%	**$63,284**

Advantages. Implementing additional recycling opportunities and disposal locations for residents outside the City offers several advantages. Firstly, it provides more convenient recycling options for residents, which can increase participation in recycling programs. Secondly, it reduces traffic at the Transfer Station, easing congestion and improving overall efficiency. Moreover, it helps distribute the load more evenly across multiple sites, which can reduce yard waste accumulation at the transfer station.

Disadvantages. Recycling drop-off sites offer a convenient way for more rural communities to participate in recycling efforts, but they come with a few disadvantages. These include potential contamination issues, lack of education and awareness about their existence and accepted materials, maintenance costs, public perception of location, and accessibility challenges for some community members. It also can be difficult to site a recycling drop-off site. Residents near the proposed site might oppose the recycling drop-off location due to noise, increased traffic, or potential litter concerns.

9.0 Yard Waste Options

This section evaluates the current yard waste management system and provides alternatives.

9.1 Existing Yard Waste Management

Currently, yard waste such as tree limbs, grass clippings, and leaves are accepted at the Transfer Station. Yard waste is deducted from the permit annual allowance. Approximately 4,000 tons of yard waste is diverted from the Landfill each year. Some of the yard waste is mixed with biosolids from the Wastewater Treatment Plant and turned into compost that is available to the community. Finished compost is available for purchase at the landfill for $60 per ton upon availability.

County residents typically have larger properties than city residents, and some manage their yard waste on their property.

City Strategic Plan for Waste Reduction identifies green waste as low-hanging fruit for increased diversion.

9.2 Yard Waste Alternatives

9.2.1 Subscription-Based Yard Waste Collection

A subscription-based yard waste program would be an option for city residents. Residents could opt for curbside yard waste collection, including leaves, grass clippings, and sticks less than 3 inches in diameter. All yard waste would be collected in a cart and must fit in the cart. The collection would be every other week from April to November. This option would require upgrades to the composting facility at the Landfill to accommodate the additional yard waste.

Yard waste would be collected by one route driver in a fully automated truck every other week. It would be transported to the Transfer Station or Landfill for processing into compost. The consolidation point at the Transfer Station would require a manager and one staff member.

While curbside yard waste collection is an option for the City to consider, it is not feasible for county residents due to the distance between residential stops. However, yard waste is proposed to be accepted at the two additional drop-off sites for county residents. The following table, Table 9-1, summarizes the estimated costs of implementing a subscription-based residential curbside yard waste collection program in the City. This cost estimate is highly variable as the number of participants is unknown.

Table 9-1 - Estimated Cost of Subscription Yard Waste Collection

Equipment Capital						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**	**Payback Duration (years)**	**Total**
Compost facility upgrades	See Great West Engineering Estimate of Probable Cost					
Rear loading truck	1	Each	$325,000	$325,000	5	$65,000
New carts	1400[1]	Each	$77	$107,800	12	$8,984
			Subtotal	**$432,800**		**$73,984**
Collection Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Manager	1	Each	$90,000	$90,000		$90,000
Route driver	1	Each	$71,565	$71,565		$71,565
Consolidation point staff	1	Each	$50,000	$50,000		$50,000
					Subtotal (assuming April to November)	**$141,044**
Operations Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Hauling Cost	1	LS	$100,000	$100,000		$100,000
Operation Costs	1	LS	$300,000	$300,000		$300,000
					Subtotal	**$400,000**
					Annual Total	**$615,028**
					Annual Total with Contingencies/Inflation +30%	**$799,535**

[1] Estimate based on responses from the survey summarized above.

It is anticipated that a subscription-based curbside yard waste program could cost approximately $15-20 per month, year-round. Still, it would depend on the number of households participating in the program. This holds true for material anticipated to be collected by the program. The generation of yard waste can be highly variable depending on weather events. The 10-year average of yard waste collected at the Transfer Station is 4,581 tons, according to data generated by the City.

Advantages. A subscription-based yard waste collection system offers cost efficiency, predictable revenue, and customized service options—only those who wish to use the service pay for it.

Disadvantages. A subscription-based yard waste collection system has some disadvantages, including potential inequity, as low-income households might struggle with additional fees. The pay-per-use model can lead to decreased participation if residents opt-out to save money, resulting in more improper disposal of yard waste or continued congestion at the Transfer Station. This system also requires administrative overhead to manage subscriptions and payments, adding complexity. Inconsistent participation can disrupt collection schedules and reduce the efficiency of routes. Furthermore, residents may be less inclined to subscribe if they don't generate significant yard waste regularly, which could lead to underutilization of the service and reduced economies of scale.

9.3 Universal Yard Waste Collection

A universal yard waste program would allow all residents to receive a bin for curbside yard waste collection. This program would not include apartment buildings or commercial businesses. All residents

would pay for the service, regardless of whether they used it. This generally lowers the cost of curbside yard waste collection because costs are spread out over a larger number of households. Yard waste would include leaves, grass clippings, and sticks less than 3 inches in diameter. All yard waste would be collected in a cart and must fit in the cart. The collection would be every other week from April to November. This option would require upgrades to the composting facility at the Landfill to accommodate the additional yard waste.

Yard waste would be collected by three route drivers in a fully automated truck every other week. It would be transported to the Transfer Station or Landfill for processing into compost. The consolidation point at the Transfer Station would require a manager and one staff member.

While curbside yard waste collection is an option for the City to consider, it is not feasible for county residents due to the distance between residential stops. However, yard waste is proposed to be accepted at the two additional drop-off sites for county residents. The following table, Table 9-2, summarizes the estimated costs of implementing a universal residential curbside yard waste collection program in the City.

Table 9-2 - Estimated Cost of Universal Yard Waste Collection

Equipment Capital						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**	**Payback Duration (years)**	**Total**
Compost facility upgrades	See Great West Engineering Estimate of Probable Cost					
Rear loading truck	3	Each	$325,000	$975,000	5	$195,000
New carts	11,800	Each	$77	$908,600	12	$75,720
				Subtotal	**$1,883,600**	**$270,720**
Collection Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Manager	1	Each	$90,000	$90,000		$90,000
Route driver	2	Each	$71,565	$143,130		$143,130
Consolidation point staff	1	Each	$50,000	$50,000		$50,000
					Subtotal (assuming April to November)	**$188,754**
Operations Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Hauling Cost	1	LS	$100,000	$100,000		$100,000
Operation Costs	1	LS	$300,000	$300,000		$300,000
					Subtotal	**$400,000**
					Annual Total	**$859,474**
					Annual Total with Contingencies/Inflation +30%	**$1,117,316**

It is anticipated that a universal curbside yard waste program could cost approximately $10-15 per month, year-round, but would depend on the number of households participating in the program. This holds true for the amount of material anticipated to be collected by the program. The generation of yard waste can be highly variable depending on weather events. As indicated above, the 10-year average of yard waste collected at the Transfer Station is 4,581 tons, according to data generated by the City.

Compared to recycling collection, yard waste collection labor costs and equipment costs are less because of the shorter season; however, additional drive time by collection drivers to haul collected yard waste to the compost facility at the Landfill instead of the Transfer Station offsets some of the savings.

Advantages. Universal yard waste collection ensures equitable access for all residents, leading to higher participation rates, reduced illegal dumping, and less congestion at the Transfer Station. Consistent route planning simplifies logistics and improves operational efficiency. This system fosters economies of scale, enhances public health and neighborhood aesthetics, and provides reliable service without needing to manage subscriptions.

Disadvantages. Universal curbside collection of yard waste faces several challenges, including high implementation and maintenance costs, cost to residents, complex logistics, and the need for continuous public education to ensure participation. Collecting carts in areas of the city with tight alleyways is particularly challenging. Additionally, the seasonality of yard waste collection poses staffing challenges, as the number of carts set out for collection in the fall is greater than those set out in mid-summer.

10.0 Food Waste Options

The following section discusses the current and alternatives for food waste collection.

10.1 Existing Food Waste Management

Private businesses currently provide food scrap collection to those who subscribe for a fee.

10.2 Alternative Food Waste Management

To expand access to food waste management in the City and County, food waste drop-off sites are an option.

If implemented, eight drop-off sites are recommended. These drop-off sites would have a two-yard dumpster that could be serviced weekly in the summer and every other winter week. Participants would pick up compostable bags at the drop-off sites. The program would require a route driver at 0.10 FTE and a truck that could be shared with one of the other programs but is presented as an inclusive cost. The drop-off sites would be open 24 hours a day, similar to the existing recycling drop-off sites. This option would require upgrades to the composting facility at the Landfill to accommodate the food waste. The following figure, Exhibit 10-1, depicts a sample food waste dumpster and compostable bag dispenser.

Exhibit 10-1 - Proposed Food Drop-off Sites

According to the above survey results, 24 percent of Helena survey respondents are interested in composting. Extrapolating this across the City's population, if even half of these residents participated, approximately 1,404 residents would be composting. If each of these residents dropped off one 2.5-gallon bag every two weeks, this would equate to approximately 330 tons of food waste diverted from the Landfill per year. Similarly, 23 percent of county survey respondents are interested in composting. Extrapolating this across the County's population, if even half of these residents participated, approximately 1,724 residents would be composting. If each of these residents dropped off one 2.5-gallon bag every two weeks, this would equate to approximately 405 tons of food waste diverted from the Landfill annually. The following table, Table 10-1, summarizes the estimated costs of this option.

Table 10-1 - Estimated Cost of Food Waste Drop-off Sites

Equipment Capital						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**	**Payback Duration (years)**	**Total**
Compost facility upgrades	See Great West Engineering Estimate of Probable Cost					
Frontloading truck	1	Each	$325,000	$325,000	5	$65,000
2-yard dumpsters	8	Each	$849	$6,792	5	$1,359
			Subtotal	**$331,792**		**$66,359**
Collection Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Route driver	0.10	Each	$71,565	$7,357		$7,357
Compostable bags	100	Cases	$55	$5,500		$5,500
					Subtotal	**$12,857**
Operations Budget						
Cost Item	**Quantity**	**Unit**	**Unit Cost**	**Item Cost**		**Total**
Operation Costs	See Great West Engineering Estimate of Probable Cost					
					Annual Total	**$79,216**
					Annual Total with Contingencies/Inflation +30%	**$102,981**

Advantages. The approach outlined, starting slowly and gradually developing the program with the possibility of introducing a curbside program later based on community interest, seems both practical and cost-effective. The program's initial phase requires minimal infrastructure and capital, primarily involving the distribution of bags and dumpsters.

Disadvantages. Accessibility and effective promotion of the program are essential for its success. Dumpsters should be conveniently located and easily accessible to the public, ensuring that individuals don't have to travel long distances to participate. Advertisement and community outreach are crucial to raising awareness and getting people involved. Various channels, such as social media, local newspapers, and community events, can be employed to promote the program. There will be costs associated with implementing and maintaining such a program, both for residents and the city and county.

11.0 Cost-of-Service Study

The purpose of a cost-of-service study is to determine the total cost of providing solid waste and recycling services, equitably distribute the cost to customers, and design rates to safeguard the financial integrity of the operation. The goal of a cost-of-service and rate design study is to determine the fees required to adequately recover the costs of providing services. Based on the information presented in this report, the dynamics of the solid waste program could dramatically change from its current state. A cost-of-service study for the City and County would provide long-term direction for solid waste management.

12.0 Findings and Recommendations

The following sections describe the recommendations for improving the City and County solid waste systems. The recommendations are based on the engineering team's professional experience and input from City and County leaders, the steering committee, and the public through surveys and public meetings.

12.1 Upgrades to the Existing Transfer Station

The City should upgrade the transfer station to increase vehicle throughput, decrease congestion, upgrade the yard waste area, increase recycling options, and reduce collection operations costs. The improvements are described in detail in Section 3.1.

Increase vehicle throughput

- Additional Scales
- Increase queing lengths by rerouting internal roads
- Controlled access to waste disposal and recycling areas
- Construct z-wall for additional drop-off areas

Increase Recycling Opportunities

- Construct recycling consolidation building to consolidate recyclables on-site
- The building will be required if the City implements a universal curbside recycling program that is managed by the City.
- New recycling consolidation building in a separate location

Upgrade Yard Waste Area

- Remove yard waste on a daily basis to reduce odor
- Pave yard waste area to keep the area cleaner
- Move yard waste to an other location

Reduce Operations Costs of Collection

- Construction of a truck storage building to house all collection trucks on site to reduce mileage on trucks

12.2 Construct Container Sites (Drop-Off Sites) in the County

The City and County can improve traffic congestion and yard waste at the transfer station by constructing new container sites in the County. The container sites will provide the county residents with more opportunities for waste diversion with areas for 24-hour-a-day recycling and yard waste disposal. The improvements are described in detail in Section 3.2.

Disposal Locations Closer to County Population Centers

- More convenient for some county residents
- Scales for waste accounting
- Z-walls for waste disposal

Increase Recycling Opportunities

- 24-hour-a-day access to recycling bins
- Yard waste disposal areas - reduce yard waste at the transfer station

Traffic Reduction at the Transfer Station

- Providing another location for county residents to dispose of waste rather than going to transfer station

12.3 Upgrades to the County Compost Operation

The County should upgrade the composting operations at the Landfill to decrease compost processing time, increase the amount of yard waste that can be processed, provide a higher quality product, and provide additional retail sale opportunities to the public. It can accept food waste in the future. The improvements will be needed if the City implements a curbside yard waste collection program. The City and County have an interlocal agreement that states that the City transports yard waste to the Landfill for processing by the County. If the City implements a curbside yard waste collection program, the City and County should continue the existing interlocal agreement. The County has a solid waste permit that includes composting, environmental infrastructure required, adequate land for composting, and the staff trained to operate a composting system. The improvements are described in detail in Section 3.3.

Increase yard waste processing

- Decrease compost processing time
- Required if the City implements curbside yard waste collection program

Provide higher quality compost

- Additional retail sale opportunities to the community
- Destruction of pathogens

12.4 New Transfer Station

At this time, a new Transfer Station should not be constructed. The survey and public meetings showed that the public was pleased with the existing system and transfer station. A few opposing comments regarding the location in close proximity to Carroll College and the City center and the odor from the yard waste were received. Still, overall, the community was happy with the existing system. The capital cost of a new Transfer Station is approximately 4.5 times the cost of upgrades to the existing transfer station based on 2024 construction dollars.

The existing transfer station is undersized to accommodate the peak-day customer traffic. If the City upgrades the existing transfer station and the County constructs new container sites, the City could continue operations at the existing site for the next ten to fifteen years, depending on population increases and waste diversion. At that time, the City needs to look at other waste collection and consolidation options. The City should consider purchasing a piece of property for future waste consolidation and transfer infrastructure. The City and County should reevaluate this recommendation in the next five years after implementation of new programs and construction of infrastructure. The infrastructure required for a full transfer station is described in detail in Section 3.4.

Opportunities of a New Facility	Challenges of a New Transfer Station
• New location away from city parks and Carroll College • New location closer to County population center • Extra room for expansion • All operations in one location • Better traffic throughput • Use the old transfer station for recycling center or other City operations	• Location farther away from the City of Helena population center • Land may be difficult to find • Land may be expensive • Extensive permitting process • Potential public opposition • Expensive infrastructure • Cost associated with decommissioning existing transfer station • Existing groundwater and landfill gas monitoring and treatment systems at the existing transfer stations will still need to be operated

12.5 Hybrid Versus Public Versus Private Solid Waste Management

Based on the survey results, most city and county respondents rate the convenience, reliability, and cost of the solid waste management service provided as good or excellent. Therefore, moving to an exclusively private or public collection system does not currently provide any advantages to City users. Likewise, moving to an exclusively public collection system does not offer any advantages for county users. The current system meets most survey respondents' needs; therefore, no changes to the system are recommended.

12.6 Collection Assessment

The City is performing well based on the assumptions and data presented above. The City should continue to evaluate the number of residences and routes collected and adjust accordingly.

12.7 Permit Evaluation

As presented in Section 1.3.3, 61 percent of City survey respondents and 75 percent of county survey respondents are not interested in PAYT. However, removing special wastes from the allowed 3,000 pounds and/or lowering the allotment could help recover the processing and disposal costs. In addition, placing a maximum daily limit on the amount of waste accepted at the Transfer Station could reduce some of the system's abuse. It is recommended that a cost-of-service study be conducted to determine the cost of handling waste and charge customers accordingly.

12.8 Modifications for Tracking Solid Waste

As described above, there are some accounting discrepancies that should be addressed. First, a resolution could be considered for the City/County. Reporting is essential for accurate tracking of recycling and solid waste. The resolution should cover the following:

1. The private hauling company (hauler) must keep records and report to the City/County information relating to the collection, processing, and disposal of solid waste, source-separated recyclables, and organic materials collected by the hauler. The required reporting for the previous

calendar year shall be reported to the City/County on a form provided by the Department by January 31 of each year.

2. The private hauling company shall keep records of the following information for at least three years. For purposes of the resolution, “origin” means geographic description. “Type” means the best estimate of the percentage of each truckload that consists of residential, commercial, industrial, construction, and demolition debris or any other general type of solid waste and source-separated recyclable and organic materials.

    a. Types and quantities of solid waste: a hauler shall maintain records regarding the volume or weight, type(s), and origin(s) of collected waste. For each vehicle, the hauler shall keep a daily record of the origin(s), type(s), weight of the waste collected that day, and the identity of the solid waste management facility at which collected waste is deposited. If the waste is measured by volume at the solid waste facility at which it is deposited, the record may indicate the volume rather than the weight of the waste.

    b. Number of residential and non-residential accounts: the hauler shall maintain a record of the number of residential and non-residential accounts serviced in each geographic origin.

    c. Total weight of solid waste: The hauler shall maintain a record of the total weight of all solid waste collected from residential and non-residential accounts for each geographic region. The weight of the solid waste collected shall be reported and documented by scale or another City/County-approved documentation method.

    d. The hauler shall maintain a record of the weight of source-separated or single-stream recyclables and organic materials collected from residential and non-residential accounts for each of the following recyclable materials: newsprint, corrugated cardboard, mixed paper, magazines, metal/aluminum, glass containers, plastic containers, boxboard, major appliances, scrap metal, and additional materials as from time to time mandated by the City/County. The weight of each type of recyclable material collected may be estimated based on the percentage of each material type recorded in previously documented collections. The amount of recyclable materials collected from each geographic origin may be estimated based on the proportion of accounts in each community.

Secondly, a program should be implemented for residents to track their allotted permit amount used. Tracking solid waste generated by a City/County resident can be effectively managed through a combination of technological solutions, administrative processes, and community engagement. Here are some suggested steps the City/County can take:

1. Technology solutions
    a. Equip waste bins with technology such as a Radio-frequency identification (RFID) tag to track the amount of waste collected from each household.
    b. Develop a mobile app for residents to track their waste.
2. Administrative processes
    a. Consider a centralized database that logs each household’s waste disposal data. Create an online portal where residents can access the database.
    b. Ensure private haulers provide data on the amount of waste collected and disposed of to keep records accurate and up to date.

