



Grand County Waste Diversion Study

Prepared by LBA Associates, Inc.

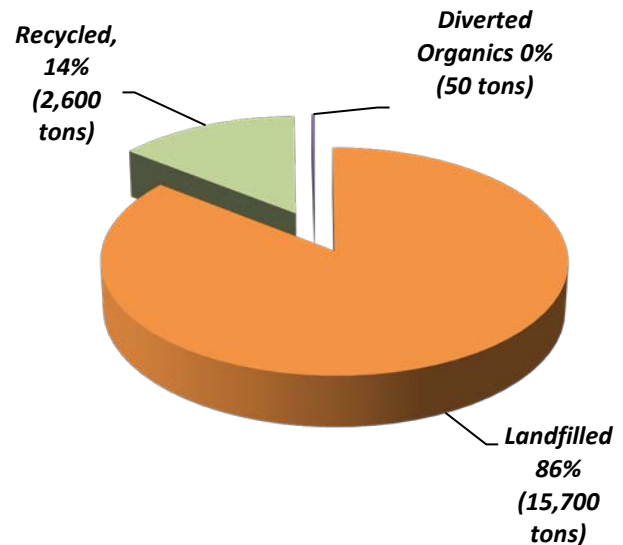
Executive Summary

In 2016, the Town of Fraser took on the challenges of recycling in rural, mountain communities with the Grand County Waste Diversion Study. Study goals included:

- ✚ Identify waste management improvements to increase service options for residents, businesses, and tourists over the next 10 years
- ✚ Reduce the county's reliance on landfill disposal through enhanced waste diversion activities

The study efforts focused on a long-term approach to increasing the slice of recycling "pie" shown in Figure ES-1. It considered actions for Phase I (2016 through 2018), Phase II (2019 through 2022), and Phase III (2023 through 2026). As shown, Grand County diverted about 14% of its municipal solid waste stream in the baseline year.

Figure ES-1 Grand County Municipal Solid Waste Generation (2014)



The Need for More Successful Waste Diversion in Grand County

Grand County has a unique solid waste management system that is based on privatized collection and transfer. All disposal and recyclables processing occurs on the Front Range. As a result curbside collection costs are high because they include transfer operations and long-distance haul in addition to landfill tip fees. Drop site collection is less expensive, but is limited outside of the Granby/Grand Lake area.

There is no financial incentive to recycle in most Grand County communities; while the baseline diversion level is comparable to the state average (12%), it is notably lower than the national average (34%). Organics recovery is relatively insignificant in the county. A May 2016 audit of the county's waste stream concluded that over 37% of sampled materials (or roughly 5,900 tons annually) could have been recycled through existing programs: but was instead thrown in the trash. Much of this may be explained by the high level of second homeowners and tourism in the area.

Based on these observations, as well as input from solid waste stakeholders in the county, the Waste Diversion Task Force prioritized the following two system improvements for meeting the study's goals:

- ✚ Develop a new public trash and recyclables drop site in the Fraser/Winter Park area
- ✚ Implement a municipal disposable bag policy at locations of greatest single-use bag generation

New Trash/Recyclables Public Drop Site in Fraser/Winter Park

As modeled, this is a combination facility that will accept trash in pre-purchased bags on a 24/7 basis, and single-stream recyclables at no cost when the site is staffed (at least 12 hours/week). The site will be located on yet-to-be-identified property presumably donated and co-located with a local business: but will rely on a contract hauler to service the Dumpsters. Site development costs will be minimal; annual operating costs, however, may range from \$190,000 to \$277,000 over the planning period (see Figure ES-2).

Potential revenues will primarily be from trash bag sales, which may range from \$228,000 to \$286,000/year for a \$6 bag over the planning period. Customer costs are expected to be less than current curbside collection (see Figure ES-3). Additional funding may also be generated as noted on the next page.

Implementation issues in addition to property selection and funding include identifying which local government agency will be responsible and negotiating a hauler contract.

Disposable Bag Policy

The feasibility of a disposable bag policy was modeled for large grocers. It is expected to be adopted by the Towns of Fraser and Granby, which are home to the local Safeway and City Market stores, respectively. The model assumed that grocers would assess a \$0.10 fee on all single-use plastic and paper checkout bags, and remit half of the fees to the towns. Despite grocer and municipality costs for collecting and remitting fees, signage, providing optional re-useable bags, and enforcement it is probable that small net revenues will be generated to off-set additional waste diversion activities (ranging from about \$9,000 to \$13,000/year total for the grocers and towns). Key implementation decisions will include establishing applicability thresholds, selection of re-useable bags, and enforcement needs.

Education and Outreach

A county-wide education and outreach Program will include development of a simple waste diversion brand; early focus on those towns where Phase I infrastructure and policy work is expected (i.e., Fraser, Granby, and Winter Park); and overall waste diversion outreach efforts for the entire county. These activities will likely cost about \$2 per person (or about \$30,000) in the first year. Additional activities such as a school recycling program and special event recycling may increase this estimate.

Figure ES-2 Annual Drop Site Operating Costs

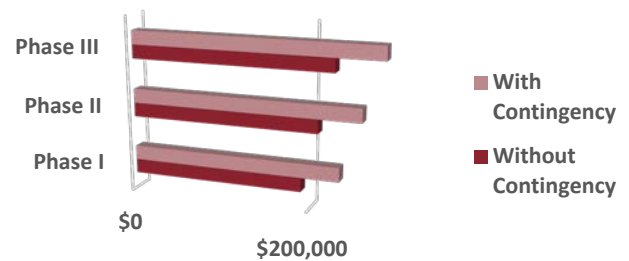
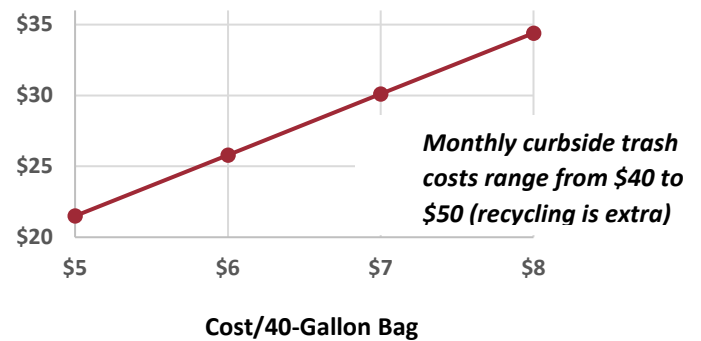


Figure ES-3 Household Bag Cost/Month (1 bag/week)



Ten-Year Implementation Strategy

This study was successful in i) developing a baseline for evaluating future system changes and tracking progress; ii) identifying initial improvements to catalyze Grand County’s commitment to waste diversion and improve service options; and iii) crafting an implementation strategy over the next 10 years.

Table ES-1 summarizes the collective costs of implementing the improvements addressed in this study. It shows a planning period range of net costs (up to \$2,000/year) and net revenues for the towns (as high as \$15,000/year); and cost the county (\$9,000) to \$17,000/year). These ranges depend upon the town, the programs they participate in, and the phase of implementation; for example, Grand County is expected to have costs associated with public outreach in the incorporated areas but not necessarily to partner on the revenue-generating programs. Should the county or towns successfully pursue sponsors, their respective activities could be cost-neutral or better.

Table ES-1 Collective Waste Diversion Improvements Costs (2016\$)

IMPROVEMENT	OPERATING NET REVENUES (COSTS)		
	Phase I	Phase II	Phase III
DROP-SITE	Fraser – \$4,000	Fraser – \$6,000	Fraser – \$12,000
	Winter Park - \$4,000	Winter Park - \$6,000	Winter Park - \$12,000
DISPOSABLE BAG POLICY	Fraser - \$2,000	Fraser - \$2,000	Fraser - \$2,000
	Granby - \$2,000	Granby - \$2,000	Granby - \$2,000
	Winter Park - \$2,000	Winter Park - \$2,000	Winter Park - \$2,000
EDUCATION PROGRAM	County - (\$17,000)	County - (\$9,000)	County - (\$11,000)
	Each Town (average) - (\$2,000)	Each Town (average) - (\$1,000)	Each Town (average) - (\$1,000)
TOTAL	Fraser - \$8,000	Fraser - \$8,000	Fraser - \$15,000
	Winter Park – \$2,000	Winter Park - \$5,000	Winter Park - \$15,000
	Granby - \$2,000	Granby - \$2,000	Granby - \$3,000
	Other towns – (\$2,000)	Other towns – (\$1,000)	Other towns – (\$1,000)
	County - (\$17,000)	County - (\$9,000)	County - (\$11,000)

Revenues do not include sponsorships or RREO rebate dollars

Final observations include:

- Waste diversion rates won’t increase significantly at first – because recommend improvements focus more on increasing access to recycling, raising awareness about resource conservation, and providing compelling reasons for Grand County to “recycle right”
- Involvement by Grand County and the towns will be critical for increasing services, increasing waste diversion, and obtaining partners and sponsors needed to operate cost-neutral programs
- Work needs to start in 2016 to drive a reasonable schedule and affect real change
- Local agencies need to generate support for a county-wide system - and determine whether county leadership, an intergovernmental effort between two or more towns, or third party/non-profit leadership will be the most feasible and effective means of moving forward

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List of Abbreviations

CDD	Construction and demolition debris
CY	Cubic yards
FT ²	Square feet
GRRC	Grand Resource & Recycle Coalition
MSW	Municipal Solid Waste
PAYT	Pay-as-you-throw
RREO	Resource & Recycling Economic Opportunity
TPY	tons/year

1 Study Purpose & Background

The Town of Fraser undertook a 2016 study to evaluate ways of improving waste diversion services for the residents, businesses, and tourists of Grand County over the next 10 years. Fraser is funding the study with a Resource and Recycling Economic Opportunities Grant (RREO) award from the Colorado Department of Public Health & Environment.

The project was started in January, 2016 and ended in October, 2016. It is being conducted under the direction of the Fraser Town Manager and Assistant Town Manager. A Waste Diversion Task Force was formed to provide project input from the Towns of Fraser, Grand Lake, and Winter Park; Grand County; the Grand Resource Recycling Coalition and Infinite West non-profit organizations; and citizenry from unincorporated areas. LBA Associates, Inc. serves as Fraser’s consultant for research and strategy assistance.

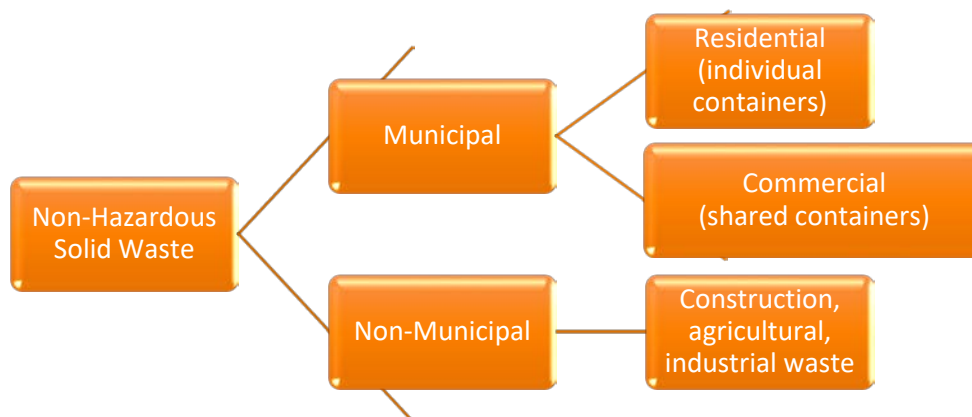
Purpose and Goals

When the need for this study was first conceptualized, the Town of Fraser began development of an enhanced waste management approach on a county-wide level and 10-year strategy for implementation. Early on in the study, Fraser identified two important waste management goals:

- ✚ Identify key waste management improvements to increase service options for residents, businesses, and tourists over the next 10 years
- ✚ Reduce the county’s reliance on landfill disposal through enhanced waste diversion activities

It is important to note that the focus of this study is on the municipal solid wastestream (MSW). As shown in Figure 1, this includes waste and recyclables primarily from residents and businesses but it also includes that generated by institutions and government operations. It does not include industrial, agricultural, or construction/demolition materials generated by contractors

Figure 1-1 Municipal Solid Waste



Why a Focus on Waste Diversion is Needed

Beyond the obvious conundrum of burying discarded resources in the ground rather than re-utilizing them, waste diversion in Grand County is a challenge because of i) high landfill and high recycling costs that fail to incentivize diversion, ii) low recyclable tons from a small generator base that keeps unit costs high, and iii) an isolated geography which leads to expensive transportation and limited access to material markets. With this study, the Town of Fraser has worked to identify policies, programs, and infrastructure that will tackle these challenges by encouraging more committed recycling by more residents and visitors county-wide.

Study Process

This study has been multi-faceted in its approach to compiling relevant data, identifying gaps, involving all potential stakeholders, and researching the most feasible and effective waste diversion opportunities for Grand County. Specific study components have included:

- **Quantify Baseline MSW System** – catalyzed by the Town of Fraser, this waste diversion study identified waste stream components, generators, quantities, and haulers for the 2014 baseline year which was used as a foundation for the analyses described on the following pages.
- **County-Wide Survey of Residents and Businesses** - concerning individual trash and recycling practices, satisfaction with the current system, and support of new program options. There were 166 responses to the survey, and the results informed many of the subsequent study components.
- **Trash and Recyclables Audit** – to identify what recyclables are being thrown in the trash and what trash is contaminating the recyclables. This audit sorted over 2,700 pounds of material during a “snap shot” period at the start of the Spring 2016 shoulder season. As such, it is not fully representative of annual composition, but does provide an indication of which programs and policies may be most useful in the future.
- **Public Process** – including three public meetings in May 2016 (Kremmling, Granby, and Fraser) to review the survey and audit results, and help define the direction of future analyses. Although attendance was light (especially in Kremmling), key managers, haulers, elected officials, citizens, non-profits, and transfer station representatives participated. This process will continue in October when the final study results are shared and discussed.
- **Waste Diversion Task Force Direction** – all stakeholders were offered the opportunity to participate in this Task Force, which was charged with prioritizing potential waste diversion improvements for future analyses.
- **Waste Diversion Strategy** – including an analysis of prioritized infrastructure and policy improvements, compiled into a recommended ten-year implementation strategy that specifically addressed tasks in Phase I (2016 through 2018), Phase II (2019 through 2022), and Phase II (2023 through 2026).

2 Grand County Solid Waste Today

Like many of Colorado’s resort-based regions, Grand County’s waste management needs fluctuate widely throughout the year. The winter and summer “high” seasons vary with weather and operations of both the Winter Park Resort and Rocky Mountain National Parkⁱ (in photos at right) but generally represent about eight months each year when visitors, second homeowners, and seasonal workers swell the permanent population base. Although seasonal occupancy rates can be as high as 81% in the resort townsⁱⁱ, seasonal population data is not available. Anecdotally, the permanent populations shown in Table 2-1 increase by ten times or more during high seasons.



Figure 2-1 2016 Population Estimateⁱⁱⁱ (permanent population)

<i>FRASER</i>	1,200
<i>HOT SULPHUR SPRINGS</i>	700
<i>GRANBY</i>	2,000
<i>GRAND LAKE</i>	500
<i>KREMMLING</i>	1,400
<i>WINTER PARK</i>	1,000
<i>UNINCORPORATED GRAND COUNTY</i>	8,400
<i>TOTAL</i>	15,200

In addition to the variability that fluctuating populations cause to waste generation, two additional factors can significantly impact waste management in Grand County:

- 1,846-square mile land mass (or 8 persons/square mile) - this low density challenges the economic sustainability of curbside collections and materials transport
- 100-mile haul distance to Front Range landfill and recycling facilities (over Berthoud Pass at elevation 11,307 feet) – this further exacerbates the cost of materials transfer

2.1 Current System

MSW management in Grand County is provided almost exclusively by private companies (two towns provide some trash collection through limited private hauler contracts). Collection is not specifically regulated; no local governments set standards for hauler services, rates, or reporting outside of contract services. Only Kremmling contracts for collection service (trash only) on a municipal level. Homeowner associations, subdivisions, businesses and property managers contract for a mix of recycling and/or trash service as needed for their clients and employees using a variety of containers, collection sites, collection frequencies and rates. These practices make up a somewhat inconsistent and decentralized network of solid waste management through the county.



Pictured at left, the primary haulers are the Trash Company (which is part of Waste Connections and headquartered in Woodland, TX) and Waste Management (headquartered in Houston, TX). Both companies provide curbside trash and recycling to residential and commercial customers. Only Waste Management provides curbside recycling to residents. The Trash Company provides contract curbside and drop site trash service in Kremmling and Grand Lake, respectively. Winter Park services the GRRC recyclables drop site in Granby.

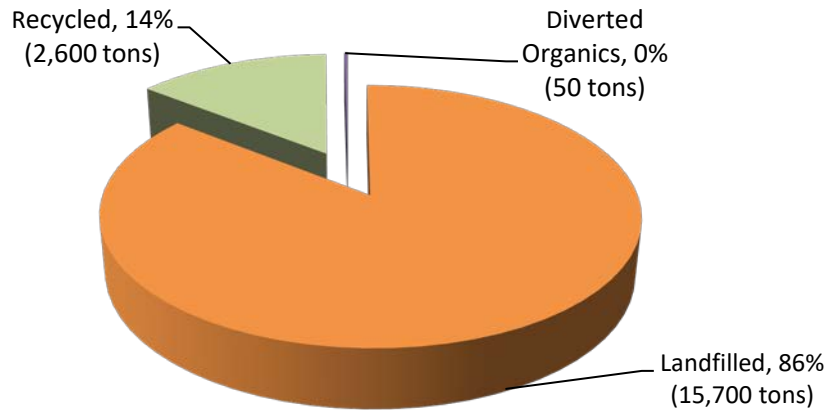
There are no trash disposal or recyclables processing facilities in Grand County. All materials are transferred to the Front Range through the Trash Company's transfer station in Granby (bottom picture at left). Trash is hauled to the Waste Connection's landfill in Erie: recyclables to Waste Management's processing facility in Denver. The transfer/landfill tip fee for both materials is \$113/ton – the highest such fee in Colorado and reflects a long-distance haul over Berthoud pass of nearly 100 one-way miles.

Curbside trash collection costs range from roughly \$40 to \$50/month for residents. Recyclables collection can add at least \$20 to this monthly cost.

MSW Quantities

Given the hands-off approach to solid waste management that prevails in Grand County, it is not surprising that waste generation and diversion data is limited. In a research effort that pre-dated the Grand County Waste Diversion Study, however, the Town of Fraser estimated baseline MSW quantities and projections for the 10-year planning period^{iv}. For the 2014 baseline year, it was estimated that approximately 18,300 tons of MSW was generated and managed county-wide^v. As shown in Figure 2-1 (on the next page), the county diversion rate of 14% (obtained primarily through recycling) compares favorably to Colorado's diversion rate of 12%^{vi}.

Figure 2-2 Municipal Solid Waste Generation & Management (2014)



2.2 Municipal Waste Stream Composition

Through the RREO grant, the Town of Fraser conducted an audit of both trash and single-stream recyclables generated in Grand County^{vii}. The audits were conducted during the May 2016 shoulder season and include a “snap shot” of the:

- Diversion potential in the trash stream
- Quality of commingled recyclables

Trash Audit

The MSW audit was conducted at the Trash Company’s transfer station in Granby^{viii}. Trash samples were sorted into 30 different paper, plastics, glass, metals, organics, hazardous/special waste, and residue materials. The photos at right show the sorting stations, an unsorted sample, and sorted textiles, respectively. Figures 2-2 and 2-3 show that nearly half (45%) of sorted MSW were organics, and that seven materials comprised 75% of the audited trash. Appendix A includes the materials composition for all materials measured in the trash samples.



Figure 2-3 Composition of Aggregated MSW Samples (% by weight)

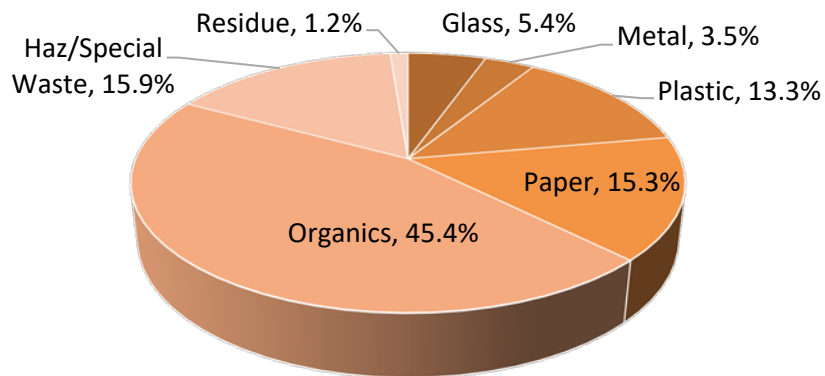
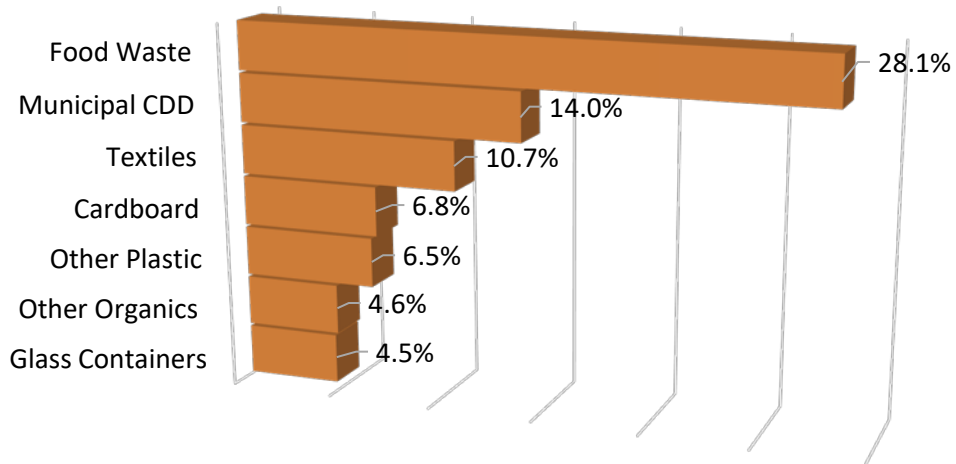


Figure 2-4 Most Prevalent Materials in MSW Samples (% by weight)



Trash samples from Fraser, Grand Lake, and Winter Park had the highest food waste, construction/ demolition debris (CDD), textiles, and glass and correlates with their seasonal activities. Other observations include:

- The most prevalent material in the trash samples overall was food waste (will likely be greater during high seasons) – there is no organics processing capability in the county
- The unusually high municipal CDD most likely results from seasonal lodging renovation - the drywall, insulation, and other debris cannot be diverted locally, however^{ix}
- Many textiles (towels, sheets, pillows, carpet) were present in like-new condition and are also probably seasonal - existing thrift stores accept many of these items
- More than 11% of the total sample weight was cardboard and glass – both of which could have been recycled in numerous local recycling programs
- Other plastics and other organics include materials that cannot be diverted currently

Key Trash Audit Finding:
Over 37% of the materials measured in this discarded stream could have been diverted through recycling programs that already exist in Grand County

Taken on an annual average basis, this 37% of recyclables discarded in the trash represents an additional 5,900 tons of material that could have been diverted instead of disposed, bringing the county’s annual diversion rate to roughly 46% (or three times the actual diversion measured in 2014).

Recyclables Audit

The recyclables audit was conducted on a commercial load tipped at the Trash Company’s transfer station and residential recyclables collected at GRRC’s weekly drop-site, located at the Granby Ace Hardware store. The single-stream samples were sorted into four materials intended to quantify the relative quantity of cardboard, glass, and contamination (or unacceptable recyclables).

The top photo on the right shows the GRRC site during the audit, while the bottom photo captures GRRC signage for acceptable items.

As shown in Figure 2-4 on the next page, as much as 42% of the total recycling stream was glass and cardboard, while the overall contamination level was very low. The comparable recyclable content between the commercial curbside and residential drop-site samples (see Figure 2-5 on the next page) shows that glass and cardboard are more prevalent in the commercial samples. As commercial tonnages are expected to be notably higher than residential in tourism-based communities, this finding can be valuable in the future because these materials are challenging to collect, store, and transfer.



The contamination level was low in all samples (commercial at 6% and residential 1%^x). Most notable, however, was the high quality of recyclables which is undoubtedly due to the vigilance of on-site staff.

Figure 2-5 Composition of Aggregated Recyclable Samples (% by weight)

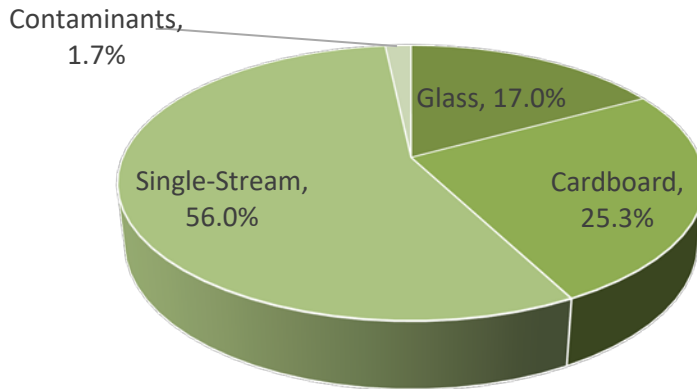
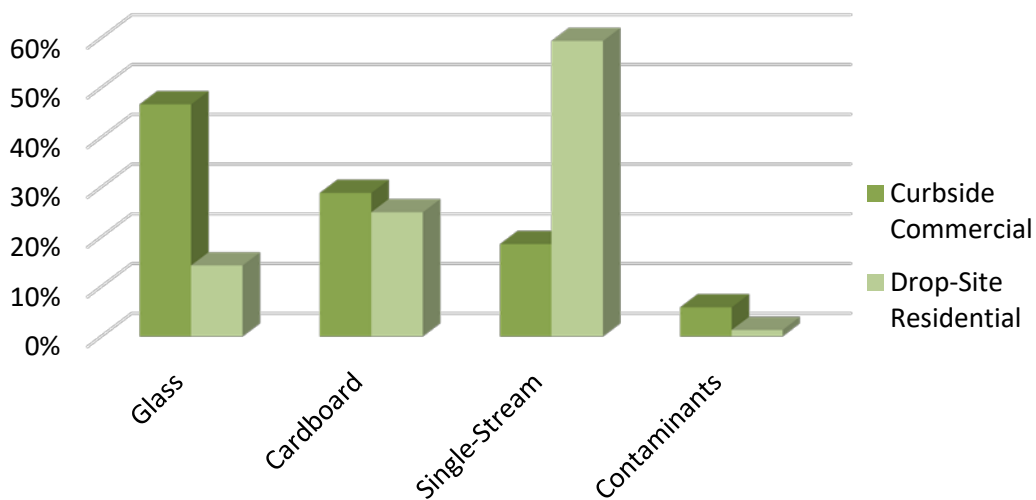


Figure 2-6 Recyclables Composition Curbside versus Drop Site (% by weight)



Overall Audit Observations

Several indications for future program and infrastructure improvements were supported by the audit findings. These improvements are tabulated in Appendix B. The implementation strategy in Section 6 incorporates them into the 10-year strategy as well.

Future Waste Quantities

Based on available data, material quantities were estimated for the 10-year planning period (see Table 2-2 on the next page). These values represent the total MSW stream including trash and recyclables combined.

Table 2-2 Trash & Recyclables Projections for Study Planning Period (tons/year)

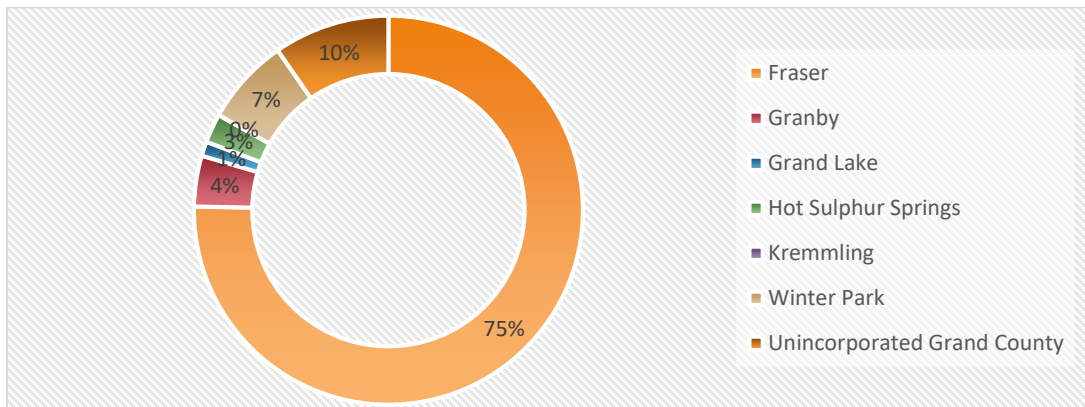
MSW MATERIAL CATEGORIES	PHASE I	PHASE II	PHASE III
PAPER	2,900 (cardboard 1,300)	3,600 (cardboard 1,600)	2,900 (cardboard 1,300)
PLASTICS	2,500	3,100	2,500
GLASS	1,000	1,300	1,000
METALS	600	800	600
ORGANICS	8,500 (food waste 5,300)	10,700 (food waste 6,600)	8,500 (food waste 5,300)
HAZARDOUS/SPECIAL MATERIALS	3,000	3,800	3,000
RESIDUE	200	300	200

Estimates are based on county population projections^{xi} and MSW audit results (May 2016) for limited shoulder season samples (actual annual average composition may differ)

2.3 Customer Satisfaction with Existing System

The Town of Fraser conducted a county-wide customer survey in March and April, 2016. The on-line study asked residents and businesses about their satisfaction with existing trash and recycling services. There were 166 responses (90% residents and 10% businesses). Figure 2-6 shows where respondents were located.

Figure 2-7 Survey Respondents' Location



Trash and Recyclables Collection

- Less than half (44%) of the respondents subscribe to curbside trash service - while 18% use the Granby transfer station and 38% use an alternative (such as taking to work or hauling to Denver)
- 18% acknowledged that they don't recycle
- Of those who do recycle, only 13% subscribe to curbside collection – 24% use the drop sites in Granby and 45% use an alternative (at work or on the Front Range)

- Residents were equally inclined/disinclined to use a drop site for recycling when locations are limited to Granby – and most did not want to pay for drop site recycling

Disposal Bag Policy

- Most residents and businesses opposed regulating single-use paper bags while supporting either a ban or fee on plastic bags

County Landfill Need

- Most survey answers reflected a lack of information about the pros and cons of Grand County - but many were concerned about the environmental impacts of both long-distance hauls (to out-of-county facilities) and those created by a local disposal site

Additional information on survey results can be found on the Town of Fraser's website at

<http://frasercolorado.com/Modules/ShowDocument.aspx?documentid=1146>.

3 Providing a New Public Trash & Recycling Drop Site in Southern Fraser River Valley

Drop-site collection is an effective alternative or supplement to curbside collection for small and seasonal service areas. In addition to curbside collection, there are several public drop sites in Grand County. The Town of Grand Lake operates a trash drop site (top photo at right), the Trash Company operates a trash/recycling drop site in Granby (middle photo) and a recyclables site in Kremmling, Rocky Mountain National Park has several small trash/recycling sites, and GRRC operates a recyclables site in Granby^{xii}.

This system serves the permanent population relatively well. With the exception of the Grand Lake facility (and possible the park), however, these sites all have limited hours that leave most tourists with virtually no options on weekends and evenings. This can lead to illegal dumping (as shown at Rendezvous' dumpster site at the bottom right), and discourages recycling.

The need for an alternative solution is strongest along the route most visitors use when they leave Grand County through the south end of the Fraser River Valley – notably through Fraser and Winter Park^{xiii}. The following discussion focuses on the logistics and cost of developing a drop site collection option for both trash and single-stream recyclables in the area.



3.1 What Does a Good Drop Site Look Like?

Arguably the most successful public drop sites have the following in common:

- Convenient location with safe public access and minimal nuisances (litter, noise, aesthetics, etc.)
- Good information on acceptable materials and options for managing unacceptable materials
- Collection of good quality materials – i.e., “clean” or relatively uncontaminated materials
- Adequate hauling service to remove collected materials at a frequency that prevents overflows, blowing litter, and unsafe conditions
- Revenues that off-set costs

Not all of these characteristics are easily achievable – especially for unstaffed sites and those that do not directly generate revenues. The Colorado drop sites shown in Table 3-1 exhibit most of these characteristics and are useful models (Appendix C provides an example of a drop-site hauler contract negotiated by Pitkin County and including Rio Grande collections).

Table 3-1 Example Drop Sites

	<i>GRRC (Granby)</i>	<i>GRAND LAKE (Grand Lake)</i>	<i>RIO GRANDE (Aspen)</i>
<i>LOCATION</i>	Hwy 40, retail parking lot	Public Works, not on main thoroughfare	Off Main St, adjacent to commercial area
<i>OWNERSHIP</i>	Grand Resource & Recycling Coalition	Town of Grand Lake	City of Aspen (partnered with Pitkin County)
<i>MATERIALS ACCEPTED</i>	Loose single-stream recyclables (residential only)	Bagged trash (all generators)	Loose single-stream recyclables (all generators), glass, seasonal yard waste, some household hazardous waste
<i>HOURS</i>	Saturday mornings	24/7	24/7
<i>STAFFING</i>	Yes (contamination levels of only 1%)	No	No although both city & county staff check daily
<i>SECURITY</i>	None in addition to staff	Surveillance cameras (watched infrequently)	Surveillance cameras (closely watched)
<i>CONTAINERS</i>	6-cubic yard Dumpsters (12)	8-cubic yard Dumpsters (6)	6-cubic yard Dumpsters (14-16) plus roll-offs for glass & seasonal yard waste
<i>WILDLIFE CONTROL</i>	Containers latched, no material left outside, limited hours before hauling	Containers latched, staff check daily for overflows & open containers	No – recyclables only
<i>HAULING</i>	Waste Management, all Dumpsters collected at one time (weekly)	Trash Company, hauled bi-weekly to weekly (depends on season)	Waste Management, all Dumpsters collected at one time
<i>EDUCATION</i>	Staff, signage at entrance & on containers	Signs on containers	Website posting, PSAs, signs on containers, etc.
<i>REVENUE</i>	Dedicated donations by Granby, Grand Lake & users during collection	Trash bag purchase generates slightly more revenues than cost	No dedicated revenues

3.2 How Might an Effective Drop Site Program Be Designed & Operated?

When the Waste Diversion Task Force evaluated the need for new public drop-site collection in the southern end of the valley, they determined that it should:

- Serve all waste generators and recyclers
- Provide fee-based trash collection on a 24/7 schedule using a pay-as-you-throw (or PAYT, creates an incentive for recycling)^{xiv} bag system similar to that implemented by Grand Lake

- Provide free single-stream recyclables collection only when staffed (ideally during hours that augment those provided in Granby^{xv})
- Have hauling service provided by a private contractor
- Be located at a to-be-determined site (ideally the drop site will be co-located with an existing business or government operation to improve convenience, discourage facility abuse, and benefit local businesses)
- Include educational materials that maximize the site effectiveness and is consistent with regional outreach efforts

Based on this direction, the design and operational features described in Table 3-2 have been applied to this analysis.

Table 3-2 Assumed Drop-Site Design & Operations

<i>STAFFING</i>	Trash – unstaffed Recyclables – staffed (1 staff person from responsible government agency)
<i>HOURS</i>	Trash – 24/7 and recyclables – during staffed hours only (e.g., Sundays from 3 to 9 pm & Wednesdays from noon to 6 pm)
<i>SECURITY</i>	Surveillance - mounted cameras (wireless with remote viewing, cloud storage) Pressure-treated wood fencing with metal gates – to improve aesthetics and blowing litter (compliant with local enclosure/building permit requirements)
<i>DROP SITE CONTAINERS</i>	6-cubic yard Dumpsters – to be provided by hauler, maintained by hauler & emptied by hauler’s front-load collection truck ^{xvi} (0.15-acre site)
<i>CUSTOMER BAGS</i>	Trash – must use designated plastic bags purchased throughout the county ^{xvii} Recyclables – no plastic bags (plastic bags/film not accepted in single-stream)
<i>HAULING</i>	Private hauling of trash and recyclables from drop site under contract with the responsible government agency – both streams to be hauled to the Trash Company transfer station in Granby
<i>MAINTENANCE</i>	Daily – by 1 staff person from responsible government agency (minimal time to identify overflows, damage to Dumpsters, clean-up litter)

Figure 3-1 (next page) includes a conceptual site plan of the future drop site. It assumes two access points and a relatively circular traffic flow, and is sized for the approximate number of Dumpsters estimated for Phase I operations. This site plan is a suggestion of potential operations only; it is subject to adjustments based on actual property selection.

3.3 What Quantities Can Be Expected?

There is very little available data that describes waste generation or recycling practices in Grand County by residents, businesses, the permanent population, tourists, individual towns, or by seasons. As a result, reliable estimates are not possible and drop site development should be incremental in early years to respond to actual need. The ranges in Table 3-3 (on page 15) are loosely based on county-wide totals for 2014 (the latest available), and reports from Grand Lake and GRRC’s drop site operations. Appendix D includes additional assumptions supporting these calculations.

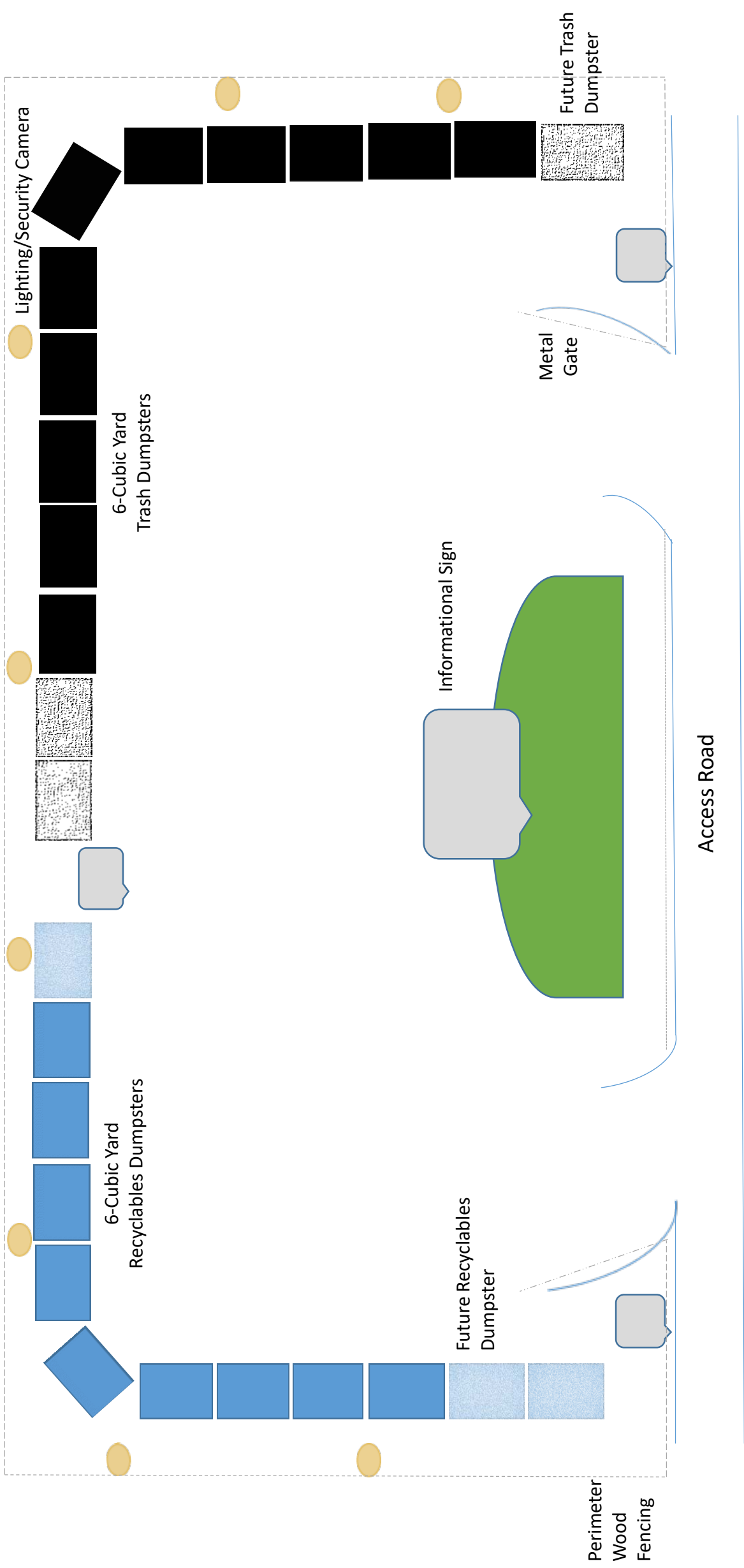


Figure 3-1
Conceptual Layout - Fraser/Winter Park Drop Site
 (~0.15 acres - not to scale)

Table 3-3 Estimated Drop-Site Quantities

	PHASE I	PHASE II	PHASE III
TRASH (tons/year)	700-900 (average 800)	800 – 1,000 (average 900)	900 – 1,100 (average 1,000)
TRASH DUMPSTERS (average 2X/week service)	10 - 12	12 - 14	13 – 15
RECYCLABLES (tons/year)	200-300 (average 250)	235 – 335 (average 285)	270 – 370 (average 320)
RECYCLABLES DUMPSTERS (average 2X/week service)	8 - 10	9 - 11	11 - 13

All Dumpsters assumed to be 6 cubic yards

Trash Quantities – It can be roughly estimated that Grand Lake collects 400 to 500 tons/year of trash at its drop site based on size and hauler service. Fraser and Winter Park’s combined permanent population is nearly five times that of Grand Lake – their volume of seasonal tourists may be similarly larger. However, anecdotal observations indicate that many (perhaps even a majority) of Grand Lake residents and tourists currently use the local trash drop site because of its convenience (open 24/7) and low cost compared to curbside service^{xviii} - this may not be the case in the southern Fraser River Valley.

Recyclable Quantities – The Trash Company estimates that roughly 15% of all recycling in Grand County comes from drop sites. As GRRRC collects about 170 tons/year, the Trash Company drop site probably collects about 200 tons/year. These sites service roughly the same customer base – some of whom come from Fraser and Winter Park. Quantities will be impacted by PAYT trash pricing (i.e., an incentive to recycle more) and increased convenience for many who live, stay, or travel through this end of the valley. If Grand County and/or the towns pursue public policy, new or expanded programs, and outreach programs that drive waste diversion beyond current levels, recyclable quantities could increase at a faster rate than shown in Table 3-3.

If the quantities in Table 3-3 represent all new tons diverted in Grand County, the diversion rate could increase from 14% to 16%. However, some of these tons would likely have been diverted at one of the Granby recycling sites, and may not yield large increases initially.

Future Projections - Estimates for both materials are based on projected population growth for Grand County^{xix}. The number of Dumpsters can be easily adjusted to allow some trial-and-error during the early part of Phase I while demand for drop-site services is being generated, as the site grows, and to accommodate varying quantities between seasons.

3.4 What Are the Estimated Drop-Site Economics?

Costs - Based on the estimated quantities and site features, conceptual capital and operating cost projections have been developed (see Table 3-4 on the following page). Relative to operating costs, the capital investment needed to prepare a small site for drop-site operations at the beginning of the planning period is minimal, and is primarily due to the expectation that adequate property will be donated. These costs may change depending on actual site features.

Table 3-4 Estimated Drop-Site Costs (in 2016 dollars)

	<i>ITEM</i>	<i>PHASE I</i>	<i>PHASE II</i>	<i>PHASE III</i>
<i>CAPITAL COSTS</i>	Land Purchase (0.15-acre site)	\$0	\$0	\$0
	Site Preparation (minimal grading, base course, signage)	\$8,000	\$0	\$0
	Security (remote surveillance system, fencing & gates)	\$14,000	\$0	\$0
	Contingency (30%)	\$4,000	\$0	\$0
	<i>Total Capital Cost</i>	<i>\$29,000</i>	<i>\$0</i>	<i>\$0</i>
<i>ANNUAL OPERATING COSTS</i>	Maintenance Staff	\$21,000	\$21,000	\$21,000
	Recycling Staff	\$32,000	\$32,000	\$32,000
	Contract Hauler - Trash	\$96,000- \$125,000	\$108,000- \$141,000	\$120,000- \$156,000
	Contract Hauler – Recyclables	\$41,000- \$53,000	\$47,000- \$60,000	\$52,000- \$68,000
	<i>Total Operating Costs</i>	<i>\$190,000- \$231,000</i>	<i>\$208,000- \$254,000</i>	<i>\$225,000- \$277,000</i>

Exclusions = site selection/development, permitting, grant pursuit, hauler procurement
 Contract hauler costs estimated as a function of increased tons in Phases II and III –
 ranges reflect cost with and without contingency factor

Not surprisingly, the biggest annual operating cost will be the on-going hauling expense and will include the high tip fee at the Granby transfer station for both trash and recyclables. These costs are challenging to estimate given the extremely competitive conditions in Grand County. Appendix D includes cost projections based on basic supply, maintenance and labor costs that are consistent with pricing information currently available^{xx}. While the annual hauling cost for trash is estimated to be higher than recyclables, the total cost reflects management of roughly four times the trash quantities. In fact, the economy of scale keeps the unit trash costs lower (i.e., \$120/ton for trash and \$160/ton for recyclables in Phase I for the scenario without a contingency factor).

Grants & Rebates - During those economies where secondary material markets were especially strong (such as that experienced through early 2008), revenues earned from collected recyclables could often off-set operating costs. This has not been the case for the several years, relying on material revenues is risky at best. There are two sources of funding, however, that can cover some costs:

- The RREO grant program provides funding for capital and some first-year operating costs (a total of more than \$7M has been awarded since 2008) – could apply to drop site preparation and initial hauling costs
- The same program also offers annual rebates to programs that offers free drop-site public recycling every year (a total of \$380K was available for the 2015/2016 fiscal year) – could apply to annual recycling hauling

Donations & Sponsors – Two additional potential revenue streams that are difficult to predict are voluntary donations from drop site users and site sponsors, which can be used for site development and/or on-going operations. It is expected that a minimal donation be suggested for recyclables at the drop site. GRRC uses this approach and covers roughly two-thirds of its operating cost. If the new drop site suggested a \$2 donation, revenues might range from \$11,000 in Phase I to \$14,000 in Phase II^{xxi}.

It is also probable that business sponsors be solicited in exchange for placing their brand/logo at the drop site. Sponsor dollars can range widely depending on how sponsorship is structured. For example, small business supporters could sponsor a specific dumpster, while larger supporters could be an overall sponsor with their information on all site signage, website, and other informational materials. While sponsorships cannot be easily quantified and are not included here, they are potential revenue stream that may help Fraser and Winter Park off-set operating costs (hey will likely need to be repeatedly secured on an annual basis).

In-Kind Costs – Some site maintenance costs could potentially be negated through the use of the Grand County’s Useful Public Service program, high school community service volunteers, or others.

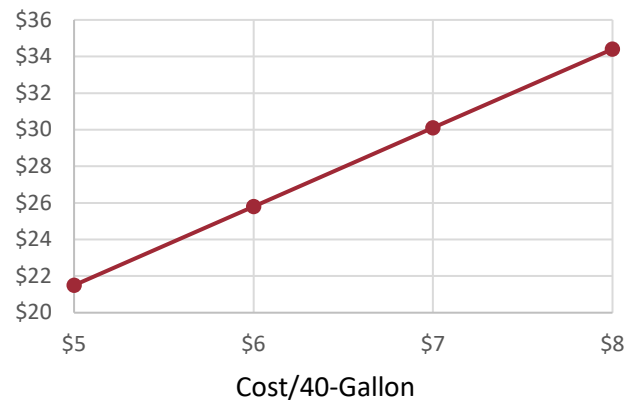
Revenues from Trash Bag Sales – The most reliable source of funding will be from sales of plastic trash bags. Grand Lake recommends that only the large bags (40-gallon) be used to control litter at the site. Based on the projected trash quantities described previously, it is likely that roughly 40,000 bags would be purchased in Phase I and escalated over time^{xxii}. Table 3-5 illustrates the potential net sales revenues (based on an estimated cost of about \$0.30/bag^{xxiii}). As shown, a sales price of \$5 to \$6/bag is expected to off-set the annual costs described in Table 3-4^{xxiv}.

Table 3-5 Potential Annual Trash Bag Revenues (in 2016 dollars)

<i>BAG SALES PRICE TO CUSTOMERS</i>	<i>PHASE I</i>	<i>PHASE II</i>	<i>PHASE III</i>
\$5/BAG	\$188,000	\$209,000	\$236,000
\$6/BAG	\$228,000	\$253,000	\$286,000

The trash bags will ideally be made available to the public at retail partner locations, town buildings, at tourist locations, and by property managers throughout the county so that trash (and recyclables) can be collected at the drop site as waste generators pass through the Fraser/Winter Park area. Figure 3-2 compares the cost of drop-site to curbside trash collection.

Figure 3-2 Monthly Household Drop-Site Cost (1 bag/week)



3.5 Recommendations

Drop Site v. Curbside Trash Costs:
An \$6/bag fee = \$26/month cost for resident using one 40-gallon bag/week and includes recycling
The monthly residential cost for curbside trash = \$40 to \$50/month without

Recyclable drop sites are common throughout Colorado and even in Grand County. Despite the Grand Lake example, collecting trash at drop sites is not common – collecting both trash and recyclables is even less so. Regardless, they are a viable option for a seasonal population if operating costs can be sustained.

While drop sites don't generally represent a large capital investment, hauling costs to move collected materials to landfill or recycling processing facilities can be significant; this is especially true in Grand County where material tip fees are so high^{xxv}. Fraser and Winter Park should continue to identify drop-site property options, logistics, and feasibility of a new facility in the southern Fraser River Valley. Specific implementation recommendations are detailed in Section 6 and Appendix E.

Public Fraser/Winter Park Drop Site

Key steps for implementing this drop site include:

- Find a site
- Formalize an agreement between the two towns
- Obtain grant funds to develop the site
- Conduct a procurement process for the hauler
- Purchase trash bags
- Develop signage and outreach materials
- Operate and enforce collection activities
- Track quantities, usage, costs, revenues, customer needs

Improvements to Private Collection Sites

This model can also be used to upgrade private collection sites in homeowner associations, subdivisions, business locations, etc. (see the Hi Country Haus trash enclosure at right). The same attributes listed on page 11 should apply to these sites (although most will not require pre-paid trash bags or surveillance). It is likely that 6-cubic yard or smaller Dumpsters and individual enclosures instead of a larger, fenced area may be used. The cost estimate in Table 3-4 and Appendix D may be especially helpful for estimating hauler collections costs.



4 Reducing the Number of Disposable Bags in Grand County

Disposable bags are single-use plastic or paper bags used to transport food and small consumer goods. They are convenient for customers and retailers, and represent only a small portion of the waste stream (less than 2% in the May 2016 Grand County waste audit). They do, however, contribute to our “throw away” culture, to the litter on our roads and in our waterways, and to increased waste management costs^{xxvi}.

- An estimated 2 billion disposable bags were consumed in Colorado last year^{xxvii}
- Many bags are reused for garbage and pet waste^{xxviii} but dedicated plastic bag recycling is limited (only two businesses recycle bags in Grand County)
- Plastic bags contaminate mixed recycling streams - facilities spend hundreds of dollars every day unclogging processing equipment^{xxix} (see middle picture at right)
- Litter clean-up costs in the U.S. top \$11.5B annually^{xxx} - the negative impact on wildlife, tourism and recreation remain unquantified
- Polyethylene plastic bags are not the only culprits: Studies show that paper bags (even with recycled fiber content) require more resources, create more emissions, and cost more to produce than plastic bags^{xxxi}

Programs that reduce disposable bags focus on their high visibility and the ability to engage the public in changing consumer habits. A range of disposal bag policy options has proven successful throughout Colorado and the U.S.^{xxxii}

4.1 What Types of Disposable Bag Programs Work in Colorado?

Most programs in Colorado and elsewhere employ a combination of banning disposal bag use and charging a fee for use. Bans require retailers to stop providing these bags at checkout and forces customers to use re-useable bags, boxes, or other means of transporting goods (re-useable bags are



often provided by grocers or the local government). Fees are assessed at the time of purchase and create a fiscal incentive for customers to opt for a more sustainable solution. Most programs utilize one of the combinations described in Table 4-1.

Table 4-1 Pros & Cons of Disposable Bag Policy Options

OPTION		ENVIRONMENTAL IMPACTS	ECONOMIC IMPACTS	COMMUNITY IMPACTS
BAN ON ALL BAGS	Pros	<ul style="list-style-type: none"> Largest reduction in bag use, litter & recyclables processing impacts 	<ul style="list-style-type: none"> Reduced retailer costs for purchasing & stocking bags 	<ul style="list-style-type: none"> Relatively easy for town to administer & enforce
	Cons	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> No fees to off-set retailer/town diversion programs Customers/town have to provide re-useable bags or boxes 	<ul style="list-style-type: none"> Requires education by town Public may oppose (customers lose choice, plastic bags not available for pet waste, trash, etc.) Retailers likely to oppose
BAN ON PLASTIC & FEE ON PAPER	Pros	<ul style="list-style-type: none"> Significant reduction in plastic bag use, litter & recyclables processing impacts 	<ul style="list-style-type: none"> Fees help off-set retailer/town diversion program costs May require recycled content for paper 	
	Cons	<ul style="list-style-type: none"> Likely increase in paper bag use Apparent judgement that paper bags are more sustainable 	<ul style="list-style-type: none"> Increased retailer costs for higher-priced paper bags Partial fees to off-set retailer/town diversion program costs May affect low-income households 	<ul style="list-style-type: none"> Relatively harder for town to administer & enforce Requires education by town Public may oppose regulation (plastic bags not available for other uses) Retailers may oppose
FEES ON ALL BAGS	Pros	<ul style="list-style-type: none"> Moderate reduction in bag use, litter & recycling impacts No judgement on which disposable bag is more sustainable 	<ul style="list-style-type: none"> Fees help off-set retailer/town diversion program costs May require recycled content for paper 	<ul style="list-style-type: none"> Retains customer choice More often supported by retailers
	Cons	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> May affect low-income households 	<ul style="list-style-type: none"> Relatively harder for town to administer & enforce Requires education by town Public may oppose regulation (less bags available for other uses)

Table 4-2 describes six Colorado disposable bag programs passed by local councils^{xxxiii}. Most of these are resort towns with significant tourism and second homeowner demographics similar to Grand County (Appendix E includes two example ordinances). There are several factors that are specific to disposable bag programs in Colorado:

- Bag fee programs do not assess a tax and do not generate revenues^{xxxiv} - instead, the fees help defray the cost of administering the bag and other waste diversion programs in the community
- Fee portions retained by retailers are not considered revenue and are not subject to tax
- Fee portions received by governments are restricted to litter clean-up, recycling education, providing free re-useable bags, and related waste diversion activities
- Colorado state law currently restricts local governments' ability to ban the use or sale of plastic materials or products – but has not stopped the implementation of several bag bans^{xxxv}

Table 4-2 Colorado Disposable Bag Programs

<i>MUNICIPALITY (date promulgated)</i>	<i>PROGRAM</i>	<i>APPLICABILITY</i>	<i>FEE DISTRIBUTION (retail / municipality split)</i>	<i>RESULTS SINCE PROMULGATION</i>
<i>ASPEN (2011)</i>	plastic ban \$0.20 fee paper	groceries with =>3,500 ft ² (other retailers may opt in)	25% / 75% (grocer cap of \$12,000 first year - \$1,200 subsequent years)	~\$15K remitted to town 2014& 2015, paper bags increased 20%/year first few years
<i>BOULDER (2012)</i>	\$0.10 fee plastic \$0.10 fee paper (paper must be 100% recycled)	all groceries	40% / 60%	
<i>BRECKENRIDGE (2013)</i>	\$0.10 fee plastic \$0.10 fee paper	all retail stores (annual license tied to reporting/fee remittance)	50% / 50% (retailer cap of \$12,000 first year - \$1,200 subsequent years)	1 st year - 40% bag reduction, \$67K remitted to town
<i>CARBONDALE (2011)</i>	plastic ban \$0.20 fee paper	groceries with =>3,500 ft ² (other retailers may opt in)	25% / 75% (grocer cap of \$12,000 first year - \$1,200 subsequent years)	last 3 years - \$15- \$17K remitted to town, paper bags sold increased as plastic was eliminated
<i>DURANGO (2013)</i>	\$0.10 fee plastic \$0.10 fee paper	groceries with =>25,000 ft ² (other retailers may opt in)	50% / 50% grocers also required to collect disposable bags	ordinance passed by council but repealed by voters prior to implementation
<i>TELLURIDE (2010)</i>	plastic ban \$0.10 fee paper (paper must be 40% recycled)	plastic ban – retailers paper fee – groceries with =>2,000 ft ²	50% / 50%	2 grocers, \$2,500/ year remitted to town, uses to buy re- useable bags for property managers to distribute
<i>VAIL (2015)</i>	plastic ban \$0.20 fee paper	groceries with =>4,000 ft ²	20% / 80% first year 0% / 100% subsequent years	90% overall bag reduction

It is important to realize that grocery checkouts are only one source of single-use plastic and paper bags distributed county-wide (although Breckenridge and others report that large grocers in their community generate as much as two-thirds of all disposable checkout bags). Additionally, even the groceries subject to a new policy will be permitted to distribute certain single-use bags through non-checkout locations in the store. Each of the Table 4-2 programs include exemptions (or free re-useable bags) to address food and goods that needs special handling^{xxxvi}. Some programs (Aspen, Boulder, Carbondale, Durango, and Vail) also include exemptions for customers in a state or federal food assistance program (this exemption may not be needed where re-useable bags are provided as an option for paying bag fees at checkout).

4.2 What Could a Bag program in Grand County Look Like?

Historical Bag Discussions

It is worth noting that this study does not represent the first discussion of a disposable bag policy in Grand County. In 2013, the Town of Fraser briefly a proposal by citizens and Infinite West. Due to the planned 2015 sustainability program development, the town tabled the bag issue until this study could be undertaken. The Waste Diversion Task Force determined that this policy was a priority at this time.

Applicability to Large Grocers

As noted above, most existing Colorado programs apply to checkout bags at grocery stores because i) these are the largest source of disposable bags, and ii) they have the staff and technical capacity to adapt as most have had some previous experience with re-useable bags^{xxxvii}. Table 4-2 communities have differing opinions on this applicability, however; Aspen found that targeting only supermarkets was the easiest to approve although the public questioned the selective application. On the flip side, Breckenridge would limit their program to only supermarkets to facilitate implementation.

Grand County is home to two national groceries (see Table 4-3) that are reasonable starting points for a disposable bag program (the program could be expanded in the future). There will also be a large grocery built in Winter Park in the near future.

Table 4-3 Large Grand County Groceries

	<i>INTEREST</i>	<i>APPLICABILITY</i>	<i>SUPPORTING DATA</i>
<i>SAFEWAY (FRASER)</i>	Supported earlier bag policy research & currently recycles ~50 tpy mixed plastic bags	Another Safeway store in Boulder (subject to their program since 2013)	Estimates 3,800 total checkout bags/day based on summer 2016 count (high season only)
<i>CITY MARKET (GRANBY)</i>	Currently recycles ~30 tpy mixed plastic bags	Other City Market stores in Aspen, Carbondale, Breckenridge & Vail (subject to their programs since 2012)	Declined to provide bag data

For the purpose of this preliminary analysis, it is assumed that a disposable bag program in Grand County would be applicable to the Table 4-3 grocers, would be implemented through new policy in both

Fraser and Granby, and that any fee earnings would be split evenly between the groceries and towns. These assumptions can be adjusted during policy development or after the program is implemented.

4.3 What are the Estimated Economics?

Given the lack of hard data on bag type and use in Grand County, assumptions for estimating quantities, costs, and revenues were needed. If the Safeway bag value identified in Table 4-3 is one-half of the total Safeway/Fraser and City Market/Granby count, approximately 2.1 million disposal bags are distributed through these store checkouts annually in Grand County (despite their high number and visual cue about resource consumption, these equate to barely measurable tons due to very low weight/bag). This total is equivalent to roughly 230 bags/person-year and is generally consistent with bag quantities measured in Boulder (216 bags/person-year)^{xxxviii}. Quantities will increase based on population (Winter Park values will be determined once that grocery is established).

Table 4-4 includes an estimate of potential program cost and fee earnings (see Appendix F for additional detail). Costs were based on:

- Town expenses for developing the program, providing outreach messages to the public^{xxxix}, and purchasing re-useable bags (expenses would be generated by both towns based on the number of bags managed)
- Grocer costs and estimated bag reduction from other local disposable bag programs^{xl}
- Initial \$0.10/bag fee (could be increased in future if single-use bag usage does not decrease as expected)
- Plastic/paper bag split of 90%/10%
- Phased approach covering the study planning period with decreasing demand/use for single-use bags by customers and reduced implementation costs over time

Table 4-4 Estimated Annual Quantities/Costs for Bag Program Options in Fraser/Granby

	PHASE I		PHASE II		PHASE III	
	Total Cost/Bag (Groceries & Towns)	Net Fees (Cost)	Total Cost/Bag (Groceries & Towns)	Net Fees (Cost)	Total Cost/Bag (Groceries & Towns)	Net Fees (Cost)
BAN ON ALL BAGS	\$0.27	Grocers – (\$9,000) Towns - (\$45,000)	NA (no bags)	Grocers – \$0 Towns - (\$23,000)	NA (no bags)	Grocers – \$0 Towns - (\$12,000)
PLASTIC BAN & FEE ON PAPER	\$0.21	Grocers – (8,000) Towns - (\$39,000)	\$0.44	Grocers – <\$1,000 Towns - (\$20,000)	\$0.35	Grocers – <\$1,000 Towns - (\$10,000)
FEE ON ALL BAGS (\$0.10/bag)	\$0.09	Grocers – \$6,000 Towns - \$7,000	\$0.08	Grocers – \$3,000 Towns - \$6,000	\$0.08	Grocers – \$2,000 Towns - \$7,000

Excludes pre-policy costs to build grocer support, develop/pass ordinance, or develop re-useable bag specifications – also external savings associated with litter clean-up, bag recycling, and processing equipment maintenance

Bag fee values would be split three ways if/when Winter Park grocer comes on line

Not surprisingly, those programs with bans generate less (or no) fees than those with bag fees and are projected to have net programs costs over the entire planning period. Even the hybrid plastic ban/paper fee option will have notable net costs. These would likely make approval by the stores and town boards difficult. However, a program based on \$0.10 fee applied to all plastic and paper checkout bags and evenly split between the grocers and appears may cover costs relatively equally over the next 10 years.

The towns are expected to have higher costs (implementation, enforcement, bag purchase) than grocers, and their net fees are therefore lower. Town costs could be off-set, however, by sponsors who subsidize re-useable bag purchase in exchange for having their company logos prominently displayed.

4.4 Recommendations

Disposable bag programs have proven relatively easy to develop and operate in other Colorado communities and throughout the U.S. Based on preliminary estimations for Grand County, the ability to implement a similar program without investing in new infrastructure or hiring new staff, and the anticipated support from at least one grocer, the towns of Fraser and Granby should continue to explore a potential fee program for single-use checkout bags at the two large groceries. Specific implementation recommendations are detailed in Section 6 and Appendix F.

Key steps for implementing this drop site include:

- Towns of Fraser and Granby promulgate new disposable bag ordinance using Colorado examples in Appendix D and working with Safeway and City Market – ideally these policies (as well as any passed in Winter Park) will include consistent language to make implementation and compliance uniform across the county
- Specify and purchase re-useable bags
- Develop signage and outreach materials
- Implement and enforce
- Track quantities, usage, costs, revenues, customer and grocer needs

5 Other Waste Diversion Improvements

In addition to the key drop site collection and disposable bag policy improvements described previously, the Waste Diversion Task Force identified the following as critical supporting components:

- ✚ **Public Recycling Education and Outreach Program** – to provide consistent, clear messaging about how, what, where, and why to recycle throughout Grand County^{xii}

- ✚ **Grand County Landfill Disposal** – a renewed discussion on the environmental and economic sustainability of local landfill capacity versus long-haul to the front range (modern landfill pictured at right^{xliii})



5.1 What Should a County-Wide Public Education & Outreach Program Entail?

A waste diversion education and outreach program and Grand County will be effective in motivating permanent residents, businesses, and tourists to divert their recyclables and “trash” responsibly. To do this, the program needs to communicate the importance of recycling and how easy it is to participate. This communication needs to be provided in effective sound bites through multiple media that reaches all generator groups – but should be consistent county-wide.

Key Program Components

The Grand County program should be county-wide and include the components listed below.

1. **Determine the Program Framework** – ideally the program objectives will include:
 - Motivating all waste generators to recycle – with targeted messaging for permanent residents, businesses, and tourists (different messages/mechanisms for each group)
 - Inform generators that recycling is easy and convenient – by identifying nearest trash and recyclables collection options using websites, signage, phone applications, brochures, newsletters, infographics, social media, decals, info on re-useable bags, etc.
 - Report diversion rates and other metrics with generators – so they can see the results of their efforts and feel part of the waste diversion “team” during their time in the county

To be universally used throughout the county, credible, and effective all possible stakeholders should participate. Key stakeholders include:

- The county and all municipal governments
- All solid waste haulers (even if their participation in through a sponsorship or contract)
- School districts

- Local businesses – Safeway, City Market, Murdoch’s, etc.
- Rocky Mountain National Park^{xliii} and the Winter Park Resort^{xliiv}
- Environmental non-profits – GRRC, Infinite West

2. **Develop a Simple and Easily-Recognizable Waste Diversion Brand –**

to alert all that Grand County is committed to preserving its unique environment by recycling and trashing responsibly. An effective brand provides instant recognition, and can be easily added to the communication mechanisms described above.

Branding may sound extravagant, but can be as simple as a picture and catch-phrase that identifies the county’s commitment to smart waste management practices. Examples at right include Durango’s program title and graphic; Winter Park Resort’s sustainability brand; and the City of Champaign, IL’s “feed the thing” graphic that portrays its recycling carts as benevolent monsters who must be feed regularly.

Brands can also risk be slightly negative when balanced with a humorous and to-the-point message, as was exemplified by the Defend the Colorado Headwaters Initiative (at right).



3. **Develop Specific Information and Mechanisms for Immediate Programs –** assuming a new Fraser/Winter Park drop site is developed during Phase I, the initial focus of the education and outreach program should be on this facility. As this facility is developed, efforts should be made to make the materials accepted at all drop-site collections in the county uniform to decrease customer confusion and frustration. Information in outreach materials should include:

- What materials are accepted – and options for unaccepted materials
- Hours of operation – which differ for trash and recyclables
- Where trash bags can be purchased – and options for using alternative bags (if available)

- Reinforcement of no-plastic-bags-in-recycling-Dumpsters – this will be a challenge when plastic bags can be used for trash at the same site
- Suggested donations for recyclables – no on-site fees required for any materials
- Penalties for littering

Information for the disposable bag program should help to raise awareness about waste generation and resource conservation, and include:

- Why this program is important
- Where bag fees apply (and why only large grocers are impacted initially)
- Disposable bag options (and options can be found)
- Where to go for additional information
- Penalties for non-compliance for shoppers

4. **Develop Key Messages** – these can be developed over time and address such topics as:

- “If in doubt, throw it out” – this may be contrary to previous recycling mantras but is critical to keeping single-stream “clean”
- “Over 500 tons of plastic bottles will land in Grand County’s garbage this year – will some be from you?”^{xiv}
- “Plastic are recyclable – but not in the single-stream” – focus instead on “free throw” or “keep it loose”^{xlvi} recycling rather than use bags at all
- “See It, report It” – to encourage residents to report illegal dumping^{xlvii}

Good communications can also help address diversion issues such as rate or policy changes (see the Summit County example used to develop variable trash pricing policy).



5. **Develop Special Event and School Recycling Programs** – special event recycling should eventually be a part of all sports events, crafts fairs, farmers’ markets, concerts and other public

venues^{xlviii}. School programs can take many forms ranging from on-site recycling to a full-scale environmental curriculum for multiple grades^{xlix}. Components should include:

- Getting leadership support from administration, operational and maintenance staff
- Identifying a coordinator to develop and oversee implementation – can be a teacher, science class, environmental club, or staff dedicated to the task
- Obtaining funding and in-kind service partners - such as CDPHE, Red Apply Recycling^l, as well as local foundations, non-profits, and haulers
- Piloting, monitoring, measuring, and adjusting the infrastructure or curricula
- Collaborating with other schools in the East and West Grand County School Districts to share resources and reduce costs

Program Costs

Staff (or contractors) with the skills and time to lead a focused effort to conceptualize, develop, brand, and kick off a county-wide public education and outreach program will be needed initially. Assuming reasonable support from Grand County and the local governments, a part-time employee should be able to conduct the first four program components described above plus support special event and school recycling (which is expected to be developed and implemented by in-school coordinators); this requirement will be reduced over time, with an occasional increase when program or policy changes occur. Expenses may include:

- Labor – ranging from roughly \$20,000 in year one for 0.25 full-time equivalents (FTE) to \$8,000 in subsequent years (0.10 FTE)^{li}
- Expenses – will depend on the amount of graphic and website development as well as productions that can be done internally by the county and towns (many of these costs can also be off-set by sponsors and in-kind partners including businesses, local/national non-profit organizations, etc.)

It is reasonable to expect that program development and implementation costs will be in the range of \$30,000 for the first year – or about \$2 for each Grand County resident (industry sources^{liii} recommend \$1/person for on-going maintenance and higher amounts for new programs). On a population basis, this first-year investment equates to about \$17,000 for Grand County; \$2,000 for Fraser; \$4,000 from Granby; 1,000 for Grand Lake; 1,000 for Hot Sulphur Springs; \$3,000 for Kremmling; and \$2,000 for Winter Park. These costs would be roughly halved in subsequent years, but increase based on population. The RREO and US Department of Agriculture grants are two that support public education and outreach programs, and could be pursued to off-set initial program development. Additionally, program sponsorships and in-kind contributions would reduce these costs; these would be easier to secure on a county-wide level due to the potential for regional visibility.

Next Steps

Key implementation steps for a successful education and outreach program include:

- Obtain grant funding for initial development – focused on the drop site and bag policies
- Hire dedicated staff to develop program framework and brand
- Obtain sponsors
- Expand county-wide with special event and school recycling

5.2 Should Waste Diversion Consider Local versus Out-of-County Disposal?

Landfill Issue Should Be Further Explored:

It is not the intent of this study to provide answers or even encourage the development of a new local landfill. Instead, the intent is to support a considered conversation by stakeholders.

Grand County closed its MSW landfill in 2010. Since that time, all materials have been delivered to the Trash Company's transfer station in Granby – this includes all trash (and recyclables) in the County, even if it is collected at the Winter Park Resort. Once loaded into trailers at the transfer station, trash is hauled to the Waste Connections' Landfill in Erie, about 100 miles one way and over Berthoud Pass (recyclables are similarly hauled to north Denver for processing).

While it is not unusual for Colorado communities to transport commingled recyclables to the Front Range or out of state (Colorado's only single-stream processors are located along the Front Range), most counties have one or more MSW landfills and the distance from curb or drop site to landfill is notably less than 100 miles. There is no doubt that landfills have myriad potential impacts locally including noise, odor, air and groundwater pollution, and incur the cost of mitigating these impact and operations. Long-distance hauls, however, include tip fees at the ultimate host landfill that cover these same costs plus additional fuel, transfer operations and equipment. They also add significant environmental impacts, such as fossil fuel consumption and air emissions.

The Waste Diversion Task Force realized that as Grand County works to decrease its reliance on landfill through enhanced waste diversion activities, the broader need to conserve resources should also be considered. As a result, the Task Force raised questions about the ramifications of continually hauling Grand County's trash and recyclables to the Front Range.

Landfill Disposal Questions

To fully address the Task Force's concerns on this issue, a dialogue should consider all areas associated with disposal of the county's trash. The conversation should include county and municipal governments, haulers, and the transfer station operator in an all-inclusive discussion. The following questions are suggested as a basis for that discussion:

- 1. Could residential and businesses trash fees (both curbside and drop site) be reduced if there was an MSW landfill in the county?**

At \$113/ton, the transfer station's tip fees are almost double the next highest in Coloradoⁱⁱⁱⁱ in part because it includes transfer operation and long-distance haul, which the others do not.

- 2. How would the Trash Company's transfer station operations be impacted if there was another landfill in the county?**

The transfer station was built in 2010 in response to the closure of the Grand County Landfill and fills a critical waste management need at this time. If a new landfill is located in the western part of the county, the viability of the transfer station's role needs to be considered.

- 3. How do the additional environmental impacts of long-distance transfer reconcile with the environmental sustainability needs of Grand County?**

It is estimated that approximately five times as much fossil fuel is consumed and five times as many tons of greenhouse gases are generated from downstream (tailpipe) emissions^{liv} by hauling trash to Erie instead of a local landfill.

4. Given on-going technology improvements and regulatory requirements, what are the potential noise, odor, air (methane) and groundwater impacts of a new landfill in Grand County? Depending on location, what are the transportation impacts locally?

A new MSW landfill would have to have acceptable site conditions, buffer areas, and acreage to accommodate trash generation over the next 30 years, which points to a location in the western part of the county farther from more population areas but still proximal to Highway 40.

5. Could a new MSW landfill serve other counties and assess additional tip fee revenues to off-set costs?

Jackson County to the north does not have a landfill in its borders. Southern Routt County could also potentially be served by a landfill in western Grand County.

6. Are there private partners who might own and/or operate a new MSW landfill? Are there public sector incentives that would make private investment feasible?

Understanding that Grand County may not be interested in owning another landfill, the ability to incentivize and support potential private waste management companies would be key to the economic viability of a new rural landfill that manages as little as 15,000 tons of in-county waste (a tonnage that could decrease as recycling efforts expand). Opportunities for a partnership include local government assistance in locating, obtaining, and permitting a landfill site; directing tons to the landfill in any collection contracts^{lv}; and assisting to broaden the facility's service area beyond Grand County.

It is also noted that there are other MSW landfills outside of Grand County that could potentially manage Grand County's trash (e.g., Summit County is 75 miles away in Keystone and Milner Landfill is 90 miles away in northern Routt County). Neither of these facilities are significantly closer than the Waste Connections' landfill in Erie, however. Given Waste Connections' ownership of the Trash Company and its Granby transfer station, transferring to an out-of-county disposal facility is not likely.

7. Although Colorado is used to hauling recyclables many miles to processors and markets, at what point do the environmental impacts of a long-distance haul of these materials outweigh the actual benefits of recycling?

This question is regularly asked by rural communities. While an environmental impact assessment specific to Colorado has not been made, pertinent facts confirmed on a national level include i) single-stream that includes glass increases transportation costs and decreases the value of all recyclables, ii) aluminum can be hauled 121,000 miles before the energy used for transportation equals the energy saved from using recovered instead of virgin material (glass can be hauled 1,300 miles at the same balance point – all other traditional materials fall in between aluminum and glass)^{lvi}, and iii) as Grand County recycles more in the future there will be an economy of scale that decreases the unit cost (\$/ton) of management.

Another consideration is the lack of a single-stream processing facility on the western slope or in the mountain region of Colorado to serve the western half of the state. Such a facility would notably reduce the haul distances required and environmental impacts imposed.

8. Does the public need to better understand the issues around local landfill versus long-distance transfer?

Over 66% of the respondents to the Town of Fraser’s 2016 trash/recycling survey answered “I don’t know” when asked if the transfer system is a good alternative to local landfilling.

Next Steps

The Task Force should initiate a general discussion about Grand County landfill feasibility in Phase II once the new Fraser/Winter Park drop site and bag policies are in place. Given the magnitude of this discussion it is recommended that single-topic meetings be conducted, and the county, towns, haulers and Colorado Department of Public Health and Environment be included.

6 Ten-Year Waste Diversion Implementation Strategy

The implementation strategy developed around the policies, programs, and infrastructure improvements described in this document is presented on the following pages (additional implementation guidance is provided in Appendix G).

6.1 Implementation Steps & Schedule

Table 6-1 (on this page and the next) includes suggested sequencing for implementation steps in Phase I, Phase II, and Phase III. The three-phase schedule is generally flexible except for the RREO grant/rebate funding deadlines in Phase I.

The following designation has been used to clarify recommendations: D for drop site tasks, B for disposable bag policy tasks, E for education/outreach tasks, L for landfill discussion, and O for other suggested tasks. “Other” recommended activities supplement those developed in this document and support an on-going waste diversion strategy; they have not been analyzed in terms of components, schedule, or costs, however.

Table 6-1 Waste Diversion Implementation Steps

	<i>RESPONSIBLE PARTIES</i>	<i>TASK</i>	<i>COMPLETION DATE</i>
PHASE I (2016-2018)			
<i>NEW DROP SITE</i>	Towns of Fraser & Winter Park	D1 - Identify site	December 2016
		D2 - Establish Fraser/Winter Park Agreement for Roles, Responsibilities and Funding	March 2017
		D3 – Obtain RREO Grant Funding for Site Development	May 2017
		D4 – Develop Site	July 2017
		D5 - Obtain Hauler Bids & Negotiate Contract	August 2017
		D6 - Confirm Trash Bag Source & Establish Retail Partners for Bag Sales	August 2017
		D7 – Begin Operations & Enforce	September 2017
		D8 – Obtain RREO Rebate for Operations	August 2018
<i>BAG POLICY</i>	Towns of Fraser & Granby (Winter Park in future)	B1 - Evaluate Potential Programs with Grocers & Verify Assumptions	June 2017
		B2 – Promulgate Ordinance	June 2017
		B3 - Evaluate Re-Useable Bag Specification, Distribution & Sponsors	December 2017
		B4 – Implement & Enforce	March 2018
<i>EDUCATION</i>	Grand County & Towns	E1 – Obtain Grant Funding for Initial Program Development	May 2017
		E2 – Obtain/Dedicate Part-Time Staff or Contractor	May 2017
		E3 – Develop Program Framework & Brand	June 2017
		E4 – Establish Program Partners & Sponsors	June 2017

		E5 – Develop Drop-Side Education Campaign	July 2017
		E6 – Develop Bag Policy Education Campaign	January 2018
		E7 – Develop County-Wide Materials	June 2018
LANDFILL	Task Force		Delay Until Phase II
OTHER		O1 – Determine County Waste Diversion Leadership & How to Structure ^{lvii}	
		O2 – Encourage Textile Reuse/Recycling	
		O3 – Encourage Food Donations	
		O4 – Evaluate County-Wide Hauler Ordinance	
		O5 - Repeat County Trash Audits	
PHASE II IMPLEMENTATION (2019-2022)			
NEW DROP SITE	Towns of Fraser & Winter Park	D9 – Measure & Revise	September 2019
		D10 – Expand (possibly Hot Sulphur Springs)	September 2020
		D11 – Work with Grand Lake & Grand County to Regionalize Drop Sites	December 2020
		D12 - Evaluate Out-of-County Facility Options	Prior to contract rebid
		D13 – Rebid Hauler Contract	3 months prior to contract expiration
BAG POLICY	Towns of Fraser & Granby	B5 - Measure & