

Greeley City Council Agenda

Work Session
Tuesday, May 14, 2024 at 6:00 PM

City Council Chambers at City Center South, 1001 11th Avenue, Greeley, CO 80631
via Zoom at: <https://greeleygov.zoom.us/j/82235659594>

NOTICE:

City Council Work Sessions are held on the 2nd and 4th Tuesdays of each month in the City Council Chambers. Meetings are conducted in a hybrid format, with a Zoom webinar in addition to the in-person meeting in Council Chambers.

City Council members may participate in this meeting via electronic means pursuant to their adopted policies and protocol.

Members of the public are also invited to view Council work sessions in person or remotely. **Work sessions do not include public input in any format. Public comment is only permitted at regular Council meetings on the 1st and 3rd Tuesdays of each month.**

Watch Meetings:



Meetings are open to the public and can be attended in person by anyone.



Meetings are livestreamed on YouTube at [youtube.com/CityofGreeley](https://www.youtube.com/CityofGreeley) as well as over the Zoom webinar. Public participation in the Zoom webinar only allows viewing the meeting.

For more information about this meeting or to request reasonable accommodations, contact the City Clerk's Office at 970-350-9740 or by email at cityclerk@greeleygov.com. Meeting agendas, minutes, and archived videos are available on the City's meeting portal at <https://greeleyco.portal.civicclerk.com/>



Mayor

John Gates

Councilmembers

Tommy Butler - Ward I

Deb DeBoutez - Ward II

Johnny Olson - Ward III

Dale Hall - Ward IV

Brett Payton - At-Large

Melissa McDonald - At-Large



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1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Reports from Mayor and Councilmembers
5. Grants Report
6. Revision of the City of Greeley Investment Policy
7. Waste Diversion Study Update and Next Steps Discussion
8. Scheduling of Meetings, Other Events
9. A motion to go into Executive Session for the purpose of discussing personnel reporting to City Council
10. Adjournment



Work Session Agenda Summary

Title:

Reports from Mayor and Councilmembers

Background:

Board/Committee	Meeting Day/Time	Assignment
Airport Authority	3 rd Thu, 3:30 p.m.	Payton/Gates
Board/Commission Interviews (Team of 2)	monthly as needed	Council Rotation
CML Executive Board Opportunity	as needed	Hall
CML Other Opportunities	as available/desired	
CML Policy Committee (Council or Staff)	as needed	Hall/Lee; Gates alternate
Downtown Development Authority	3 rd Thu, 7:30 a.m.	Butler/DeBoutez
Employee Health Board	as needed	DeBoutez
Highway 34 Coalition	as needed	Olson
Highway 85 Coalition	as needed	Gates
Historic Preservation Loan Committee	as needed	DeBoutez
Human Relations Commission	2 nd Monday, 5 p.m.	DeBoutez
Interstate 25 Coalition	as needed	Olson
Island Grove Advisory Board	1 st Thu, 3:30 p.m.	Butler
National League of Cities Transportation and Infrastructure Services Committee	as needed	Olson
Parks & Recreation Board	1 st Friday, 7 a.m.	DeBoutez
Police Pension Board	quarterly	McDonald
Poudre River Trail	1 st Thu, 7 a.m.	Hall
Regional Opioid Council	as needed	Gates
Transportation/Air Quality MPO	1 st Thu, 6 p.m.	Olson/Payton
Upstate Colorado Economic Development	last Wed, 7 a.m.	Gates
Water & Sewer Board	3 rd Wed, 2 p.m.	Gates
Weld Project Connect Committee (United Way)	as needed	Olson
Youth Commission Liaison	4 th Mon, 6 p.m.	McDonald



Work Session Agenda Summary

May 14, 2024

Key Staff Contact: Tyra Litzau, Finance Director

Title:

Grants Report

Background:

Grants are received throughout the year for the City of Greeley from federal, state and local agencies. Grant funds allow the City to complete projects that would not otherwise be possible without these additional funds. This presentation will focus on an overview of the grants that have been applied for and awarded in the first quarter of 2024 and an overview of American Rescue Plan Act (ARPA) funding received in 2021 and 2022.

The City of Greeley received \$20,991,595 in ARPA funding in two equal payments in 2021 and 2022. The City of Greeley spent \$2,239,527 on specific projects related to response to the COVID incident in 2021 and 2022. The City claimed access to the remaining funds based on the lost revenue category allowed in the details of the ARPA Coronavirus State and Local Fiscal Coronavirus State and Local Fiscal Recover Funds 2022 Final Rule.

\$18,752,068 claimed as lost revenue in the ARPA reporting offset expenditures already recorded in the General Fund. As such, these funds were made available for internal and external projects that were identified based on the City Council's priority areas for these funds: Building Community Resiliency, Enhancing Mobility, Creating Community, Quality of Life and Destinations, and Activating Economic Corridors.

The Steering Committee approved \$12,678,178 in internal and external projects and the remaining \$6,073,890 was for projects to be approved by the City Manager. In total, projects have been approved for most of these funds. \$1.1 million has been submitted and is waiting approval, and \$856 thousand is still available for application.

While these projects are no longer subject to the specific ARPA requirements, the internal and external recipients are still required to submit quarterly reports to Finance. The Finance Department will continue to report the status of the approved projects to the City Manager's Office on a monthly basis and to the City Council on a quarterly basis.

Strategic Focus Area:



Business Growth



Community Vitality



High-Performance Government



Housing For All



Infrastructure and Mobility



Quality of Life



Safe and Secure Communities

Attachments:

1. Item 5 - Grants Update Presentation



Grants Report

Tyra Litzau, Finance Director

Stacey Swanson, Grant & Special Revenue Manager

City Council Work Session – May 14, 2024



Agenda



- Summary of grants awarded and outstanding applications
- Status of ARPA funding and associated projects
- Purpose: Informational

Grant Sources

Federal

State

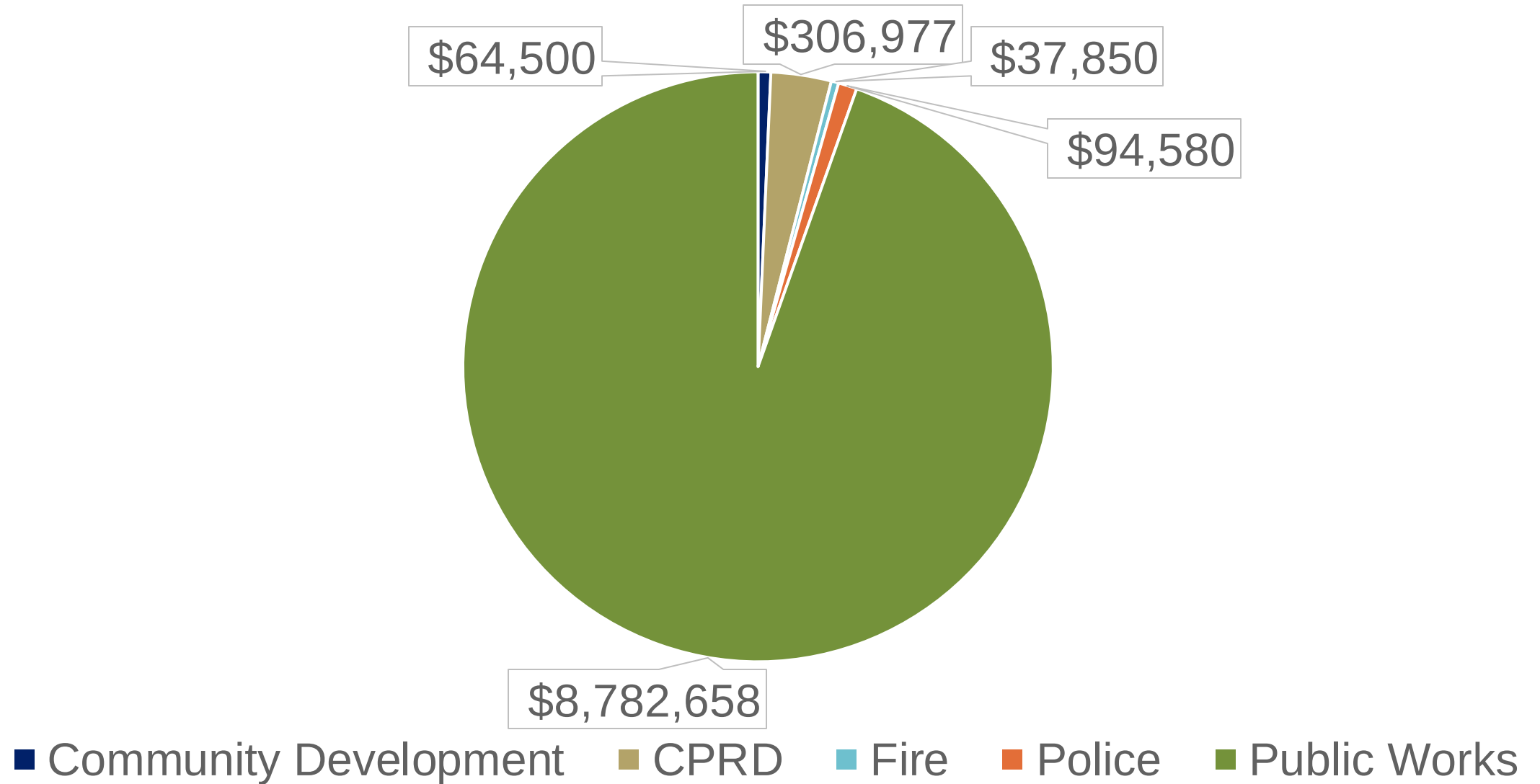
Local



Grant Applications – 2024 through April 30th

Departments	Amount
Community Development	\$21,788
CPRD	\$1,412,495
IT	\$30,000
Police	\$314,897
Public Works	\$41,508,850
Transit	\$12,000,000
Water & Sewer	<u>\$28,147,985</u>
Total	\$72,636,015

Grants Awarded



ARPA Grant Status

The Coronavirus State and Local Fiscal Recovery Funds (SLFRF) program was authorized by the American Rescue Plan Act (ARPA).

History	Amount
City Allocation – Received 2021 and 2022	\$20,991,595
City Expenditures – 2021	(\$910,778)
City Expenditures – 2022	<u>(\$1,328,749)</u>
Remaining Balance prior to Revenue Recovery	\$18,752,068
Revenue Recovery – Government Services	<u>(\$18,752,068)</u>
Remaining Balance subject to ARPA Requirements	\$0

Change in Use of ARPA Funds

What does the change in the use of ARPA funds mean for the City?

- Projects awarded after January 1, 2023, are no longer subject to ARPA reporting or federal requirements
- Final reporting to the US Treasury was streamlined and has been completed

What remains the same for projects awarded?

- Reporting of expenditures for internal and external projects to the Special Revenue & Grants Manager
- Reporting to City Council

City of Greeley's ARPA Focus Areas



Building Community Resilience



Enhancing Mobility



**Creating Community, Quality of Life
and Destinations**



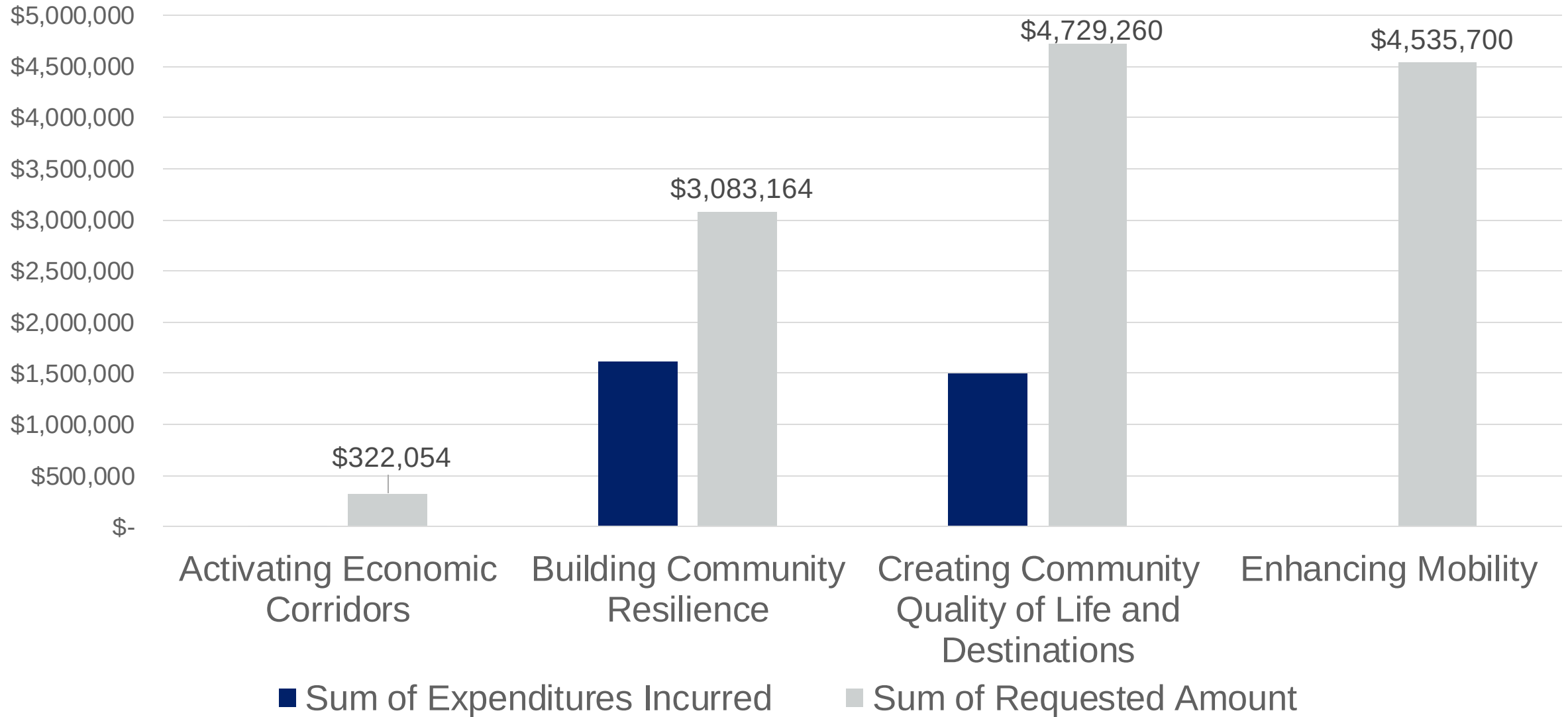
Activating Economic Corridors

Building Community Resilience	Community resilience is the capacity of a community's systems, businesses, institutions, and individuals to survive, adapt and thrive when met with challenges.
Enhancing Mobility	Mobility planning addresses the need to reduce emissions through improved system efficiencies and encouraging a variety of different modes of travel.
Creating Community, Quality of Life and Destinations	Greeley is a destination where all residents and visitors enjoy the arts, social engagement, outdoor pursuits, beautiful vistas, and natural areas.
Activating Economic Corridors	Greeley's economic corridors and employment centers are important gathering spaces for people to work, shop, eat, drink and connect.

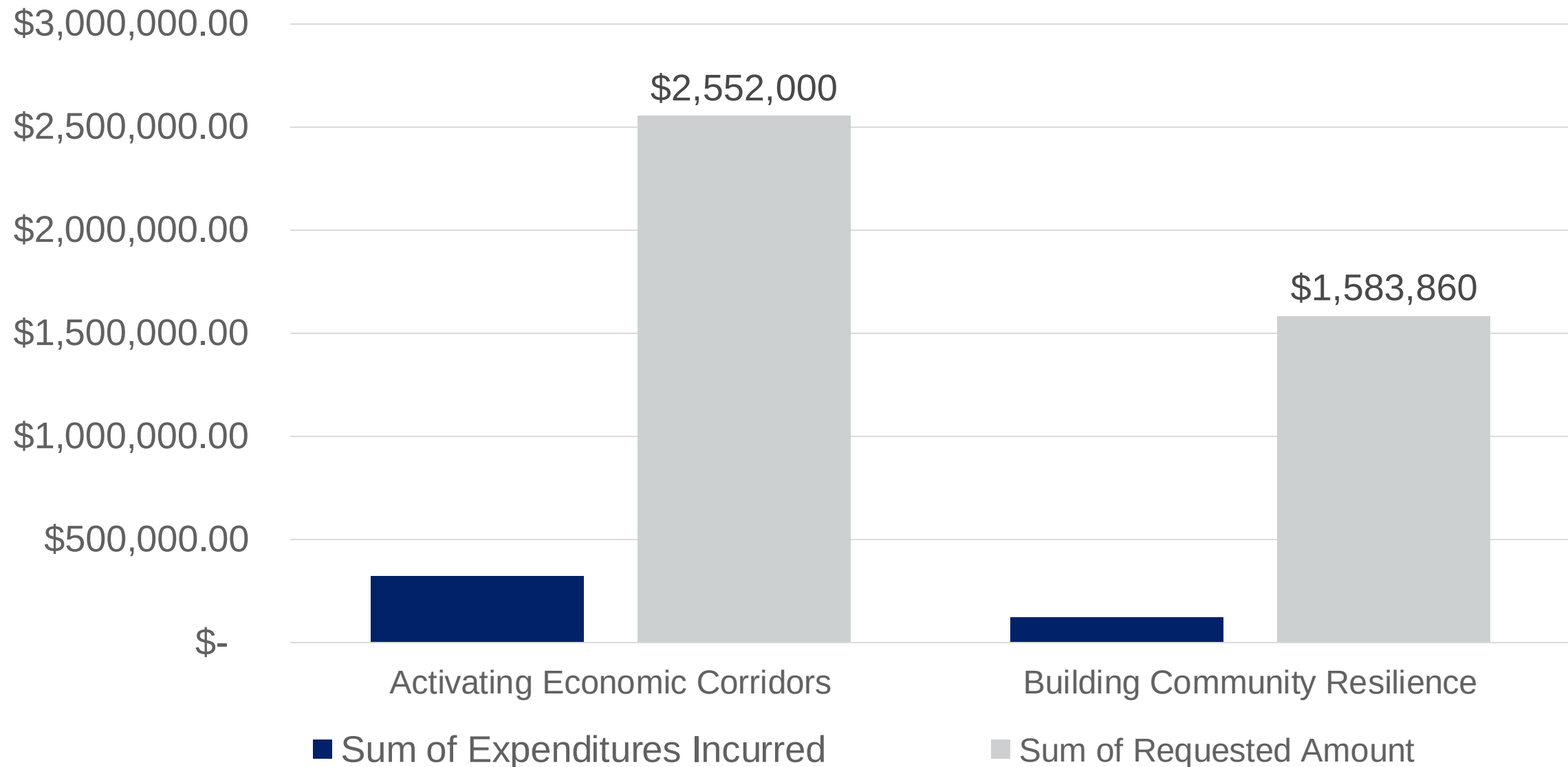
Status of Awards

	Amount
Internal and External Project Allocation	\$18,752,068
Amount Approved by Steering Committee	(\$12,670,178)
Amount Approved by City Manager's Office	<u>(\$4,145,950)</u>
Remaining Balance to be Allocated	\$1,935,940
Applications Submitted for Consideration	(\$1,090,000)
Remaining Balance	\$845,940

Steering Committee Awards



City Manager Approved Awards



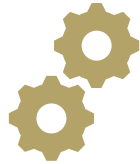
Next Steps for ARPA

- 2023 Budget Ordinance – 2nd reading scheduled for May 21, 2024
- Continuous reporting to the City Manager's Office, monthly, and City Council, quarterly, on the status of approved projects and expenditures incurred

Grants Accomplishments and Next Steps



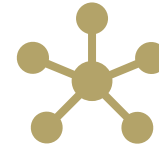
New Division
Updates



Processes



Education



Centralization

Thank you





Work Session Agenda Summary

May 14, 2024

Key Staff Contact: Tyra Litzau, Finance Director, Robert Miller, Treasurer

Title:

Revision of the City of Greeley Investment Policy

Background:

The Investment Policy is evaluated annually with the City's investment advisors, Public Trust Advisors (PTA). The City's investment policy objective in priority order are: preservation of capital and protection of investment principal, maintenance of sufficient liquidity to meet anticipated cash flows, attainment of a market value rate of return, and diversification to avoid incurring unreasonable market risks.

There are two significant changes to the policy, one being the addition of allocating for the purchase of municipal bonds and second adjusting the long-term portfolio benchmark from 0-3 years to 1-5 years to be consistent with the City's investment strategy.

The specific language for the addition of municipal bonds:

5.10 Municipal Bonds: issued by a state or local governments with a final maturity not exceeding five years from the date of trade settlement. Such obligations of Colorado issuers (or any political subdivision, institution, department, agency, instrumentality, or authority of the state) shall be rated at least "A-" or the equivalent at the time of purchase by at least two *nationally recognized statistical rating organizations* (NRSRO). Such obligations of any other governmental entity shall be rated at least "AA-" or the equivalent at the time of purchase by at least two NRSROs. For obligations authorized in this section, the City shall limit the combined total of investments to no more than 30% of the City's investment portfolio, and no more than 5% of the City's investment portfolio may be invested in the obligations of any one issuer.

A detail listing of all the changes including those considered administrative in nature are included in the attached exhibit.

Strategic Focus Area:



High-Performance Government

Attachments:

1. Resolution Draft
2. Exhibit A Investment Policy Table of Revisions
3. Investment Policy

4. Item 6 - Revision of the City of Greeley Investment Policy Presentation

CITY OF GREELEY, COLORADO
RESOLUTION NO._____, 2024

**A RESOLUTION AUTHORIZING THE CITY TO ADOPT THE REVISED CITY OF GREELEY
INVESTMENT POLICY**

WHEREAS, the Investment Policy is evaluated annually with the City’s investment advisors, Public Trust Advisors; and,

WHEREAS, the Investment Policy objectives include the preservation of capital and investment principal, liquidity, market rate of return, and asset diversification; and,

WHEREAS, the City is desirous of amending the Investment Policy to assist the City with managing the portfolio more effectively by assigning duties, adding municipal bonds, and adjusting performance benchmarks to match investment goals; and,

WHEREAS, Section 5-2(h) of the City’s Charter requires City Council direction regarding the investment of monies; and,

WHEREAS, it is in the best interest of the citizens of the City of Greeley for Council to adopt this amended Investment Policy.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GREELEY, COLORADO:

Section 1. The City Council hereby authorizes the City to adopt the amended “City of Greeley Investment Policy”, a copy of which is attached hereto and incorporated herin as Exhibit A.

Section 2. This Resolution shall take effect immediately upon its passage.

PASSED AND ADOPTED, SIGNED AND APPROVED ON THIS ____ DAY OF _____, 2024.

ATTEST

THE CITY OF GREELEY, COLORADO

By: City Clerk

By: Mayor

#	Current Policy	Revised Policy	Reason for the Change
1	Scope	Added language to better define the scope of the policy.	Better definition and clarification of the scope.
2	Authority to Manage the City's Investment Program is delegated to the Deputy Finance Director	Added Director of Finance definition allowing for delegation of responsibilities and updated title throughout the document, rather than a specific title.	This change clarifies how delegation is done by the Finance Director to manage investments.
3	Authorized Securities and Transactions	Added definition of U.S. Treasury Obligations and added State and Local Government Series (SLGS).	Additional clarification and specified investment in securities not subject to arbitrage rebate earning restrictions.
4	Commercial Paper limited to 50% of the City's investment portfolio in Authorized Securities and Transactions	Commercial Paper limited to 20% of the City's investment portfolio.	Revised to represent current market opportunities and market diversification objectives.
5	Local Government Investment Pool descriptive attributes in Authorized Securities and Transactions	Consolidated descriptive attributes for Local Government Investment Pools.	Revised to meet current State of Colorado statutes in 2024 and allows for investments in other COLOTRUST securities.
6	Corporate Debt descriptive attributes in Authorized Securities and Transactions	Revised Corporate Debt descriptive attributes.	Revised to be more concise and tie to current investment language.
7	Authorized Securities and Transactions	Added Municipal Bonds to Authorized Securities and Transactions.	Consistent with other Colorado municipalities and allows for greater investment diversity to limit arbitrage risks from bond issuances.
8	Performance Benchmarks	Changed long-term portfolio benchmark from 0-3 years to 1-5 years.	The change is proposed to more directly identify the benchmark comparison associated with target maturities.
9	Performance Benchmarks	Changed from semi-annual to annual presentation to Council.	Consistent with audit, budget and other presentations to Council.
10	Reporting	Changed investment report from monthly to quarterly.	Consistent with financial reporting requirements and will provide monthly when requested by council.

CITY OF GREELEY, COLORADO

Initiating Department: Finance

Number: 2024-____

Effective Date: _____, 2024

Review and Revision History:

Scheduled Sunset or Continuation Review: This investment policy shall be reviewed annually by the Director of Finance and may be amended by the Greeley City Council as conditions warrant.

Related Directives:

Supersedes: This Investment Policy replaces any previous investment policy or investment procedures of the City, was endorsed and adopted by the Greeley City Council.

ADMINISTRATIVE DIRECTIVE

CATEGORY: Treasury

SUBJECT: Investment Policy

PURPOSE: The investment guidelines outlined below have been written to comply with various regulatory requirements under which the City operates.

SCOPE: This following investment policy addresses the methods, procedures and practices which must be exercised to ensure effective and judicious fiscal and investment management of the City's funds and the funds of the City's component units and for the purchase and sale of investments. This investment policy shall apply to the investment management of the following funds under financial control of the City; General fund, Special Revenue funds, Debt Service funds, Capital Projects funds, Enterprise funds, Internal Service funds, and any new fund created by the governing body, unless specifically exempted by the governing body. This investment policy shall not apply to Permanent Funds (Cemetery Endowment Fund, Petriken Memorial Fund and Memorials Fund).

DISCUSSION: The City's funds shall be invested in accordance with all applicable City policies and codes, Colorado statutes, and Federal regulations, and in a manner designed to accomplish the following objectives, which are listed in priority order:

- Preservation of capital and protection of investment principal
- Maintenance of sufficient liquidity to meet anticipated cash flows

City of Greeley, Colorado Investment Policy

- Attainment of a market value rate of return
- Diversification to avoid incurring unreasonable market risks

AUTHORITY:

CRS 11-10.5-101, et seq. Public Deposit Protection Act; CRS 11-47-101, et seq. Savings and Loan Association Public Deposit Protection Act; CRS 24-75-601, et Seq. Funds - Legal Investments; CRS 24-75-603, et seq. Depositories; and CRS 24-75-701 and 702, Investment Funds - Local Government Pooling. Charter Title 4, Section 4.20.110

DEFINITIONS:

Arbitrage. The simultaneous buying and selling of securities, currency, or commodities in different markets or in derivative forms in order to take advantage of differing prices for the same asset.

Corporate Debt. Also known as Corporate Bond, Corporate bonds are debt securities issued by publicly held corporations to raise money for expansion or other business needs.

Director of Finance. Finance Director of the City, or such other City of Greeley Finance department designee authorized by the Finance Director to administer and manage investments according to this policy.

Federal Instrumentality Securities. An instrumentality is a government agency or corporation that acts independently in carrying out work for the public good. Instrumentalities may exist and operate at the federal, state or municipal levels.

Investment Diversification. Investing in different asset classes and in securities of many issuers in an attempt to reduce overall investment risk and to avoid damaging a portfolio's performance by the poor performance of a single security, industry, (or country).

Prudence. The quality of being prudent; cautiousness.

Repurchase Agreement. An agreement of one party to sell securities at a specified price to a second party and a simultaneous agreement of the first party to repurchase the securities at a specified price or at a specified later date

U.S. Treasury. The U.S. Treasury, created in 1789, is the government department responsible for issuing all Treasury bonds, notes and bills. The secretary of the Treasury is responsible for international monetary and financial policy, including foreign exchange intervention.

City of Greeley, Colorado

Investment Policy

DIRECTIVE:

- 1. Policy Statement.** The City of Greeley must recognize the delegation of authority in regards to making investment decisions, what the City considers to be appropriate standards of prudence, ethics and conflict of interest, safekeeping and custody, and what are suitable and authorized investments and the parameters for those investments, and the reporting on investments and investment results.

2. Delegation Of Authority:

- 2.1 Authority to manage the City's investment program is granted to the Director of Finance in accordance with Section 5-2(h) of the City's Charter.
- 2.2 Responsibility for the operation of the investment program is hereby delegated to the ~~Deputy Finance~~ Director of Finance, who shall establish written procedures and internal controls for the operation of the City's investment program consistent with this investment policy. No person may engage in an investment transaction except as provided under the terms of this investment policy.
 1. Persons authorized to transact investment business for the City shall be designated by employee name in writing by the Director of Finance on an annual basis and filed with the City Clerk.
- 2.3 The Director of Finance may engage the support services of outside professionals in regard to its investment program, so long as it can be demonstrated that these services produce a net financial advantage and necessary financial protection of the City's resources.
 1. Such services may include engagement of financial advisors in conjunction with debt issuance, portfolio management support, special legal representation, third party custodial services, and appraisal of independent rating services.

3. Prudence:

- 3.1 The standard of prudence, as defined by the Colorado Revised Statutes, to be used for managing the City's assets is the "prudent investor" standard applicable to a fiduciary, which states that a prudent investor "shall exercise the judgment and care, under circumstances then prevailing, which men of prudence, discretion, and intelligence exercise in the management of the property of another, not in regard to speculation but in regard to the permanent disposition of funds, considering the probable income as well as the probable safety of capital." (CRS 15-1-304, Standard for Investments.)
- 3.2 The City's overall investment program shall be designed and managed with a degree of professionalism that is worthy of the public trust.

City of Greeley, Colorado Investment Policy

- 3.3 The City recognizes that no investment is totally without risk and that the investment activities of the City are a matter of public record. Accordingly, the City recognizes that occasional measured losses are inevitable in a diversified portfolio and shall be considered within the context of the overall portfolio's return, provided that adequate diversification has been implemented and that the sale of a security is in the best long-term interest of the City.
- 3.4 The Director of Finance and other authorized persons acting in accordance with written procedures and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion to the City Council and appropriate action is taken to control adverse developments.

4. Ethics and Conflicts of Interest:

- 4.1 City employees involved in the investment process shall refrain from personal business activity that could conflict with proper execution of the City's investment program or which could impair or create the appearance of an impairment of their ability to make impartial investment decisions.
- 4.2 City employees and investment officials shall disclose to the ~~Finance~~ Director of Finance and City Manager any material financial interest they have in financial institutions that conduct business with the City, and they shall subordinate their personal investment transactions to those of the City.

5. Authorized Securities and Transactions:

All investments will be made in accordance with the Colorado Revised Statutes (CRS) as follows: CRS 11-10.5-101, et seq. Public Deposit Protection Act; CRS 11-47-101, et seq. Savings and Loan Association Public Deposit Protection Act; CRS 24-75-601, et. seq. Funds Legal Investments; CRS 24-75-603, et seq. Depositories; and CRS 24-75-701 and 702, Investment Funds - Local Government Pooling. Any revisions or extensions of these sections of the CRS will be assumed to be part of this investment policy immediately upon being enacted. This investment policy further restricts the investment of City funds to the following types of securities and transactions:

- 5.1 U.S. Treasury Obligations: United States Treasury obligations for which the full faith and credit of the United States are pledged for payment of principal and interest. Such securities will include but not be limited to: Treasury bills, Treasury notes, Treasury bonds, State and Local Government Series (SLGS), and Treasury STRIPS with maturities not exceeding five years from the date of trade settlement.
- 5.2 Federal Instrumentality Securities: Debentures, discount notes, global securities, callable securities, step-up securities and stripped principal or coupons with maturities not exceeding five years from the date of trade settlement issued by the following only: Federal National Mortgage Association (FNMA), Federal Farm Credit Banks (FFCB), Federal Home Loan Banks (FHLB) and Federal Home Loan Mortgage Corporation

City of Greeley, Colorado Investment Policy

(FHLMC). (For the purposes of this paragraph, a "weighted average life" will not constitute a stated final maturity.) Subordinated debt shall not be purchased.

- 5.3 Commercial Paper with an original maturity of 270 days or less that is rated at least A-1 by Standard & Poor's, P-1 by Moody's, or F1 by Fitch at the time of purchase by each service that rates the commercial paper. If the commercial paper issuer has senior debt outstanding, the senior debt must be rated at least A+ by Standard & Poor's, A1 by Moody's, or A+ by Fitch at the time of purchase. The aggregate investment in commercial paper and banker's acceptances shall not exceed 2050% of the City's investment portfolio, and no more than 5% of the City's investment portfolio may be invested in the obligations of any one issuer. ~~Furthermore, the issuer's commercial paper program's size shall exceed \$200 million.~~
- 5.4 Eligible Bankers Acceptances with an original maximum maturity not exceeding 90 days, issued on FDIC insured domestic banks or branches of foreign banks domiciled in the U.S. and operating under U.S. banking laws with a minimum of \$250 million combined capital and surplus. Banker's Acceptances shall be rated P-1 by Moody's, A-1 by Standard & Poor's or F-1 by Fitch or the equivalent at the time of purchase by at least two services. If the issuing bank has senior long-term debt outstanding, it shall be rated, at the time of purchase AA by Standard & Poor's, A by Moody's, or AA by Fitch. The aggregate investment in commercial paper and banker's acceptances shall not exceed 50% of the City's investment portfolio, and no more than 5% of the City's investment portfolio may be invested in the obligations of any one issuer.
- 5.5 Repurchase Agreements with a defined termination date of 180 days or less collateralized by U.S. Treasury and Federal Instrumentality securities listed in items 1 and 2 above with a maturity not exceeding 10 years. For the purpose of this section, the term "collateral" shall mean purchased securities under the terms of the City's approved Master Repurchase Agreement. The purchased securities shall have a minimum market value including accrued interest of 102 percent of the dollar value of the transaction. Collateral shall be held in the City's custodial bank as safekeeping agent, and the market value of the collateral securities shall be marked-to-the-market daily.
- Repurchase Agreements shall be entered into only with dealers who have executed a Master Repurchase Agreement with the City and who are recognized as Primary Dealers by the Federal Reserve Bank of New York. The Director of Finance shall keep a list of broker/dealers who have an executed Master Repurchase Agreements with the City. Approved counterparties to repurchase agreements shall have at least a short-term debt rating of A-1 or the equivalent and a long-term debt rating of A or the equivalent from one or more nationally recognized statistical rating organizations (NRSROs).
- 5.6 Local Government Investment Pools authorized under CRS 24-75-702 that: 1) are "no-load" (i.e., no commission or fees shall be charged on purchases or sales of shares); 2) limit assets of the fund to those authorized by State Statute; 3) have a rating of AAA by one or more NRSROs. ~~2) have a constant net asset value of \$1.00 per share; 3) limit assets of the fund to those authorized by State Statute; 4) have a maximum stated maturity and weighted average maturity in accordance with Federal Securities Law~~

City of Greeley, Colorado Investment Policy

~~Regulation 2a-7; and 5) have a rating of AAAM by Standard & Poor's, AAA by Moody's or AAA/V-1+ by Fitch.~~

- 5.7 Non-negotiable Certificates of Deposit with a maturity not exceeding one year in any state bank, national bank, or state or federal savings bank located in Colorado that is a member of the Federal Deposit Insurance Corporation and is a state approved depository per CRS 24-75-603. Certificates of deposit that exceed FDIC insurance limits shall be collateralized as required by the Public Deposit Protection Act or the Savings and Loan Association Public Deposit Protection Act. In addition, banks issuing certificates of deposit shall meet the credit criteria set forth in the section of this investment policy, "Selection of Banks as Depositories and as Providers of General Banking Services."
- 5.8 Money Market Mutual Funds registered under the Investment Company Act of 1940 that: 1) are "no-load" (no commission or fee shall be charged on purchases or sales of shares); 2) have a constant net asset value per share of \$1.00; 3) limit assets of the fund to those securities authorized in this investment policy; 4) have a maximum stated maturity and weighted average maturity in accordance with Federal Securities Regulation 2a-7; and 5) are rated AAAM by Standard & Poor's, AAA by Moody's or AAA/V1+ by Fitch.
- 5.9 Corporate Debt: with a maturity not exceeding three years ~~from~~from the date of trade settlement, issued by any corporation or bank organized and operating within the United States. At the time of purchase, the issuer must be rated at least AA-, Aa3 or the equivalent by at least two NRSROs, and rated not less by any NRSRO that rates it. This rating requirement first applies to the security being purchased and second, if the security itself is unrated, to the issuer, provided the security contains no provisions subordinating it from being a senior debt obligation of the issuer. The City of Greeley may invest up to 20% of the book value of its investment portfolio in these securities as long as the aggregate investment in commercial paper and corporate debt does not exceed 20% of the City's investment portfolio, and no more than 5% in the City's investment portfolio may be invested in the obligations of any one issuer.
- 5.10 Municipal Bonds: issued by a state or local governments with a final maturity not exceeding five years from the date of trade settlement. Such obligations of Colorado issuers (or any political subdivision, institution, department, agency, instrumentality, or authority of the state) shall be rated at least "A-" or the equivalent at the time of purchase by at least two NRSROs. Such obligations of any other governmental entity shall be rated at least "AA-" or the equivalent at the time of purchase by at least two NRSROs. For obligations authorized in this section, the City shall limit the combined total of investments to no more than 30% of the City's investment portfolio, and no more than 5% of the City's investment portfolio may be invested in the obligations of any one issuer.
- 5.11 Securities that have been downgraded below minimum ratings described herein may be sold or held at the City's discretion. The portfolio will be brought back into compliance with Investment Policy guidelines as soon as is practical.

City of Greeley, Colorado Investment Policy

- 5.12 It is the intent of the City that the foregoing list of authorized securities be strictly interpreted. Any deviation from this list must be pre-approved by the Director of Finance in writing.

6. Investment Diversification:

- 6.1 It is the intent of the City to diversify the investments within the portfolio to avoid incurring unreasonable risks inherent in over-investing in specific instruments, individual financial institutions or maturities.
- 6.2 The asset allocation in the portfolio should be flexible depending upon the outlook for the economy, the securities markets and the City's anticipated cash flow needs.

7. Investment Maturity and Liquidity:

- 7.1 The portfolio shall remain sufficiently liquid to meet all cash requirements that may be reasonably anticipated. To the extent possible, investments shall be matched with anticipated cash flows and known future liabilities. Investments shall be limited to maturities not exceeding five years from the date of trade settlement unless otherwise approved in writing by the City Council.
- 7.2 In the case of callable securities, the first call date shall be used as the maturity date for investment purposes if the security is likely to be called prior to maturity. The security's final maturity date shall be used to disclose the maximum maturity liability in the City's financial reports.

8. Competitive Transactions:

- 8.1 Each investment transaction shall be competitively transacted with broker/dealers who have been authorized by the City. At least three broker/dealers shall be contacted for each transaction and their bid and offering prices shall be recorded.
- 8.2 If the City is offered a security for which there is no other readily available competitive offering, quotations for comparable or alternative securities will be documented.
- 8.3 When purchasing original issue instrumentality securities, no competitive offerings will be required as all dealers in the selling group offer those securities at the same original issue price.

9. Selection of Broker/Dealers:

The Director of Finance shall maintain a list of authorized broker/dealers approved for investment purposes, and it shall be the policy of the City to purchase securities only from those authorized firms. To be eligible, a firm must meet at least one of the following criteria:

- 9.1 Be recognized as a Primary Dealer by the Federal Reserve Bank of New York,

City of Greeley, Colorado Investment Policy

- 9.2 Report voluntarily to the Federal Reserve Bank of New York
- 9.3 Qualify under Securities and Exchange Commission (SEC) Rule 15c3-1 (Uniform Net Capital Rule)

Broker/dealers will be selected by the Director of Finance on the basis of their expertise in public cash management and their ability to provide service to the City's account. Each broker/dealer authorized by the Director of Finance shall be required to submit and annually update a City approved Broker/Dealer Information Request Form which includes the firm's most recent financial statements.

In the event that an external investment advisor is not used in the process of recommending a particular transaction in the City's portfolio, any authorized broker/dealer from whom a competitive bid is obtained for the transaction will provide a written certification indicating that he/she has received a copy of this policy. A list of approved Broker/Dealers shall be maintained by the Director of Finance.

The City may purchase commercial paper from direct issuers even though they are not on the approved broker/dealer list as long as they meet the criteria outlined in item 5.3 of the Authorized Securities and Transactions section of this investment policy.

10. Selection of Banks as Depositories and as Providers of General Banking Services:

- 10.1 The Director of Finance shall maintain a list of authorized banks and savings banks that are approved to provide depository and other banking services for the City. To be eligible for authorization, a bank or savings bank must be a member of the Federal Deposit Insurance Corporation, shall qualify as a depository of public funds in Colorado as defined in CRS 24-75-603, provide the City certification of such qualification, and in the judgment of the Director of Finance, offer adequate safety to the City.

11. Safekeeping and Custody:

- 11.1 The Director of Finance shall approve one or more financial institutions to provide safekeeping and custodial services for the City. A City approved Safekeeping Agreement shall be executed with each custodian bank prior to utilizing that bank's safekeeping services. To be eligible for designation as the City's safekeeping and custodian bank, a financial institution shall qualify as a depository of public funds in Colorado as defined in CRS 24-75-603 and, in the judgment of the Director of Finance, offer adequate safety to the City.
- 11.2 The purchase and sale of securities and repurchase agreement transactions shall be settled on a delivery versus payment basis. Ownership of all securities shall be perfected in the name of the City. Sufficient evidence to title shall be consistent with modern investment, banking and commercial practices.

City of Greeley, Colorado Investment Policy

- 11.3 All investment securities, except non-negotiable Certificates of Deposit, Local Government Investment Pools and Money Market Mutual Funds, purchased by the City will be delivered by either book entry or physical delivery and will be held in third-party safekeeping by the City approved custodian bank, its correspondent bank or the Depository Trust Company (DTC).
- 11.4 All Fed wireable book entry securities owned by the City shall be evidenced by a safekeeping receipt or a customer confirmation issued to the City by the custodian bank stating that the securities are held in the Federal Reserve System in a Customer Account for the custodian bank which will name the City as “customer.”
- 11.5 All DTC eligible securities shall be held in the custodian bank’s Depository Trust Company (DTC) participant account and the custodian bank shall issue a safekeeping receipt evidencing that the securities are held for the City as “customer.”
- 11.6 All non-book entry (physical delivery) securities shall be held by the custodian bank's correspondent bank and the custodian bank shall issue a safekeeping receipt to the City evidencing that the securities are held by the correspondent bank for the City.
- 11.7 The City’s custodian will be required to furnish the City monthly reports of holdings of custodian securities as well as a report of monthly safekeeping activity.

12. Performance Benchmarks:

- 12.1 The City’s investment portfolio shall be designed to attain a market value rate of return throughout budgetary and economic cycles, taking into account prevailing market conditions, risk constraints for eligible securities, and cash flow requirements. The investment portfolio will be managed in accordance with the parameters specified within this policy. To assist in the evaluation of the portfolio’s performance, the City will use performance benchmarks for the short-term and long-term portfolios. The short-term portfolio shall consist of any investment type with a maturity of one day or less and the long-term portfolio of all other investment types. The use of benchmarks will allow the City to measure its returns against other investors in the same markets.
- 12.2 The 90-day U.S. T-Bill index rate will be used as a benchmark for comparison with the portfolios net book value rate of return for current operating funds (short term portfolio).
- 12.3 Investment performance of funds designated as core funds and other non-operating funds that have a longer investment horizon (long-term portfolio) will be compared to the Merrill Lynch 1-5 Year U.S. Treasury & Agency Index.
- 12.4 The Director of Finance shall present to the Greeley City Council, ~~annually at least semi-annually~~, a review of the portfolio’s adherence to appropriate risk levels and a comparison between the portfolio’s total return and the established investment objectives and goals.

City of Greeley, Colorado
Investment Policy

13. Reporting:

13.1 Accounting and reporting on the City's investment portfolio shall conform to Generally Accepted Accounting Principles (GAAP) and the Governmental Accounting Standards Board (GASB) recommended practices. On a ~~monthly~~ quarterly basis, an investment report shall be prepared and submitted to the Director of Finance, who will provide it to the City Council in a timely manner, listing the investments held by the City, the current market valuation of the investments and performance results. The report shall include a summary of investment earnings during the period.

13.2 Reports prepared by outside advisors shall be sent to the City's Director of Finance.

14. Provisions for Arbitrage:

14.1 The City periodically issues debt obligations which are subject to arbitrage rebate requirements and yield restriction requirements. Because of this, the requirements for the investment of debt proceeds may extend beyond those authorized in this investment policy. Therefore, the Director of Finance, upon advice from bond counsel and financial advisors may, when investing debt proceeds, depart from the provisions of this investment policy if necessary to conform to federal arbitrage regulations. In all cases, however, investments will be in compliance with the Colorado Revised Statutes cited in the Authorized Securities and Transactions section of this investment policy.



Investment Policy Update

Tyra Litzau, Finance Director
Robert Miller, Division Treasurer
City Council Work Session – May 14, 2024



Agenda



- Overview of Current Investment Policy
- Investment Policy Recommendations
- Purpose: Direction from Council on Proposed Revised Investment Policy

City of Greeley's Investment Policy

Formal Written Document Directing Appropriate Investments
for the City of Greeley

Sources Used to Create & Update Investment Policy

- Colorado State Statutes
- Greeley City Charter
- Government Finance Officers Association (GFOA)
- Investment Advisors
- Municipal Government Policies

Current Policy Adopted through Resolution by City Council
April 17, 2018

Current Investment Policy

Objectives

- Maintain Principal
- Ensure Adequate Cash Flow
- Maximize Investments
- Diversification

Evaluate Investment Policy Annually

Based Upon Annual Review: Recommend Changes to Meet Desired Investment Objectives

Recommended Updates

1. Add Municipal Securities as Eligible Investments
2. Change 0-3 Year Benchmark to 1-5 Year Benchmark
3. Include State and Local Government Series (SLGS) in Treasury Securities
4. Adjust Reporting Requirements to Quarterly and Annually
5. Revise Definitions and Language to Reflect Current Definitions, Allocations, and Processes
6. Finance Director Assigns Responsibilities Annually

Impact of Proposed Changes

1. Appropriate Authority to Invest and Manage Funds
2. Additional Investment Options and Criteria to Increase Returns While Maintaining Principal
3. Allows for Greater Diversification to Reduce Risk
4. Policy is Current with State Statues and Best Practice
5. Benchmarks Match Investment Objectives

Direction from Council: Options

Present the Revised Investment Policy to City Council by Resolution in a Council Meeting

Make Additional Changes to the Proposed Investment Policy

No Changes to the 2018 Investment Policy

Staff Recommendation

Present the Revised Investment Policy to City Council by Resolution in a Council Meeting

Thank you





Work Session Agenda Summary

May 14, 2024

Key Staff Contact: Paul Trombino, Public Works Director, William Jones, Deputy Public Works Director

Title:

Waste Diversion Study Update and Next Steps Discussion

Background:

As a result of council's initiative and direction at the March 1, 2022, worksession, staff applied for and received a Front Range Waste Diversion (FWRD) Grant to fund a Waste Diversion Study. As discussed during the worksession, the purpose of the Waste Diversion Study was to develop potential options to improve waste diversion (recycling) for City Council to consider. It is the staff's desire that following this presentation and discussion, consensus on next steps for staff be garnered.

Strategic Focus Area:



Community Vitality



Infrastructure and Mobility



Quality of Life



Safe and Secure Communities

Attachments:

1. City of Greeley Waste Diversion Study
2. City of Greeley Waste Characterization Study
3. Item 7 - Waste Diversion Presentation



LBA ASSOCIATES

MEMORANDUM

TO: Will Jones, Deputy Public Works Director

DATE: January 18, 2024

RE: City of Greeley Waste Diversion Study

At the direction of the Greeley City Council, a Waste Diversion Study has been conducted for the City of Greeley. The purpose of the study was to develop practical and cost-effective options for the City Council to consider related to recycling options for the residents of Greeley. Overarching goals of the study and presented options are set forth below:

- Utilize industry best practices and resident feedback
- Develop a list of options that can be intermixed, and not only consider sustainability but also other elements that align with City Council Community Vision 2037 components
 - Community vitality
 - Safe & secure communities
 - Sustainable infrastructure & mobility

1.0 BACKGROUND

The study is fully funded through a Front Range Waste Diversion Grant. The grant was awarded in May 2022 and extends through June 2025. The study addresses several initial observations (on the next page) that confirm the value of improvements to current waste collection practices in Greeley.

Study Description - The study was comprised of several tasks:

- Public survey – to gauge needs/challenges and solicit input from residents
- Benchmarking of peer communities – to understand what other northern Front Range cities & towns have successfully implemented (or not) to meet the same goals
- Options analysis informed by the 2023 waste characterization assessment¹, public survey & best practice research as well as the city's consultants experience – to develop program & policy

¹ This assessment measured city trash samples to determine recyclables that were being landfilled instead of diverted.

options tailored to the City of Greeley with recommended content, implementation steps & cost estimates

The Waste Diversion Study was completed by LBA Associates and Kessler Consulting (the LBA Associates Team).

Initial Observations:

- *Some residents are discouraged from recycling because curbside service is an extra cost - and/or by the need to travel to multiple sites (no drop site in the city accepts all recyclables)*
- *Greeley's existing open-market collection system is operated by private hauling companies that are not regulated by the city – their sustainability efforts are not reported or shared*
- *Due to lack of required reporting by private hauling companies, Greeley does not have the information with which to track actual landfill diversion or greenhouse gas emission (GHG) metrics associated with solid waste, which will impact Greeley's ability to obtain future EPR funding*
- *As many as seven trash trucks traverse the city's neighborhoods every week with each truck causing road damage equal to over 9,000 cars & resulting in street repair needs to occur 7,000 times faster than those without regular collection truck traffic² – they also have unnecessary noise, aesthetic & safety impacts*
- *Many residents do not have curbside trash service - which has led to illegal dumping and “dumpster poaching” as well as increased costs associated with city clean-up efforts*

[Colorado's New Extended Producer Responsibility Program](#) - Extended Producer Responsibility (EPR) legislation was passed by the Colorado General Assembly in 2022 and is expected to significantly increase recycling in Greeley and statewide over the next five to ten years - and provide funding to manage these changes. As such, it is important for any diversion planning effort to understand and anticipate this program.

EPR is expected to increase the recovery of recycled materials by at least two-fold. The program will accomplish this by setting substantive recyclables recovery rates and bringing a new revenue stream into Colorado from manufacturers of printed paper and packaging materials. This means that municipalities and private companies that provide recyclables collection and processing services will need to expand capacities but will also be eligible for operating cost reimbursement (and potentially capital cost subsidies for drop sites and other system improvements)³. Utility costs to residents and non-residents can be reduced as recycling is subsidized, providing an incentive to “trash less and recycle more”.

Communities with an established waste diversion strategy that anticipates EPR-driven changes will enjoy the benefits of the program earlier (EPR implementation for residential programs are expected to begin in 2026; for non-residential in 2028). This statutory program is complicated, however, and the details of implementation will not be fully known until at least 2025.

For Greeley, pre-EPR planning efforts will ideally focus on collection strategies (whether public, private or a combination) that provide universal recycling access to residents, establish policy that incentivizes recycling, and collect performance data to support EPR reimbursements in the future.

² CO Asphalt Pavement Association (see [Trash Truck Damage](#)), American Assoc of State Highway & Transportation Officials & the Center for Auto Safety (Ditlow, 2001) & [Fountain Single-Hauler Study](#).

³ Reimbursement and subsidies will be dependent on rigorous data collection and reporting.

2.0 GREELEY'S EXISTING SOLID WASTE SYSTEM

Residential trash, recyclables, and organics are collected through a combination of curbside and drop site programs in Greeley. Curbside collection is provided by multiple private haulers in an open, competitive market system. Drop-site facilities are operated by a mix of city, non-profit and private operations.

Definition of Residential – “Residential” from a collection perspective is generally limited to those households that have individual, discrete carts for trash (assumed to be single-family units, duplexes, and triplexes)⁴. Residences with communal dumpsters are considered commercial accounts as they require different collection equipment. It is estimated that of the 41,800 households in the city, about 29,700 of them have individual trash carts and are considered “residential” for this study (see Appendix A for additional details).

Open-Market Curbside System – In the open, competitive market system such as that practiced in Greeley, any hauling company may provide collection services within the city; haulers then compete for residential and non-residential business. Currently, this system operates with minimal oversight by the city. City code requires solid waste haulers to obtain a business license⁵ but this process is not closely tracked (at least one residential hauler currently operating in the city is not licensed). The code does not require haulers to monitor or report any metrics needed to assess program participation or environmental sustainability. As a result, the city cannot measure actual diversion rates or GHG reductions.

Traditional Recyclables – These are recyclables typically collected in residential curbside and drop-off systems. They include cardboard and other fiber, glass, metal and plastic containers. Traditional recyclables do not include electronics, furniture, mattresses, appliances, etc., that have special handling needs and are commonly referred to as hard-to-recycled (HTR) materials.

2.1 Curbside Collection

Trash Collection – Based on estimates from current haulers, four companies serve most residents (see Table 2-1 on the next page); these haulers also serve non-residential customers city-wide. Pricing for new customers ranges from \$25 to \$29/month for weekly collection. Trash collected through curbside collection is typically disposed at one of the regional landfills⁶.

Greeley residents are not required to have curbside trash service, and roughly 15% (nearly 4,500 homes) may not currently subscribe (see Table 2-1 on the next page). These residents may be “self-haulers” who take their trash and recyclables to other disposal sites (jobsites, local landfill, etc.). It is probable that some trash is illegally placed in commercial dumpsters or other locations; the Public Works Department spent \$18,000 in 2022 responding to litter-related complaints and cleaning up alleyways).

Recyclables Collection - Recycling is not mandatory and only a small percentage of residents currently have curbside recycling. All haulers that provide curbside trash collection in the city also provide recycling as an add-on service and cost (see Table 2-1). As a result, many do not subscribe; hauler reports indicate that only 22% of their trash customers also pay extra for recycling resulting in an overall curbside recycling rate of about 19%.

⁴ CRS 30-15-401(7) allows governments to charge residents up to 7 units for waste services even if a private entity is also providing service. Most haulers treat households with dumpsters (typically 3+ units) as commercial accounts.

⁵ Title 8, Chapter 2 (section 8-58) and Chapter 11 (Section 8-368).

⁶ These include Buffalo Ridge & North Weld Sanitary (Waste Management), Front Range (Waste Connections) & Larimer County – North Weld is closest to Greeley (Ault) and likely receives most of the city’s trash tons.

Recyclables are hauled either to the Larimer County Recycling Center⁷ (Fort Collins), the Republic materials recovery facility (MRF) or Waste Management MRF (both MRFs are in north Denver).

Table 2-1: Residential Curbside Haulers

<i>Haulers</i>	<i>Residential Services</i>	<i>Approximate Percent of Residential Service Area</i>
<i>Bunting Disposal</i>	Trash & recycling (at add'l cost)	27%
<i>Common Good Compost</i>	Food waste only	<1%
<i>Mountain High Disposal</i>	Trash & recycling (at add'l cost)	22%
<i>Republic Services (incl former GFL & Allied Waste)</i>	Trash only	<1%
<i>Waste Connections (Incl former Ram Waste)</i>	Trash & recycling (at add'l cost)	9%
<i>Waste Management</i>	Trash & recycling (at add'l cost)	27%
<i>Households without Curbside Trash Service</i>		15%

Organics Collection – While recycling solutions are the primary focus of the Waste Diversion Study, future efforts to divert more organics from landfill disposal could also be supported by most of the policy and program solutions analyzed in the following pages. As shown in Table 2-1, there is one hauler that provides curbside collection of food waste to Greeley residents (pricing for this stand-alone service is roughly equivalent to trash-only collection costs). Only a small fraction of residents subscribe currently.

2.2 Drop-Site Collection

Drop sites available to Greeley residents currently accept traditional recyclables at a low or no cost (hard-to-recycle materials may incur a fee). Not all residents utilize the drop-sites, however, due in part to lack of storage space (most drop sites require materials to be separated into individual streams) and inconvenience (no single drop site collects all recyclables). Existing recycling drop site programs in Greeley include:

- Anderson Sales & Salvage – metal containers, glass & other (scrap metal)
- Crabtree Brewing – glass containers
- Schaeffer Enterprises – cardboard, paper for shredding & other (electronics, bulbs)
- Weld County household hazardous waste/drop-n-swap facilities – other (e- waste collection events)

Both Anderson Sales & Salvage and Crabtree Brewing partner with the City of Greeley and O-I Glass in Greeley's Glass4Good program. This program focuses on increasing the diversion of high-quality glass, which is remanufactured into glass bottles at O-I's Windsor facility. Additionally, the GROW (Greeley Organic Waste) Center accepts some organics (i.e., yard waste and wood waste only) from regional residents on a fee basis. This

⁷ The Larimer County facility is operated under contract by Waste Management; single-stream materials are consolidated for shipment to and sorting at the company's north Denver MRF.

facility is operated by a contractor with the support of the City of Greeley. The facility is expected to continue its current operations at a new location sometime in 2024.

2.3 Solid Waste Quantities & Diversion Potential

Overall Quantities - Table 2-2 includes an estimate of current residential waste diversion and trash quantities (Appendix A includes additional details). A projected estimate of recyclable tonnages is also provided to support the options analysis in Section 5.0 (note that as EPR is expected to be implemented beginning in 2026, 2030 quantities reflect anticipated recycling increases of two to three times over the next several years).

Table 2-2: Estimated Recyclable Diversion Potential

	2023	2025	2030	2050
Diverted Recyclables (tons)	5,200	5,500	10,100 – 14,100	14,400 – 20,200
Landfill Diversion Rate from Recycling (% by weight)	8%	8%	12% - 17%	12% - 17%
GHG Emissions (Reductions) from Recycling⁸ (metric tons of carbon dioxide equivalent, mtCO₂e)	(17,100)	(17,900)	(33,100) – (46,300)	(47,400) – (66,400)

Overall landfill diversion including organics & hard-to-recycle materials is estimated to be 16% in 2025

It is important to note that baseline estimates were developed using Front Range waste generation and diversion averages measured by CDPHE as actual quantity data is not available from haulers⁹. As such, the estimates are not specific to the city and instead are based on many assumptions. These values should be used judiciously and policies that facilitate the collection of city-specific data are highly recommended.

CDPHE's measurement of recycling by Front Range communities was 8% in 2021. Greeley's actual residential diversion may be lower or higher than this average, but the city likely has significant opportunity to increase its waste diversion rate going forward. The GHG emissions shown above reflect the reductions that would be achieved by recycling instead of landfilling these tons.

Specific Recyclable Materials Being Landfilled – In early March and late May of 2023, the city conducted an evaluation of the city's residential trash stream to measure the traditional recyclables, organics, and HTR materials being landfilled - and to provide an indication of waste diversion potential (see Figure 1 on the next page). As shown, over 19% of the total tons in sampled loads tipped at the North Sanitary Landfill were recyclables that could have been diverted through existing programs. While traditional recyclables are the focus of the strategies described below, it is notable that another 43% of the waste stream could have been diverted if residents fully participated in organics recovery and hard-to-recycle programs currently operating within the city and Weld County.

⁸ Based on EPA WARM for mixed recyclables and local conditions.

⁹ Colorado Department of Public Health recycling data for 2021 - <https://cdphe.colorado.gov/hm/colorado-recycling-totals>. Note that diversion rates typically reflect both residential and non-residential values.

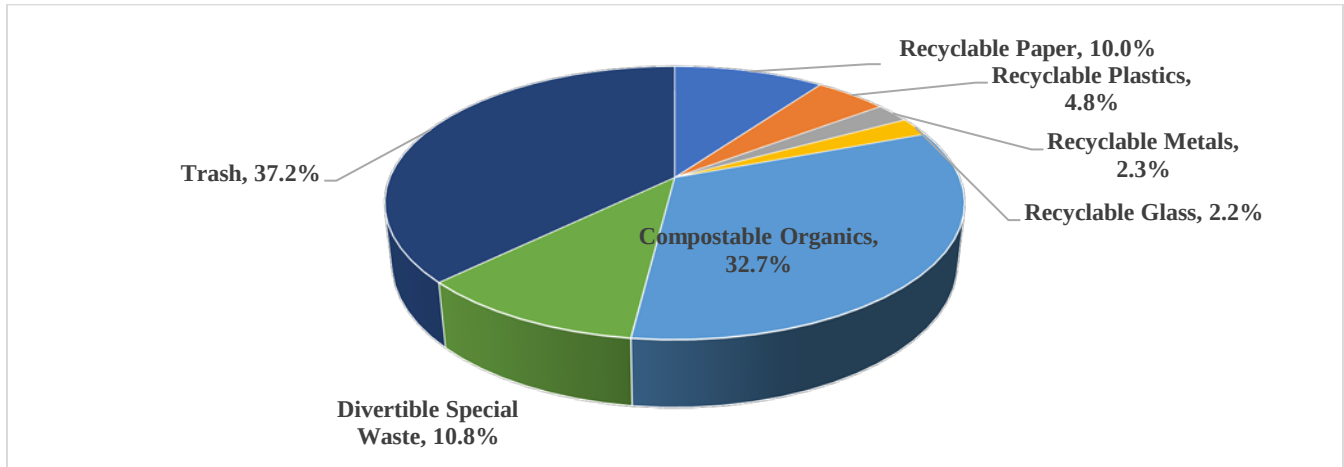


Figure 1: Potential Diversion of Greeley's Residential Trash

3.0 COLLECTION SYSTEMS IN OTHER NORTHERN FRONT RANGE COMMUNITIES

Programming and lessons learned by eight peer communities were used to in assessing waste diversion options for Greeley. While many other Colorado communities have successfully implemented the program and policy options explored for the city in Section 5.0 - drop-site collection, volume-based trash, single-hauler collection contracts, hauler reporting requirements and residential service requirements – the summary provided in Table 3-1 focuses on northern Front Range municipalities that may be the most relevant to Greeley. (see Appendix B for additional details).

Table 3-1: Peer Community Diversion Observations

<i>Communities</i>	<i>Landfill Diversion Rate</i>	<i>Residential Trash Pricing</i>	<i>Residential Recycling</i>	<i>Drop Sites</i>	<i>Hauler Reporting</i>	<i>Residential Curbside Service Requirement</i>
<i>Greeley*</i>	Unknown	Mixed system	Optional/extra fee	For some materials	No	No
<i>Broomfield*</i>	20%	Mixed system	Optional/extra fee	Yes	Yes	No
<i>Erie*</i>	24%	Mixed system	Optional/extra fee	Yes	Not enforced	No
<i>Evans^</i>	Unknown	Flat rates	Optional/extra fee	No	No	Yes
<i>Fort Collins*^</i>	32%	PAYT	Incl w trash/no extra fee	Yes	Yes	Yes
<i>Frederick^</i>	Unknown	Flat rates	Incl w trash/no extra fee	No	No	No
<i>Johnstown^</i>	Unknown	Partial PAYT	Incl w trash/no extra fee (can opt out)	No	No	Residents must opt out in writing
<i>Loveland</i>	56%	PAYT	Incl w trash/no extra fee	Yes	Yes	Yes
<i>Northglenn</i>	12%	Flat rates	Incl w trash/no extra fee	Yes	City does residential collection	Yes
<i>Windsor*</i>	Unknown	Mixed system	Optional/extra fee	No	No	No

**Communities with open-market collection systems*

^Communities with single-hauler contracts (Fort Collins will transition to a single-hauler contract in late 2024)

PAYT = pay-as-you-throw or volume-based trash pricing (see Section 5.0 for description)

Most notable Table 3-1 findings are the waste diversion rates in Loveland and Fort Collins – these communities divert 56% and 32% of their municipal waste streams, respectively (significantly exceeding the Front Range average). These community diversion rates are due to comprehensive programs that include:

- Robust drop site facilities that collect traditional recyclables & other materials

- Local government control of collection practices through either policy/contract (Fort Collins) or public collection (Loveland)
- Trash service with full volume-based rate systems (or PAYT) that include incentives to “trash less and recycle more” by reducing monthly costs as trash service decreases¹⁰
- Recycling for all residents (bundled with trash)
- Ability to track effectiveness of policies & sustainability progress by requiring haulers to report quantities collected within the community
- Requirement for residents to have curbside collection service
- Both cities have additional programs that boost their landfill diversion success notably higher than others in the region (i.e., organics collection, large item collection, HTR collection & rigorous public education programs)¹¹

The infrastructure and policy described in the first four bullets above have been proven throughout Colorado and the U.S. to be the best mechanisms for supporting effective residential services and increasing waste diversion. As a result, they are a focus of the city’s Waste Diversion Study (see Section 5).

¹⁰ Conversely, the mixed or “partial PAYT” systems listed in Table 3-1 provide only partial incentives while flat pricing provides no incentive to reduce trash service.

¹¹ Greeley would need to expand their landfill diversion evaluation to include these collections and programming to reach diversion levels achieved by Fort Collis and Loveland. The new state EPR program is expected to provide investment in state-wide public education & outreach, thereby removing that burden from local governments going forward.

4.0 PUBLIC SURVEY

The city's Communications and Engagement Department conducted a public survey in November and December of 2023. The survey reached over 14,000 residents through mailing and social media; coverage was city wide and all four city council wards were well represented. Nearly 1,400 responses were received for a response rate of about 10%. As shown in Figure 2, improvements to illegal dumping, costs, and recycling were the highest priorities observed with only 4% of the respondents noting "No Changes Needed". Figure 3 ranks support (somewhat/definitely agree) for specific program and policy options. A copy of key survey questions and responses can be found in Appendix C (the full survey is available at [Greeley Public Waste Diversion Survey Data](#)).

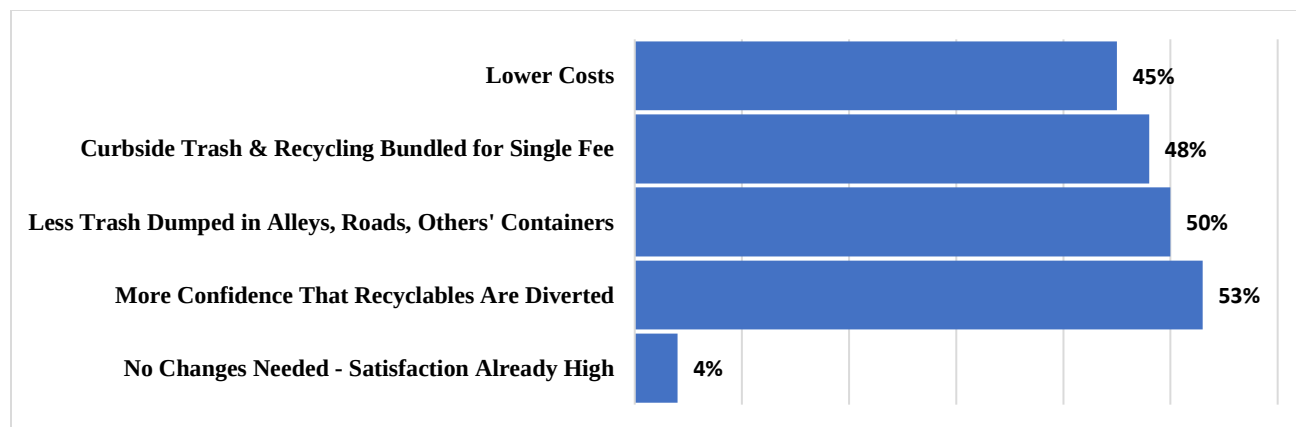


Figure 2: Changes Survey Respondents Requested

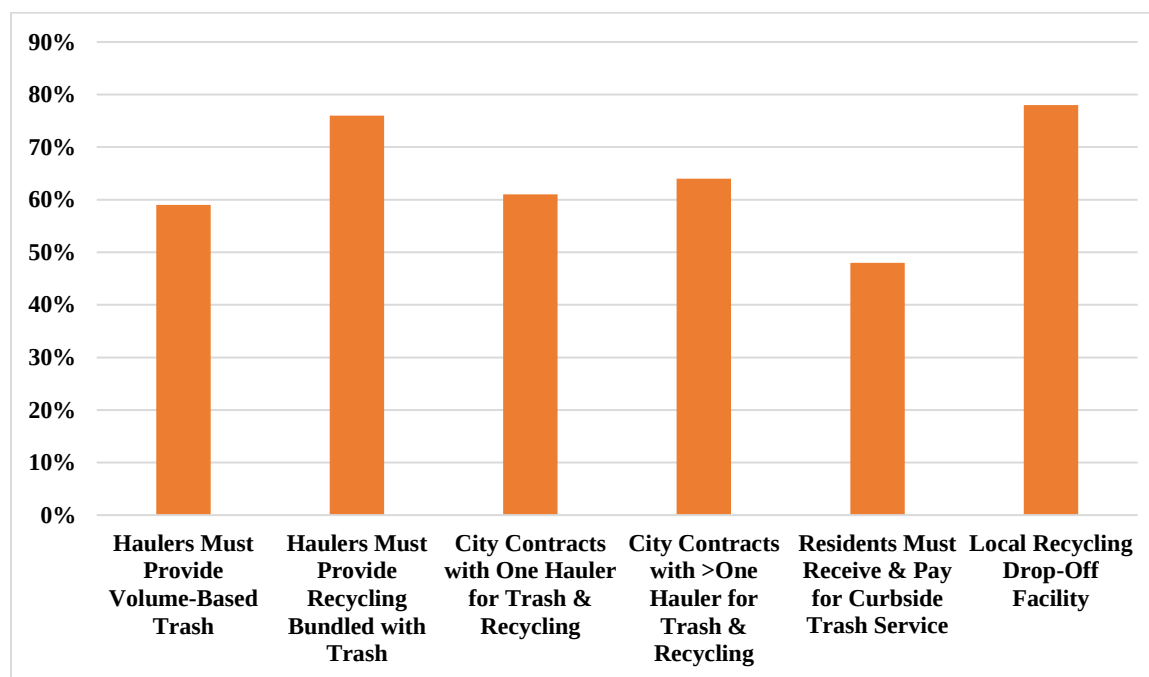


Figure 3: Public Support for Specific Options

Key Findings:

These public survey results demonstrate that a significant majority of respondents support comprehensive actions to enhance landfill diversion services & infrastructure.

5.0 OPTIONS ANALYSIS

The Waste Diversion Study focused on a detailed evaluation of five key options that were in alignment with industry best practice to increase recycling opportunities, landfill diversion and the ability to measure progress¹². These options address both trash and recyclables as management of the two streams overlap and their collection is often addressed in the same policies and/or programs. Input from the public survey as well as lessons learned from other northern Front Range communities were used to frame the evaluation to maximize benefits for Greeley residents. Each option was assessed for its benefits and challenges; implementation needs; and costs for residents and the city where appropriate. It is also important to note that the options and/or components of the options below can be mixed or combined.

5.1 Consolidated Recycling Drop Site

This option includes a new city-owned drop site whose base operations would be the acceptance of traditional recyclables from residents. A new drop-site could be added to the existing city system or could be implemented in addition to any other option discussed in this memo. For residents without curbside service, it could be a primary collection point; residents with curbside could use it for materials overflow (especially cardboard from the “Amazon effect”). New drop-site service was strongly supported by respondents during the city’s public survey.

Assumptions – Several drop site assumptions for the drop site analysis were made:

- Located on property provided by city with available electricity (costs for land purchase is not included in the estimates)
- Owned & operated by the city with contracted materials marketing & transportation
- Open 16 hours/week & staffed whenever open to the public (i.e., 1-2 staff at 0.4 full-time equivalents each, or FTE)
- Free to residents - non-residential users (including residents >3 units) would not be served initially
- Source-separated materials collected in compactors & marketed at the Larimer County Recycling Center (glass collected loose)
- Facility will be flexible enough to add additional traditional recyclables as conditions change
- Initial operations in 2025 – mature operations with early EPR impacts by 2030

Table 5-1: New Drop Site Advantages & Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>
Convenience of one-stop shopping expected to increase level of recycling	Requires capital investment (EPR may potentially off set)
Ability to manage overflow materials (e.g., cardboard from the “Amazon effect”) that don’t fit in curbside recycling carts	Property required for city owned/operated facility
Ability to serve residents within households with >3 units, businesses, institutions, etc. in future	Will incur on-going operating costs for staffing & materials transportation (EPR may potentially off set)
Ability to collect other materials (e.g., HTR materials & GROW facility yard waste) in future	Facility flexibility will depend on available property
Will generate some revenue from material sales to <u>partially</u> offset capital/operating costs	Material markets are dynamic & change frequently resulting in cost/revenue uncertainty

Other northern Colorado communities with effective recycling drop sites included Broomfield, Erie, Fort Collins, Larimer County & Northglenn.

¹² See the October 27, 2023 City Council Friday Snapshot.

Facility Cost Estimates - As shown in Table 5-2, a capacity range has been utilized to reflect:

- Larger capacity to serve 30% of residents if no change is made to Greeley's status quo (most residents do not have curbside recycling service currently)
- Smaller capacity to serve 10% of residents if changes to bundle recycling with trash service are implemented (see Sections 5.1 & 5.2)

Table 5-2: New Drop Site Cost Estimates (2023\$)

	<i>Low Capacity - 10% of Residents</i>		<i>High Capacity - 30% of Residents</i>	
	<i>2025</i>	<i>2030</i>	<i>2025</i>	<i>2030</i>
Site Development & Equipment				
<i>Total capital costs</i>	\$708,500	\$708,500	\$795,500	\$795,500
<i>Annualized costs</i>	\$64,000	\$64,000	\$71,000	\$71,000
Operating Costs (revenues)				
<i>Labor, utilities & hauling</i>	\$96,000	\$153,000	\$183,000	\$352,000
<i>Material sales/tip fees (revenues)</i>	(\$25,000)	(\$55,500)	(\$75,000)	(\$166,500)
<i>Total operating costs</i>	\$71,000	\$97,500	\$108,000	\$185,500
Annualized Capital + Operating	\$135,000	\$161,500	\$179,000	\$256,500

Capital costs range can be significant (additional detail is provided in Appendix C) – these costs would increase if property must be purchased. They may be eligible in part or in full for external funding, however. Annualized costs are calculated to reflect impacts to the operating budget should the city finance the project. Operating costs are expected to be partially offset by material revenues; this offset ranges from about one-quarter to one-half of total operating costs (material revenues are very dynamic and can change dramatically over time).

EPR impact on future costs – EPR funding may be available to cover capital costs and operating costs for a recyclables drop-off facility after January 2026. It is unknown whether the EPR program would cover annualized capital for facility construction prior to 2026. Additional grant funding (such as Colorado RREO or FRWD) has been used for other community drop sites and may be available to Greeley.

Property Size Requirements – The sizing estimate for a new city drop site ranges from 1.2 to 1.7 acres, and includes a pad for material containers, asphalt paving for traffic areas, staff trailer, and allowances for surface water

management and site buffer. This acreage would increase if the city decided to accept HTR or organic materials, and/or allow non-residents to use the facility.

Implementation – Implementation needs will include:

- Finding suitable property for reasonable, safe access by personal vehicles & roll-off trucks
- Procuring a contractor(s) to market materials collected & transportation
- Training staff to provide appropriate quality control of materials delivered to the facility to minimize contamination, ensure safe operations, and maintain detailed records

Alternative Operations - It is also possible that the city may choose to provide a new recycling drop site with different ownership and operating parameters than those modelled above. For example:

1. *Combine new drop site with a single-hauler collection contract* (see Section 5.3) – The city may provide property and develop the site but contract out on-going operations (including staffing, hauling, and marketing) to its residential curbside collection contractor (should that policy be adopted). Procurement activities would be streamlined by combining vendor selection for two programs. Relying on a vendor with expertise in materials management and marketing would also limit city staff training and responsibility.
2. *Explore other market opportunities* – For the purpose of this study, the Larimer County Recycling Center was the primary market used for drop-site recyclables (costs/revenues are conservative but the facility is government-owned & in relatively close proximity). Other options that may provide greater financial benefits to the city in the future include:
 - Other local markets – such as Direct Polymer in north Denver (plastics) & Anderson Sales & Salvage in Greeley (steel cans)
 - Partnerships that could provide opportunities for guaranteed pricing – e.g., Direct Polymer & Replenish (plastics)
 - Coordinate with Greeley’s Glass4Good program for the management of collected glass
3. *Allow multi-family households (>3 units) and business to use the recycling drop site* – The site and operations would need to be expanded to accommodate additional traffic and materials, but this alternative would provide recycling to two sectors that have limited recycling access. A nominal tip fee could be charged.
4. *Accept other materials* – The city may opt in the future to co-locate the GROW facility with the new recycling drop site. It may also choose to collect HTR recyclables and large items (i.e., furniture, mattresses, etc.). These options would require a larger property (5-6 additional acres). Operations would be impacted as additional contractors, equipment, management strategies, and health and safety protocols would be required. Co-locating these activities, however, would increase convenience to residents and may streamline city oversight activities. It is also noted that the ability to accept other materials would likely reduce illegal dumping in a scenario where regular trash subscription remains voluntary (i.e., Section 5.4 policy is not implemented).

5.2 Pay-as-You-Throw (PAYT)

This option would include a new city program that would maintain the existing open, competitive market system (see Table 2-1) but require all haulers providing curbside trash service:

- Provide trash service on a volume basis – by providing multiple trash cart size options
- Provide every trash customer with curbside recycling – as part of a bundled service

- Establish tiered pricing for bundled trash and recycling that is based on the trash cart size

Important Note:

This policy would not limit the haulers that operate in the city. It would have no impact on non-residential collections. It is typically implemented in tandem with hauler reporting requirements (see Section 5.4) as a mechanism for city staff to track compliance.

Because of its volume basis, this approach is commonly referred to as pay-as-you-throw (or PAYT). PAYT has been shown to be one of the most effective ways to increase residential waste diversion and reduce GHGs associated with landfill disposal; it has been adopted by numerous communities in northern Colorado (see Table 3-1) and statewide. Coupling this type of program change with new state EPR funding is expected to garner further support from residents whose monthly bills will not increase even with added service. PAYT programming had strong support (favored by 76% of respondents to the city's public survey).

Table 5-3: PAYT Collection Advantages & Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>
Creates an incentive to trash less & recycle more	Targeted public outreach will be needed (can be provided by city, haulers, or both)
Provides greater service equity for residents (versus “flat pricing” model which penalizes those who generate less trash) – 48% of survey respondents support bundling service for a single fee & 45% want reduced costs	Large households & those who generate more trash will pay more for bundled service (but this will subsequently be reduced when EPR is implemented)
Provides residents with control over their own service level	City will need to ensure hauler compliance (primarily during start-up)
Double opportunity for residents to reduce their monthly bill (recycling costs will be subsidized by EPR & increased recycling will support down-sizing trash service at lower cost)	Haulers are required to provide multiple cart sizes & develop a tiered pricing structure (short-term tasks will include customer sign-up & cart delivery)
Low cost for city to implement	Still have multiple haulers traveling neighborhood streets

Other northern Colorado communities with effective PAYT/ recycling systems include Arvada, Fort Collins, Lafayette, Longmont, Louisville & Loveland.

Assumptions - Several PAYT assumptions for the drop site analysis were made:

- Applicability to haulers that serve single-family, duplex & triplex households only – approximately 85% of eligible residents will subscribe to curbside service (i.e., service will remain voluntary)
- All residents would receive weekly trash collection & every-other-week recyclables collection
- Three trash service levels would be available to each resident – new carts will be provided where residents opt for a new size
 - 30% will select 96-gallon carts
 - 50% will select 64-gallon carts
 - 20% will select 32-gallon carts
- Recyclables service will continue to be in 64- and 96-gallon carts
- City will incur oversight related to initial residential support for cart selection¹³ & monitoring hauler compliance

¹³ This activity could also be required by haulers as part of the city's PAYT policy, but past experience indicates that when local governments engage in this program transition the chance of successful implementation is higher.

Cost Estimating Results - Table 5-4 (on the next page) provides the results for a PAYT program (Appendix D provides additional detail). As shown, estimated residential costs are at the low end of what residents pay today for medium or large trash service plus recycling. PAYT would also provide residents with an additional small cart/low trash service option as a notably lower rate than is available today.

EPR impact on future costs – EPR funding is expected to reimburse haulers for the cost of residential recycling, such that customer bills would only reflect trash costs. Therefore, although the PAYT program would provide recycling to all residents, that discrete service is expected to be nearly or fully subsidized service beginning in 2026.

Table 5-4: Estimate of Hauler Pricing & Residents' Costs for PAYT Collection (2023\$)

	<i>Trash</i>	<i>Recycling</i>	<i>Total</i>
Collection Vehicle & Cart Costs			
<i>Total capital costs</i>	\$4,555,900	\$3,348,900	\$7,904,800
<i>Annualized costs</i>	\$666,800	\$478,700	\$1,145,500
Labor, Operations/Maintenance & Tip Fees			
<i>Total operating costs</i>	\$5,367,700	\$1,022,300	\$6,390,000
Annualized Capital + Operating	\$6,631,900	\$1,874,900	\$8,506,800
Monthly residential costs (\$/household-month)			
<i>96-gallon cart</i>			\$40.10
<i>64-gallon cart</i>			\$26.70
<i>32-gallon cart</i>			\$13.40
Current Hauler Pricing (\$/household-month)			
<i>96-gallon cart</i>	\$25-\$30	\$15-\$18	\$40-\$48
<i>64-gallon cart</i>	\$20-\$25	\$5-\$18	\$25-\$43
<i>32-gallon cart</i>	\$15- \$23	none	not applicable

Service area assumed to be 85% of eligible residents.

Implementation & Considerations – Implementation needs will include:

- Program development (see municipal code examples in Appendix E) – while this policy would have broad applicability for residents up to 3 units, waivers should be provided (see Section 5.5 for a list of suggested waiver conditions)
- Required pricing strategy for bundled services with a 100% differential based on smallest cart (e.g., \$X for 32-gal cart, \$2X for 64-gallon cart, and \$3X for 96-gallon cart)¹⁴
- Transition period for residents to select cart sizes & haulers to obtain equipment (carts can take several months to procure in post-Covid marketplace)
- Hauler reporting will be critical (see Section 5.5) to verify compliance

¹⁴ Historical findings indicate that a pricing differential of at least 80% is required to create an adequate incentive to reduce trash. Communities with lower pricing differentials typically have less recycling participation & less landfill diversion.

PAYT considerations of note include:

- Some residents may opt for multiple large carts – pricing should be increased accordingly
- Residents may want to change trash & recycling cart sizes in future - historical information from other communities shows that residents trend towards smaller trash carts over time
- Recyclables collection frequency could increase to weekly if future quantities warrant

Alternative Operations – Given the large number of residents in homeowner associations (HOAs) in Greeley, the lack of data defining them, and the likelihood that many of these organizations have existing collection service agreements, it is possible that a PAYT policy would initially exclude HOA residents (it is unlikely that many households with <3 units are part of HOAs). In pursuit of its goal to increase recycling access and reduce landfilled trash, however, the city could consider transitioning HOAs households into the program¹⁵. Potential approaches include allowing HOAs to complete their current service agreement and subsequently move to a contract that includes the PAYT trash and recycling requirements described above with a time limit of 2 to 3 years.

5.3 Single-Hauler Collection System

This option would include the procurement of a single hauler to provide trash and recyclables collection to the city's residents. While many communities in Colorado have open market collection systems, several have moved to a single-hauler system in the last few years including several in northern Colorado (see Table 3-1). The system enjoyed moderate support (61%) from respondents in the city's public survey.

Important Note:

A move to a single-hauler system would mean that some of the haulers in Table 2-1 would not be able to provide residential collections during the contract term. However, all licensed haulers could bid on each new contract (expected about every 5 years); partnerships between multiple haulers may also be possible (e.g., one hauler providing trash service & another providing recycling). In the meantime, the haulers can continue serving non-residents (this would include all households with >3 units).

Table 5-5: Single-Hauler Collection Contract Advantages & Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>
Municipal control over services provided & pricing through monthly hauler invoicing reports (53% of survey respondents support greater assurance that recyclables are not landfilled)	Residents would no longer be able to select their own hauler but would be able to select their service levels
Residential by only one hauler increases collection efficiency & typically reduces customer prices	All but one hauler would lose market share (others can still serve residential & other dumpster properties)
Reduces truck traffic in neighborhoods from as many as 7 to less than 2 trucks per week – reducing road damage by the equivalent of more than 45,000 cars per week & reducing GHGs generated through the use of fuel-driven engines	City will need to conduct procurement process
Provides mechanism for city to impose an administrative fee to cover costs of contract administration, billing, recycling center site operation, public education, etc.	City will most likely take on residential billing (i.e., add to utility bills)
Access to monthly residential generation & diversion data (as part of hauler invoicing)	Other city tasks may include public outreach & transition support

Other northern Colorado communities with effective single-hauler contracts with PAYT/recycling include Arvada, Golden, Lafayette & Louisville.

¹⁵ Future program improvements could also include all households (including those with >3 units and all HOAs) to move to a system with bundled trash & recycling service.

Assumptions - Several single-hauler contract assumptions for the drop site analysis were made:

- City will establish collection contract with 1 hauler for all residential customers
- Applicability to single-family, duplex & triplex households only– approximately 85% of eligible residents will subscribe to curbside service (i.e., service will remain voluntary)
- PAYT collection system (see Section 5.2) - all residents would receive weekly trash collection bundled with every-other-week recyclables collection & the bundled price would be based on volume-based trash service
- Three trash service levels would be available to each resident (32-, 64- or 96-gallon carts) – recyclables service would be in 64- and 96-gallon carts
- City will conduct billing for collection services as part of residential utility bills
- Other city activities will include initial residential support for cart selection & contract administration

Cost Estimating Results - Table 5-6 provides estimates of a single-hauler collection system with PAYT requirements (Appendix D provides additional detail). These are the costs that the city would pass on to residents as part of their monthly utility bills; they include the estimated cost of regular billing by the Finance Department. These findings show that customer prices are about 10% lower than PAYT in an open-market system – and significantly lower than the current system - which reflect the greater efficiency available with only one hauler.

Table 5-6: Estimate of Hauler Pricing & Residents' Costs for Single-Hauler Collection (2023\$)

	<i>Trash</i>	<i>Recycling</i>	<i>Total</i>
<i>Collection Vehicle & Cart Costs</i>			
<i>Total capital costs</i>	\$3,925,900	\$2,823,900	\$6,749,800
<i>Annualized costs</i>	\$569,300	\$397,500	\$966,800
<i>Operating Costs</i>			
<i>Labor, operations/maintenance & tip fees</i>	\$5,403,300	\$988,900	\$6,392,200
<i>City billing costs</i>	\$179,200	\$41,600	\$220,800
<i>Total operating costs</i>	\$5,582,500	\$1,030,500	\$6,613,000
<i>Annualized Capital + Operating</i>	\$6,151,800	\$1,428,000	\$7,597,800
<i>Monthly residential costs (\$/household-month)</i>			
<i>96-gallon cart</i>			\$35.70
<i>64-gallon cart</i>			\$23.80
<i>32-gallon cart</i>			\$11.90
<i>Current Hauler Pricing (\$/household-month)</i>			
<i>96-gallon cart</i>	\$25-\$30	\$15-\$18	\$40-\$48
<i>64-gallon cart</i>	\$20-\$25	\$5-\$18	\$25-\$43
<i>32-gallon cart</i>	\$15- \$23	none	not applicable

Service area assumed to be 85% of eligible residents.

EPR impact on future costs – EPR funding is expected to reimburse haulers for the cost of residential recyclables collection service. Therefore, although the single-hauler option with PAYT programming would provide recycling to all residents, that discrete service is expected to be nearly or fully subsidized service beginning in 2026.

Implementation & Considerations – Implementation needs will include:

- Municipal code revision may be required to allow the city to provide residential collection service through a third-party contractor (see Colorado code examples in Appendix E) - while this policy would have broad applicability for residents up to 3 units, waivers should be provided (see Section 5.5 for recommended waiver conditions)
- Passage of policy requiring all residents to have curbside collection (see Section 5.5) – without this, it will be difficult to provide potential contractors with definitive customer counts (uncertainty may reduce hauler pricing benefits)
- Required pricing strategy for bundled service with a 100% differential based on smallest cart (e.g., \$X for 32-gal cart, \$2X for \$64-gallon cart, and \$3X for 96-gallon cart)
- Hauler procurement with contract term of at least 5 years (note that a term of 8 to 10 years, which coincides with expected life of trucks & carts, will likely have lowest monthly pricing)
- Transition period for residents to select cart sizes & haulers to obtain equipment (carts can take several months to procure in post-Covid marketplace)

HOA considerations will be similar to those described in Section 5.2. Approaches to extending PAYT programming to these communities can either allow HOAs to have separate collection contracts if they are compliant with volume-based trash, bundled service and pricing; to opt-in to the city's contract; or requiring them to be covered under the city's collection contract once their existing service agreement expires.

Alternative Operations – There are several variations the city may choose to explore:

1. *Establish contracts with multiple haulers based on discrete residential service areas* – This alternative would allow more haulers to share the residential customer base but will require additional procurement & contract administration effort by staff. Multiple contracts have an important risk, however; multiple haulers will likely have different pricing which can be hard for residents to reconcile (& may also be challenging under EPR). Sixty-four percent of respondents to the city's public survey favored a multi-contractor option.
2. *Cart ownership reverting to city at end of contract* – The advantage of this alternative would be to limit cart exchanges at the end of the term when potentially a new hauler with new carts takes over service. It would likely increase monthly pricing unless the term is closer to 10 years, however (Fort Collins included this requirement in their recent single-hauler procurement process).
3. *Increase GHG emission reductions* – This could be enhanced by requiring CNG collection vehicles (electric vehicles are being introduced but are not yet mainstream).
4. *Establish city administrative fee in addition to contractor's residential pricing* – This fee would be added to hauler prices in residents' monthly utility bill. It could be used to cover the cost of contract administration, billing, public outreach, transitional services & other waste management activities (e.g., drop-site operations; organics, large item & HTR collection, etc.). This is an increasingly common practice in Colorado single hauler systems, with administrative fees established as either a flat rate or percentage. For example, if Greeley added a 4% fee to the

monthly residential costs in Table 5-6 or a flat \$1/month, this amount would exceed \$300,000/year & would cover the city costs described above.

5.4 Hauler Reporting Requirement

This option would include modification of existing city code (Title 8, Chapter 11 – Refuse Haulers) to require haulers to expand their business license requirements to include reporting of key metrics including material tonnages collected and customer participation data. Cart distribution, service levels, and tiered pricing should also be required if PAYT programming (Section 5.2) is implemented. This policy could be implemented in addition to any of the other options described in this memo.

Important Note:

The ability to obtain the data needed to measure Greeley’s progress in reducing landfill tons and GHG emissions is critical to both the city’s goals, EPR implementation & other grant funding (i.e., communities that cannot quantify their waste systems may have delayed or incomplete funding). This policy is time-critical and should be implemented as a first step in the city’s waste diversion strategy.

Table 5-7: Hauler Reporting Advantages & Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>
Low cost for city to implement	City will need to review data & ensure compliance
Commonly implemented by local governments throughout the Front Range	Haulers may oppose policy on grounds that data is proprietary
Access to customer & material tonnage data (ability to track sustainability metrics)	City will need to apply confidentiality to hauler data (i.e., use only in aggregate)
No impacts to residential customers	Limited to no impact to waste diversion

Other northern Colorado communities with good hauler licensing policy include Broomfield, Fort Collins & Loveland.

Assumptions – The primary assumption for new hauler reporting policy is its applicability to all haulers operating in the city - not just those with residential customers. Ideally, the policy will require reporting every six months so that sustainability metrics are reviewed regularly (current business license renewals in Greeley are every other year).

Implementation & Considerations – City implementation steps will include:

- Policy development (see Appendix E for municipal policy examples) – with a tiered warning/penalty schedule
- Creation of an on-line hauler reporting process with reporting form
- Tracking of hauler compliance
- Review & interpretation of results

Cost Considerations:

- It is not likely that this policy will incur significant hauler costs & therefore should not impact residents’ monthly billing
- City staff costs to process reports & develop summary findings is expected to require <0.1 FTE (or <\$8,900) – legal costs potentially incurred in instances of compliance actions would be additional

5.5 Residential Collection Service Requirement

This option would require households up to 3 units to subscribe for curbside collection (as noted previously, about 15% of eligible residents do not have curbside trash service currently). It is expected that the city would allow

waivers on a case-by-case basis, but these would be a small number of residents. This option could also be added to PAYT programming (Section 5.2) or a single-hauler system (Section 5.3), although implementation (enforcement) is notably easier when the city bills for collection services (i.e., in a contract hauler systems).

Implementation & Considerations – Policy development (see Appendix E for municipal policy examples) will likely focus on the waiver process:

- Specific waiver conditions such as
 - Two residents who chose to share a trash container
 - Resident with more trash than can fit in large cart
 - Resident with financial hardship (e.g., those who qualify for LEAP, SNAP, or meet an income threshold)
 - Short-term rental properties & attached dwelling units are typically not exempted
- Temporary (one to two years with ability to renew) and/or permanent waivers

Table 5-8: Residential Collection Service Advantages & Disadvantages

<i>Advantages</i>	<i>Disadvantages</i>
Minimize illegal dumping from those without collection currently – 50% of survey respondents want less trash in alleys, roadways & others' containers	Challenging to track compliance in open-market collection system (where city is not doing billing)
Increase level of residential recycling	Those who currently self-haul solid waste or share collection with neighbors may oppose
Improve efficiency & cost savings to all customers (in single-hauler contract system)	
Increase completeness of data tracking	

Other northern Colorado communities with mandatory collection requirements include Evans, Fort Collins, Frederick, Loveland & Northglenn.

Specific implementation requirements will vary depending on other collection policies adopted by the city:

- In the status quo scenario (i.e., open competitive market with multiple haulers) residents would be required to subscribe with a service provider of their choice – this approach can be more challenging for the city to track & enforce as it relies on private haulers to implement
- Under a PAYT program (still open market) the only difference from the status quo would be that residents would also need to select a service level (cart sizes)
- In a single-hauler system residents would have service costs added to their utility bill & would be provided service by the city's contractor
 - Residents could be allowed to opt out of city service but would be required to subscribe to another licensed hauler (self-hauling would be prohibited without a waiver)
 - Residents who opt out would still be assessed a fee that could be set at the lowest service level cost (see Table 5-9 on the next page)
 - Experience has shown that this policy typically yields very few residents who opt out as they would have multiple service fees

Cost Considerations – Table 5-9 provides a comparison of PAYT and single hauler collection cost estimates (which were based on the 85% participation level that could be expected in a voluntary system) to estimated costs for the same programs if all eligible residents have curbside service. As shown, when all residents participate, costs about 10% less than with the lower subscription level.

Table 5-9: Cost Comparison Based on Residential Participation Levels (\$/household-month)

	<i>PAYT Collection</i>	<i>Single-Hauler Collection</i>
<i>85% Participation (voluntary system)</i>		
96-gallon trash + bundled recycling	\$40.10	\$35.70
64-gallon trash + bundled recycling	\$26.70	\$23.80
32-gallon trash + bundled recycling	\$13.40	\$11.90
<i>100% Participation (mandatory system)</i>		
96-gallon trash + bundled recycling	\$36.70	\$32.20
64-gallon trash + bundled recycling	\$24.50	\$21.50
32-gallon trash + bundled recycling	\$12.20	\$10.70
<i>Current Hauler Pricing</i>		
96-gallon trash + add-on recycling	\$40-\$48	
64-gallon trash + add-on recycling	\$25-\$43	
32-gallon trash + add-on recycling	\$15-\$23 trash only	

6.0 CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

General Conclusion:

The options evaluated in this study are consistent with the issues residents feel should be addressed and the solutions they prioritized in the public survey.

New Recycling Drop Site:

- Greeley's residents are strongly in favor of a new drop site for recyclables collection with no fees
- Drop site benefits will be less than the PAYT or single-hauler option - landfill diversion & GHG benefits would be modest (although increased convenience to residents would be significant)
- Capital & operating cost investments in a new drop site are modest but could be subsidized with EPR program if the facility is not developed until 2026
- A recycling drop site would be relatively flexible in terms of adding materials, users & future operational partnerships – it could also be implemented as part of a single-hauler contract

PAYT Programming:

- PAYT can be implemented within the city's existing open, competitive marketplace – the large national haulers¹⁶ are accustomed to PAYT programming in other communities
- PAYT is well-supported by Greeley's residents
- PAYT would add new service to residents who don't already recycle – if not implemented until 2026, the cost of the additional service would likely be subsidized
- PAYT program's landfill diversion & GHG benefits would be greater than a new drop site but less than a single-hauler system
- Program is not an extensive or expensive undertaking for the city

Single-Hauler Collection System:

- This system would change the status quo hauler marketplace – single-hauler collection is becoming common in Colorado & the national haulers are used to competing for these contracts
- Greeley's residents indicated better than moderate support for contract collection
- Contract collection would add new service to residents who don't already recycle – if not implemented until 2026, the cost of the additional service would likely be subsidized
- Trash collection in this system would be less expensive than in the open market scenario such that overall residential costs would decrease
- Single hauler landfill diversion & GHG benefits would be the highest achievable of the options evaluated in this study – additional benefits include street impacts that are less than 30% of current levels
- This option will provide city control over residential waste management & data related to residential waste generation & diversion
- Contract collection would require a city procurement process & on-going administration – the city would need to conduct residential billing
- City would be able to add administrative fee to cover costs of programming & related activities

Hauler Reporting Requirements:

¹⁶ Republic Services, Waste Connections & Waste Management.

- Modifying existing code to add this requirement would be both the easiest change for the city to implement & arguable the most important – it is also the most time-critical
- This change is one of the primary obstacles between the city and its ability to obtain external funding from EPR, RREO & FRWD
- The national haulers are used to complying with these requirements in myriad Colorado communities
- Cost of implementation to city & haulers is minimal

Residential Curbside Collection Policy:

- This policy may be the least impactful of those evaluated by the study as the move from the currently voluntary system to full participation is only a few percentage points
- It would help the city control illegal dumping
- It would maximize cost savings for residential collection
- It is needed to support a contract collection system

6.2 Recommendations

The following recommendations are based on the city's service and sustainability goals, the Waste Diversion Study findings, and the LBA Associates Team's experience planning and implementing solid waste system improvements. They are listed in the recommended order of implementation.

1. *Implement hauler reporting requirements as early in 2024 as possible* – Even with a Q1 approval, it is unlikely that the city would have actionable quantity & customer data until early 2025. This data is pivotal to EPR support & grant funding for capital and/or operational funding.
2. *Identify suitable property for a new drop site facility & determine city versus contractor operation* – For public operation, the city will likely choose to delay further development until EPR or other funding can be obtained. Contractor operation will require decision making around a contract collection system. By early 2025, more complete data should be available from hauler reports to finalize equipment & staffing needs.
3. *Pursue a single-hauler contract system for residential collection* – This option is recommended over PAYT programming in the open-market system for its myriad diversion, cost, street & other benefits; a single-hauler contract is also recommended over multiple contract haulers.

Implementation of this option will require multiple key steps:

- Modify existing city code to allow city provision of residential collection through a contracted service provider
- Develop a request for proposals, review proposals & negotiate a contract
- Contractor procurement of collection vehicles & carts, route mapping
- Selection period for residents to select trash & recycling service levels
- Cart deployment

These steps are likely to take 12 to 18 months & could easily be scheduled such that system start up coincides with EPR reimbursements so residential recycling service could be subsidized from the onset.

4. *Promulgate new policy requiring all residents to have curbside service* – This should be implemented at the same time as single-hauler contract approval (without this policy, contractor costs will need to include a risk factor that will increase pricing). Early promulgation will allow residents several months to adjust. Waivers should be structured to reasonably address hardship conditions but strive to maximize participation

APPENDIX A

MATERIAL QUANTITY ESTIMATES

ESTIMATE OF RESIDENTIAL CUSTOMERS and TONNAGES

		Estimated	Notes
Population		114,100	CO State Demography Office Oct 2022, escalation based on Weld County projections (incl group quarters)
Households (incl mobile homes)		41,800	Based on 2.73 persons/household (US Census Quick Facts)
	Single-Family Units	27,000	Based on 64.5% per American Community Survey (2023) - 38% of city housing is renter-occupied
	Duplexes	5%	ACS & City of Greeley data (response to LBA's July 2032 data request)
	Duplexes, Triplexes & Quadplexes	8%	ACS & City of Greeley data (response to LBA's July 2032 data request)
	Avg Number of Homes w Carts (1-3 Units)	29,700	Based in average 6.5% for up to 3 units
	No. of Homes in HOAs	unknown	Over 150 HOAs in city but number & type of housing is unknown
MSW Waste Generation (tons/year)		139,500	Based on CDPHE estimate of 6.7 pounds/capita-day (2021 CO Diversion Data)
	Residential	69,800	Assume 50% residential (cart service)
	Commercial	69,800	Assume 50% commercial
Residential MSW Breakdown (tons/year)			
	Trash	58,700	
	Traditional Recyclables (OCC, glass, single-stream)	5,200	Based on state average (or 7.5% per CDPHE, 2021)
	Hard-to-Recycle (electronics, bulbs, etc.)	2,800	Based on state average 4% (CDPHE, 2021)
	Organics	3,100	Based on state average 4.5% for food/yard/wood only (CDPHE, 2021)

Notes:

ALL PROJECTIONS BASED ON STATE AVERAGES - INADEQUATE HARD DATA AVAILABLE TO MEASURE/PROJECT ACTUAL VALUES FOR GREELEY

ESTIMATE OF FUTURE DIVERSION QUANTITIES

City of Greeley Waste Diversion Study

	Trash WCS Results (% by weight)	ESTIMATED 2023 RESIDENTIAL QUANTITIES (tons/year)				FUTURE PROJECTIONS				
		Potential Diversion from Residential Trash	Estimated Composition of Diverted Materials		Total Potential Diversion at 100% Recovery	PROJECTED 2025 TONS (pop growth only)	PROJECTED 2030 TONS (pop + EPR)		PROJECTED 2050 TONS (pop + EPR)	
			Adjusted Composition	Estimation			Low (50% recovery)	High (70% recovery)	Low (50% recovery)	High (70% recovery)
TRADITIONAL RECYCLABLES										
Cardboard/Kraft	4.6%	2,700	23.7%	1,233	3,933	1,295	2,336	3,271	3,347	4,686
Newspaper	0.1%	59	0.5%	27	86	28	51	71	73	102
Office paper	0.1%	59	0.5%	27	86	28	51	71	73	102
Magazines	0.9%	528	4.6%	241	770	253	457	640	655	917
Aseptics	0.3%	176	1.5%	80	257	84	152	213	218	306
Mixed paper	4.0%	2,348	20.6%	1,072	3,420	1,126	2,032	2,844	2,911	4,075
Potential paper diversion (curb & doc) - percent by weight	10.0%		51.5%		12%					
Potential paper diversion (curb & doc) - tons		5,870		2,680	8,550	2,816	5,079	7,111	7,276	10,187
PET bottles	1.9%	1,500	9.8%	509	2,009	535	1,194	1,671	1,710	2,394
PET non-bottle containers	0.5%	294	2.6%	134	428	141	254	356	364	509
HDPE natural containers	0.4%	235	2.1%	107	342	113	203	284	291	407
HDPE colored containers	0.5%	294	2.6%	134	428	141	254	356	364	509
Rigids #3-#7	1.5%	881	7.7%	402	1,283	422	762	1,067	1,091	1,528
Potential plastics diversion (curb & doc) - percent by weight	4.8%		24.7%		6%					
Potential plastics diversion (curb & doc) - tons		3,202		1,287	4,489	1,352	2,667	3,733	3,820	5,348
Aluminum containers	1.2%	704	6.2%	322	1,026	338	610	853	873	1,222
Aluminum foil/trays	0.3%	176	1.5%	80	257	84	152	213	218	306
Steel containers	0.8%	470	4.1%	214	684	225	406	569	582	815
Potential metals diversion (curb & doc) - percent by weight	2.3%		11.9%		3%					
Potential metals diversion (curb & doc) - tons		1,350		616	1,967	648	1,168	1,636	1,674	2,343
Clear glass containers	1.7%	998	8.8%	456	1,454	479	863	1,209	1,237	1,732
Brown glass containers	0.4%	235	2.1%	107	342	113	203	284	291	407
Green glass containers	0.2%	117	1.0%	54	171	56	102	142	146	204
Potential glass diversion (curb & doc) - percent by weight	2.3%		11.9%		3%					
Potential glass diversion (curb & doc) - tons		1,350		616	1,967	648	1,168	1,636	1,674	2,343
Recycling Percent by Weight	19.4%		100.0%							
Recyclable Tons		11,773		5,200	16,973	5,462	10,082	14,115	14,444	20,221
Recyclables Recovery/Capure Rate				31%	100%	31%	50%	70%	50%	70%
Recyclables Diversion		17%		7.45%	24.32%	7.45%	12.16%	17.02%	12.16%	17.02%

Notes:

ALL PROJECTIONS BASED ON STATE AVERAGES - INADEQUATE HARD DATA AVAILABLE TO MEASURE/PROJECT ACTUAL VALUES FOR GREELEY

Weld County Population Projections	2020 Pop	2030 Pop	Annual Growth 2020-2030		
	331,282	423,760	1.02493		
	CO State Demography Office 10/22				
Greeley Population Projection Estimates	2020	2023	2025	2030	2050
	109,141	117,507	123,438	139,608	200,000
	CO SDO 10/22	Estimated from Weld County Growth			City pop estimate

APPENDIX B
PEER COMMUNITY WASTE PROGRAM RESULTS

PEER COMMUNITY WASTE DIVERSION PROGRAMS and POLICIES - GREELEY WASTE DIVERSION STUDY

City of Greeley Waste Diversion Study

PEER COMMUNITIES	RESIDENTIAL DEFINITION	CURBSIDE COLLECTION				DROP SITE COLLECTION			POLICIES	OTHER PROGRAMS	LANDFILL DIVER-SION RATE	NOTES
		Trash	Recycling	Yard Waste/ Organics	Pricing (\$/month)	Recycling	Yard Waste	Pricing				
BROOMFIELD (open)	All residents	Multiple private haulers	Multiple private haulers - optional - extra fee		Varies by hauler	Yes (also textiles & shoes)	Tree branch recycling (free mulch)	Free to city residents	Haulers req'd to follow Boulder County rules for licensure & reporting	Spring & fall clean up events	20% (2022, residential + com-mercial)	Currently working on single-hauler procurement for bundled PAYT T/R/O (all residents up to 7 units)
									Equal space for recycling in new construction & remodels	Waste oil/antifreeze recycling		
ERIE (open)	All residents (per Boulder County rules)	Multiple private haulers	Multiple private haulers - optional - extra fee	Private hauler - optional - extra fee	Varies by hauler	Yes	Yes	Free to city residents	Haulers req'd to follow Boulder County rules for licensure & reporting but Town does not use data	Spring/fall clean up events	24% (2021)	2022 move to single-hauler contract for T,R,O was aborted as bids were deemed too high for residents; pricing blamed in part on high number of HOAs (continues to be evaluated but no further action)
									Town code (2020) requires residential PAYT, URO & MFU/commercial organics collection but none of these enforced			
EVANS (contract)	SFUs	City contract (Waste Mgmt)	City contract for extra fee (Waste Mgmt) - optional - extra fee		T - \$14 (96 gal weekly) R - \$4.40 (bin or 96 gal EOW)				Haulers req'd to have city license (no reporting reqts)	Spring/fall clean up events	Unknown	City does residential billing for curbside collection
									Residents req'd to pay for city trash collection			
FORT COLLINS ^a (open, moving to contract)	SFUs & MFUs with cart service up to 7 units (incl HOAs)	City contract by 09/2024 (Republic) - volume based - service also includes on-call collection of bulky items	City contract by 09/2024 (Republic)	City contract (Republic) - opt out option	Combined T/R/O/bulky based o n T size - Smallest \$9.75 Small - \$17.75 Med - \$35.75 Large - \$53.75 Xlarge - \$107.75 (all fees include city admin fee up to \$1.35)	Yes (incl hard-to-recycle materials for extra fee)		Free to city residents	Residents req'd to have curbside trash	City contract also includes dumpster service for other generators	29% residential 32% residential + commercial (2021)	MFU R containers req'd to be 50% capacity of T containers
									All haulers req'd to have city license & annual reporting; residential haulers must provide PAYT/R, composting (can opt out) & containers; non-residential haulers must provide recycling			Variance process for city collection (2-year cap) - allowed for shared service & excess producers (need more than carts)
	All other generators can opt in to city collection contract								Can flow control recyclables to Larimer County Recycling Center			Hauler does residential billing for curbside collection
									Will flow control C&D to new county facility (when online)			Contract hauler must provide all new carts & ownership reverts to city at end of 5-yr term
									Cardboard disposal ban commercial food waste diversion policy C&D diversion policy			
FREDERICK (contract)	SFUs & MFUs up to 7 units	City contract (Waste Connections)	City contract (Waste Connec-tions)		13.24 (96-gal T weekly; 96 gal R EOW)				Haulers req'd to have city license (no reporting reqts)	Free Spring/Fall landfill vouchers	Unknown	Clean-up events for all residents became infeasible as town grew
										City collection of residents >65 years		City collection by pickup/loader - transfer in hauler roll-offs

PEER COMMUNITY WASTE DIVERSION PROGRAMS and POLICIES - GREELEY WASTE DIVERSION STUDY

City of Greeley Waste Diversion Study

PEER COMMUNITIES	RESIDENTIAL DEFINITION	CURBSIDE COLLECTION				DROP SITE COLLECTION			POLICIES	OTHER PROGRAMS	LANDFILL DIVERSION RATE	NOTES
		Trash	Recycling	Yard Waste/ Organics	Pricing (\$/month)	Recycling	Yard Waste	Pricing				
JOHNSTOWN (contract)	SFUs & MFUs up to 2 units	City contract (Waste Connections) - opt out option	City contract (Waste Connections) - opt out option		\$14.50 (incl admin fee of \$1.60) for 96-gal T, 96-gal R				No hauler reporting requirement	Bulky item collection for extra fee	Unknown	<5% opt out rate
LOVELAND (public)	SFUs & MFUs up to 3 units (incl group accounts/HOAs & trailer homes)	City collection - volume based	City collection	City collection - April to November only - extra fee	Combined T/R based on T size Smallest - \$3.50 Small - \$7 Medium - \$14 Large - \$21	Yes/also scrap metal, electronics & concrete (permit req'd)	Yes (permit req'd)	Free to city residents	Haulers req'd to have city license & bi-annual reporting; must provide PAYT/R & containers		56% (2022, residential)	Highest municipal rate in Colorado many years running
					Yard waste - \$9.25				Residents req'd to have curbside trash			
									Flow control recyclables/ C&D to new county facility (when online)			
Northglenn (public)	Mostly SFUs in city customer base	City collection	City collection - optional		\$16 T+R plus cost of containers	Yes (2)	Yes	Free to city residents	Residents req'd to have curbside trash	Periodic clean-up events	12% (2021, residential)	Evaluated PAYT & subscription compost in 2021 (no changes made)
WINDSOR (open)	All residents	Multiple private haulers	Multiple private haulers - extra fee		Varies by hauler	Closed in 2020				Yard waste rebate program	Unknown	Considering potential move to contract collection service for residential

Notes:

^a Fort Collins has historically been an open collection community for all generators (with PAYT/R requirements) but signed a residential collection contract in 2023 for full implementation by Sept 2024 (information provided above reflects Fort Collins' new residential contract terms and new city code other haulers)

Abbreviations/Definitions:

C&D	construction and demolition debris	PAYT/R/O	pay-as-you-throw with bundled recyclables and organics collection
EOW	every other week	R	recycling
HOA	group accounts (e.g., homeowners associations)	SFU	single-family residential units
MFU	multi-family residential units	T	trash
PAYT	pay-as-you-throw (see volume-based above)		
PAYT/R	pay-as-you-throw with bundled recyclables collection		
Contract	municipality that contracts for residential collection service with private hauler		
Open	municipality in which any private hauler may provide residential collection (some licensing and/or requirements may apply)		
Public	municipality that provides residential collections with publicly-owned equipment and staff		
Volume-based	residential trash collection/payment system in which multiple container sizes are available with tiered pricing (also known as pay-as-you-throw or PAYT)		

APPENDIX C
CITY PUBLIC SURVEY RESULTS

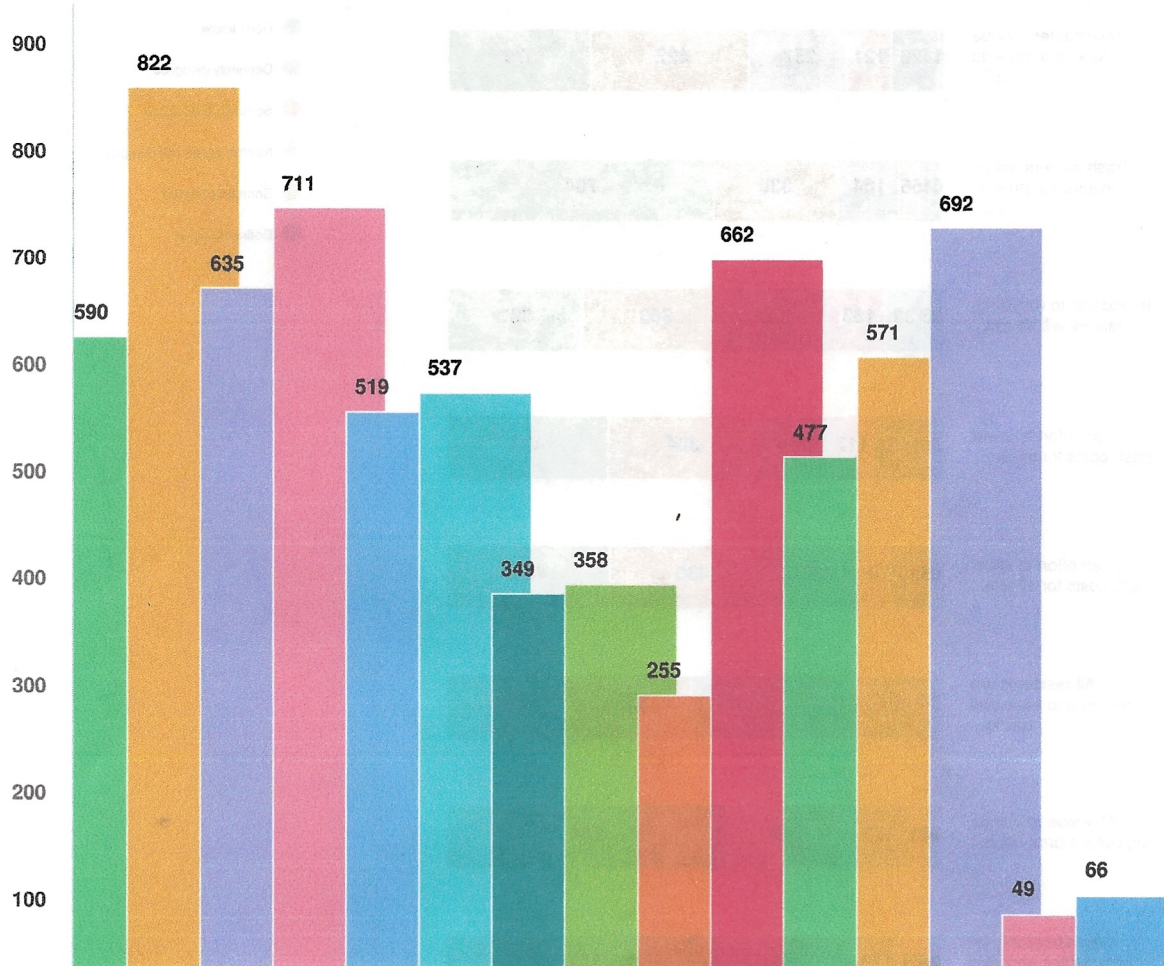
What level of support would you have for the following potential collection changes?



Mandatory Question (1319 response(s))

Question type: Likert Question

What changes in the current system would you like to see? Check all that apply.



Question options

- ☐ Other – please describe
- ☐ No changes needed because your satisfaction is already high
- ☐ Confidence that recycled material/organics are diverted from the landfill
- ☐ Better information about which/how recyclables and organics are collected
- ☐ Less fuel consumption/fewer emissions from collections
- ☐ Less trash dumped in alleys, roadways and/or in others' containers or dumpsters
- ☐ Improved collection safety
- ☐ Fewer trash trucks in your neighborhood every week
- ☐ Better customer service from haulers – e.g., fewer missed pick-ups, faster answers to questions, etc.
- ☐ Trash and recycling containers provided by haulers
- ☐ Offer consistent services city-wide (container sizes, collection days, materials collected, etc.)
- ☐ Ability to recycle yard waste and food waste
- ☐ Ability for curbside trash and recycling services to be bundled together for a single fee
- ☐ Better recycling availability for all residents including HOA homes and multi-family units
- ☐ Lower costs

Mandatory Question (1315 response(s))

Question type: Checkbox Question

APPENDIX D

COST SUMMARY RESULTS

New Drop Site Cost Estimates (2023\$)

	Low Capacity - 10% of Residents		High Capacity - 30% of Residents	
	2025	2030	2025	2030
Capital Costs				
Site development	\$385,000-\$488,000	\$385,000-\$488,000	\$442,000-\$566,000	\$442,000-\$556,000
Design, engineering, contingency	\$107,000-\$136,000	\$107,000-\$136,000	\$124,000-\$158,000	\$124,000-\$158,000
Containers & rolling stock	\$137,000-\$164,000	\$137,000-\$164,000	\$137,000-\$164,000	\$137,000-\$164,000
Total capital costs	\$629,000-\$788,000	\$629,000-\$788,000	\$703,000-\$888,000	\$703,000-\$888,000
Annualized costs (10-20 yrs)	\$57,000-\$71,000	\$57,000-\$71,000	\$63,000-\$79,000	\$63,000-\$79,000
Operating Costs (revenues)				
Labor & benefits	\$21,000-\$51,000	\$21,000-\$51,000	\$21,000-\$51,000	\$21,000-\$51,000
Utilities	\$21,000-\$28,000	\$29,000-\$42,000	\$37,000-\$45,000	\$59,000-\$86,000
Hauling costs	\$34,000-\$37,000	\$67,000-\$96,000	\$102,000-\$110,000	\$200,000-\$287,000
Material sales/tip fees	(\$24,000-\$26,000)	(\$46,000-\$65,000)	(\$73,000-\$77,000)	(\$138,000-\$195,000)
Total operating costs	\$52,000-\$90,000	\$70,000-\$123,000	\$87,000-\$129,000	\$142,000-\$229,000
Estimated annual cost (operating)	\$109,000-\$161,000	\$127,000-\$195,000	\$150,000-\$209,000	\$205,000-\$308,000

Modelling of Status Quo Collection System (2023\$)

	BASELINE T		BASELINE R		TOTAL
	Weekly T-96/64		EOW R – 96/64		
CAPITAL COST					
TRUCKS	\$	3,045,000	\$	420,000	\$ 3,465,000
NEW CARTS	\$	1,564,000	\$	344,100	\$ 1,908,100
TOTAL	\$	4,609,000	\$	764,100	\$ 5,373,100
ANNUALIZED CAPEX	\$	673,700	\$	109,500	\$ 783,200
OPERATING COST					
LABOR	\$	503,000	\$	69,400	\$ 572,400
O&M	\$	490,800	\$	67,700	\$ 558,500
TIP FEES	\$	5,467,400	\$	366,400	\$ 5,833,800
TOTAL	\$	6,461,200	\$	503,500	\$ 6,964,700
INDIRECT COST					
SANITATION ADMIN	\$	599,300	\$	87,100	\$ 686,400
CITY ADMIN	\$		\$	-	\$ -
TOTAL	\$	599,300	\$	87,100	\$ 686,400
TOTAL COST	\$	7,734,100	\$	700,200	\$ 8,434,300
AVERAGE COST/HOUSEHOLD/MONTH	\$	25.50	\$	10.50	\$ 36.00

Assumes trash subscription = 85% of eligible residents & recycling subscription + 22% of trash subscriptions

Modelling of PAYT Collection System with 85% Subscription Levels (2023\$)

	PAYT T	PAYT R	TOTAL
	<i>Weekly Trash -32/64/96 – EOW Recycling – 64/96 gal</i>		
CAPITAL COST			
TRUCKS	\$ 3,045,000	\$ 1,785,000	\$ 4,830,000
NEW CARTS	\$ 1,510,900	\$ 1,563,900	\$ 3,074,800
TOTAL	\$ 4,555,900	\$ 3,348,900	\$ 7,904,800
ANNUALIZED CAPEX	\$ 666,800	\$ 478,700	\$ 1,145,500
OPERATING COST			
LABOR	\$ 503,000	\$ 294,800	\$ 797,800
O&M	\$ 490,800	\$ 287,700	\$ 778,500
TIP FEES	\$ 4,373,900	\$ 439,700	\$ 4,813,600
TOTAL	\$ 5,367,700	\$ 1,022,300	\$ 6,390,000
INDIRECT COST			
SANITATION ADMIN	\$ 597,400	\$ 373,900	\$ 971,300
CITY ADMIN	\$ -	\$ -	\$ -
TOTAL	\$ 597,400	\$ 373,900	\$ 971,300
TOTAL COST	\$ 6,631,900	\$ 1,874,900	\$ 8,506,800
AVERAGE	\$ 21.90	\$ 6.20	\$ 28.10
VOLUME BASED COST:			
96-GAL CART/MONTH			\$ 40.10
64-GAL CART/MONTH			\$ 26.70
32-GAL CART/MONTH			\$ 13.40

Modelling of Single-Hauler Collection System with 85% Subscription Levels (2023\$)

	SINGLE	SINGLE HAULER R	TOTAL
	<i>Weekly Trash -32/64/96 – EOW Recycling – 64/96 gal</i>		
CAPITAL COST			
TRUCKS	\$ 2,415,000	\$ 1,260,000	\$ 3,675,000
NEW CARTS	\$ 1,510,900	\$ 1,563,900	\$ 3,074,800
TOTAL	\$ 3,925,900	\$ 2,823,900	\$ 6,749,800
ANNUALIZED CAPEX	\$ 569,300	\$ 397,500	\$ 966,800
OPERATING COST			
LABOR	\$ 398,900	\$ 208,100	\$ 607,000
O&M	\$ 357,900	\$ 186,700	\$ 544,600
TIP FEES	\$ 4,373,900	\$ 439,700	\$ 4,813,600
TOTAL	\$ 5,130,700	\$ 834,600	\$ 5,965,300
INDIRECT COST			
SANITATION ADMIN	\$ 272,600	\$ 154,300	\$ 426,900
CITY ADMIN	\$ 179,200	\$ 41,600	\$ 220,800
TOTAL	\$ 451,800	\$ 195,900	\$ 647,700
TOTAL COST	\$ 6,151,900	\$ 1,427,900	\$ 7,579,800
AVERAGE	\$ 20.30	\$ 4.70	\$ 25.00
VOLUME BASED COST:			
96-GAL CART/MONTH			\$ 35.70
64-GAL CART/MONTH			\$ 23.80
32-GAL CART/MONTH			\$ 11.90

Sanitation admin includes city administrative costs & hauler profit.

City admin includes cost of city billing.

Modelling of PAYT Collection System with 100% Subscription Levels (2023\$)

	PAYT T	PAYT R	TOTAL
	<i>Weekly Trash -32/64/96 – EOW Recycling – 64/96 gal</i>		
CAPITAL COST			
TRUCKS	\$ 3,570,000	\$ 2,100,000	\$ 5,670,000
NEW CARTS	\$ 1,777,500	\$ 1,839,900	\$ 3,617,400
TOTAL	\$ 5,347,500	\$ 3,939,900	\$ 9,287,400
ANNUALIZED CAPEX	\$ 782,600	\$ 563,200	\$ 1,345,800
OPERATING COST			
LABOR	\$ 589,700	\$ 346,900	\$ 936,600
O&M	\$ 575,400	\$ 338,500	\$ 913,900
TIP FEES	\$ 4,373,900	\$ 439,700	\$ 4,813,600
TOTAL	\$ 5,539,000	\$ 1,125,100	\$ 6,664,100
INDIRECT COST			
SANITATION ADMIN	\$ 700,600	\$ 439,900	\$ 1,140,500
CITY ADMIN	\$	\$ -	\$ -
TOTAL	\$ 700,600	\$ 439,900	\$ 1,140,500
TOTAL COST	\$ 7,022,200	\$ 2,128,200	\$ 9,150,400
AVERAGE	\$ 19.70	\$ 6.00	\$ 25.70
VOLUME BASED COST:			
96-GAL CART/MONTH			\$ 36.70
64-GAL CART/MONTH			\$ 24.50
32-GAL CART/MONTH			\$ 12.20

Modelling of Single-Hauler Collection System with 100% Subscription Levels (2023\$)

	SINGLE	SINGLE HAULER	TOTAL
	<i>Weekly Trash -32/64/96 – EOW Recycling – 64/96 gal</i>		
CAPITAL COST			
TRUCKS	\$ 2,835,000	\$ 1,470,000	\$ 4,305,000
NEW CARTS	\$ 1,777,500	\$ 1,839,900	\$ 3,617,400
TOTAL	\$ 4,612,500	\$ 3,309,900	\$ 7,922,400
ANNUALIZED CAPEX	\$ 668,800	\$ 465,700	\$ 1,134,500
OPERATING COST			
LABOR	\$ 468,300	\$ 242,800	\$ 711,100
O&M	\$ 420,100	\$ 217,800	\$ 637,900
TIP FEES	\$ 4,373,900	\$ 439,700	\$ 4,813,600
TOTAL	\$ 5,262,300	\$ 900,400	\$ 6,162,700
INDIRECT COST			
SANITATION ADMIN	\$ 320,100	\$ 180,300	\$ 500,400
CITY ADMIN	\$ 187,500	\$ 46,400	\$ 233,900
TOTAL	\$ 507,700	\$ 226,600	\$ 734,300
TOTAL COST	\$ 6,438,800	\$ 1,592,700	\$ 8,031,500
AVERAGE	\$ 18.10	\$ 4.50	\$ 22.60
VOLUME BASED COST:			
96-GAL CART/MONTH			\$ 32.20
64-GAL CART/MONTH			\$ 21.50
32-GAL CART/MONTH			\$ 10.70

Sanitation admin includes city administrative costs and hauler profit.

City admin includes cost of city billing.

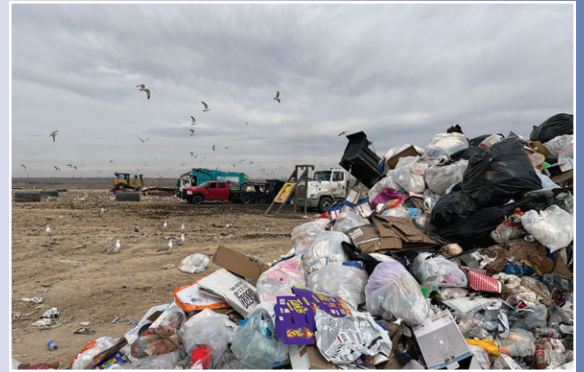
APPENDIX E

COLORADO POLICY EXAMPLES

<i>Policy</i>	<i>Government</i>	<i>Program Link</i>	<i>Code/Policy Link</i>
Single-Hauler Collection	Arvada	Trash & Recycling - Arvada	
	Fort Collins	Trash & Recycling - Fort Collins	PAYT - Fort Collins (Sections 15-412, 15-413, 15-417)
	Loveland	Trash & Recycling - Loveland	Solid Waste Collection - Loveland (Section 7.16.070)
	Arvada		Waste Collection Services - Arvada (Section 90.33)
	Lafayette	Residential Trash, Recycle, and Compost - Lafayette	Solid Waste - Lafayette (Section 100.7)
	Louisville	Curbside Trash, Recycling & Compost Service - Louisville	Residential Trash, Recycling & Compost Collection - Louisville (Sections 8.64.050 & 8.64-060)
Hauler Reporting	Broomfield	Recycling - Broomfield	Hauler Reporting Requirements - Broomfield (Section 8-04-070)
	Fort Collins	Trash & Recycling - Fort Collins	PAYT - Fort Collins (Section 15-420)
	Louisville	Curbside Trash, Recycling & Compost Service - Louisville	Residential Trash, Recycling & Compost Collection - Louisville (Section 8.64.130)
	Arvada		Waste Collection Services - Arvada (Section 90.35)
	Fort Collins		Mandatory Trash, Recyclables & Yard Trimmings Collection - Fort Collins (Section 12-32)
	Frisco		Waste Reduction & Recycling - Frisco (Section 124.28)



FINAL REPORT



Waste Characterization Study

September 14, 2023



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2023 WASTE CHARACTERIZATION STUDY

1. INTRODUCTION

The City of Greeley, Colorado (City) is a major city of the Front Range Urban Corridor and home to the University of Northern Colorado and Aims Community College. The City is the 10th largest in Colorado by population and is home to almost 36,600 households. From 2010 to 2020, the population of the Greeley metropolitan statistical area (MSA), which encompasses the entirety of Weld County, experienced a 30 percent increase, making it the fastest growing metro area in Colorado and the fourth fastest-growing metro area in the country.

At present, the City has set no policy or goals related to waste diversion activities. As such, and at the recommendation of City Council in 2022, the City applied for and received a Front Range Waste Diversion (FRWD) grant to evaluate policy options related to waste diversion. The City retained MSW Consultants to complete a waste characterization study of the waste to landfill generated by single family households. The resulting data will serve as a foundation of the City's long-term zero waste planning process and will help to better define the overall goals and objectives of the City's planned Waste Diversion Study.

The remainder of this report summarizes the methodology and presents a detailed profile of the quantity and composition of single-family residential refuse generated in Greeley.

2. RESIDENTIAL WASTE GENERATION

The goal of this sampling plan was to obtain a representative distribution of samples for City single-family residential waste.¹ In the absence of readily available City tonnage data at the commencement of field operations, MSW employed a systematic sampling approach, selecting every Nth truck that meets the necessary criteria for sampling. As a practical approach, this was adjusting to selecting every truck collecting from the City in an attempt to meet sampling targets.

Following the completion of both seasons of field data collection operations, MSW was able to secure customer and tonnage data from three of the four haulers operating within the City. In the aggregate, these three haulers serve 21,008 customers, or 57 percent of the City's 36,994 households.

The weighted average household generation rate of 1.11 tons per year from these reporting haulers was applied to the City's total households to estimate annual citywide residential tonnage of 41,058. The composition estimates from this study are therefore applied to this estimated tonnage to reflect the Citywide residential disposed waste composition. Methodology

2.1 SAMPLE TARGETS

A total of 80 samples (40 per season) were targeted for the study. This target exceeds the minimum seasonal sampling target for residential waste characterization of 30 samples. A combined total of 76 samples were collected for both seasons, although four had to be discarded as outliers. The remaining 72 samples provide an accurate estimate of the City's residential waste stream at a 90 percent level of confidence, with low margins of error for primary constituent in the stream.

¹ Although wastes generated in apartments and condominiums is also technically residential waste, multi-family properties are typically collected concurrently with commercial wastes on mixed collection routes. It was not feasible in Greeley's unregulated collection system to arrange collection and characterization multi-family residential waste.

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2.2 MATERIAL CATEGORIES

MSW Consultants collaborated with the City to develop a list of material categories that suited the City's objectives. The final material groups and material categories are shown in Table 2-1. This table also indicates the recyclability of each material based on the following recyclability class codes:

- ◆ **Class 1 – Targeted Recyclable:** Fiber and Containers targeted in curbside collection programs within the City.
- ◆ **Class 2 – Compostable Material:** Yard Waste, leaves, compostable paper, and food waste. These materials could potentially be diverted via grinding, mulching, composting or other organics management programs.
- ◆ **Class 3 – Recyclable by Third-Party:** Materials which are often available for diversion through programs like clothing donations, plastic bag take-back programs, electronics recycling, or scrap metal recovery.
- ◆ **Class 4 – Not Readily Divertible:** Materials for which there are no readily available outlets for recycling, composting, or other diversion from landfill. In some cases, these materials can be diverted from the landfill, but research into the availability of such programs is beyond the scope of this report.

The expanded list of material categories with definitions can be found in Appendix A.

Table 2-1 Material Categories and Recoverability Classes

Group	Class	Material Category	Group	Class	Material Category
Paper	1	Corrugated Cardboard/Kraft Paper	Glass	1	Clear Glass Bottles/Jars
	1	Newspaper		1	Brown Glass Bottles/Jars
	1	High Grade Office Paper		1	Green Glass Bottles/Jars
	1	Magazines and Catalogues		4	Remainder/Composite Glass
	1	Aseptic & Gable Top Cartons	Organics	2	Food Waste
	1	Mixed Recyclable Paper		2	Yard Waste
	2	Compostable Paper		4	Remainder/Composite Organics
	4	Remainder/Composite Paper	C&D	4	Wood – Treated/Painted/Stained
Plastic	1	PET (#1) Bottles/Jars		4	Wood – Untreated/Clean
	3	PET (#1) Non-bottle Containers		4	Drywall/Gypsum Board
	1	HDPE (#2) Natural Containers		4	Asphalt Paving, Brick, Concrete, and Rock
	1	HDPE (#2) Colored Containers		4	Carpet & Carpet Padding
	1	Rigid Plastic Containers #3- #7		4	Remainder/Composite C&D
	4	Expanded Polystyrene	HHW	4	Household Hazardous Waste
	3	Clean Film Bags		4	Sharps and Medical Waste
	3	Clean Commercial/Industrial Film	Other	3	All Electronics
	4	Contaminated/Other Film		3	Textiles - Clothing
	4	Durable/Bulky Rigid Plastics		4	Textiles - Non-Clothing
	4	Remainder/Composite Plastic		4	Rubber/Leather Products
Metals	1	Aluminum Containers		4	Tires
	1	Aluminum Foils and Trays		4	Disposable Diapers & Sanitary Products
	3	Other Non-Ferrous Metals		4	Supermix
	1	Steel Cans & Lids		3	Mattresses & Box Springs
	3	Other Ferrous Metals		4	Bulky Materials
	4	Oil Filters		4	Other Materials Not Elsewhere Classified

3. FIELD DATA COLLECTION

This section outlines the methods employed to conduct field operations for the study. Field operations were performed by Colorado-based Diversion Designers, with training and data management provided by MSW Consultants.

3.1 LOCATION & SAMPLING DATES

Field data collection operations were hosted at the Ault Landfill, operated by WM (located at 40000 W C R 25, Ault, CO 80610). The landfill was a natural choice for hosting sampling and sorting, as the vast majority of City residential refuse is tipped there. MSW and WM scheduled an introductory call to confirm dates, and work area requirements.

In order to achieve a better understanding of residential refuse composition throughout the year, two seasons of data collection were scheduled. The first season was performed the week of March 6th, 2023. The second season was scheduled and performed the week of May 22nd, 2023.

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3.2 STAFFING PLAN

The staffing roles for field operations were as follows:

- ◆ A **Project Manager** from MSW Consultants oversaw the project and provided training on sample selection and collection, proper sorting of collected material, and data collection. The Project Manager deployed with the team for the duration of the first season and provided support remotely during the second season.
- ◆ A **Field Supervisor** from Diversion Designers interfaced with the WM operations staff and scale house staff on sample selection and acquisition, supports material sorting and weighing efforts, provides quality assurance and control (QA/QC), and has overall on-site responsibility.
- ◆ A **Crew Chief** from Diversion Designers supervised the sorting crew, performed quality control, weigh-out and data recording, and led worksite health and safety training.
- ◆ **Sorters** recruited by Diversion Designers from their network of associates specialized in material identification, sorting, and weighing.

3.3 HEALTH & SAFETY

Each member of the sorting team reviewed the MSW Consultants' Safety and Health Plan (SAHP) which governs waste composition study safety, Personal Protective Equipment (PPE) requirements, and other safety procedures. Additionally, field operations personnel discussed PPE requirements with host facility management staff in advance of on-site arrival. The sorting team also underwent specific training for safe handling of material.

3.4 INBOUND MATERIAL SAMPLING

The Field Supervisor conducted brief interviews of drivers with potentially eligible trucks² to determine if the truck load was comprised of single-family refuse collected within the City. Once a truck was confirmed to have met those criteria, the driver was directed to drive to an isolated area of the tip face to tip. This separated area allowed the Field Supervisor to take photographs of the load and accurately direct the loader operator where to scoop for sample collection. Figure 3-1 shows a selected truck dumping in the designated collection.

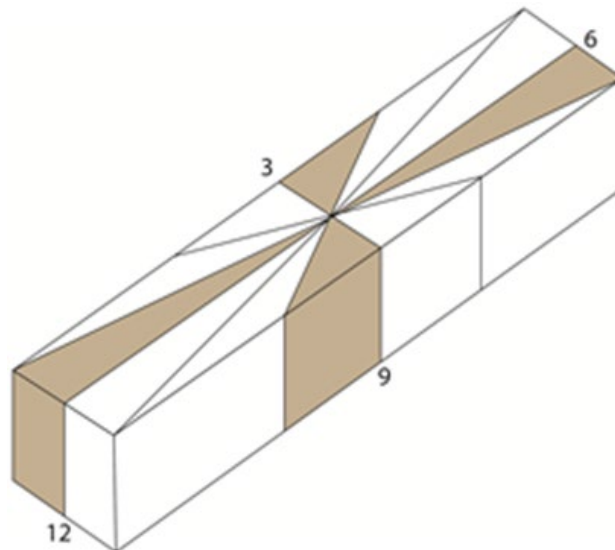
²Inbound side-loader and Curotto can front-loader compactor trucks were selected as candidates for interviews. These trucks collect predominantly carted material, which limits risk that commercially generated refuse is mixed in with the residential material. As a result, the vast majority of sampled materials originated in the single-family residential sector, although it is possible that some multi-family wastes may have been captured within the data.

Figure 3-1 Emptying Truck in Audit Zone



The loads of waste designated for sorting were tipped in the designated area at the landfill. From tipped loads, sample material was gathered based on randomized scoops from the perimeter of the load. For example, the tipped pile can be viewed from the top as a clock face with 12:00 being the part of the load closest to the front of the truck. “Slices” were chosen, with the assistance of a random number generator to avoid sampling bias. The first sample could be taken from the 3 o’clock slice, the second from 8 o’clock, then 9 o’clock, 1 o’clock and so-on. This is illustrated below in Figure 3-2.

Figure 3-2 Load Sampling Diagram



These selected slices were then scooped up with a loader, as shown in Figure 3-3, and raked from the loader bucket down into an arranged row of 32-gallon barrels. These barrels were then pre-weighed to

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confirm that a minimum sample weight of 200 lbs. was achieved. This collection of barrels was then staged along the sorting area and marked with an ID number, along with other essential information to await sorting and digital photographing.

Figure 3-3 Loader Bringing Selected Scoop to Sampling Area



3.5 MANUAL SORTING

Once each sample had been acquired, staged, and labeled, sample material was loaded onto the sort table and manually sorted into the prescribed component categories. Plastic 18- and 32-gallon containers with sealed bottoms were used to contain the separated components. Sorters were trained to specialize in certain material groups, with one handling the paper categories, another the plastics, another the glass and metals, and so on. In this way, sorters can become knowledgeable of material categories and definitions within a short period of time. Figure 3-4 provides an image of workers sorting through the remaining material from one of the samples.

Figure 3-4 Sort Table



3.6 DATA RECORDING

The weigh-out and data recording process is the most critical process of the sort. The Crew Chief oversaw all weighing and data recording of each sample. Once all sample material had been cleared from the table, the weigh-out was performed. Each bin containing sorted materials from the just-completed sample was carried over to the weigh-out station, where all bins were weighed out and weight data is entered. Sample material was then discarded.

The Crew Chief used a rugged tablet computer to record the composition weights. The tablet allows for samples to be tallied in real-time so that field data collection can immediately identify and rectify errors associated with light sample weights. All data was synchronized with the Cloud via the internet, providing excellent data security. Each sample was cross-referenced against the Field Supervisor's sample sheet (the pre-weight) to ensure accurate tracking of the samples each day. The real-time data entry offers several important advantages:

- ◆ The template contains built-in logic and error checking to prevent erroneous entries.
- ◆ The template sums sample weights in real-time so the Crew Chief can confirm achievement of weight targets for each sample.

Additionally, the system allows for the input of net weights, subtracting barrel weights during the weigh-out process; and net weights for large or unusual items found within the sample. Figure 3-5 shows a screenshot of the system as viewed after the weigh-out process of a sample from the study.

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Figure 3-5 City of Greeley Data Management Interface

City of Greeley Residential Refuse

Enter Sample Weights
Use this form to enter header information and sample weights by material categories for new samples. You may also update existing header and weight information for previously submitted samples.

Back

Sample ID: 0524-CAUL-RES-54
Sample Notes: Enter any sample notes (separated with semi-colons) here...
Wednesday, May 24, 2023 11:20 pm

Update Sample

PRE-WEIGH (lbs): 215
SORTED (lbs): 213.7

Field ID: S12
Barrel Weights: 79 59 72 6 215

Facility: Ault Landfill
Stream: Inbound
Origin: City of Greeley
Hauler: Bunting Disposal
Truck Type: Rear Loader
Truck Number: 16
Ticket Number: 2257549
Load Weight (tons): 11.23

Category	Weight (lbs)	Percentage (%)
1 Corrugated Cardboard/Kraft Paper	5.56	3.16
2 Newspaper	2.54	0.02
3 High Grade Office Paper	2.52	0.00
4 Magazines and Catalogues	2.50	0.20
5 Aseptic & Gable Top Cartons	2.52	0.00
6 Mixed Recyclable Paper	5.60	2.60
7 Compostable Paper	5.58	9.04
8 Remainder/Composite Paper	2.48	0.54
9 PET (#1) Bottles/Jars	5.62	2.32
10 PET (#1) Non-bottle Containers	2.52	0.64
11 HDPE (#2) Natural Containers	2.56	0.24
12 HDPE (#2) Colored Containers	2.52	0.54

3.7 DATA ANALYSIS

The following statistical measures have been calculated to determine the overall composition of City residential waste. Samples were first normalized by converting the individual sample data from weight to percentage.

- ◆ **Sample Mean:** The sample mean, or average, composition is considered the “most likely” fraction for each material category in the waste stream.
- ◆ **Margin of Error:** Margin of error is a statistical concept that estimates the degree of accuracy of the sample mean. The margin of error has been calculated as a percentage of the sample mean.

Consistent with industry standards, the margin of error is calculated at a 90 percent level of confidence.

4. RESULTS

Figure 4-1 provides the composition of residential refuse by material group. Organics, especially Yard Waste and Food Waste, comprise over one third of the aggregate inbound residential refuse in the City.

Figure 4-1 Residential Refuse Composition by Material Group

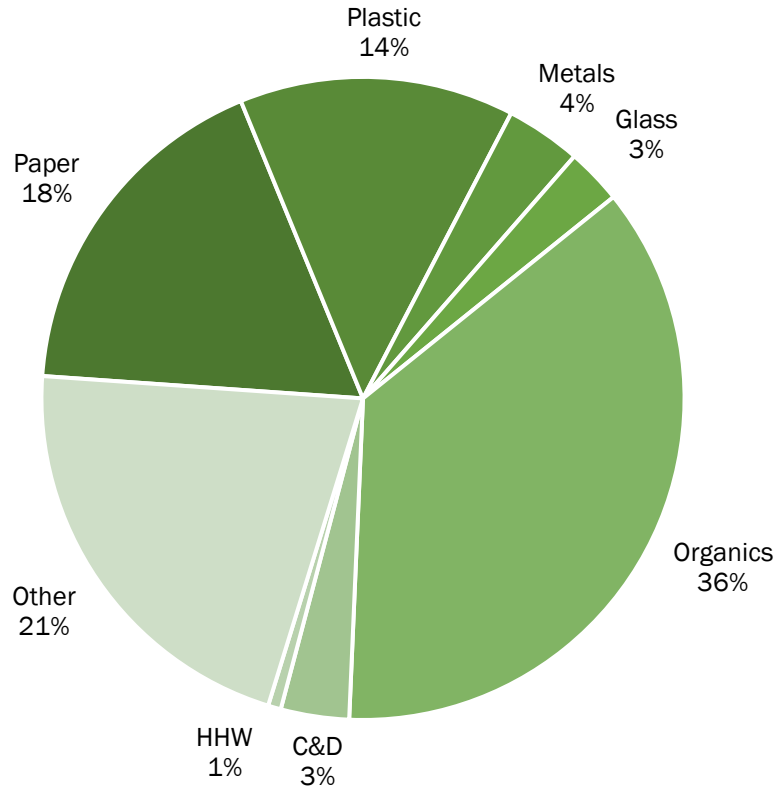


Figure 4-2 recasts the residential waste composition by recoverability class. This pie chart shows how much of the inbound City refuse material could theoretically be diverted into other programs, including nearly 20 percent of disposed refuse which could have been placed in a curbside recycling bin rather than in the trash. Implementation of a yard waste diversion program could further divert meaningful tonnage from the landfill each year. Furthermore, though not known to be common within the State of Colorado, some material categories listed as Not Readily Divertible could eventually be targeted for diversion in the in the region if processors come online and markets are developed for the recovered material. Examples include Untreated/Clean Wood and aggregates such as Asphalt, Paving, Brick, Concrete, and Rock.

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Figure 4-2 Residential Refuse Composition by Recoverability Class

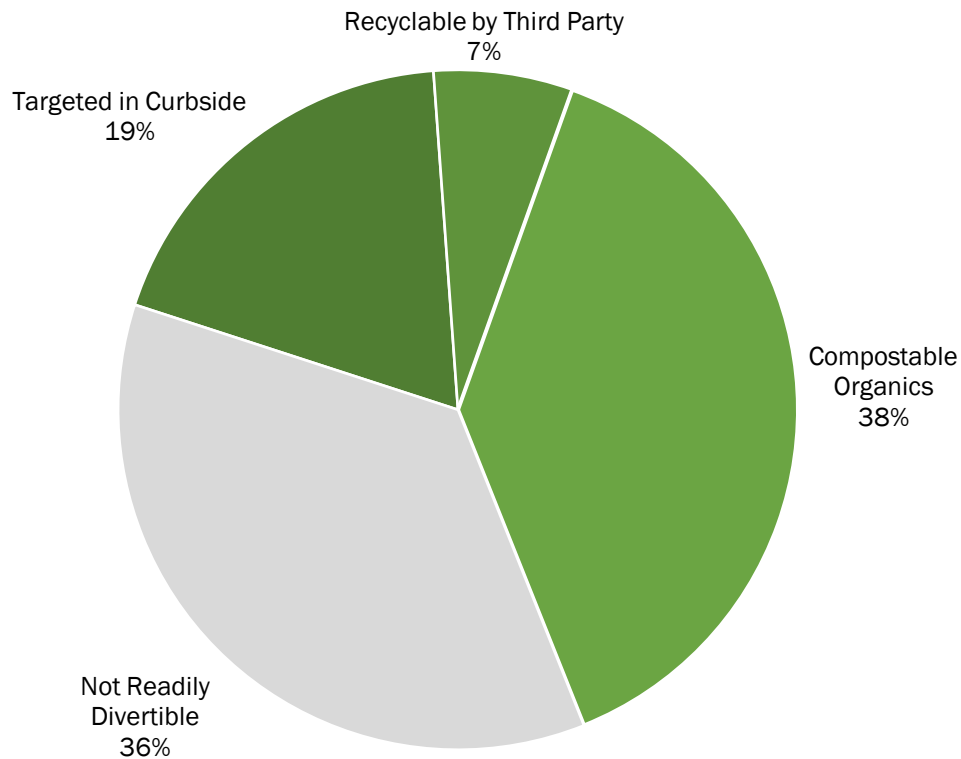


Figure 4-3 focuses on the top ten most prevalent material categories present in the City residential waste stream by weight. Notably, the top three material categories are all considered “Compostable Organics” for this study. The heaviest constituent in residential loads, Food Waste, tracks neatly with what is expected in residential loads, and appears as a similar percentage of the waste stream in cities with similar programs throughout the nation. Yard waste, while a significant percentage of the weight, is considered to fluctuate significantly throughout the year.

Figure 4-3 Top 10 Most Prevalent Materials in Residential Waste

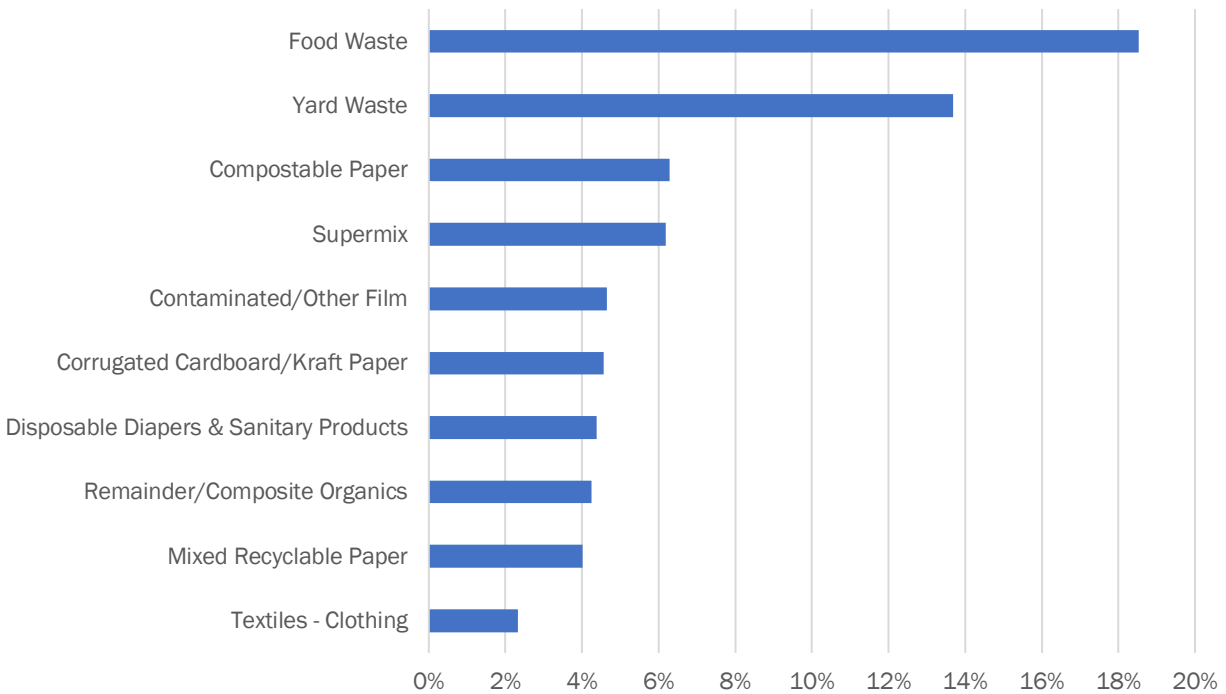


Table 4-1 shows a detailed tabular summary of residentially generated refuse collected from the City by material category. This table shows mean composition, margin of error (calculated at a 90 percent level of confidence), as well as extrapolated annual per household weights based on customer data.

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Table 4-1 Detailed Residential Refuse Composition

Material	Mean	MOE	Lbs/HH/Yr	Material	Mean	MOE	Lbs/HH/Yr
Paper	17.7%	1.3%	392.6	Glass	2.8%	0.4%	62.1
Corrugated Cardboard/Kraft Paper	4.6%	0.7%	101.4	Clear Glass Bottles/Jars	1.7%	0.3%	37.2
Newspaper	0.1%	0.1%	3.2	Brown Glass Bottles/Jars	0.4%	0.1%	8.5
High Grade Office Paper	0.1%	0.1%	2.9	Green Glass Bottles/Jars	0.2%	0.1%	3.4
Magazines and Catalogues	0.9%	0.2%	19.5	Remainder/Composite Glass	0.6%	0.2%	12.9
Aseptic & Gable Top Cartons	0.3%	0.1%	6.3	Organics	36.5%	2.9%	809.4
Mixed Recyclable Paper	4.0%	0.6%	89.1	Food Waste	18.5%	2.1%	411.4
Compostable Paper	6.3%	0.5%	139.5	Yard Waste	13.7%	3.3%	303.7
Remainder/Composite Paper	1.4%	0.3%	30.8	Remainder/Composite Organics	4.2%	0.8%	94.3
Plastic	13.8%	0.9%	307.0	C&D	3.4%	0.9%	76.2
PET (#1) Bottles/Jars	1.9%	0.2%	42.8	Wood - Treated/Painted/Stained	0.7%	0.2%	15.0
PET (#1) Non-bottle Containers	0.5%	0.1%	10.7	Wood - Untreated/Clean	0.4%	0.2%	8.0
HDPE (#2) Natural Containers	0.4%	0.1%	9.6	Drywall/Gypsum Board	0.5%	0.5%	11.1
HDPE (#2) Colored Containers	0.5%	0.1%	11.4	Asphalt Paving, Brick, Concrete, and Rock	0.3%	0.4%	7.5
Rigid Plastic Containers #3- #7	1.5%	0.1%	32.4	Carpet & Carpet Padding	0.3%	0.2%	7.0
Expanded Polystyrene	0.9%	0.1%	20.1	Remainder/Composite C&D	1.2%	0.6%	27.6
Clean Film Bags	0.5%	0.1%	10.2	HHW	0.6%	0.3%	14.4
Clean Commercial/Industrial Film	0.2%	0.1%	3.7	Household Hazardous Waste	0.3%	0.1%	7.3
Contaminated/Other Film	4.6%	0.4%	103.1	Sharps and Medical Waste	0.3%	0.3%	7.1
Durable/Bulky Rigid Plastics	1.2%	0.4%	26.1	Other	21.3%	1.6%	473.8
Remainder/Composite Plastic	1.7%	0.2%	36.9	All Electronics	2.0%	0.9%	45.3
Metals	3.8%	0.4%	84.3	Textiles - Clothing	2.3%	0.5%	51.6
Aluminum Containers	1.2%	0.2%	25.6	Textiles - Non Clothing	1.8%	0.4%	38.9
Aluminum Foils and Trays	0.3%	0.1%	7.2	Rubber/Leather Products	1.1%	0.3%	25.0
Other Non-Ferrous Metals	0.5%	0.2%	10.3	Tires	0.1%	0.1%	1.7
Steel Cans & Lids	0.8%	0.1%	17.9	Disposable Diapers & Sanitary Products	4.4%	0.7%	97.2
Other Ferrous Metals	1.0%	0.4%	22.5	Supermix	6.2%	0.7%	137.2
Oil Filters	0.0%	0.0%	0.8	Mattresses & Box Springs	0.1%	0.1%	1.5
				Bulky Materials	1.8%	1.0%	39.9
				Other Materials Not Elsewhere Classified	1.6%	0.7%	35.7
				Total	100.0%		2,219.7
				Samples Sorted	73		

Table 4-2 compares the composition of disposed refuse between seasons. Because Season 1 took place during the late winter, very little yard waste was found within collected samples. This greatly changed during the later spring season when yard waste was abundant. This large bump to one category also tends to reduce the incidence of other material category averages.

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Table 4-2 Comparison of Residential Refuse Composition by Season

Material	Winter Mean	Summer Mean	Material	Winter Mean	Summer Mean
Paper	21.7%	14.2%	Glass	2.9%	2.7%
Corrugated Cardboard/Kraft Paper	6.0%	3.3%	Clear Glass Bottles/Jars	1.6%	1.7%
Newspaper	0.2%	0.1%	Brown Glass Bottles/Jars	0.6%	0.2%
High Grade Office Paper	0.3%	0.0%	Green Glass Bottles/Jars	0.2%	0.1%
Magazines and Catalogues	0.9%	0.8%	Remainder/Composite Glass	0.6%	0.6%
Aseptic & Gable Top Cartons	0.4%	0.2%	Organics	27.0%	44.7%
Mixed Recyclable Paper	5.4%	2.8%	Food Waste	18.9%	18.2%
Compostable Paper	7.0%	5.7%	Yard Waste	3.5%	22.5%
Remainder/Composite Paper	1.4%	1.3%	Remainder/Composite Organics	4.5%	4.0%
Plastic	15.3%	12.5%	C&D	2.7%	4.1%
PET (#1) Bottles/Jars	2.4%	1.5%	Wood - Treated/Painted/Stained	0.9%	0.5%
PET (#1) Non-bottle Containers	0.6%	0.4%	Wood - Untreated/Clean	0.3%	0.4%
HDPE (#2) Natural Containers	0.5%	0.3%	Drywall/Gypsum Board	0.7%	0.3%
HDPE (#2) Colored Containers	0.6%	0.5%	Asphalt Paving, Brick, Concrete, and Rock	0.1%	0.5%
Rigid Plastic Containers #3-#7	1.9%	1.0%	Carpet & Carpet Padding	0.0%	0.6%
Expanded Polystyrene	1.0%	0.8%	Remainder/Composite C&D	0.6%	1.8%
Clean Film Bags	0.4%	0.5%	HHW	0.8%	0.5%
Clean Commercial/Industrial Film	0.2%	0.1%	Household Hazardous Waste	0.2%	0.4%
Contaminated/Other Film	5.1%	4.3%	Sharps and Medical Waste	0.6%	0.1%
Durable/Bulky Rigid Plastics	0.8%	1.4%	Other	25.0%	18.1%
Remainder/Composite Plastic	1.8%	1.6%	All Electronics	2.0%	2.0%
Metals	4.5%	3.1%	Textiles - Clothing	2.7%	2.0%
Aluminum Containers	1.5%	0.9%	Textiles - Non Clothing	1.6%	1.9%
Aluminum Foils and Trays	0.4%	0.3%	Rubber/Leather Products	0.7%	1.5%
Other Non-Ferrous Metals	0.7%	0.2%	Tires	0.1%	0.1%
Steel Cans & Lids	1.0%	0.6%	Disposable Diapers & Sanitary Products	4.9%	3.9%
Other Ferrous Metals	0.9%	1.1%	Supermix	7.8%	4.8%
Oil Filters	0.1%	0.0%	Mattresses & Box Springs	0.0%	0.1%
			Bulky Materials	2.4%	1.3%
			Other Materials Not Elsewhere Classified	2.9%	0.4%
			Total	100.0%	100.0%
			Samples Sorted	34	39

5. CONCLUSIONS & RECOMMENDATIONS

This inaugural residential waste characterization study captured a statistically representative snapshot of the City's residential waste stream generation and composition. The data contained herein are foundational to waste diversion planning activities to be undertaken by the City and highlight opportunities for reducing waste to landfill from the residential sector.

MSW Consultants offers the following recommendations for the City's consideration as it continues its path to optimized waste diversion:

- ◆ **Establish Better Hauler Reporting:** Haulers in the City do not currently report their residential waste tonnage on a consistent basis. On the strength of better managing what is measured, the City should establish formalized and regular reporting of residential and commercial refuse and recycling generation to complement audits like this one. Doing so gives the City greater ability to gauge progress on diversion targets and other key metrics for program development.

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- ◆ **Characterize the Commercial Waste Stream:** Residentially generated waste typically contributes only half of the overall generation in a given city or region. Commercially generated waste is a major source of waste to landfills, and the City may wish to consider expanding its waste composition studies in the future to incorporate the commercial waste stream.
- ◆ **Consider Options for the Diversion of Seasonal Yard Waste:** During the summer season of the study, more than one-fifth of residential waste was found to be yard waste, especially grass clippings. Diversion of such material could provide a notable reduction in inbound tonnages, at least during months of high anticipated generation in the spring and fall. Seasonal curbside collection options for leaves and grass clippings are popular solutions for other communities in the US and are likely the best solution for maximizing diversion of yard wastes. Expansion and promotion of green waste drop off centers as well as the promotion of “grasscycling” (the practice of simply leaving trimmings on the lawn to act as a natural fertilizer), can also be expected to reduce landfilled yard waste.
- ◆ **Characterize Residential Recyclables to Estimate Recycling Capture Rates:** Landfilled waste composition provides some insight into the recyclable paper, containers, and other recyclable constituents that are being disposed, and in that sense are informative to the success of local recycling programs. However, a far more informative assessment of recycling performance can be made if the residential recycling stream is quantified and if accurate composition data are also obtained. Armed with a full characterization of disposed waste and diverted recyclables, the City can calculate its recycling capture rates for individually targeted commodities. A capture rate identifies the percentage of a targeted recyclable material that is properly collected through appropriate recycling programs (and hence “captured” in the recycling program)
- ◆ **Update this Study:** History has shown that the waste stream is constantly changing due to macroeconomic factors, regulatory changes, and consumer behavior changes. Waste composition studies become obsolete in three to five years, and it is therefore recommended that the City update this study on an intermittent basis as a means of tracking its diversion performance and maintaining an accurate understanding of its disposed residential waste stream.
- ◆ **Consider Regulatory Changes for Collection:** As a consequence of the City’s unregulated collection system, the City is currently impaired in its efforts to meaningfully influence diversion. If the City is to achieve its highest diversion rate possible, the City might wish to consider migrating to a system of exclusive service districts. Exclusive service districts, when managed via franchise(s) or even direct service contract(s), will provide the City greater control over services offered, collection requirements, resident education, diversion performance, and reporting.

APPENDIX A

Material Categories & Definitions

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APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

Material Group	Material Category	Material Category Definition
Paper	Corrugated Cardboard/Kraft Paper	Corrugated boxes or paper bags made from Kraft paper. Wavy center layer sandwiched between two outer layers without wax coating on the inside or outside. Examples include cardboard shipping containers and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. Does not include chipboard. Examples of Kraft paper include paper grocery bags, un-soiled fast-food bags, department store bags, and heavyweight sheets of Kraft packing paper. Relatively unsoiled pizza boxes acceptable.
	Newspaper	Paper used in newspapers and all items made from newsprint. Examples include newspapers and glossy inserts found in newspapers, and items such as free advertising guides, election guides, plain news packing paper, stapled college class schedules, and tax instruction booklets.
	High Grade Office Paper	Paper that is free of ground wood fibers; usually sulfite or sulphate paper; includes office printing and writing papers such as white ledger, color ledger, envelopes, and computer printout paper, bond, rag, or stationary grade paper. This subtype does not include fluorescent-dyed paper or deep-tone dyed paper such as goldenrod colored paper.
	Magazines and Catalogues	Multi-page bound paper items (glued or stapled) made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, and pamphlets. Does not include newspaper inserts.
	Aseptic & Gable Top Cartons	Aseptic containers (multi-layered packaging that contains shelf-stable food products such as apple juice, soup, soy/rice milk, etc.) and "gable top" cartons (non-refrigerated items such as granola and crackers; refrigerated items such as milk, juice, egg substitutes, etc.). Rigid food and beverage cartons are usually paper based, maybe any shape, and may include a plastic pour spout as part of the carton.
	Mixed Recyclable Paper	Recyclable paper other than the paper types mentioned above. Examples include junk mail, manila folders, manila envelopes, index cards, white envelopes, white window envelopes, notebook paper, carbonless forms, groundwood paper, softcover books, and deep-toned or fluorescent dyed paper.
	Compostable Paper	Low-grade, biodegradable paper that cannot be recycled, as well as food contaminated paper. Examples include paper towels, napkins, paper plates, waxed papers and waxed cardboard, tissues, and unlined paper cups.
	Remainder/Composite Paper	Paper products made mostly of paper but combined with large amounts of other materials such as plastic, metal, glues, foil, and moisture. Examples include corrugated cardboard coated with plastic, cellulose insulation, blueprints, sepia, onion skin, foiled lined fast-food wrappers, frozen juice containers, carbon paper, self-adhesive notes, hardcover books, and photographs.
Plastic	PET (#1) Bottles/Jars	Clear or colored PET bottles or jars. The plastic resin number "1" is visible in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET". A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent.

APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

PET (#1) Non-bottle Containers	Non-bottle containers such as rectangular PET clamshell or tray containers used for produce; etc. The plastic resin number “1” is visible in the center of the triangular recycling symbol and may also bear the letters “PETE” or “PET”. The color is usually transparent, green, or clear. This category only includes PET non-bottle containers that did not previously contain hazardous materials.
HDPE (#2) Natural Containers	Natural colored HDPE bottles. This plastic is usually either cloudy white, allowing light to pass through it (natural). When marked for identification, it bears the number “2” in the triangular recycling symbol and may also bear the letters “HDPE. Also includes natural buckets, pails or paint cans made of HDPE and designed to hold 5 gallons or less of material. This category only includes colored HDPE containers that did not previously contain hazardous materials.
HDPE (#2) Colored Containers	Colored HDPE bottles. In contrast with natural HDPE, the colored HDPE is usually a solid color and opaque. When marked for identification, it bears the number “2” in the triangular recycling symbol and may also bear the letters “HDPE. Also includes colored buckets, pails or paint cans made of HDPE and designed to hold 5 gallons or less of material. This category only includes colored HDPE containers that did not previously contain hazardous materials.
Rigid Plastic Containers #3, #4, #5, #6, #7	Bottles, jars, containers, lids, and other packaging that are made of types of plastic other than PET (1) or HDPE (2). Items may be made of vinyl, LDPE, PVC, PP, PS, or other plastic. They may bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol, or may bear no recycling symbol. Examples include clamshells, trays, tray lids, cups, bowls, plates, hardware and fastener packaging, detergent and cleaning products bottles, squeezable bottles, frozen food containers, microwave food trays, vitamin bottles, cookie trays found in cookie packages, small (less than 1 gallon) brittle (single-use) plant containers such as nursery pots and plant six-packs.
Expanded Polystyrene	Food and Non-food packaging. Includes clamshell "Styrofoam" food containers, as well as cups, plates, and bowls. Includes finished products made of expanded polystyrene such as block Styrofoam padding and packing peanuts.
Clean Film Bags	Plastic retail bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. Retail Film Bags sorted into this category will largely be clean: free of excessive debris or moisture.
Clean Commercial/Industrial Film	Film plastic used to wrap merchandise to transport to the consumer. Includes dry-cleaning plastic bags, newspaper sleeves intended for one-time use, and non-bag commercial and industrial packaging film used for large-scale packaging or transport packaging. Examples include shrink-wrap, mattress bags, furniture wrap, and film bubble wrap. Commercial/Consumer Film products sorted into this category will largely be clean: free of excessive debris or moisture.
Contaminated/Other Film	Plastic film or bags that are non-recyclable. Examples include garbage bags, and other types of plastic bags (sandwich bags, zip (recloseable) bags, produce bags, frozen vegetable bags), juice pouches, painting tarps, food wrappers such as candy-bar wrappers.

APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

	Durable/Bulky Rigid Plastics	Plastic items other than containers or film plastic, are made to last for more than one use. These items may bear the numbers 1 through 7 in the triangular recycling symbol. Examples include crates, buckets (including 5-gallon buckets), baskets, totes, large plastic garbage cans, large tubs, large storage tubs/bins (usually with lids), flexible (non-brittle) and durable flower pots of 1 gallon size or larger, lawn furniture, large plastic toys, tool boxes, first aid boxes, and some sporting goods, CDs and their cases, plastic housewares such as durable (not single-use) dishes, cups, and cutlery.
	Remainder/Composite Plastic	Plastic that cannot be put in any other type or subtype. Includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, produce trays, foam packing blocks (not including expanded polystyrene blocks), plastic strapping, handles and knobs, plastic cup lids, some kitchenware, plastic toys, plastic string (as used for hay bales), and plastic rigid bubble/foil packaging (as for medications).
Metals	Aluminum Containers	Aluminum containers for food or beverage. Also includes aluminum cat food containers.
	Aluminum Foils and Trays	Non-container aluminum products such as aluminum foil or aluminum food trays. Does not include items significantly contaminated with food or other material.
	Other Non-Ferrous Metals	Any metal item, other than aluminum cans, foils or trays, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals. Examples include copper wire, shell casings, and brass pipe. Also includes composite material that is mostly non-ferrous metal by weight.
	Steel Cans & Lids	Steel or tin food or other containers. Includes aerosol containers. If significant food or other product remains in the container (greater than the weight of the container), it shall instead be sorted in that product material category.
	Other Ferrous Metals	Any iron or steel that is magnetic or any stainless-steel item. This type does not include tin/steel cans. Examples include structural steel beams, metal clothes hangers, metal pipes, stainless steel cookware, security bars, and scrap ferrous items. Also includes composite material that is mostly ferrous metal by weight.
	Oil Filters	Oil filters and products designed to remove contaminants from engine oil.
Glass	Clear Glass Bottles/Jars	Includes all glass bottles and jars, made using clear glass. Examples include beer and soft drink bottles, and jars for food or other materials. If significant food or other product remains in the container (greater than the weight of the container), it shall instead be sorted in that product material category.
	Brown Glass Bottles/Jars	Includes all glass bottles and jars, made using brown glass. Examples include beer and soft drink bottles, and jars for food or other materials. If significant food or other product remains in the container (greater than the weight of the container), it shall instead be sorted in that product material category.
	Green Glass Bottles/Jars	Includes all glass bottles and jars, made using green glass. Examples include beer and soft drink bottles, and jars for food or other materials. If significant food or other product remains in the container (greater than the weight of the container), it shall instead be sorted in that product material category.
	Remainder/Composite Glass	Glass products or components of any color that could not be considered a bottle or jar. Drinking glasses, vases, candle jars, window glass, etc. are some of the many items found within this category. As with the other glass

APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

		categories, if significant non-glass materials are attached, then it shall be sorted to that material category instead.
Organics	Food Waste	Food wastes and scraps, including meat, bone, dairy, grains, rinds, teabags, coffee grounds with filters, etc. Excludes the weight of food containers, except when container weight is not appreciable compared to the food inside. Compostable peanuts, food packaging with food scraps, and small wooden produce crates are also included in this category.
	Yard Waste	Plant material, including woody material, from any public or private landscapes. Examples include leaves, grass clippings, plants, brush and branch prunings and trimmings.
	Remainder/Composite Organics	Organic material that is not food or yard waste. Includes cork, popsicle sticks, hair, animal waste, cigarette butts, chopsticks, woven baskets, and small non-construction related wood products.
C&D	Wood – Treated/Painted/Stained	Wood that contains an adhesive, paint, stain, fire retardant, pesticide, or preservative. Does not include wood furniture.
	Wood – Untreated/Clean	Any wood which does not contain an adhesive, paint, stain, fire retardant, pesticide, or preservative includes such items as bulky wood waste or scraps from newly built wood products. Does not include land clearing debris or yard waste prunings and trimmings. The presences of nails or screws are acceptable.
	Drywall/Gypsum Board	Interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples include used or unused, broken, or whole sheets of sheetrock, drywall, gypsum board, plasterboard, gypsum board, gyproc, and wallboard.
	Asphalt Paving, Brick, Concrete, and Rock	Includes asphalt paving materials, set or unset, and all types of fire-clay bricks. Includes Portland cement mixtures (set or unset), with or without aggregate materials (gravel, etc.). Includes rock gravel larger than 2" in diameter.
	Carpet & Carpet Padding	Flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. Carpet padding may include plastic, foam, felt, or other material used under the carpet to provide insulation and padding.
	Remainder/Composite Construction & Demolition	Construction and demolition material that cannot be put in any other type or subtype. This type may include items from different types combined, which would be very hard to separate. Also includes fiberglass insulation, ceramic fixtures, and other miscellaneous C&D Materials not mentioned above.
HHW	Household Hazardous Waste	Hazardous household items containing paints, thinners, solvents, vehicle equipment fluids, cleaners, pesticides/herbicides and fertilizers. Includes fluorescent bulbs and CFLs, light ballasts, and mercury-containing devices.
	Sharps and Medical Waste	All forms of medical waste including "sharps" defined as any device or object intended to puncture or lacerate the skin in a medical capacity.
Other	All Electronics	Includes all electronic items with a circuit board, including CRTs or other video displays, plasma, and LCD monitors. cell phones, personal computers, laptop computers, notebook computers, processors, keyboards, etc. Includes stereos, VCRs, DVD players, etc. This category does not include automated typewriters or typesetters.
	Textiles - Clothing	Includes clothing items. This category includes footwear that is mostly cloth or leather. Does not include carpeting.
	Textiles - Non-Clothing	Non-Clothing textile products such as curtains, blankets, stuffed animals, and other cloth material. Does not include carpeting.

APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

	Rubber/Leather Products	Finished products and scrap materials made of natural and synthetic rubber, such as bathmats, inner tubes (not tires), rubber hoses, and foam rubber. Includes rubber gloves and footwear (if predominantly rubber). This category does not include vehicle tires.
	Tires	Rubber tires for automobiles and other vehicles. Includes rubber recreational vehicles, motorcycles, bicycles and more.
	Disposable Diapers & Sanitary Products	Adult and baby disposable diapers, and feminine hygiene products.
	Supermix	Small mixed fragments 2" and smaller, and includes miscellaneous fines (paper, plastic, glass, organics, etc.), sand, and dirt.
	Mattresses & Box Springs	Mattresses of all construction types including all-foam constructions (PE and Latex), bonnel and pocket-coil spring mattresses. Includes all varieties of box springs as well.
	Bulky Materials	Large, hard-to-handle items that are not defined separately. Examples include all sizes and types of furniture, mattresses, box springs, and base components.
	Other Materials Not Elsewhere Classified	Any other type of waste material not listed in any other sort category. Includes cosmetics, shampoos, lotions, etc.

APPENDIX A – MATERIAL CATEGORIES & DEFINITIONS

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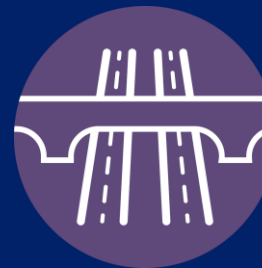
Waste Diversion

Study Update and Next Steps Discussion

Paul Trombino, Public Works Director

Will Jones, Deputy Public Works Director

City Council Work Session - May 14, 2024



Agenda



- Waste Diversion/ Recycling Background
- Project Overview
- Waste Diversion Study Key Takeaways
- Purpose: Options for Consideration & Discussion for Staff to Potentially Investigate Further/ Implement

Waste Diversion/ Recycling Background



- 2008 – 2014: Recycling Center Operational
- Council Work Sessions
 - 2015 - Three Potential Options for Recycling Presented: HOA Pilot Requested
 - 2017 - Update on Pilot Program, Reviewed Trash and Recycling Survey Data
 - 2021 - Update on Recycling Options in Greeley, Glass Recycling Partnership & Updated Website
 - 2022 - Direction Given by Council to Complete Waste Diversion Study
- 2022: House Bill 22-1355 - [Extended Producer Responsibility Rulemaking \(EPR\)](#)

Funding Opportunities & Recent Legislation



Funding for FRWD grants is provided through user fees collected on each ton of waste sent to landfills in the Front Range region.

Project types:

- Implementing or expanding community curbside/drop site recycling or composting programs
- Local policy development to reduce generation or increase diversion of waste
- Commercial or institutional waste diversion programs
- Implementing or creating a new end market for recyclable materials.



COLORADO
Department of Public
Health & Environment

June 3rd, 2022 - Producer Responsibility Program for Statewide Recycling Act, House Bill 22-1355 was signed into law.

- Requires companies that sell products in packaging, paper products to fund a statewide recycling system to recycle those materials (i.e., typical recyclables)
- Companies will form an independent non-profit organization, called a Producer Responsibility Organization, to coordinate, fund, and manage this statewide recycling system
- Expected funding availability starting in 2026

Project Overview

Waste Characterization Study

- Two Season Sort Completed at Ault Landfill
Sorted Through ~2,220 lbs. residential waste
- 64% of Trash Could Have Been Recycled
 - 19% in Curbside Recycling
 - 38% Compostable Organics
 - 7% Other Materials

Waste Diversion Study

- Comprehensive List of Options for City Council to Consider Regarding Waste Diversion in Greeley Using:
- Industry Best Practices
 - EPR Potential Funding Impacts*
 - Resident Feedback
 - Community Data and Analytics Specific to Greeley

* EPR program details on project eligibility & reporting requirements available in late 2025

Waste Diversion Study – Key Takeaways

Community Data



- ~4,500 homes / 15% of residents do not have trash service
~\$22k in cost to pick-up dumped trash from alleys and roadways in 2023



- ~< 25% of residents who have trash service also pay for curbside recycling
- Only ~8% of waste is recycled in Greeley*
~5,200 tons/ 10.4 million pounds of trash in 2023 was taken to landfill that could be recycled through curbside program. Will grow to ~50,000 tons in 2050.



Waste Diversion Study – Key Takeaways

Resident Survey Data

Survey Overview

- 1373 Completed Surveys with 4% of Respondents Happy with Current Approach to Trash

Key Improvement Areas Desired

- Haulers must provide volume-based trash service
- Haulers must provide recycling bundled with trash for one price
- Local recycling drop-off facility

General Consensus (>50% Definitely or Somewhat Agree)

- Lower costs
- Less trash dumped in alleys, roads and other's containers
- More confidence that recyclables are diverted
- City contracts with one hauler(s) for trash and recycling

On Fence

- Residents Required to Receive and Pay for Curbside Trash Service

Considerations Related to Presented Options



Socioeconomic

- Options That Help Facilitate Equity (i.e., PAYT)
- Exemption Process (i.e., shared trash with neighbor, etc.)
- Potential Rebate Program
- Potential Decrease in Service Costs for all Residents

Neighborhood, Infrastructure and Air Quality Impacts

- Additional Heavy Truck Traffic
- HOA Trash Service

Planned Next Steps

- Hauler Outreach
- Speak-up Greeley Page Update

Options for Consideration & Discussion*

1 - Consolidated Recycling Center

Financial:

~\$750k + Capital¹
~\$135-179k + Annual¹

Support:

Strongest support

Community Impact:

- Minimal impact on waste diversion
- One stop location for resident recycling

Example Communities:

Fort Collins, Loveland, Broomfield, Northglenn, Erie

2 - Pay as you Throw (PAYT)

Financial:

~\$25k Marketing

Support:

- Strong support

Community Impact:

- Payment equity
- Added cost until EPR¹
- Positive impact on waste diversion

Example Communities:

Johnstown, Fort Collins, Loveland, Arvada, Lafayette, Longmont, Louisville

3 - Contracted Hauler & PAYT

Financial:

~ 2 FTE to manage²

Community Support:

- Strong support

Community Impact:

- Lower trash service costs for those who have trash
- Positive impact on diversion rate
- Less truck traffic

Example Communities:

Evans, Fort Collins, Arvada, Golden, Lafayette, Louisville

4 - Hauler Reporting

Financial:

- No Financial Impact
- Required to obtain future EPR funding

Community Support:

- N/A

Community Impact:

- Facilitate data driven decision making

Example Communities:

Fort Collins, Loveland, Broomfield

5-Required Trash & Recycling

Financial:

~\$25k Marketing
~ .5 FTE

Community Support:

- On Fence

Community Impact:

- Largest impact on citywide diversion rate and cleanliness of city
- Require process to manage residents who share trash and/or in certain financial situations

Example Communities:

Evans, Fort Collins, Loveland, Northglenn, Frederick

Next Steps - Council Questions, Feedback and Staff Direction



Thank you





Work Session Agenda Summary

Title

Scheduling of Meetings, Other Events

Summary

During this portion of the meeting the City Manager or City Council may review the attached Council Calendar or Work Session Schedule regarding any upcoming meetings or events.

Attachments

Council Meetings and Other Events Calendar

Council Meeting and Work Session Schedule

Status Report of Council Initiatives and Related Information

May 13, 2024 - May 19, 2024

May 2024							June 2024						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3	4						1
5	6	7	8	9	10	11		2	3	4	5	6	7
12	13	14	15	16	17	18		9	10	11	12	13	14
19	20	21	22	23	24	25		16	17	18	19	20	21
26	27	28	29	30	31			23	24	25	26	27	28
								30					

Monday, May 13

Tuesday, May 14

6:00pm City Council Work Session Meeting
(R_CCS_Council Chambers Overflow Room 103; R_CCS_Council Chambers - WiFi Ready) - Council Master Calendar 

Wednesday, May 15

7:30am - 8:30am Quarterly Joint Breakfast Weld/Greeley (Doug's Diner - Greeley (801 9th St, Greeley, CO 80631)) - Council Master Calendar

7:30am - Visit Greeley (Butler) (902 7th Ave Greeley) 

11:00am - 1:00pm United Way Community Leaders Luncheon
DoubleTree by Hilton – 919 7th St – Greeley) - Council Master Calendar

2:00pm - 5:00pm Water & Sewer Board (Gates) 

3:00pm - 3:30pm Greeley Police Department Promotion of Sergeant Samuel KellerTwigg (Greeley Police Department; Donahue Room) - Council Master Calendar

Thursday, May 16

7:30am - 8:30am Downtown Development Authority (DeBoutez/Butler) (802 9th St #100, Greeley, CO 80631) 

3:30pm - 4:30pm Airport Authority (Gates/Payton) (Greeley-Weld Airport, 600 Airport Road) 

Friday, May 17

Saturday, May 18

Sunday, May 19

May 20, 2024 - May 26, 2024

May 2024							June 2024						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3	4						1
5	6	7	8	9	10	11	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28	29
							30						

Monday, May 20

Tuesday, May 21

 **6:00pm City Council Meeting** (R_CCS_Council Chambers - WiFi Ready; R_CCS_Council Chambers Overflow Room 103) - Council Master Calendar 

Wednesday, May 22

Thursday, May 23

Friday, May 24

Saturday, May 25

Sunday, May 26

May 27, 2024 - June 2, 2024

May 2024							June 2024						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3	4						1
5	6	7	8	9	10	11	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28	29
							30						

Monday, May 27

- Memorial Day Holiday- All Administrative Buildings Closed**
- 9:00am - 10:00am Memorial Day Proclamation** (Linn Grove Cemetery (1700 Cedar Ave, Greeley, CO 80631)) - Council Master Calendar
- 11:30am - 12:30pm Greeley Chamber of Commerce (Hall)**

Tuesday, May 28

- 6:00pm City Council Work Session Meeting** (R_CCS_Council Chambers - WiFi Ready; R_CCS_Council Chambers Overflow Room 103) - Council Master Calendar

Wednesday, May 29

- 7:00am - 8:00am Upstate Colorado Economic Development (Hall)** (Upstate Colorado Conference Room) - Council Master Calendar
- 5:00pm - 7:30pm Colorado Municipal League Spring District Meetings** (Urban Egg a daytime eatery (4861 Thompson Pkwy, Johnstown, CO 80534)) - Council Master Calendar

Thursday, May 30

- 12:00pm - 2:00pm Hope Springs Ribbon Cutting Event** (27th Ave and 29th Street Rd) - Council Master Calendar

Friday, May 31

Saturday, June 1

- 10:00am - 11:00am Linn Grove's 150th Anniversary Program (Gates)** (Linn Grove Cemetery (1700 Cedar Ave, Greeley, CO 80631)) - Council Master Calendar

Sunday, June 2

June 3, 2024 - June 9, 2024

June 2024							July 2024						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
						1		1	2	3	4	5	6
2	3	4	5	6	7	8	7	8	9	10	11	12	13
9	10	11	12	13	14	15	14	15	16	17	18	19	20
16	17	18	19	20	21	22	21	22	23	24	25	26	27
23	24	25	26	27	28	29	28	29	30	31			
30													

Monday, June 3

Tuesday, June 4

6:00pm City Council Meeting (R_CCS_Council Chambers Overflow Room 103; R_CCS_Council Chambers - WiFi Ready) - Council Master Calendar 

Wednesday, June 5

Thursday, June 6

7:30am - 9:00am Regional Leadership Initiative 2024 Planning (Gates, Hall) Mayor and Mayor Pro Tem only (Windsor Public Services Facility (922 15th St, Windsor, CO 80550)) - Council Master Calendar 

7:30am - Poudre River Trail (Hall) 

3:30pm - IG Adv. Board (Butler) 

6:00pm - 8:30pm North Front Range MPO Meeting (Olson/Payton) 

Friday, June 7

8:00am - 3:30pm Hold: W&S Annual bus tour for Council and W&S Board members (City Center South 1001 11th Ave., 2nd Floor) - Council Master Calendar

Saturday, June 8

Sunday, June 9

City Council Meeting Scheduling 2024			
	5/7/2024		
	This schedule is subject to change		
May 14, 2024 Council Work Session	1st Quarter Grants Update	Tyra Litzau/Stacey Swanson	Work Session
	Revision of the City of Greeley Investment Policy	Tyra Litzau/Robert Miller	Work Session
	Waste Diversion Study Update	Will Jones/ Paul Trombino	Work Session
	Executive Session : City Attorney Interview	Kimberly Southern-Weber	Executive Session
May 21, 2024 Council Meeting	Proclamation - National Travel & Tourism Week Proclamation (Tentative)	Mayor	Intro
	Introductions - Nick Hoyle & Martha Lanaghan	Mayor	Intro
	Minutes - April 16 CC; April 23 WS	Heidi Leatherwood	Consent
	Motion - Cancel July 2, 2024 Council Meeting	Heidi Leatherwood	Consent
	Resolution - Update to City Investment Policy	Tyra Litzau/Robert Miller	Consent
	Intro & 1st Rdg Ord - Affordable Housing Parking Reduction	Caleb Jackson	Consent
	PH & 2nd Rdg - Supplemental Budget Appropriation for 2023	Tyra Litzau	Regular
	Boards & Commissions Appointments	Heidi Leatherwood	Regular
May 28, 2024 Council Work Session	Facilities Update (Tentative)	Paul Trombino	Work Session
	Downtown Overlay Zoning	Don Threewitt/ Brian McBroom	Work Session
	Small Business Land Use Center	Brian McBroom	Work Session
June 04, 2024 Council Meeting	Proclamations -	Mayor	Intro
	Minutes - May 7 CC; May 14 WS	Heidi Leatherwood	Consent
	Resolution - CDOT IGA Funding for New Culvert #3 Ditch at 23rd Avenue and 5th Street	Paul Trombino	Consent
	Resolution - At Home Greeley	Brian McBroom	Consent
	Intro & 1st Rdg Ord - Campaign Contributions Limits and Election Amendments	Heidi Leatherwood/Stacey Aurzada	Consent
	Intro & 1st Rdg Ord - Request for Eminent Domain Authority for 83rd avenue 4th Street Project	Bhooshan Karnik/ Paul Trombino	Consent
	Intro & 1st Rdg Ord - Request for Eminent Domain Authority for Poudre River Ranch Stormwater Improvements	Bhooshan Karnik/ Paul Trombino	Consent
	Intro & 1st Rdg Ord - Request for Eminent Domain Authority for 23rd Avenue and 4th/5th Street Project	Bhooshan Karnik/ Paul Trombino	Consent
	Sign Code Amendments Overview	Don Threewitt	Regular Informational
	PH & 2nd Rdg Ord - Affordable Housing Parking Reduction	Caleb Jackson	Regular
June 11, 2024 Council Work Session	Water & Sewer Board Interviews	Heidi Leatherwood/Ashton Reinhardt	Work Session
	Culture, Parks, and Recreation Comprehensive Plan Update	Diana Frick	Work Session
	Open Space Update	Diana Frick	Work Session
	1st Quarter CIP Update	Paul Trombino	Work Session
June 18, 2024 Council Meeting	Proclamations - Greeley Stampede	Mayor	Intro
	Proclamations - Juneteenth	Mayor	Intro
	Proclamation - World Refugee Day	Mayor	Intro

City Council Meeting Scheduling 2024			
	5/7/2024		
	This schedule is subject to change		
	Minutes - May 21 CC; May 28 WS	Heidi Leatherwood	Consent
	PH & 2nd Rdg Ord - Campaign Contributions Limits and Election Amendments	Heidi Leatherwood/Stacey Aurzada	Regular
	PH & 2nd Rdg Ord - Request for Eminent Domain Authority for 83rd avenue and 4th Street Project	Bhooshan Karnik/ Paul Trombino	Regular
	PH & 2nd Rdg Ord - Request for Eminent Domain Authority for Poudre River Ranch Stormwater Improvements	Bhooshan Karnik/ Paul Trombino	Regular
	PH & 2nd Rdg Ord - Request for Eminent Domain Authority for 23rd Avenue and 4th/5th Street Project	Bhooshan Karnik/ Paul Trombino	Regular
	Boards & Commissions Appointments	Heidi Leatherwood	Regular
June 25, 2024 Council Work Session	Image and Tourism Update	Jaqueline Villegas	Worksession
	Meeting (Council and B&C) Streaming and Storage	Winna MacLaren, Heidi Leatherwood	Worksession
	Metropolitan District Standards – Options and Recommendations	Don Threewitt	Work Session

Greeley City Council

Status Report of Council Initiatives

Initiative No.	Council Member Initiating	Council Request	Council Meeting or Work Session Date Requested	Next Steps & Schedule	Anticipated Deliverable & Date (Report, Council Presentation, etc.)	Assigned to:
15-2021	Olson	Formation of a committee for implementation of a funding strategy for the 35th and 47th interchanges.	December 7, 2021 Council Meeting	•Next grant application expected May 2023	•The RAISE grant was submitted on February 28, 2024. Discussions continue with CDOT for next steps in the process	Paul Trombino
03-2023	Butler	Campaign Contribution Limits	February 7, 2023 Council Meeting	•Presented at Nov 28 Work Session	•Intro/1st Rdg Ordinance scheduled for June 4, 2024. Council Meeting; 2nd Rdg Ordinance scheduled for June 18, 2024.	Stacey Aurzada/ Heidi Leatherwood
04-2023	Hall	Pumpkin Ridge - Bridge	March 7, 2023 Council Meeting	•PW report provided to Council on March 24, 2023. Neighborhood meeting planned on June 29, 2023. •Included Raymond's 9/1/2023 Council Update	•Survey complete, will reach 60% design by end of May. Still on track for construction by end of year.	PW
11-2023	Clark/Butler	Artificial turf and landscape standards	August 1, 2023 Council Meeting	•Come back to Council with a draft ordinance	•Council consensus: Staff to bring back minor updates to the front yard landscaping regulations for consideration •Due to current legislation artificial turf amendment may be delayed other landscaping amendments may be presented late first quarter	Brian McBroom
1-2020	Hall	Follow-up on the Poudre River Trail- Narrows Project	August 1, 2023 Council Meeting	•The grant application, which will be submitted in October, will complete baseline river modeling in addition to an alternative alignment analysis which will also look at the existing alignment, with high level cost estimates for each alternative. The scope will also include a 30% design of the preferred alignment. Working with existing consultants, we've established an estimated cost for the design process to get to a 30% of roughly \$150,000. •Unless a new alignment comes out of the design process, utilizing the existing alignment or an alternative on the north side of the river identified by past studies will likely exceed \$2 million to completed design/permitting and construction for this section.	•Received a \$45,000 planning grant from the State Trails program in Colorado Parks and Wildlife, and PRTC is contributing \$25,000 toward the design process at this integral section of the trail. Natural Areas and Trails division of CPRD has contracted Otak to conduct geotechnical analysis for the Narrows section of the Poudre River Trail in west Greeley. After completing several test bores in the area in late March, the consultant is completing analysis of the testing and will be hosting a workshop with CPRD and Public Works staff, along with representatives from the Poudre River Trail Corridor, Inc. (PRTC) a non-profit board in May.	Diana Frick
13-2023	Hall	City Grants	12/20/2023	Provide report identifying the grants that were received so Councilmember Hall can provide to CML	• This report will be incorporated in the 1st Quarter Grants Report at the May 14 Work Session	Tyra Litzau
14-2023	Butler	Charter Review	12/19/2023	Asked Staff to start process of Charter review	Will schedule a follow up report/work session to provide council with cost analysis and CAO will provide information on immediate need changes	CAO/CCO

2-2024	Butler	Ballot Language for the Police Sergeant initiative	January 16, 2024 City Council Meeting	Asked CAO staff to create more descriptive language for the police sergeant ballot question for 2024	Pending CAO Scheduling of a Council Meeting	CAO
3-2024	Butler	Requested a Budget Retreat for 2025 Budget	April 2, 2024 City Council Meeting	Requested a Budget Retreat for 2025 Budget	Budget Retreat is scheduled for July 17, 2024	Caleb Weitz
4-2024	Butler	Requested Work Session for information on the Lincoln Park Redesign- to include status of project, timeline of project and overview of the coming outreach Work Session	April 2, 2024 City Council Meeting	Requested Work Session for information on the Lincoln Park Redesign- to include status of project, timeline of project and overview of the coming outreach Work Session	A team of staff in CPRD is working to reimage uses for Lincoln Park which includes activation of the space bringing the community to downtown. RFP submitted, proposals were due April 15th. Once the consultant is selected, we will begin internal and external stakeholder and community outreach work.	CPRD
5-2024	Hall	Impact Fee Study Structure	May 7, 2024 Council Meeting	Requested staff bring a report to a future work session explaining more in depth the Impact Fee Study Structure - how the ratio is calculated, review process, timeline of review, and development fees		Brian McBroom/Paul Trombino/Sean Chambers/Tyra Litzau



Work Session Agenda Summary

May 14, 2024

Key Staff Contact: Kimberly Southern-Weber, Chief Human Capital Officer

Title:

A motion to go into Executive Session for the purpose of discussing personnel reporting to City Council

Background:

An executive session is needed to enable the City Council to interview a candidate for the City Attorney position. If Council concurs, a motion to adjourn into Executive Session is needed.

Strategic Focus Area:



High-Performance Government

Council's Recommended Action:

A motion to go into an Executive Session to discuss the following matter as provided under C.R.S. Section 24-6-402(4)(f) and Greeley Municipal Code Section 2-151(a)(6): To discuss personnel reporting to the City Council.

Attachments:

None