3. Community engagement
    a. Educate residents on how to reduce waste and the importance of tracking their waste disposal.
    b. Establish a dedicated service line or chat support to help residents with tracking issues.

12.9 Recycling Options

Based on the survey results, 58 percent of City survey respondents are interested in universal recycling. Single-stream recycling simplifies the recycling process for residents, requiring minimal sorting effort and encouraging greater participation in recycling programs. In addition, single-stream was identified in the Strategic Plan for Waste Diversion as the optimum recycling method for curbside collection if the City performs universal curbside recycling services. It provides operational efficiencies for the City and convenience for the residents. These key findings suggest that the implementation of a single-stream universal recycling program for city residents should be evaluated further. The anticipated monthly cost is greater than the amount survey respondents indicated they are willing to pay, which would require public buy-in.

Based on the survey results, 48 percent of county survey respondents would like more waste diversion (recycling, composting, and re-use) opportunities. To accommodate these users, two additional drop-off sites for recyclables, yard waste, and solid waste are recommended.

12.10 Yard Waste Options

A subscription-based yard waste program is the recommended option where city residents could opt-into curbside collection of yard waste. Starting with a subscription-based curbside collection service would gauge residents' interest in a collection program. While curbside yard waste collection is an option for the City to consider, it is not feasible for county residents due to the distance between residential stops. However, yard waste is recommended to be accepted at the two additional drop-off sites for county residents. As noted above, county residents sometimes manage yard waste on their property. Logistically, the drop-off sites should be located near residential developments with smaller lots.

12.11 Food Waste Options

The approach outlined, starting slowly and gradually developing the program with the possibility of introducing a curbside program later based on community interest, seems both practical and cost-effective. The program's initial phase requires minimal infrastructure and capital, primarily involving the distribution of bags and dumpsters. Businesses will likely be receptive to hosting a dumpster and providing compostable bags as long as the dumpsters are serviced regularly to prevent odors and attract customers. This approach benefits the environment and fosters a sense of community involvement while potentially driving foot traffic into participating businesses.

12.12 Cost-of-Service Study

Based on the information presented in this report, the dynamics of the solid waste program could dramatically change from its current state. According to feedback from staff, a thorough financial analysis of the current system and a capital improvement plan have not been formally undertaken. A cost-of-service study would provide the City with an understanding of the costs and revenue of the current system, as well as the financial impacts of the development of the program changes proposed in this study. A cost-of-service study would provide long-term direction for solid waste management.

13.0 Implementation Schedule

The City and County officials will review this ISWMP. Over time, the recommendations and schedule will be evaluated to determine which portions of the plan will be implemented. A rate analysis or cost-of-service study will need to be completed to determine how the projects and programs will be funded. The City and County will evaluate the best option to provide those services, including soliciting for services and partnering with private companies.

Appendix A

City-County Joint Commission

Work Session

March 7, 2023

See What's *Possible*.

www.greatwesteng.com

City of Helena & Lewis and Clark County

City-County Commission Joint Work Session

March 7th, 2023

Stephanie Beckert, PE (Great West Engineering)

Matt Evans, PE (Burns & McDonnell)

Gretchen Mathiason, EIT (Burns & McDonnell)

BURNS McDONNELL

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Integrated Solid Waste Master Plan

- **Purpose of the Plan**
  - *"The goal of the Plan is to create an efficient, comprehensive system that will improve waste diversion, and provide convenient waste disposal services at the best price for the people of Lewis & Clark County and the City of Helena."*
- **Partnership with City and County**
- **Timeline**
  - **Anticipated completion of ISWMP - March 2024**

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Tasks Completed

» Site Tours of all facilities

» Communications Plan

» Gather Steering Committee's comments

▲ City of Helena Transfer Station

▲ Lewis and Clark County Landfill

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Steering Committee Makeup

- County Commissioner
- City Commissioner
- County Public Works
- City Public Works
- Scratch Gravel Solid Waste District Board
- Citizen Conservation Board
- Private Hauler/Recycler
- At Large County Resident
- At Large City Resident

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Communications Plan

- **Goals**
  - Optimize public engagement
  - Broadly reach the impacted area
  - Create clear talking points for Steering Committee members, City and County Leadership, and others involved in the development of the ISWMP
  - Facilitate support of the final scenario

- **Communication Audience**
  - Public
  - Businesses
  - Schools, hospitals and other institutional entities
  - Others that will be impacted by the ISWMP

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Communications Phases

» Phase One: Gathering General Feedback

» Phase Two: Alternative Scenarios

» Phase Three: Preferred Scenario

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Phase One: Gathering General Feedback

- Geared toward general public and solid waste management stakeholders
- What is the ISWMP, and what is it not
- Open-ended responses to figure out what areas the public is interested in changing or keeping

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Phase One: Gathering General Feedback

» Communication Methods – Gathering General feedback

- » “Be Heard Helena” Virtual Survey
- » Physical Copy Surveys
- » Mail Notices with Link and General Information
- » Social Media Postings
- » Open House (In-person and virtual)

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Phase Two: Alternative Scenarios

- Informing the public about the alternative scenarios that the engineering team and Committee have created with the results of the Phase One survey taken into account.
- Description of scenarios
- How they will be implemented
- Pros and Cons list with each option
- Public can give feedback on the most appealing based on the descriptions

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Phase Three: Preferred Scenario

- Informing the public about the selection of the preferred scenario chosen from the feedback taken into account in Phase Two.
- In depth description of scenario
- Highlight why it was chosen

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Anticipated Schedule

	Feb 2023	Mar 2023	April 2023	May 2023	Jun. 2023	Jul. 2023	Aug. 2023	Sept. 2023	Oct. 2023	Nov. 2023	Dec. 2023	Jan. 2024	Feb. 2024	Mar. 2024
Phase One: Gathering General Feedback														
Phase Two: Alternative Scenarios														
Phase Three: Preferred Scenario														

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Key Talking Points

- **What is the goal of the Solid Waste Management Plan? If asked:**
  - “The goal of the Solid Waste Management Plan is to create an efficient, comprehensive system that will improve waste diversion, and provide convenient services at the best price for the people of Lewis & Clark County and the City of Helena.”
- **When is it going to be done? If asked:**
  - “The Solid Waste Management Plan is scheduled to be complete by April 2024”
- **What are the next steps? If asked:**
  - “Phase One will include gathering feedback and data of the current system and potential alternative scenarios, Phase Two will include creating those alternative scenarios, and Phase Three will be defining the preferred scenario.”
- **Who is developing the Solid Waste Management Plan? If asked:**
  - “The Solid Waste Management Plan is a collaborative effort of the public, stakeholders, solid waste leaders, and the engineering team.”
- **Who will be impacted? If asked:**
  - “The Solid Waste Management Plan will impact anyone that generates, collects, or manages the disposal/diversion of solid waste in the City of Helena or Lewis & Clark County.”

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Billings, MT 59101
Phone (406) 652-5000

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3050 N. Lakeharbor Lane,
Suite 201
Boise, ID 83703
Phone (208) 576-6646

GREAT FALLS
702 2nd Street South #2
Great Falls, MT 59405
Phone (406) 952-1109

HELENA
2501 Belt View Drive
Helena, MT 59604
Phone (406) 449-8627
Fax (406) 449-8631

SPOKANE
9221 N. Division St.,
Suite F
Spokane, WA 99218
Phone (509) 413-1430

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Appendix B

Phase One Public Meeting

April 11, 2023

See What's *Possible*.

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City of Helena & Lewis and Clark County

Integrated Solid Waste Master Plan

Phase 1 Public Meeting

April 11th, 2023

Stephanie Beckert, PE (Great West Engineering)

Matt Evans, PE (Burns & McDonnell)

Travis Craig, PE (Great West Engineering)

BURNS McDONNELL

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Agenda

- Introduction to the Integrated Solid Waste Master Plan (ISWMP)
- Steering Committee Makeup
- Communications Plan
- Tasks Completed
- Current Services Provided
- Schedule
  - Overall
  - Phase One details

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“Why?”

“The purpose of this survey is to collect feedback for the development of the Integrated Solid Waste Master Plan. The goal of the Plan is to create an efficient, comprehensive system that will improve waste diversion, and provide convenient waste disposal services at the best price for the people of Lewis & Clark County and the City of Helena. Please fill out the survey to the best of your ability.”

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Steering Committee Makeup

- County Commissioner
- City Commissioner
- County Public Works
- City Public Works
- Scratch Gravel Solid Waste District Board
- Citizen Conservation Board
- Private Hauler/Recycler
- At Large County Resident
- At Large City Resident

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Communications Phases

» Phase One: Gathering General Feedback

» Phase Two: Alternative Scenarios

» Phase Three: Preferred Scenario

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Phase One: Gathering General Feedback

» Communication Methods – Gathering General feedback

- » “Be Heard Helena” Virtual Survey
- » Physical Copy Surveys
- » Mail Notices with Link and General Information
- » Social Media Postings
- » Public Meeting (In-person and virtual)

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Phase Two: Alternative Scenarios

- Informing the public about the alternative scenarios that the engineering team and Committee have created with the results of the Phase One survey taken into account.
- Description of scenarios
- How they will be implemented
- Pros and Cons list with each option
- Public can give feedback on the most appealing based on the descriptions

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Phase Three: Preferred Scenario

- Informing the public about the selection of the preferred scenario chosen from the feedback taken into account in Phase Two.
- In depth description of scenario
- Highlight why it was chosen

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Tasks Completed

- **Site Tours of all facilities**
- **Gather Steering Committee's comments**
- **Communications Plan**
  - Beginning of Phase 1 – Gathering Public Feedback

▲ City of Helena Transfer Station

▲ Lewis and Clark County Landfill

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Current Services Provided – City of Helena Residents

- **Included in the Annual Solid Waste Assessment**
  - Curbside household waste collection
  - Transfer Station Self Haul and Recycling to include outlying recycling drop-off sites
    - Up to 3,000 pounds of waste disposal
      - Household
      - Construction
      - Yard Waste
      - Auto Waste
      - Paint - on 2 occasions per year
      - Household Hazardous Waste
      - Electronic Waste
      - Mattresses
      - Box Springs
      - Refrigeration Units
      - Tires
    - Recycling of accepted materials for residents paying assessments
    - Recycling available to renters with special permits or as a cash customer

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Current Services Available – City of Helena Residents

- **Services available for additional fees**
  - Bulk waste collection – $10 fee deducted from permit
  - Curbside recycling collection – Private Company
  - Curbside food waste collection – Private Company
  - Curbside yard waste collection – Private Company

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Current Services Provided – Scratch Gravel Solid Waste and Marysville District Residents

- **Included in the Annual Solid Waste Assessment**
  - Transfer Station Self Haul and Recycling to include outlying recycling drop-off sites
    - Up to 3,000 pounds of waste disposal
      - Household
      - Construction
      - Yard Waste
      - Auto Waste
      - Paint – on 2 occasions per year
      - Household Hazardous Waste
      - Electronic Waste
      - Mattresses
      - Box Springs
      - Refrigeration Units
      - Tires
    - Recycling of accepted materials for residents paying assessments
    - Recycling available to renters as a cash customer

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Current Services Available – Scratch Gravel Solid Waste and Marysville District Residents

- **Services available for additional fees**
  - Curbside Collection of household waste – Private Company
  - Bulk waste collection – Private Company
  - Construction Waste Self Haul to Lewis and Clark County Landfill or Tri County Disposal Valley View Landfill
  - Curbside recycling collection – Private Company
  - Curbside food waste collection – Private Company
  - Curbside yard waste collection – Private Company

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Additional Services Provided – Marysville Solid Waste District Residents

- **Services available with permit**
  - Self haul to Marysville Container Site
    - Only household waste and recyclables

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Anticipated Overall Schedule

	Feb 2023	Mar 2023	April 2023	May 2023	Jun. 2023	Jul. 2023	Aug. 2023	Sept. 2023	Oct. 2023	Nov. 2023	Dec. 2023	Jan. 2024	Feb. 2024	Mar. 2024
Phase One: Gathering General Feedback														
Phase Two: Alternative Scenarios														
Phase Three: Preferred Scenario														

SCAN ME

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Appendix C

Phase One Survey Results

& Alternatives Outlines

May 25, 2023

See What's *Possible*.

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City of Helena & Lewis and Clark County

Phase 1 Survey Results & Alternatives Outlines

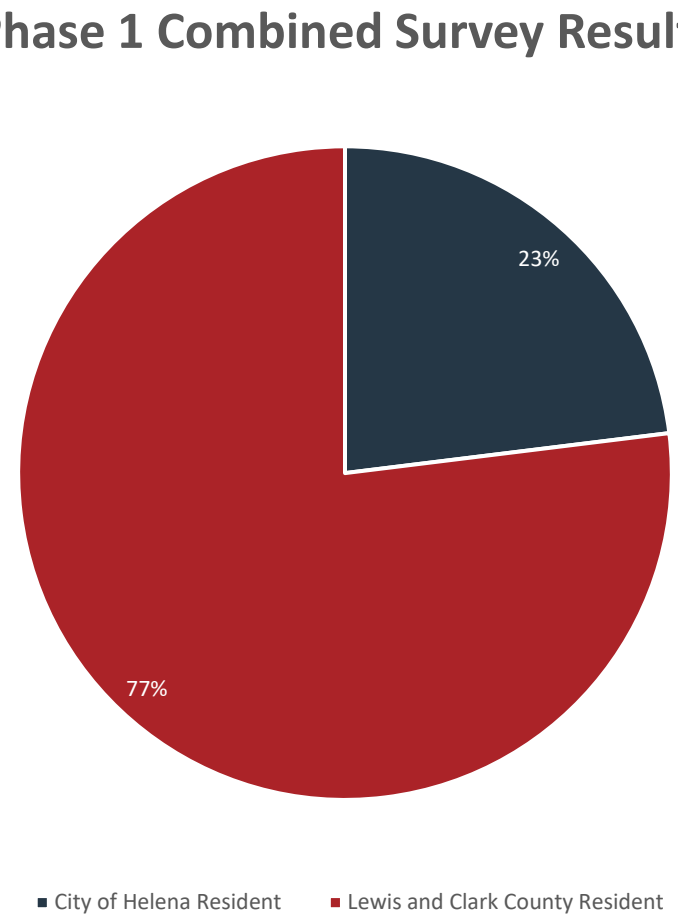
May 25th, 2023

Stephanie Beckert, PE (Great West Engineering)

Matt Evans, PE (Burns & McDonnell)

Gretchen Mathiason, EIT (Burns & McDonnell)

Q1: Are you a:



Total Number of Responses: 1766

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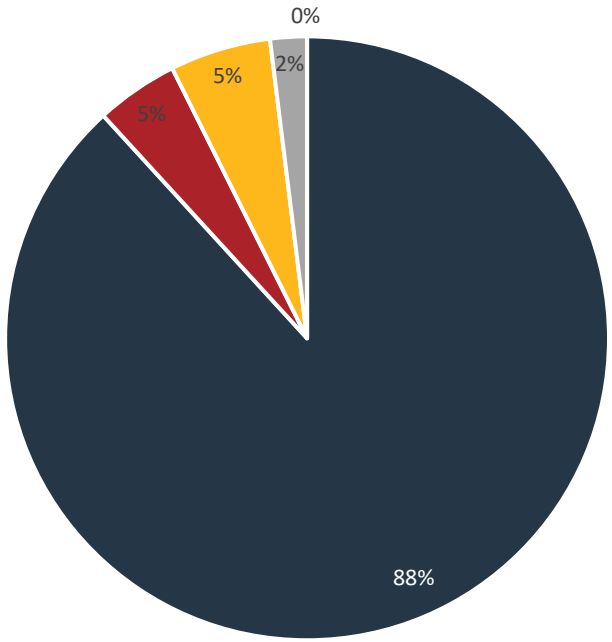
Q2: Which of the following best describes your home?

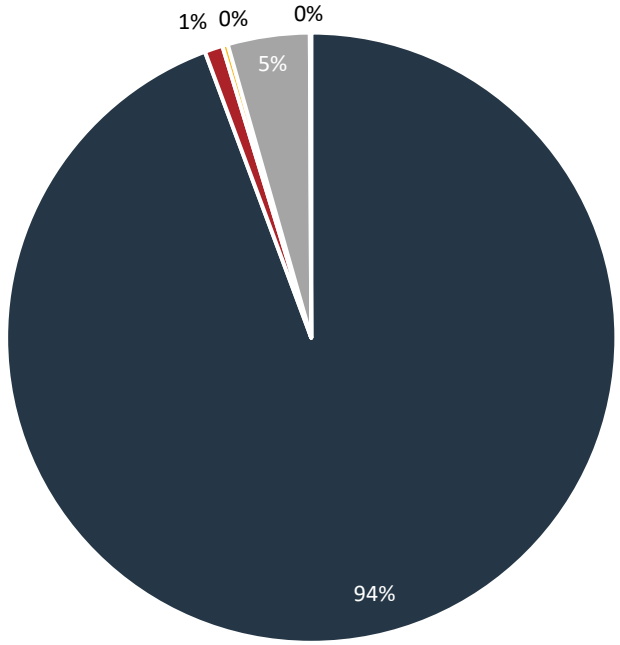
City Results



■ Single family residence ■ Townhome ■ Apartment ■ Manufactured home ■ Student housing

Total Number of Responses: 407

County Results



■ Single family residence ■ Townhome ■ Apartment ■ Manufactured home ■ Student housing

Total Number of Responses: 1359

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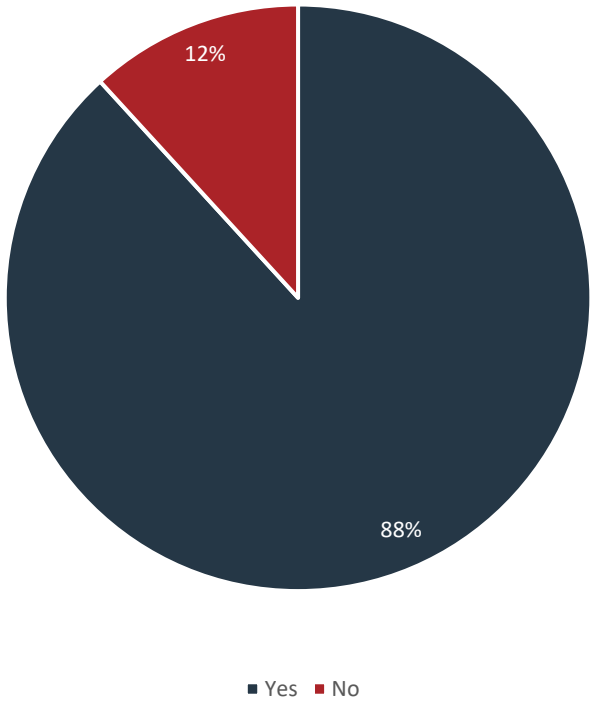
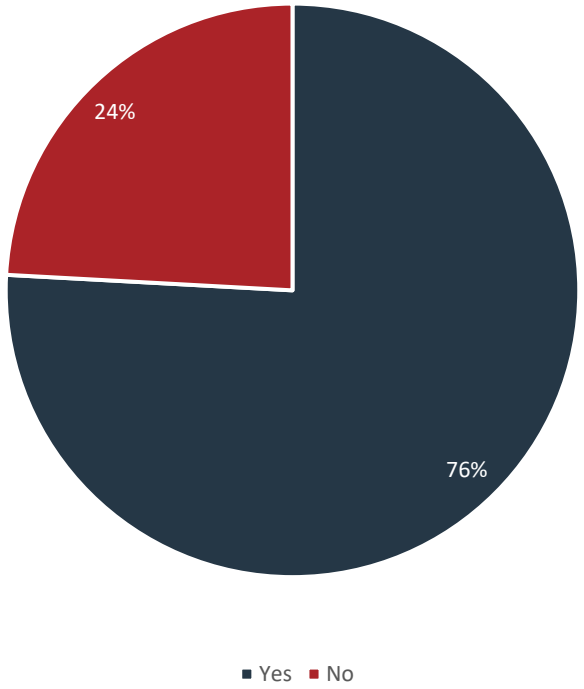
Q3: Do you have curbside pickup of garbage at your residence?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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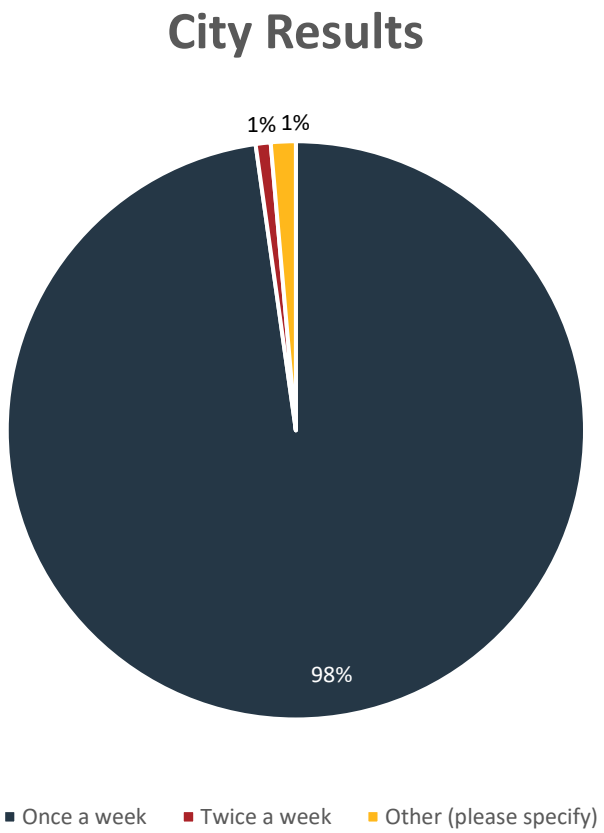
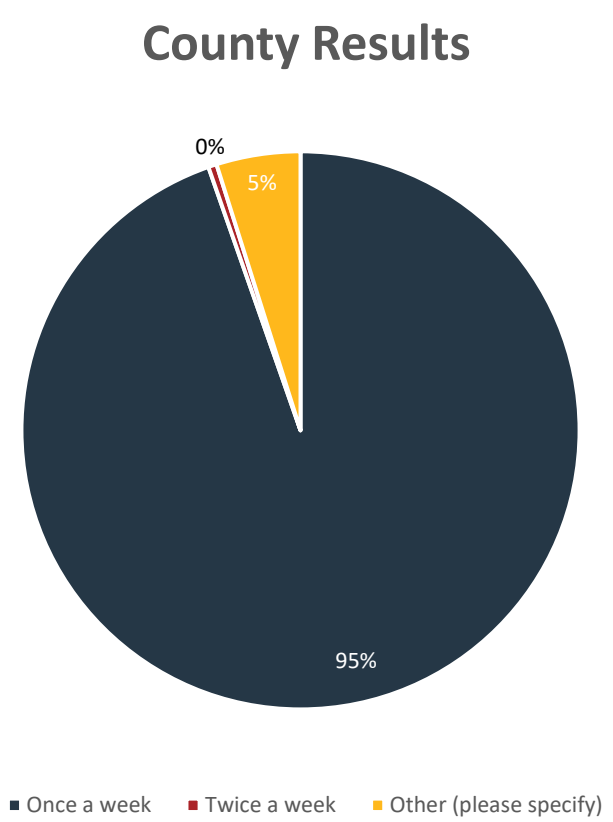
Q4: If you answered YES, what is the pickup frequency?



Total Number of Responses: 359



Total Number of Responses: 1027

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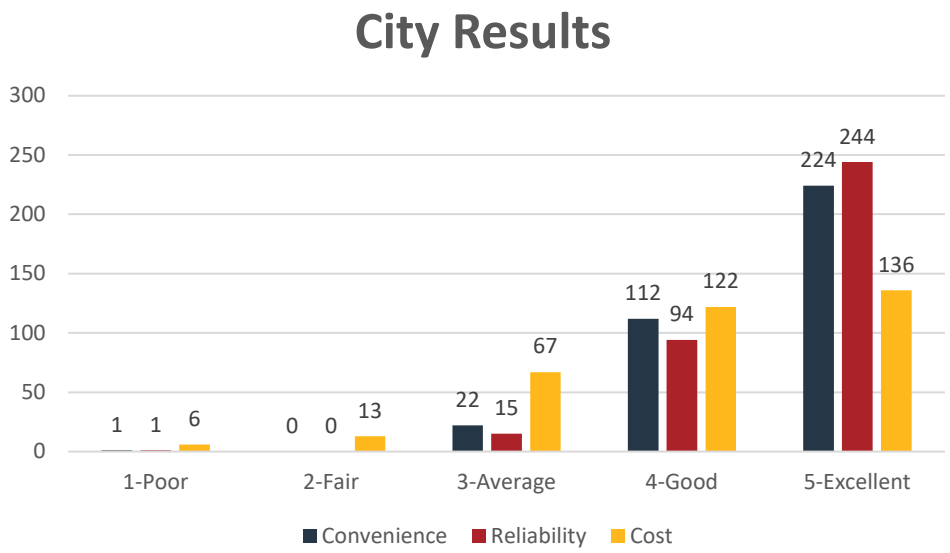
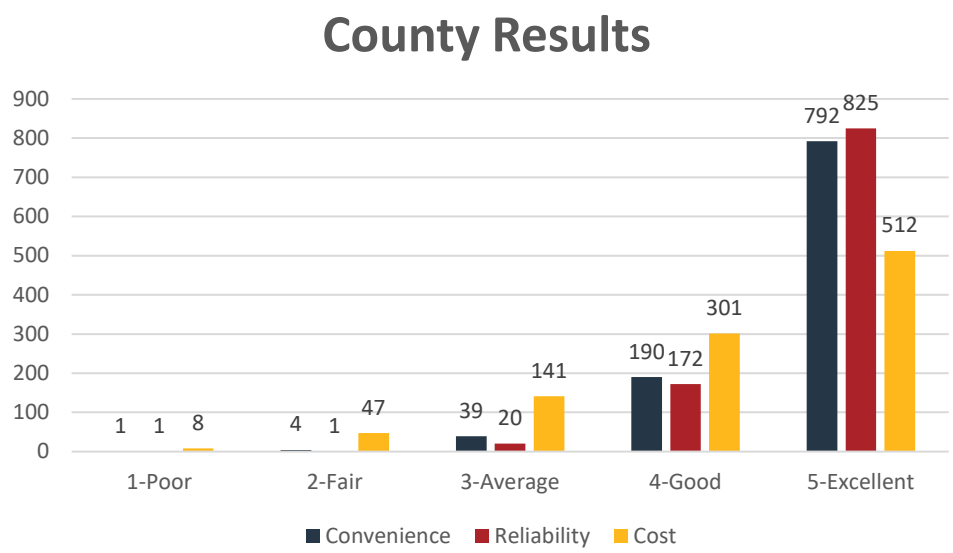
Q5: If you answered YES, how would you rate the service in terms of:





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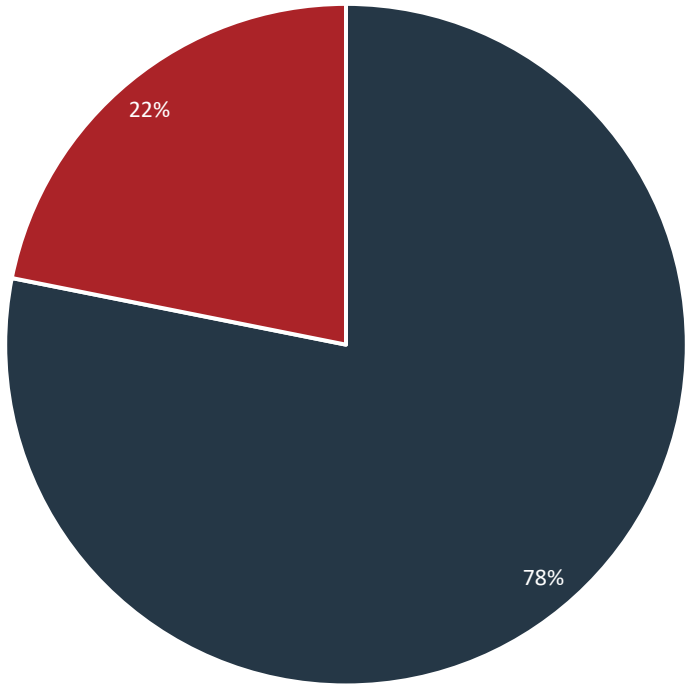
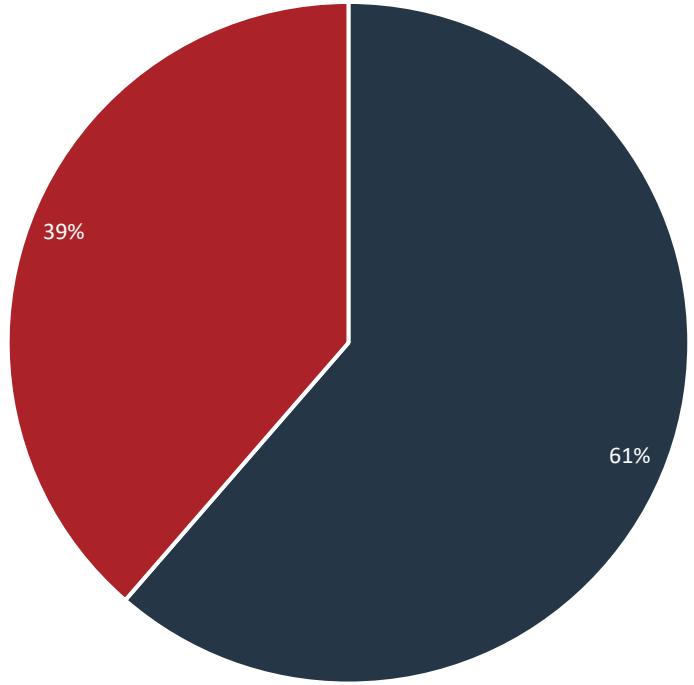
Q6: Do you recycle?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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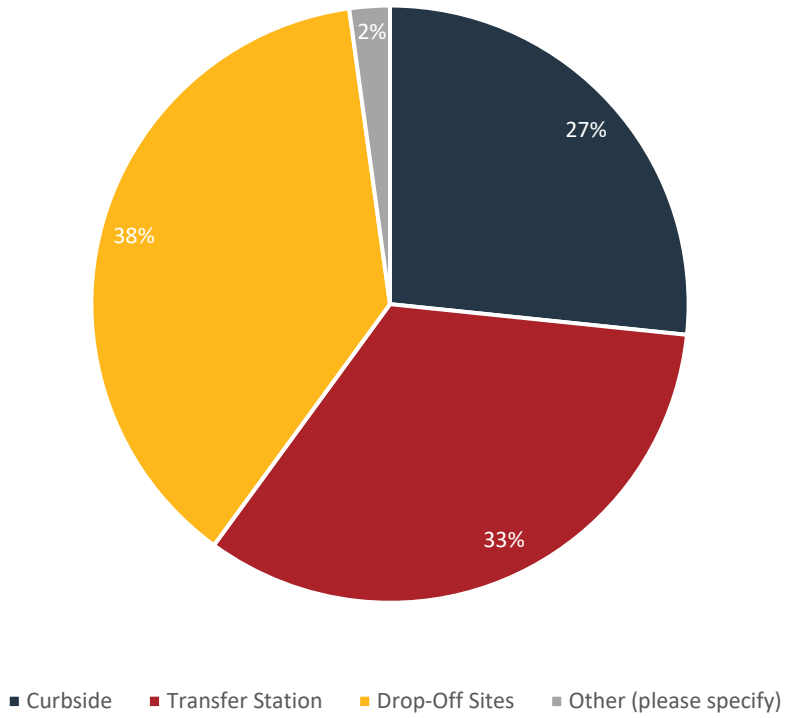
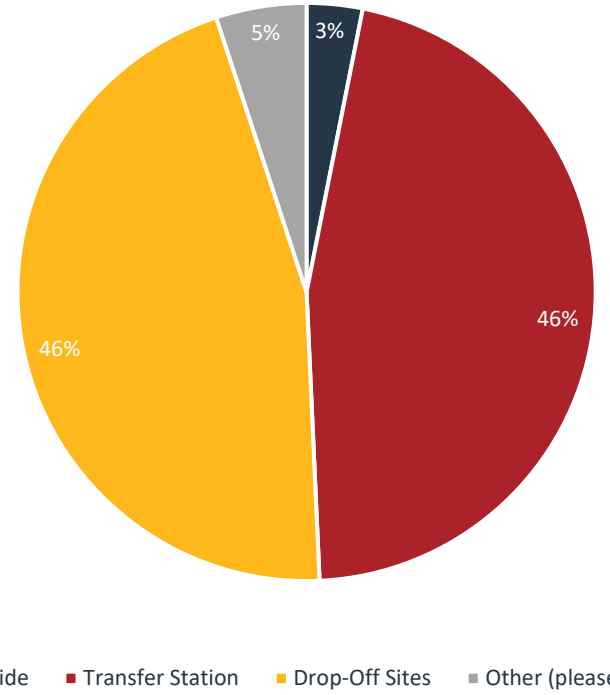
Q7: If you answered YES, how do you recycle? (Select all that apply)

City Results



Total Number of Responses: 503

County Results



Total Number of Responses: 1185

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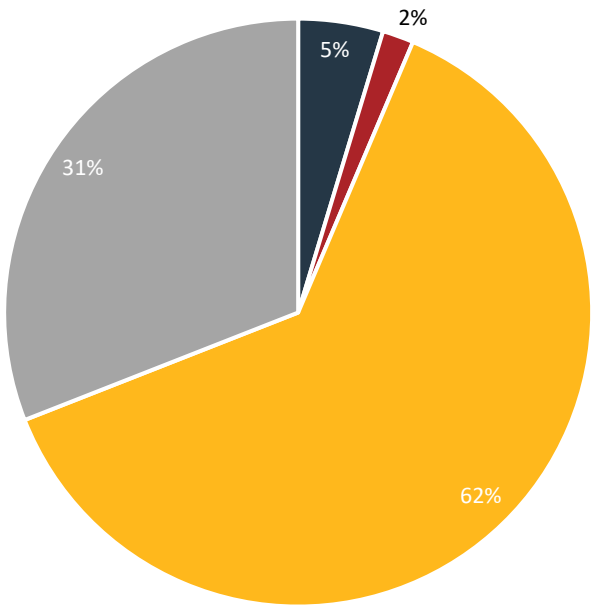
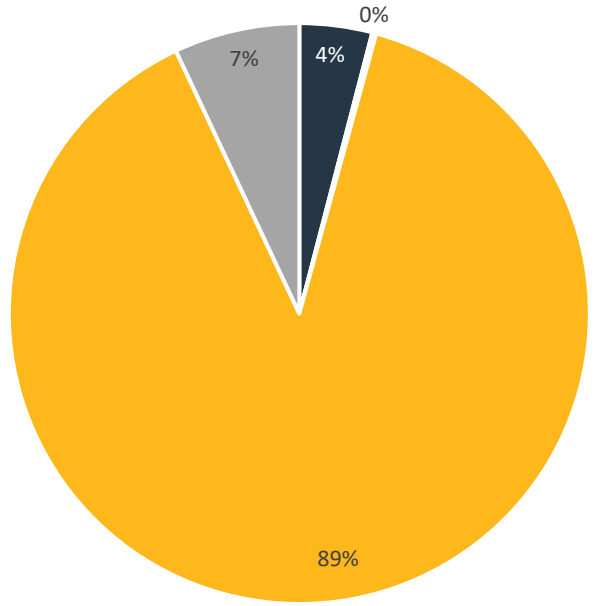
Q8: If you have curbside recycling, what is the pickup frequency?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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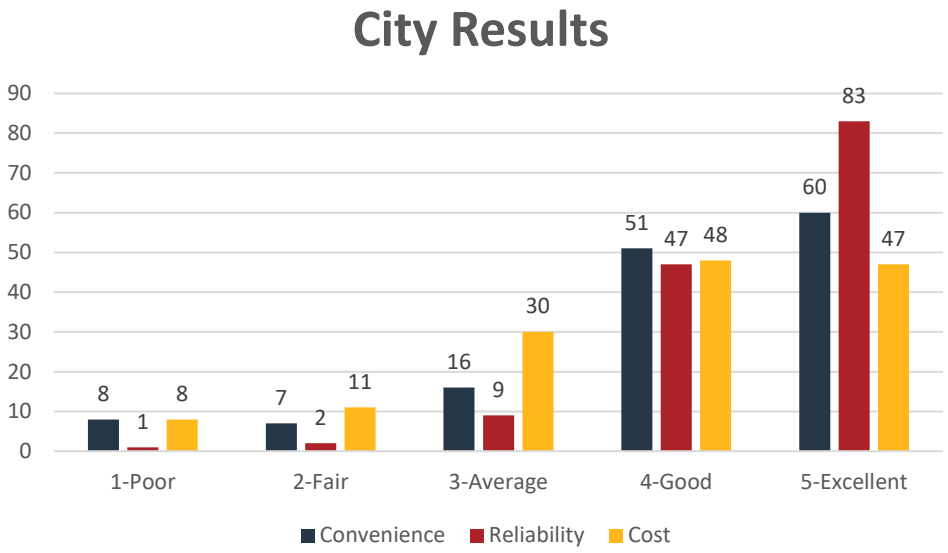
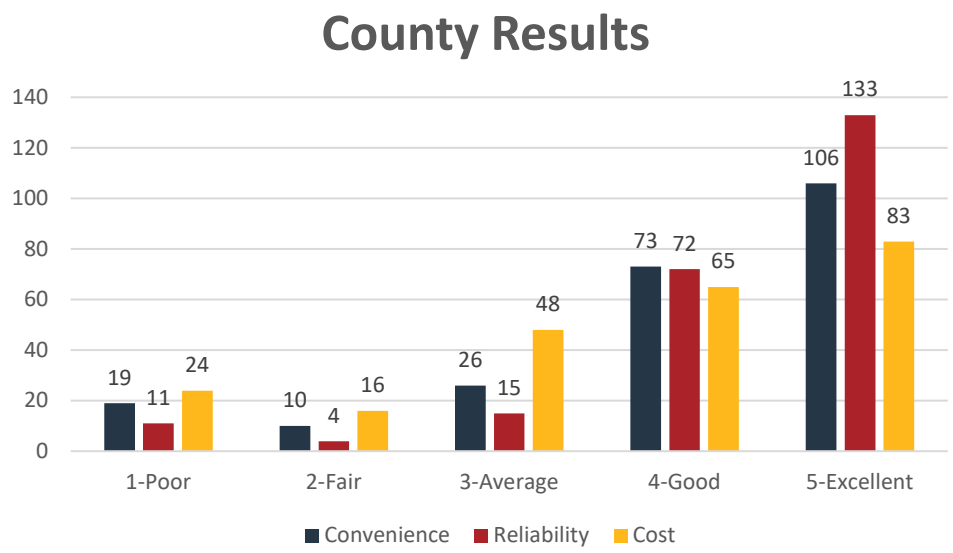
Q9: If you have curbside recycling, how would you rate the service in terms of:





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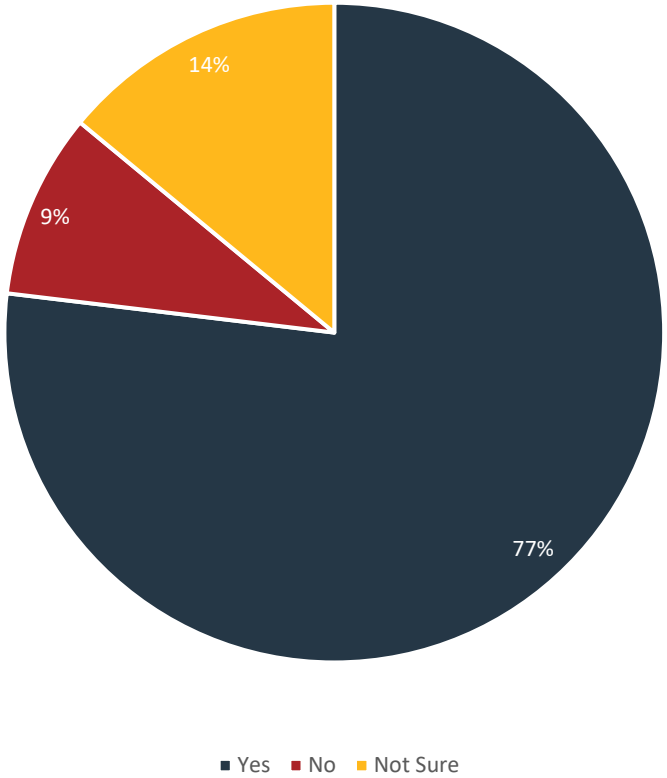
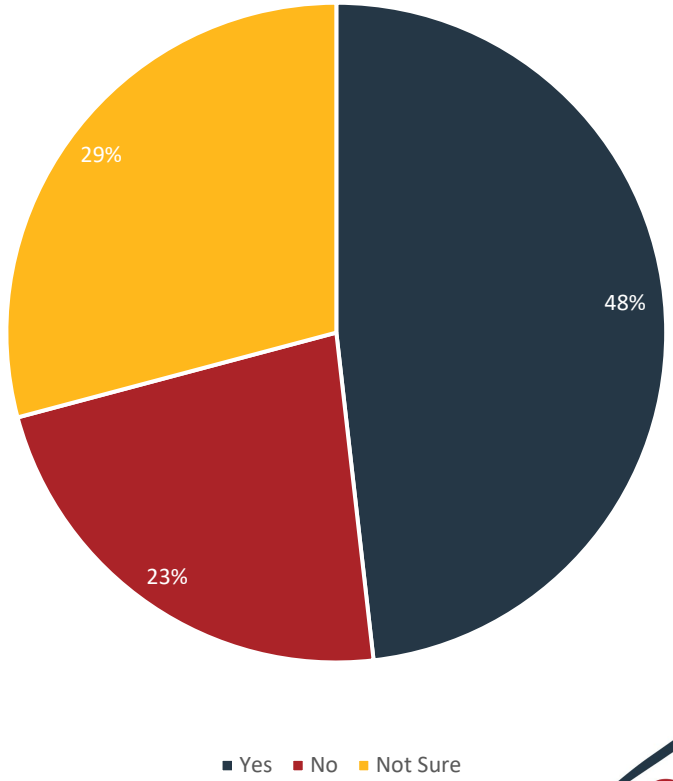
Q10: Would you like to see more waste diversion (recycling, composting, re-use) opportunities?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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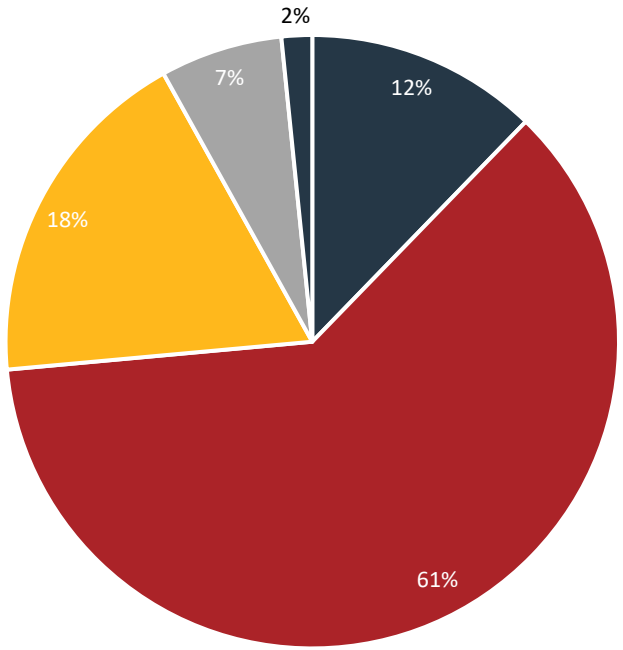
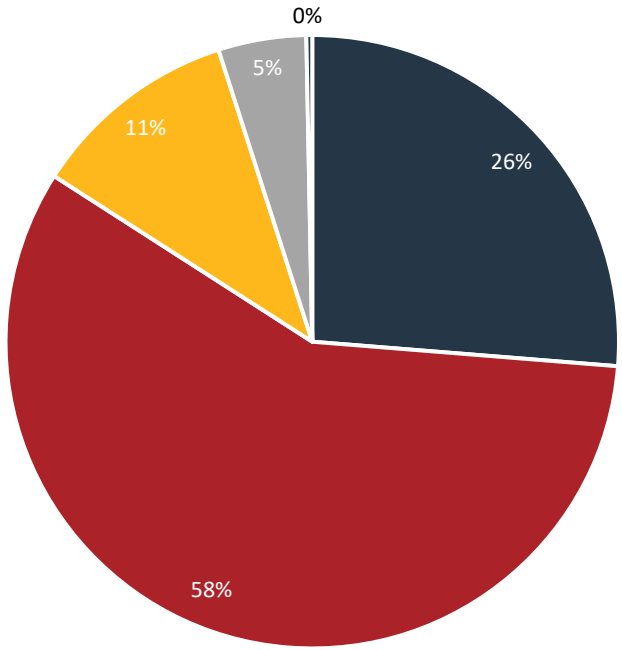
Q11: If you answered YES, how much would you be willing to spend for the additional services than what you are currently getting?

City Results



Total Number of Responses: 310

County Results



Total Number of Responses: 647

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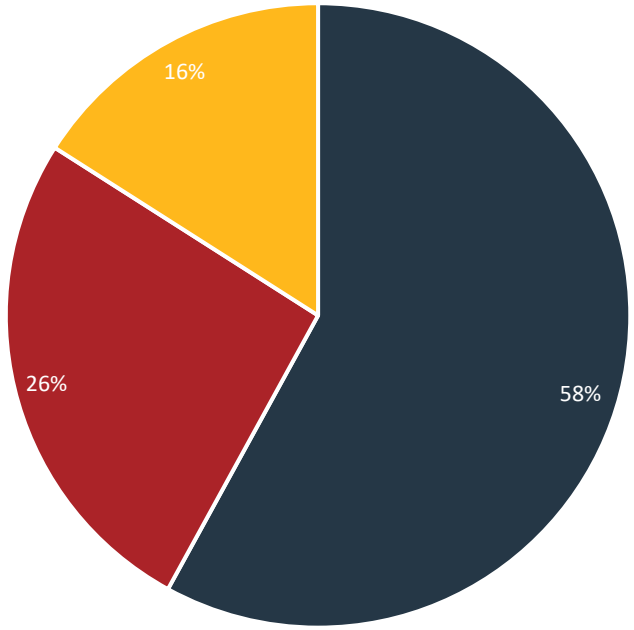
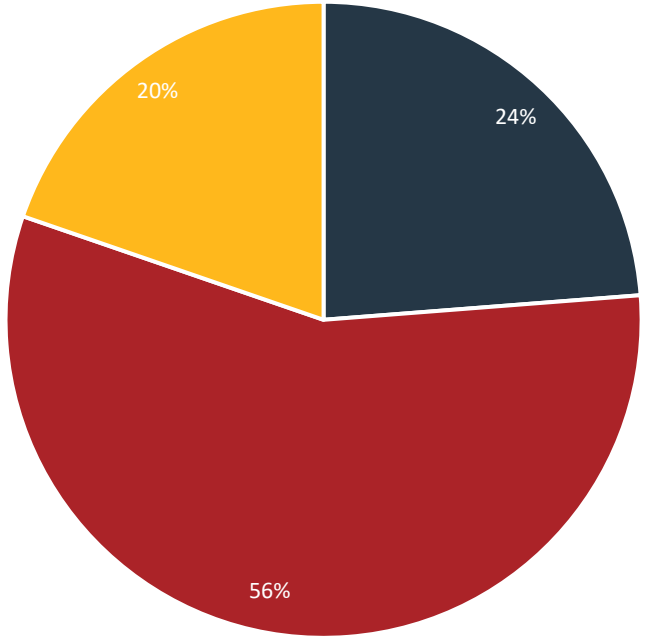
Q12: Would you be interested in universal curbside recycling?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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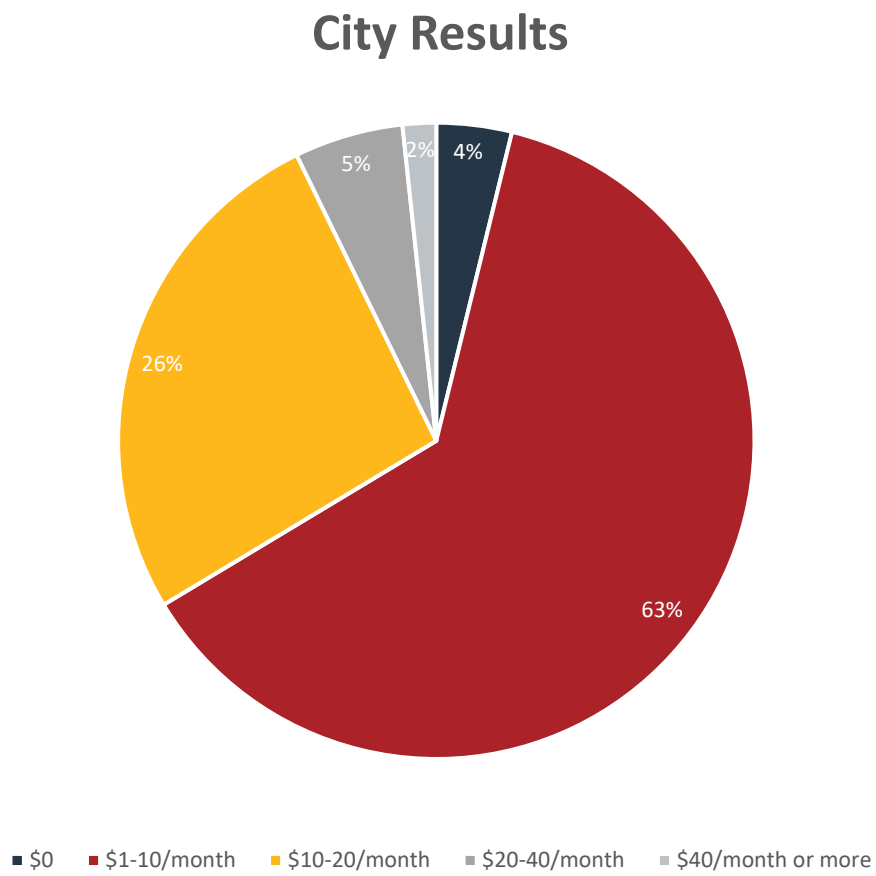
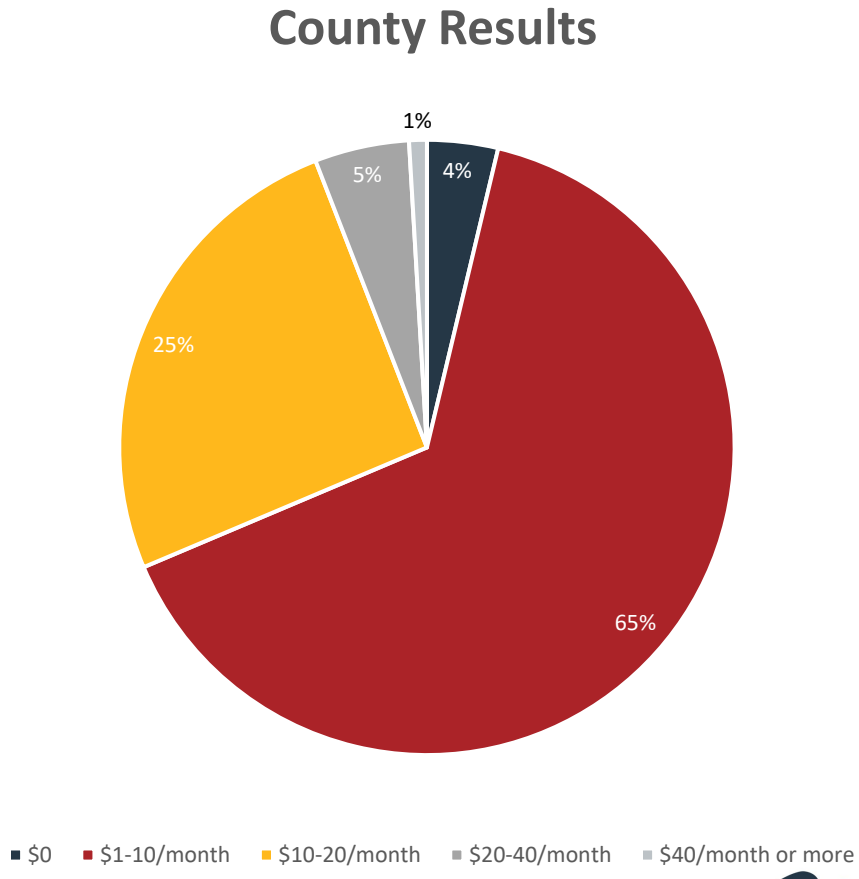
Q13: If you answered YES, how much would you be willing to spend on this service per month?



Total Number of Responses: 235



Total Number of Responses: 322

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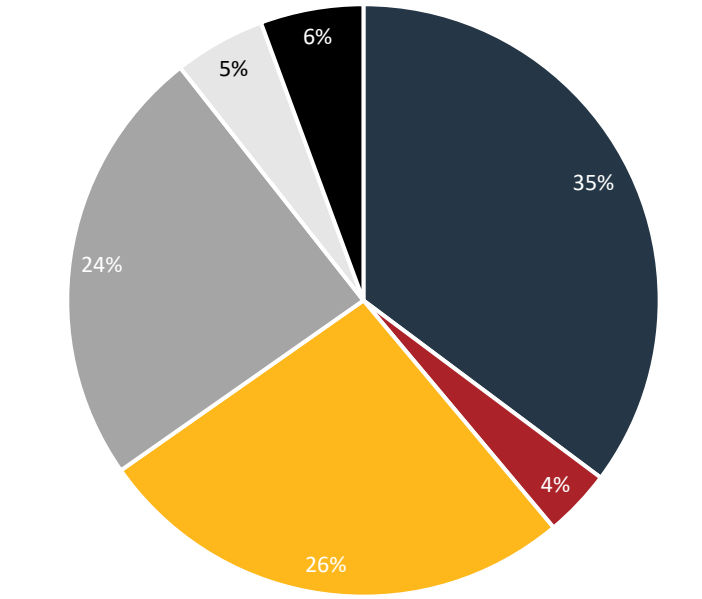
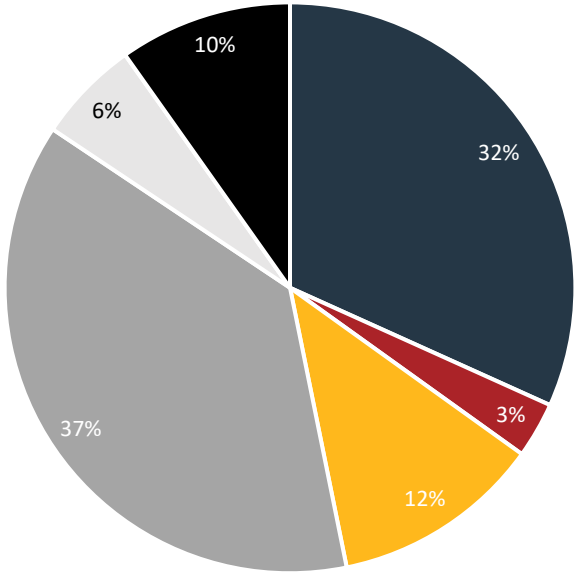
Q14: What do you do with your yard waste? Yard waste includes leaves, grass clippings, and tree branches (select all that apply).

City Results



Total Number of Responses: 622

County Results



Total Number of Responses: 1805

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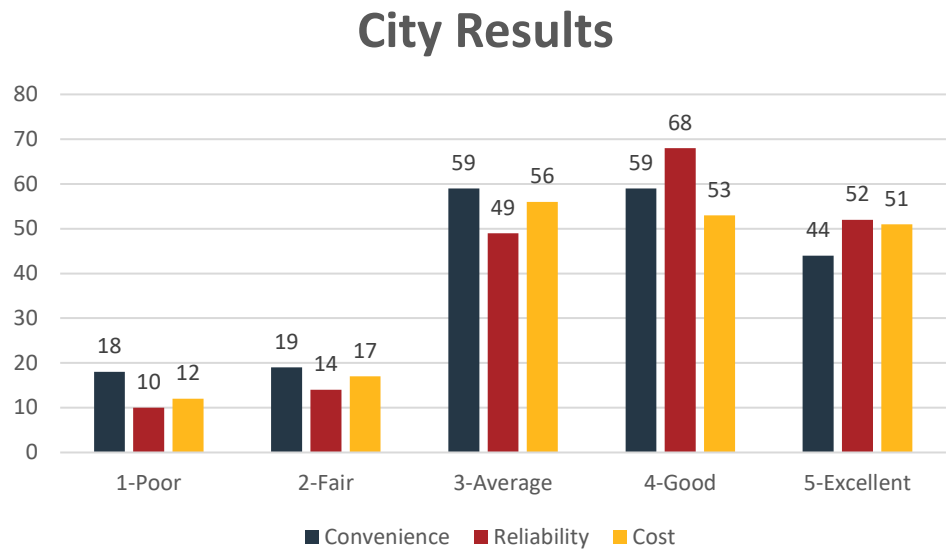
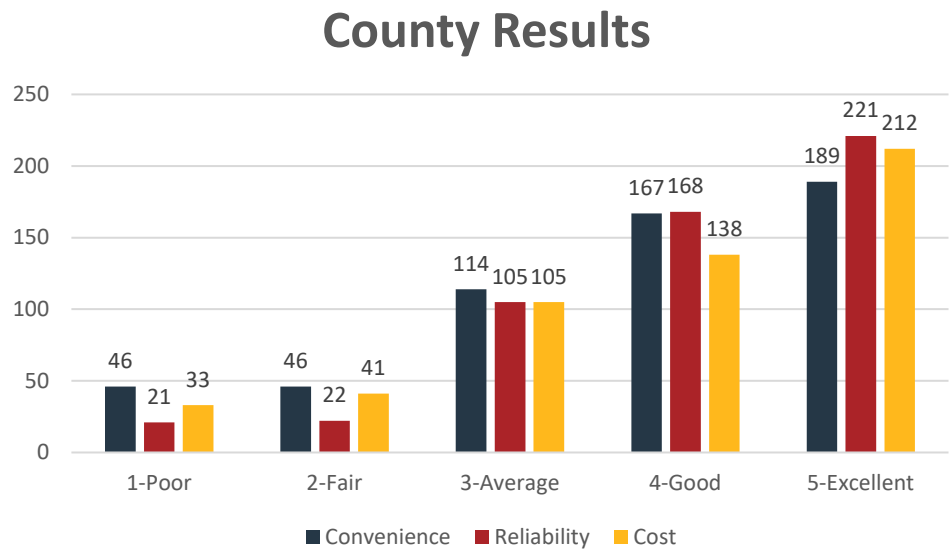
Q15: If you don't throw away your yard waste in your garbage, how would you rate the yard waste service in terms of:





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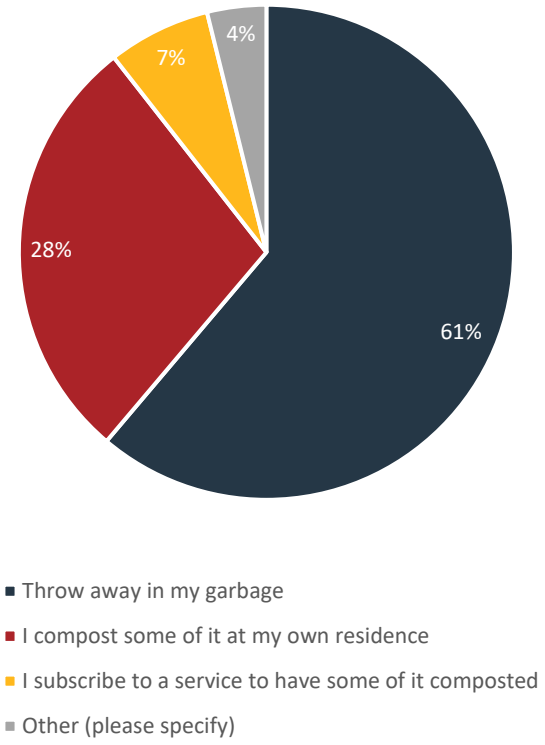
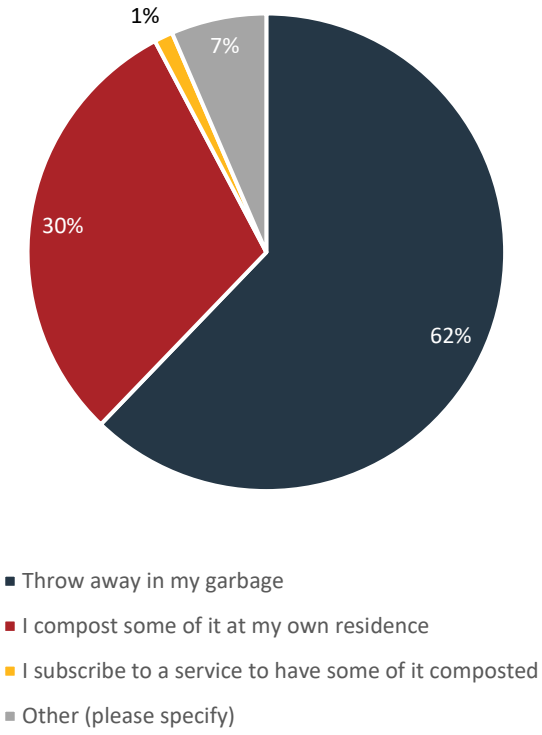
Q16: What do you do with your food waste (select all that apply)?

Q16 (What do you do with your food waste (select all that apply)?) (City)



Total Number of Responses: 492

Q16 (What do you do with your food waste (select all that apply)?) (County)



Total Number of Responses: 1579

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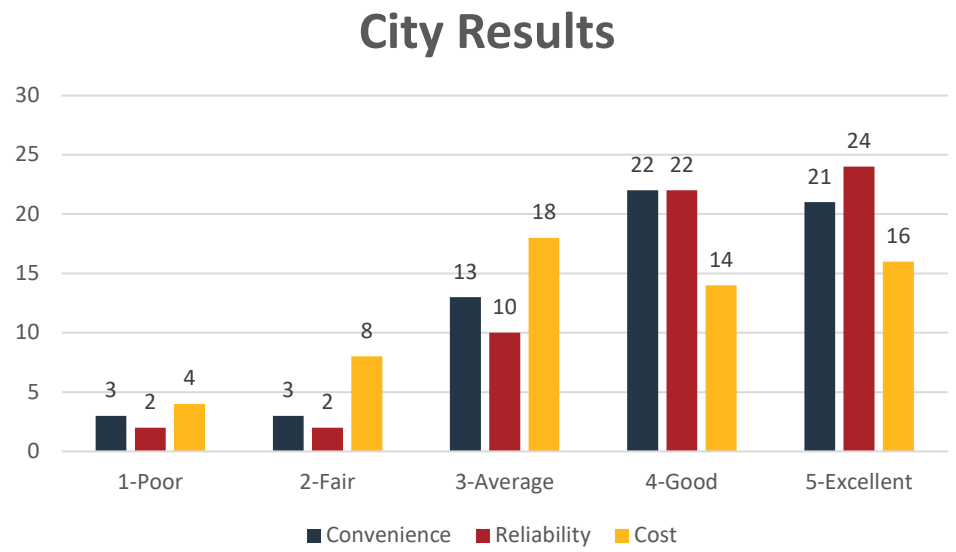
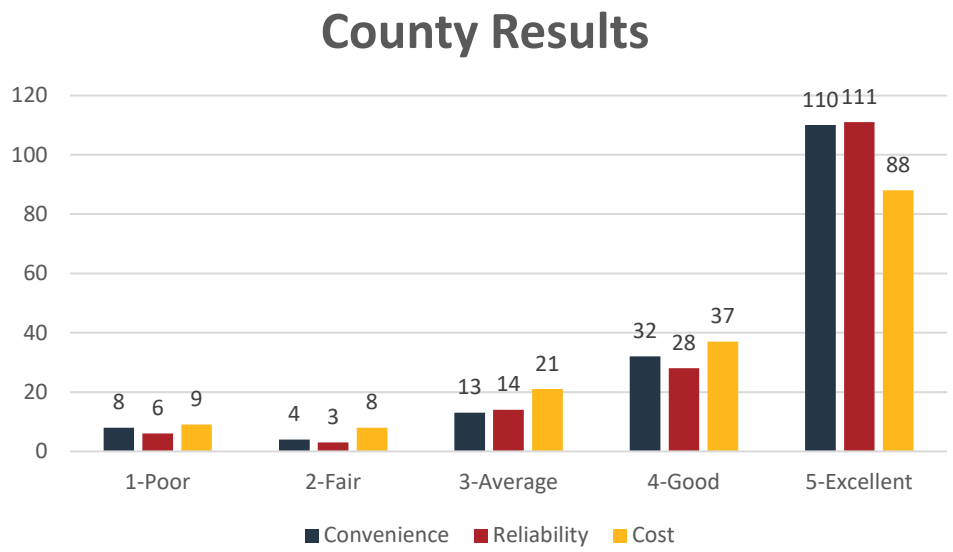
Q17: If you have food waste service, how would you rate the service in terms of:





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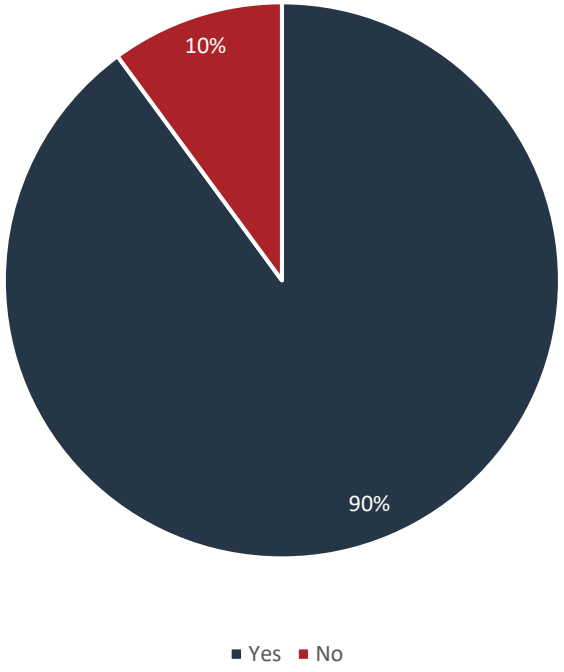
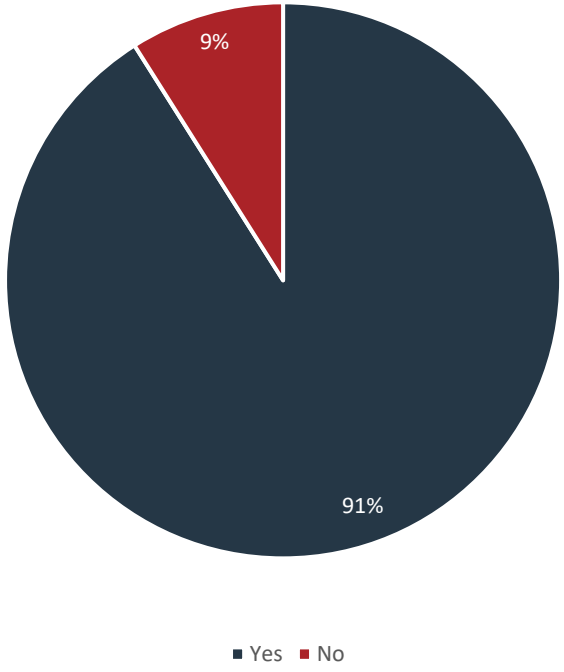
Q18: Do you use the existing Helena Transfer Station (located at 1975 N. Benton Ave. next to Carroll College)?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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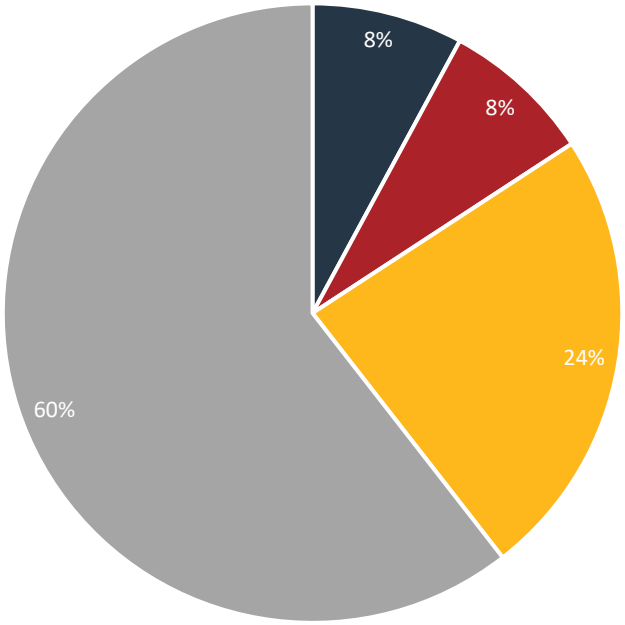
Q19: If you answered NO, why not?

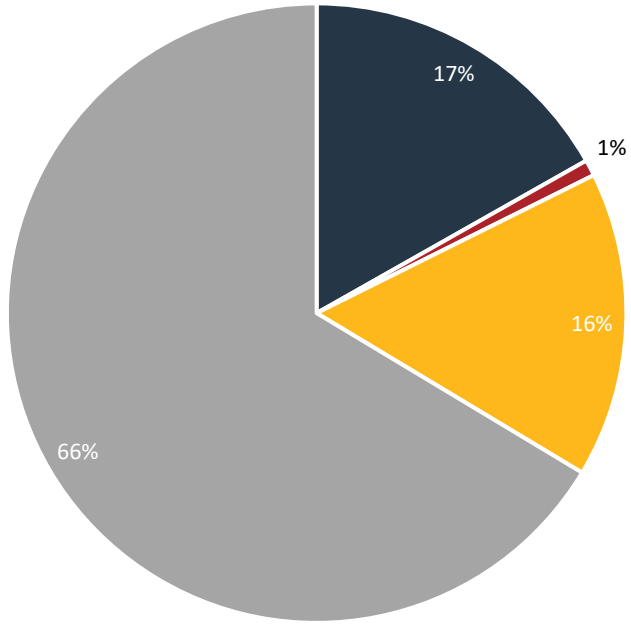
City Results



Location Hours Convenience I have no need to use this facility

Total Number of Responses: 38

County Results

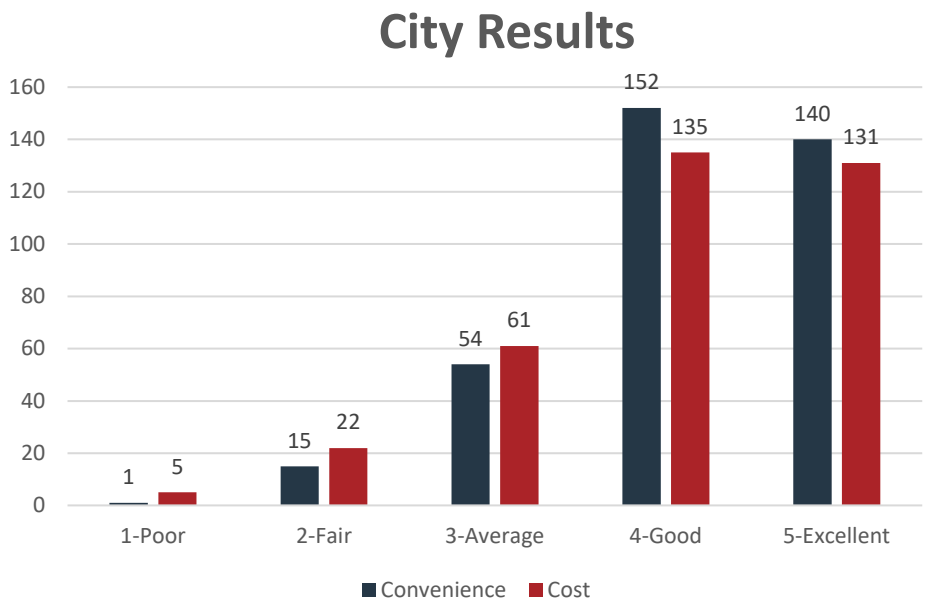


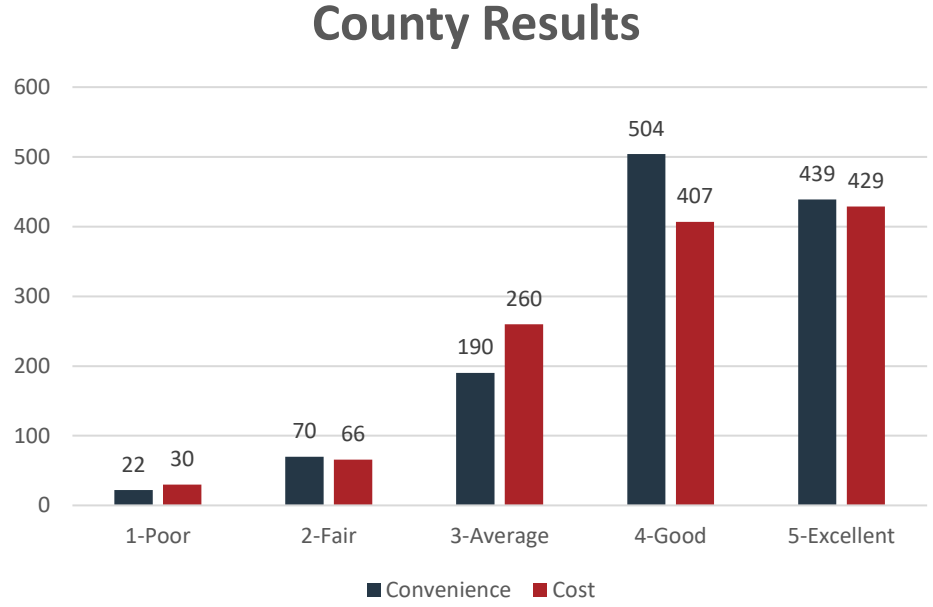
Location Hours Convenience I have no need to use this facility

Total Number of Responses: 119

GreatWest ENGINEERING

Q20: If you answered YES, how would you rate the Transfer Station facility in terms of:

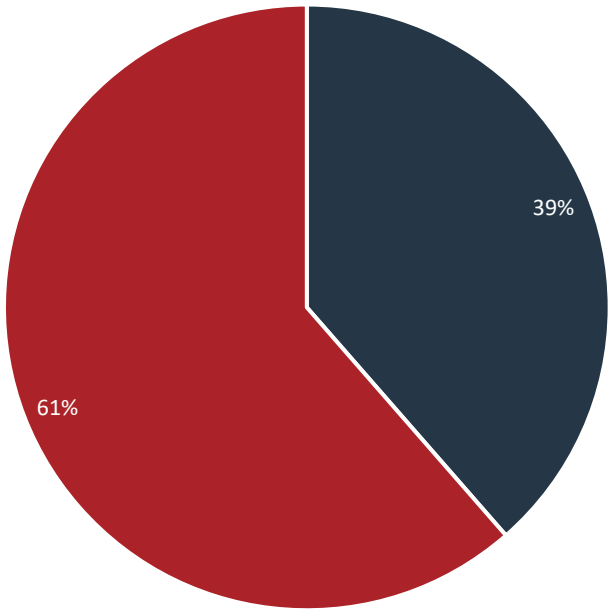




GreatWest ENGINEERING

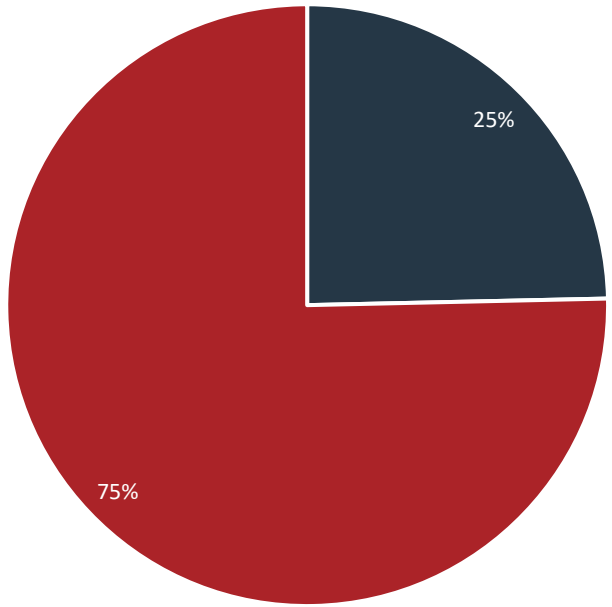
Q21: Would you be interested in a program that charges based on the amount of waste you throw away/recycle/compost as opposed to the current system where there is a standard flat rate?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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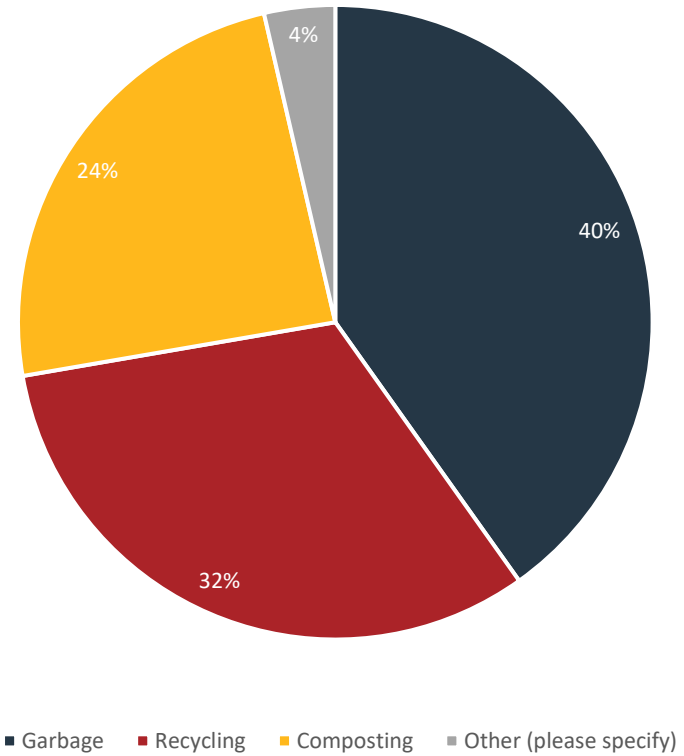
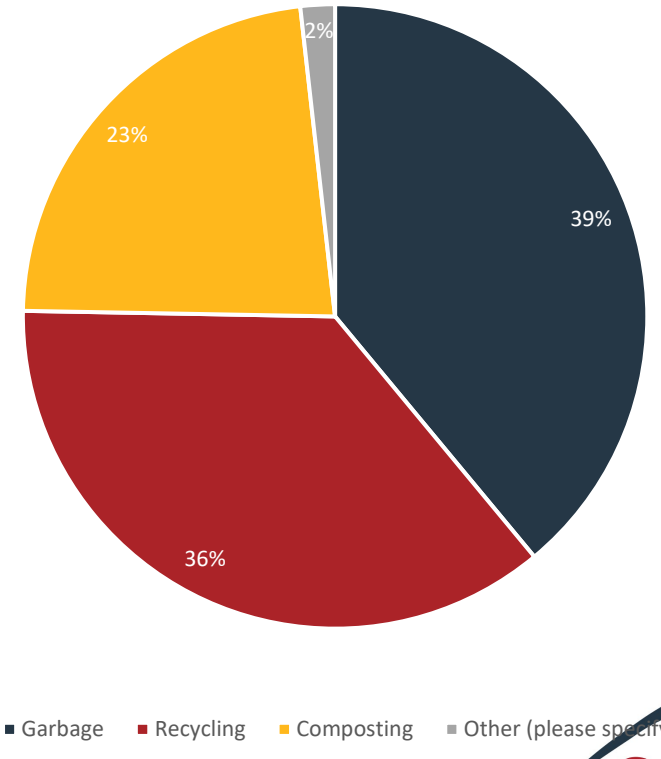
Q22: If you answered YES, for what categories of disposal/diversion would you be interested in? (Select all that apply)

City Results



Total Number of Responses: 249

County Results



Total Number of Responses: 785

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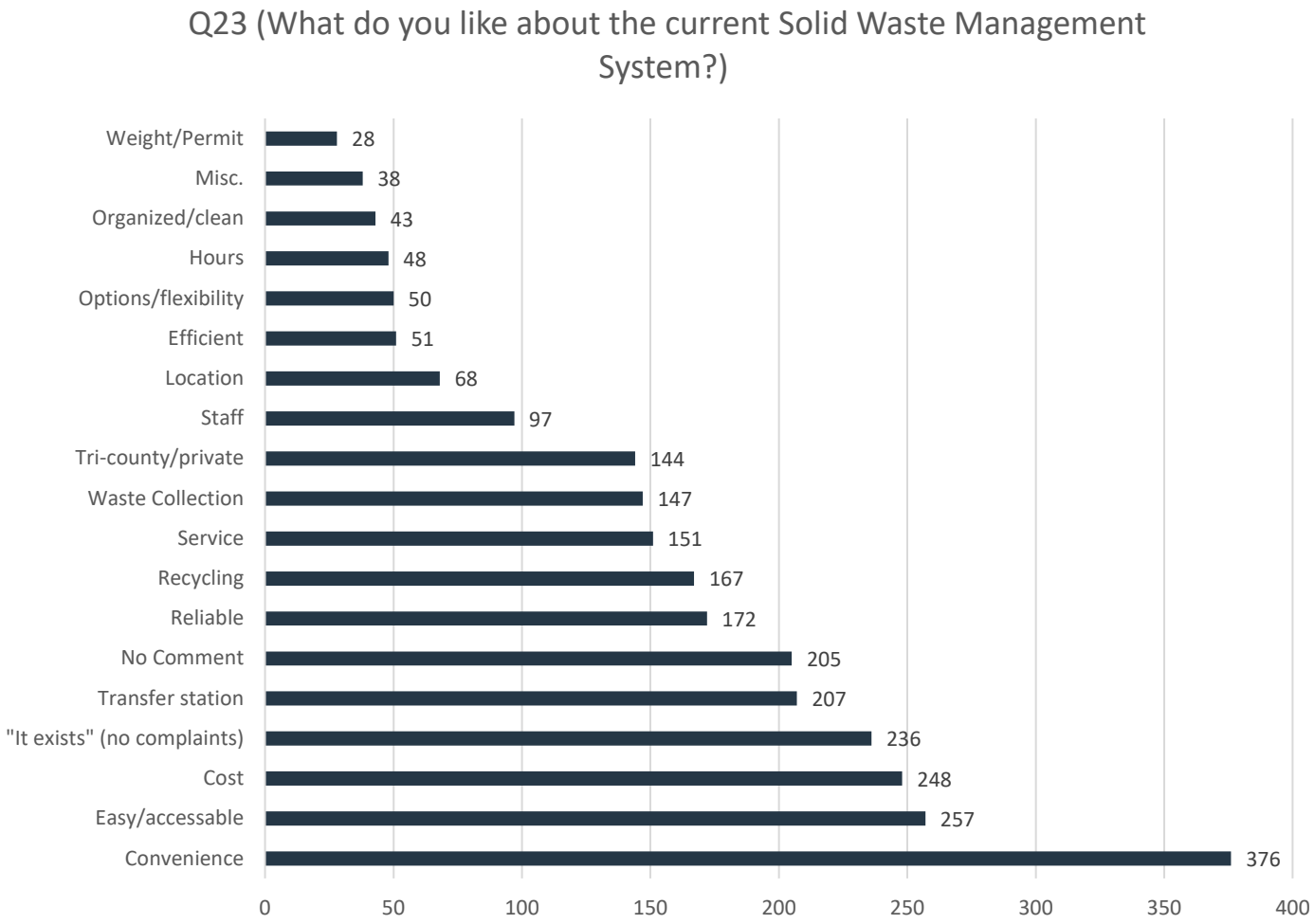
Phase 1 Survey Results: Q23



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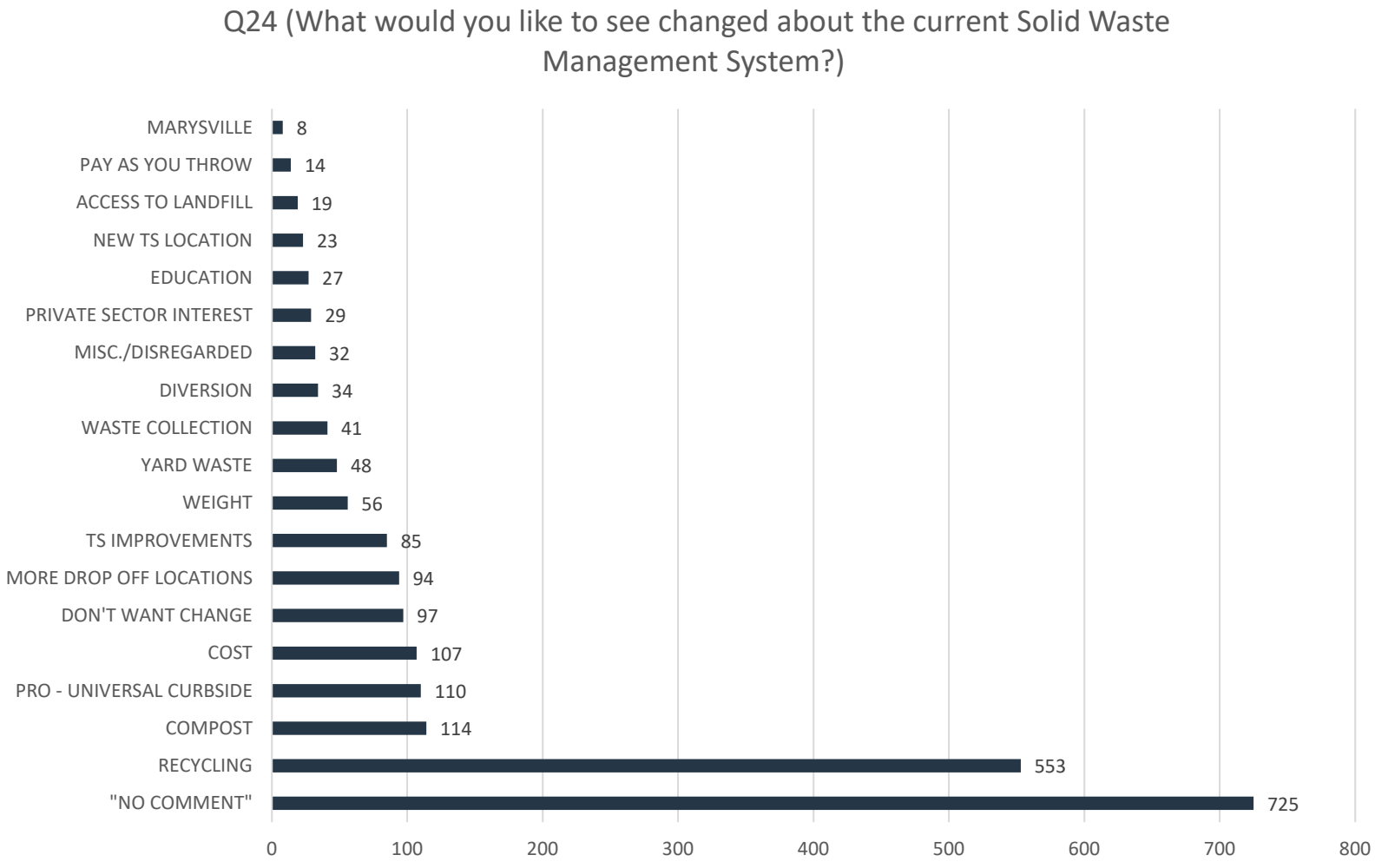
Phase 1 Survey Results: Q24



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Phase 1 Survey Results: Q25 (Do you have any other comments, questions, or concerns?)

- Concerned about taxes being raised
- Importance of private businesses performing solid waste services
- More options for recycling

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Public Meeting Results

- County resident 100% against universal recycling and recycling boxes at their house
- Very pleased with the current system
- Would like more composting options
- Only those that recycle should pay for recycling
- How will this affect Tri County Disposal?
- County needs to handle recycling, not a private entity
  - Need to think about future generations
- The transfer station runs smoothly
- County resident likes the choice of hauling their own waste or having it picked up by Tri County.

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Thank You

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Appendix D

City-County Joint Commission

Work Session

February 6, 2024

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City of Helena & Lewis and Clark County

City-County Joint Commission Meeting

February 6, 2024

Stephanie Beckert, PE (Great West Engineering)

Matt Evans, PE (Burns & McDonnell)

Tasks Completed

- **Site Tours of all facilities**
- **Communications Plan**
- **Public Survey**
- **System Evaluation (75% complete)**
  - Capital Infrastructure Improvements and Additions
  - System-Wide Evaluations
    - Curbside Recycling – City of Helena
    - Additional Drop Sites – County
    - Increase Green Waste Diversion
    - Evaluate Food Waste Diversion

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Capital Infrastructure Options

New Transfer Station	•New Location •Extra room for expansion •All operations in one location •Better traffic throughput
Upgrades to Transfer Station	•Move truck storage to the existing location •Space for recycling compacting facility •Better traffic management and throughput – incorporation of additional scales •Z-walls to separate and designate Class II and Class IV wastes as well as recycling diversion
New Recycling Consolidation Facility	•On a different property •In conjunction with curbside recycling
Additional Container Sites Throughout the County	•Reduce traffic to Transfer Station •Allow more opportunities for diversion for County residents
Upgrade County Compost Facility	•Enhance green waste collection •Complete composting quicker •Opportunities to provide more compost for purchase

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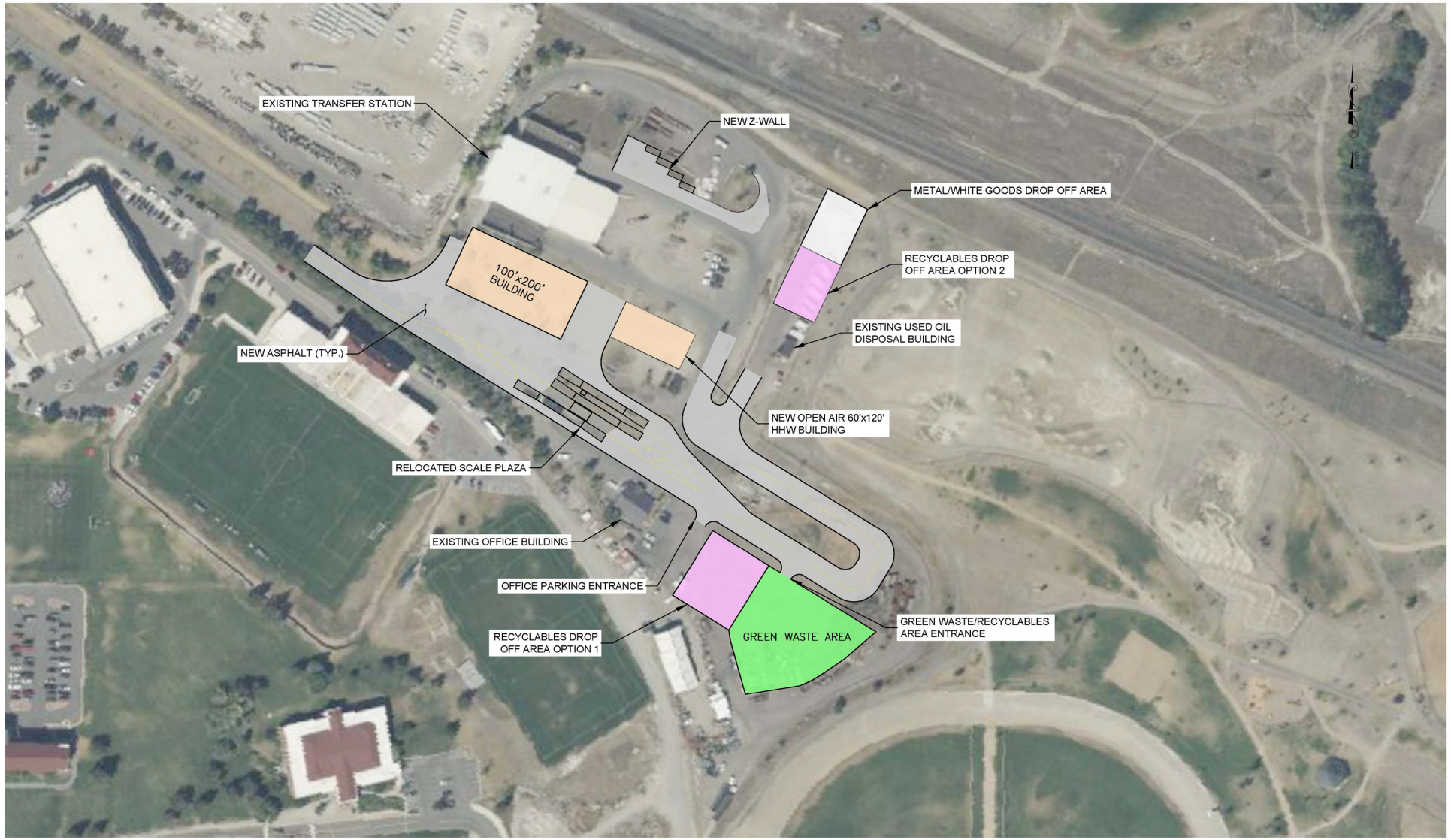
Upgrades to Transfer Station – Option



Conceptual Figure 1.2
Transfer Station Improvements

CITY OF HELENA - LEWIS AND CLARK COUNTY
INTEGRATED SOLID WASTE MASTER PLAN

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Landfill Improvements

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Recycling and Green Waste Options

» City Universal Curbside Recycling

» Added County Collection Sites

» City Subscription or Universal Green Waste

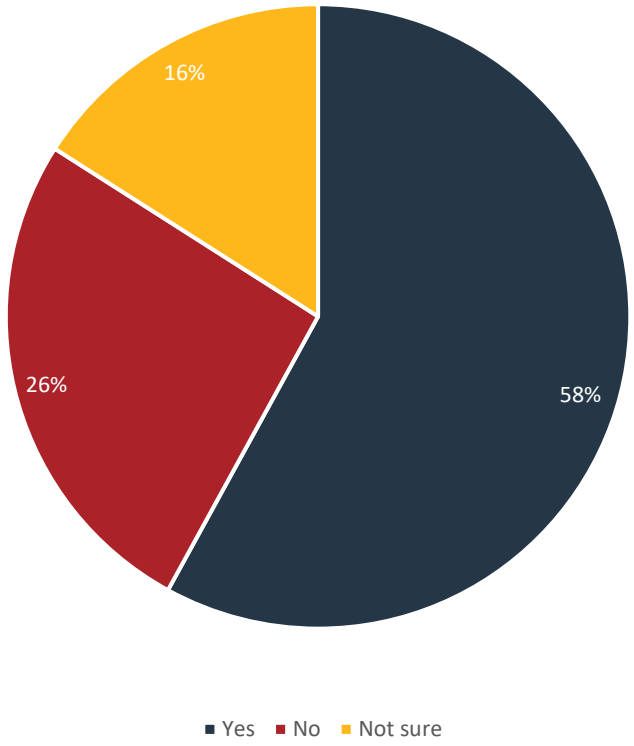
Option:

Universal Curbside Recycling

City of Helena

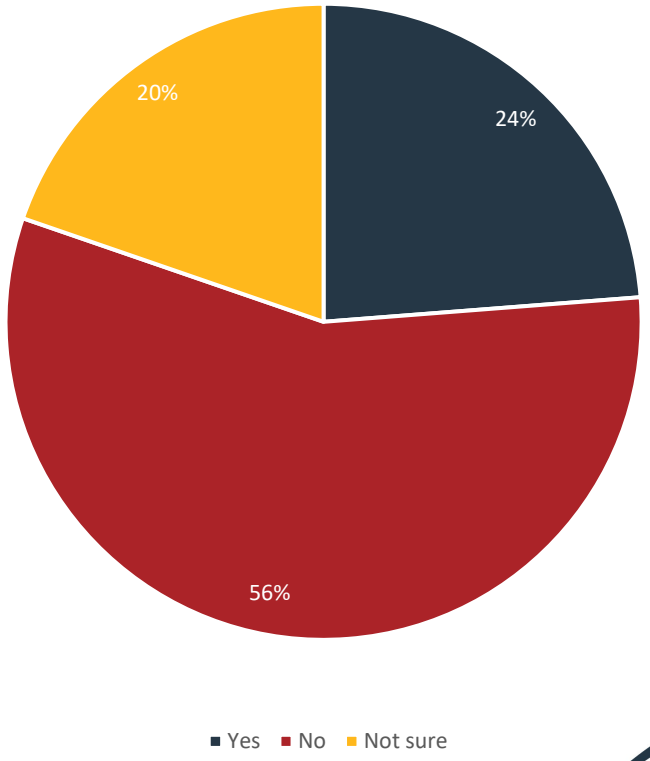
Q12: Would you be interested in universal curbside recycling?

City Results



Total Number of Responses: 407

County Results



Total Number of Responses: 1359

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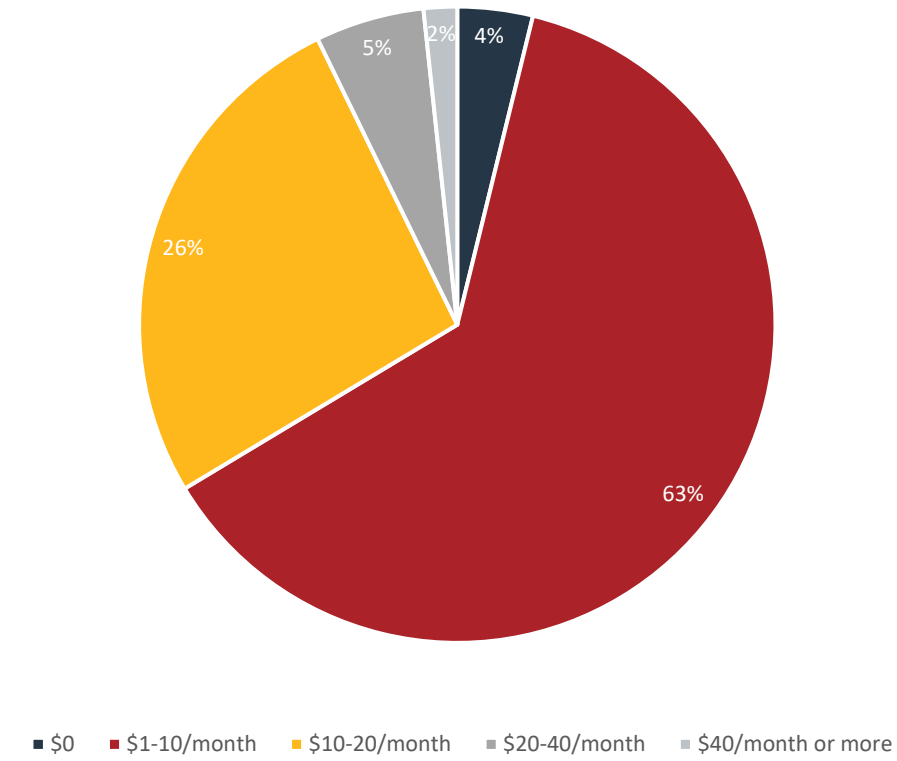
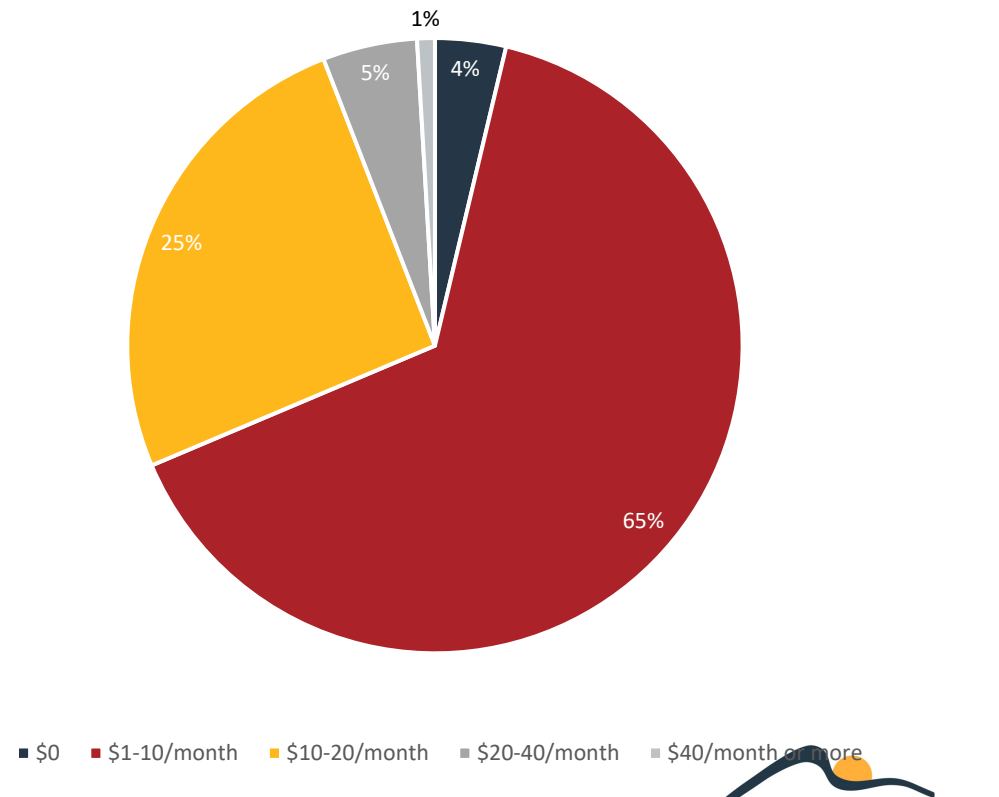
Q13: If you answered YES, how much would you be willing to spend on this service per month?

City Results



Total Number of Responses: 235

County Results



Total Number of Responses: 322

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Current Subscription Based Curbside Recycling– City of Helena

11,068 Residences

Tons of waste

14,317 Tons

(FY 2023)

Tons of Recycling

280 Tons*

(2019)

1.9% Diversion

*280 tons collected from the existing curbside program. A total of 1,192 tons are collected from existing curbside collection and at the transfer station.

Universal Curbside Recycling– City of Helena

11,068 Residences

Tons of waste

12,808 Tons

(FY 2023)

Projected Tons of Recycling

1,965* Tons

13.3% Diversion

*Estimated Data from City of Helena Strategic Plan for Waste Reduction

Subscription vs. Universal – City of Helena

Subscription Curbside

280 Tons of Recycling

$16.20 Per Residence per month

(includes $8.20 City contribution)

Universal Curbside

1,965 Tons of Recycling

Approx. $12 Per Residence per month

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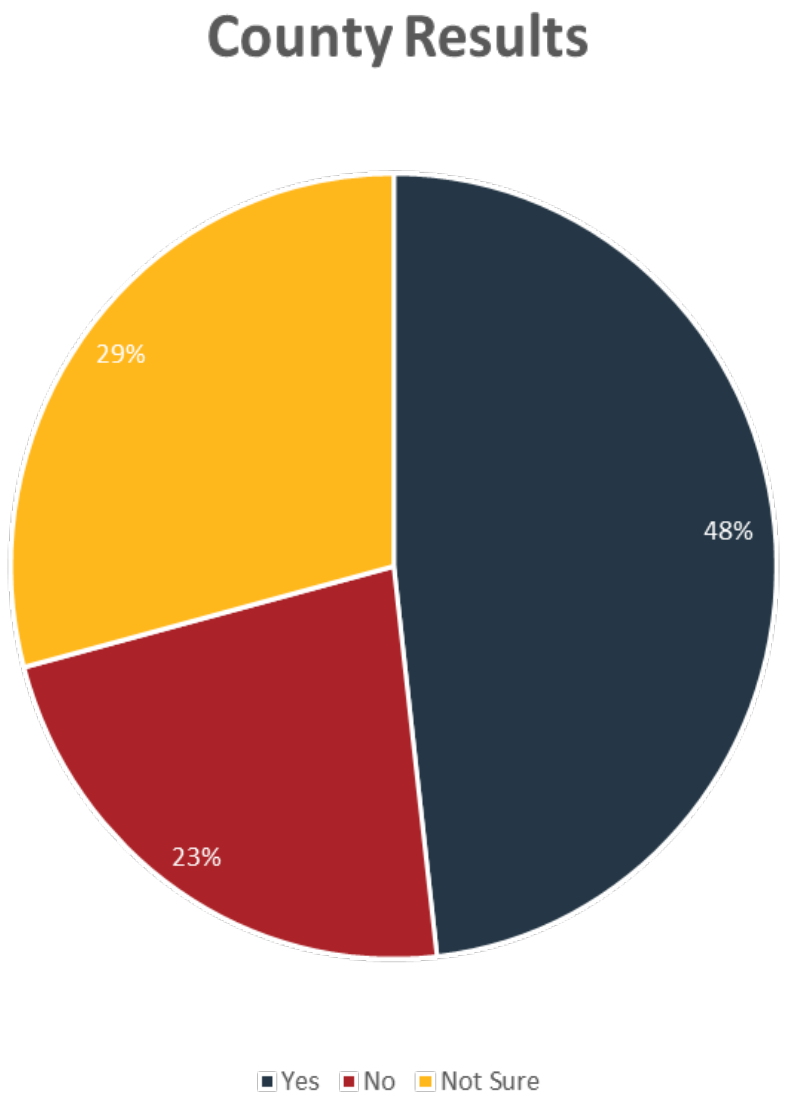
Option: Two Additional County Recycling Drop-off Sites



Q10: Would you like to see more waste diversion (recycling, composting, re-use) opportunities?

Option: Add Green Waste Collection (City)

Updated Schedule

	Mar 2024	April 2024	May 2024	June 2024	July 2024
Public Meeting					
Public Comment Period					
Draft Report					
Final Report/Present to Public					

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Appendix E

Public Meeting

April 10, 2024

See What's *Possible*.

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City of Helena & Lewis and Clark County Integrated Solid Waste Master Plan

Public Meeting

April 10, 2024

Stephanie Beckert, PE (Great West Engineering)

Matt Evans, PE (Burns & McDonnell)

Tasks Completed

- **Site Tours of all facilities**
- **Communications Plan**
- **Public Survey**
- **System Evaluation (75% complete)**
  - Capital Infrastructure Improvements and Additions
  - System-Wide Evaluations
    - Curbside Recycling – City of Helena
    - Additional Drop Sites – County
    - Increase Yard Waste Diversion

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Capital Infrastructure Options

New Transfer Station

- New Location
- Extra room for expansion
- All operations in one location
- Better traffic throughput
- Very expensive option 4.5x the cost of upgrades to the transfer station

Upgrades to Transfer Station

- Move truck storage to the existing location
- Space for recycling compacting facility
- Better traffic management and throughput – incorporation of additional scales
- Z-walls to separate and designate Class II and Class IV wastes as well as recycling diversion
- More affordable and still effective for the needs of the community

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Capital Infrastructure Options

New Recycling Consolidation Facility

- On a different property
- In conjunction with curbside recycling

Additional Container Sites Throughout the County

- Reduce traffic to Transfer Station
- Allow more opportunities for diversion for County residents

Upgrade County Compost Facility

- Enhance yard waste collection
- Complete composting quicker
- Increase opportunities to provide additional compost for purchase

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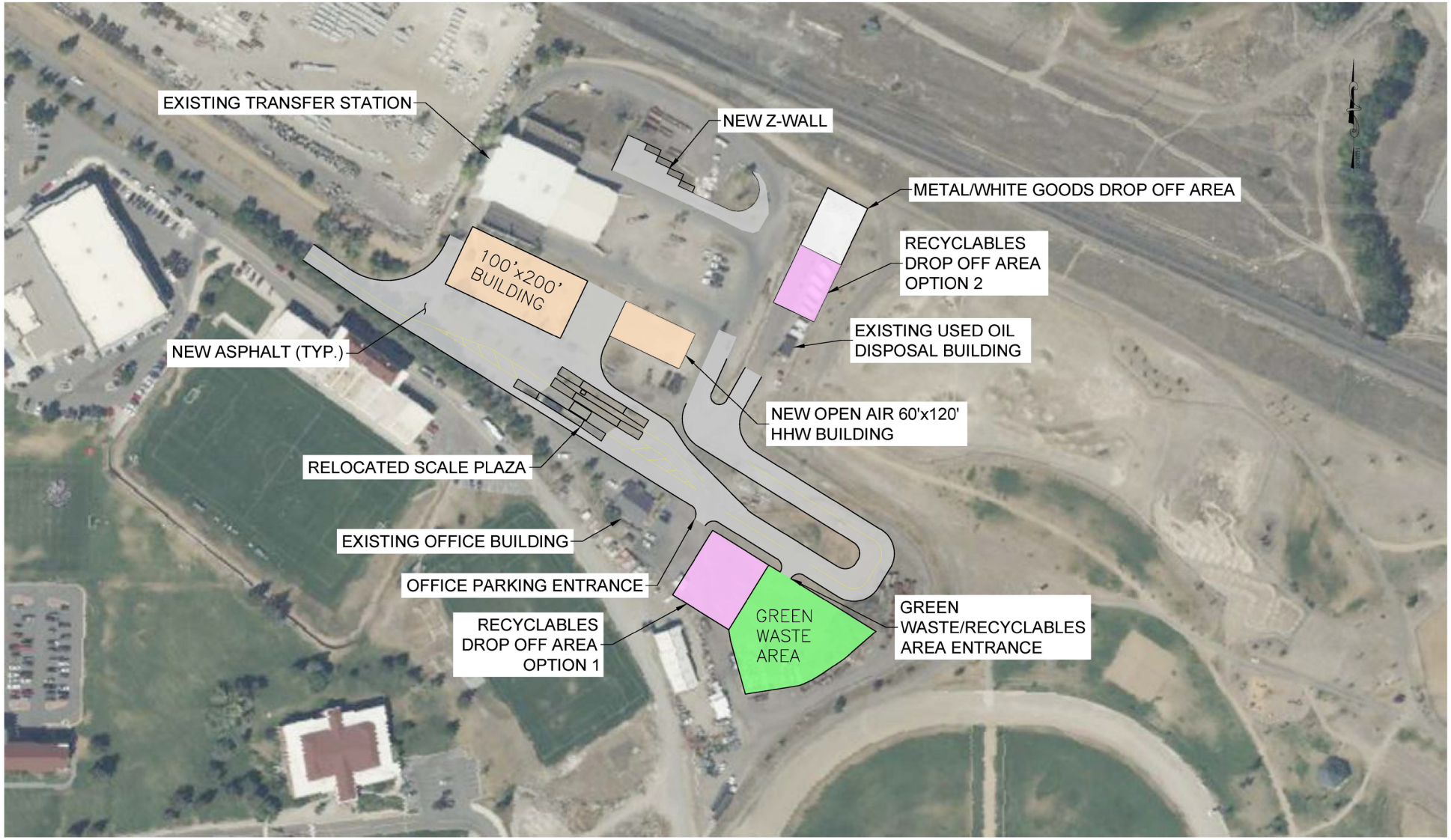
Upgrades to Transfer Station – Option



0 75 150
SCALE IN FEET

Conceptual Figure 1.2
Transfer Station Improvements

CITY OF HELENA - LEWIS AND CLARK COUNTY
INTEGRATED SOLID WASTE MASTER PLAN

GreatWest ENGINEERING

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Landfill Improvements

Recycling and Yard Waste Options

» City Universal Curbside Recycling

» Added County Collection Sites

» City Subscription or Universal Curbside Yard Waste

Option:

Universal Curbside Recycling

City of Helena

Q12: Would you be interested in universal curbside recycling?

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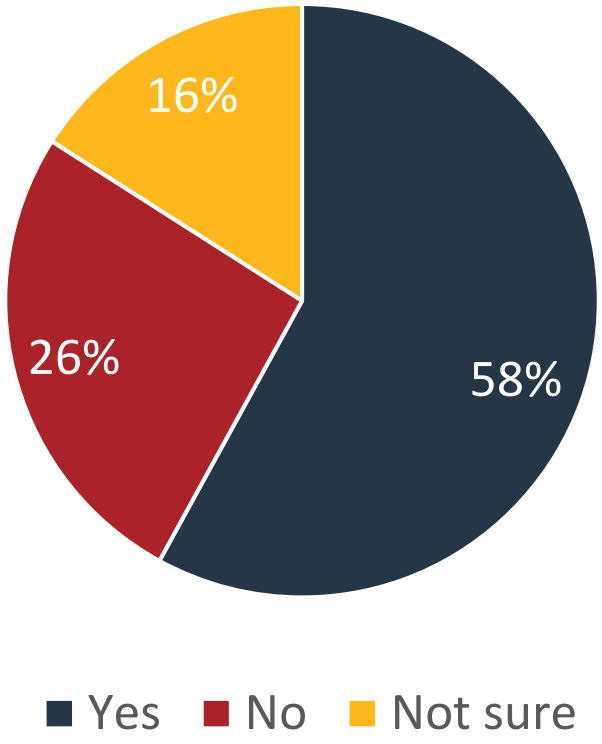

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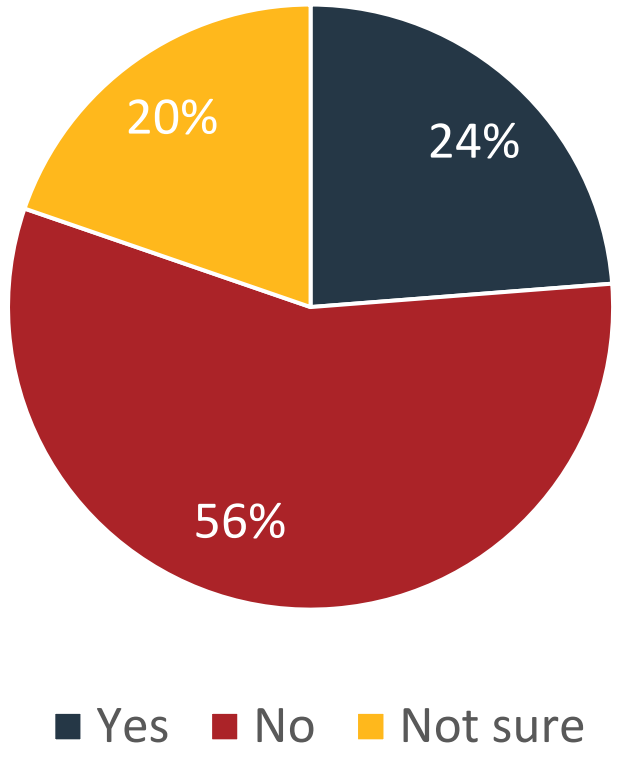
County Results



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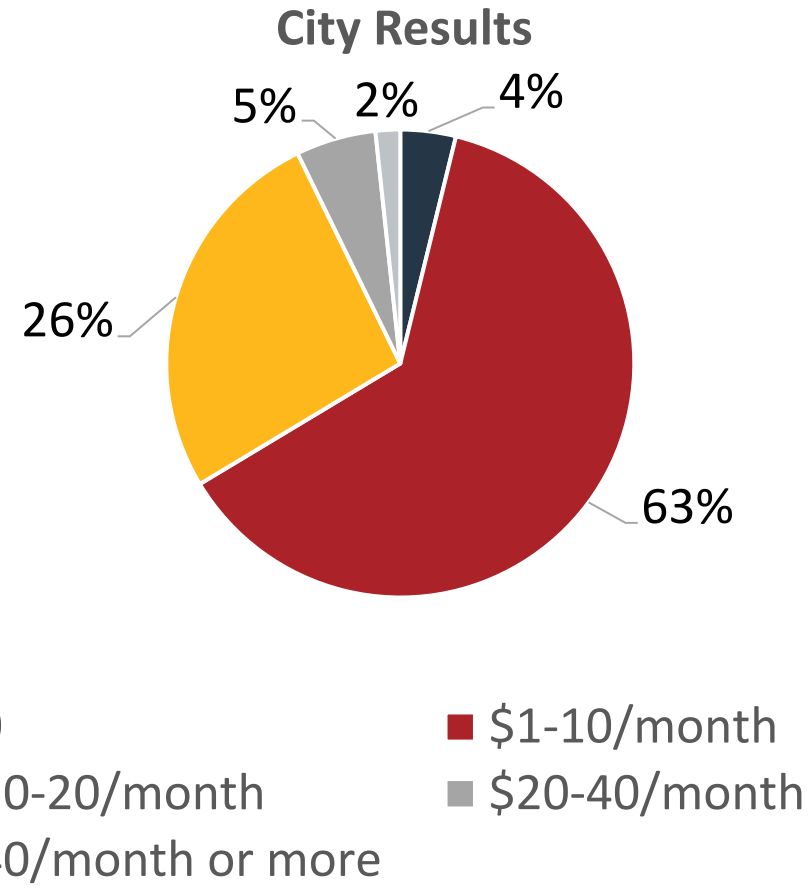
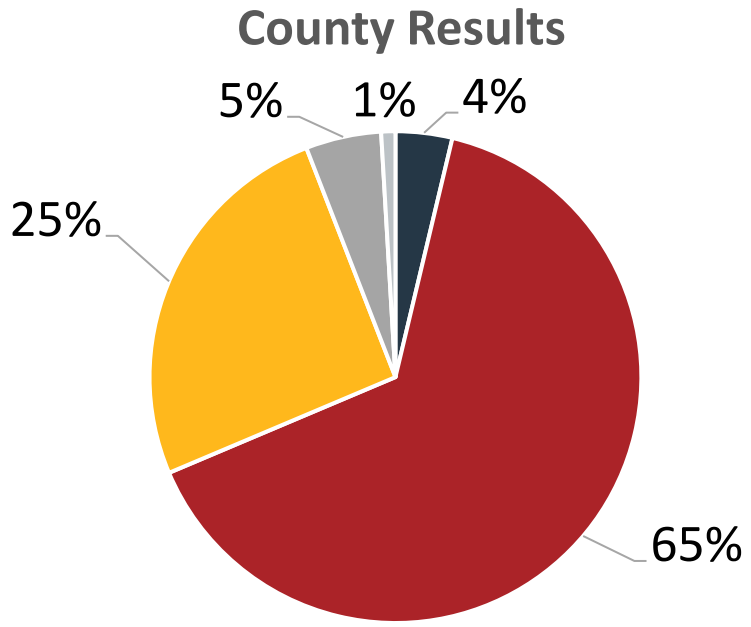


Total Number of Responses: 235



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Universal Curbside Recycling– City of Helena

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Tons of waste

12,808 Tons

(FY 2023)

Projected Tons of Recycling

1,965* Tons

13.3% Diversion

*Estimated Data from City of Helena Strategic Plan for Waste Reduction

Single Stream Recycling – City of Helena

Materials accepted:

Plastic bottles & jugs

Aluminum & tin cans

Paper

Boxes

Materials prohibited:

Glass bottles – currently only collected at the transfer station

Cartons

Plastic cups & containers

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Single Stream Recycling – City of Helena

- **Challenges and Other Considerations:**
  - Does not include recycling collection for apartments and commercial businesses
  - Collection of new carts may be challenging in some areas of the City (e.g., tight alleyways)
  - Mixed recyclables reduces the market value of the collected recyclables due to contamination
  - Robust education program is necessary to reduce waste and prohibited materials going into the recycling carts

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Single Stream Recycling – City of Helena

- **Pros:**
  - Increase participation in recycling
  - Increase diversion
  - Single stream was identified in the Strategic Plan for Waste Diversion as the optimum recycling method for curbside collection
  - More convenient to the resident
  - Operational efficiency

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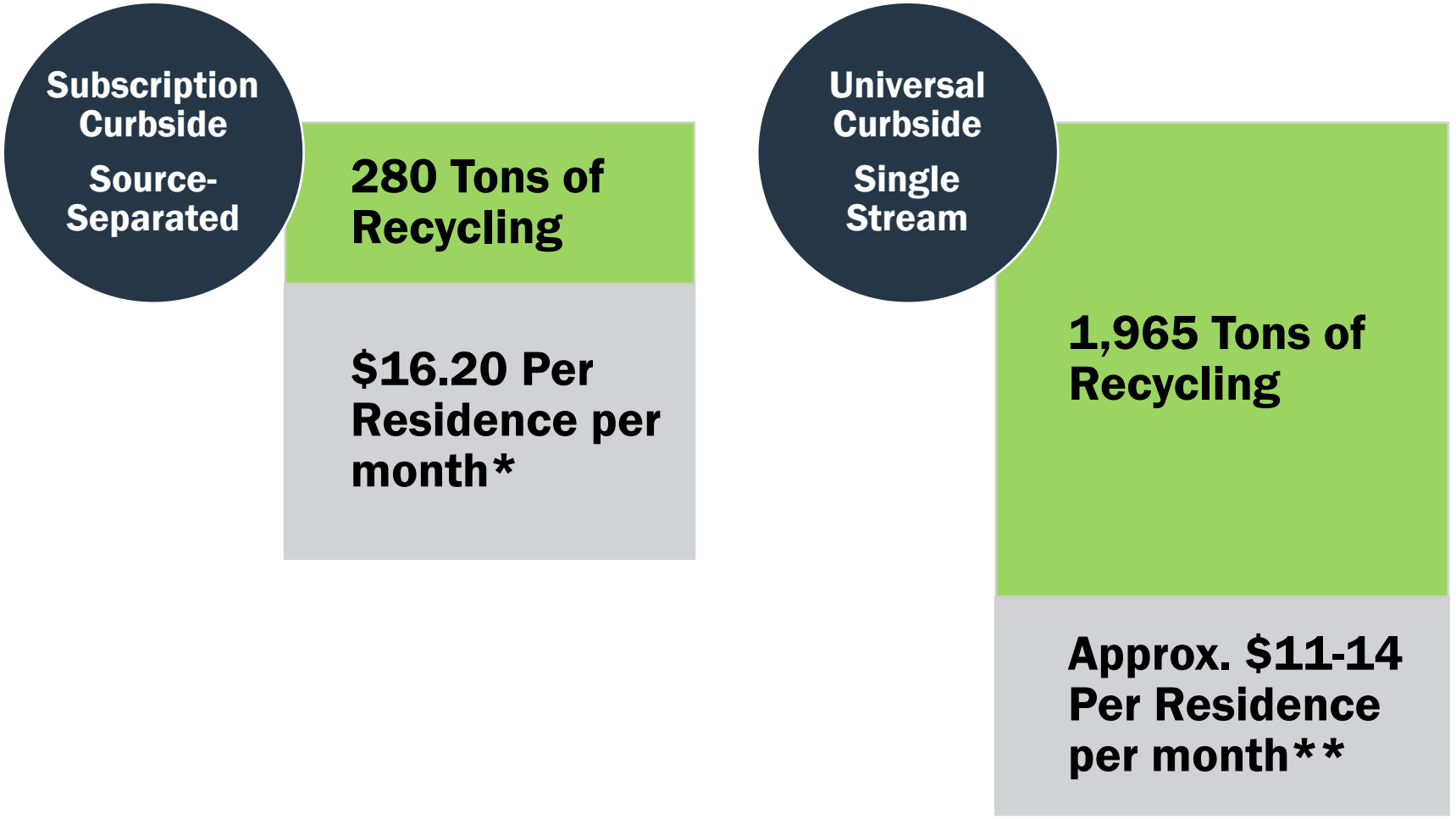
Subscription vs. Universal – City of Helena



*Includes $8.20 City contribution.

**For comparison purposes, garbage collection currently costs approximately $16/month per residence. Curbside recycling would be in addition to solid waste rate (new total residential cost would be $27-30 per month.

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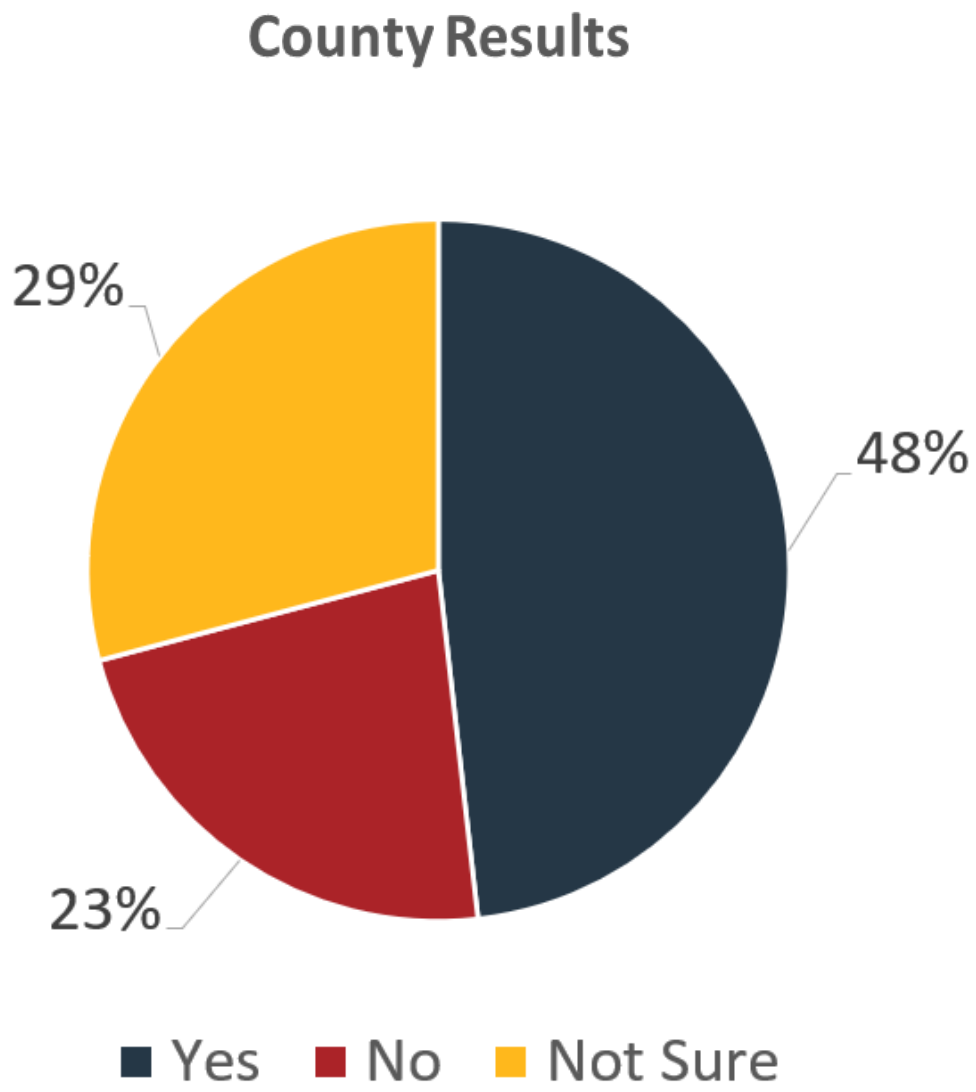
Option: Two Additional County Drop-off Sites



Q10: Would you like to see more waste diversion (recycling, composting, re-use) opportunities?

Two Additional County Drop-off Sites

- **Two additional drop-off sites for recyclables, yard waste and solid waste.**
- **Drop-off sites would have a scale and operator for solid waste management.**
- **Solid waste and yard waste areas separated from recyclables.**
- **Recycling area open 24 hours a day, similar to existing recycling drop-off sites.**

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Option: Add Yard Waste Collection (City)

Yard Waste Collection – City of Helena

Universal Yard Waste Collection	**$10 - $15 per month charged yearlong**
	Leaves, grass clippings, and sticks less than 3-inches in diameter
	All waste must go in the cart
	Every other week collection
	April to November collection
	Upgrades to the composting facility at the landfill
Subscription Yard Waste Collection	**$15 per month charged yearlong**
	Cost will depend on the number of households that sign up for the program

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Yard Waste Collection – County

Yard waste drop-off at the additional drop-off sites

Yard waste collected from the drop-off sites by the County and hauled to the landfill for composting

Requires upgrades to the composting operation at the landfill

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Findings and Recommendations
Capital Infrastructure

Upgrades to the transfer station

Increase throughput with additional scales

Reduce traffic congestion by increasing queuing lengths – the public wanted better traffic control

Additional drop-off areas for convenience – Z-walls

Upgrade yard waste area

Recycling consolidation building

Truck storage to reduce mileage on collection trucks

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Findings and Recommendations
Capital Infrastructure

County Drop-Off Sites

Additional disposal locations for residents outside the City

Reduce traffic at the transfer station

Additional recycling opportunities

Reduce yard waste at the transfer station

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Findings and Recommendations
Capital Infrastructure

Upgrades to the County composting operation

Decrease compost processing time – increase the amount of yard waste that can be processed

Provide a higher quality product for additional retail sale to the community

Would be needed if a yard waste collection system was implemented in the City

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Findings and Recommendations
Capital Infrastructure

New recycling consolidation building

Potential project in the future

May need this building dependent on a curbside collection program

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Findings and Recommendations
Capital Infrastructure

<u>Do not relocate the existing transfer station</u>

Land acquisition

Public input – the survey showed the public was very happy with the current system

Cost

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Findings and Recommendations
Waste Diversion

- **Universal curbside collection (City of Helena)**
  - **Single-stream recycling**
    - **Convenient for resident**
    - **Increase participation**
    - **Increase diversion**
    - **Challenging to collect in some neighborhoods**
    - **Anticipated monthly cost is greater than the amount survey responses indicated residents would be willing to pay. Continue evaluating curbside recycling.**

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Findings and Recommendations
Waste Diversion

- **Yard Waste Collection (City of Helena)**
  - **Begin with a subscription-based curbside collection service to determine the desire of residents for collection program**

- **Waste Diversion (County)**
  - **Construct two new drop-off sites to increase diversion opportunities**

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Findings and Recommendations Efficiencies

- **Evaluation of waste disposal per capita**
- **Evaluation of permit system**
- **Evaluation of the collection system**
- **Landfill efficiencies**
- **Request customer base information from private companies in the Scratchgravel District for waste tracking**
- **Continue to increase public education and outreach for waste diversion**
- **Implement a method for residents to track their allotted permit amount used**

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What's Next?


We need your input on the information presented.
Draft Integrated Solid Waste Management Plan
The Draft Plan will be available for public input in June 2024.
The Plan will be finalized in July 2024 after public comment.

What's Next

PRESENTATION

THE PLAN WILL BE PRESENTED TO BOTH THE CITY AND COUNTY COMMISSIONS.

IMPLEMENTATION/SCHEDULE

OVER TIME, THE RECOMMENDATIONS WILL BE EVALUATED FOR WHICH PORTIONS OF THE PLAN WILL BE IMPLEMENTED AND THE SCHEDULE OF IMPLEMENTATION.

RATES

A RATE ANALYSIS WILL BE COMPLETED TO DETERMINE HOW THE PROJECTS OR PROGRAMS WILL BE PAID FOR.

Who Will Perform the Services?

CITY

COUNTY

PRIVATE COMPANIES

PLACE FOR EVERYONE

Updated Schedule

	April 2024	May 2024	June 2024	July 2024
Public Meeting				
Public Comment Period				
Draft Report				
Final Report/Present to Public				

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See What's *Possible.*

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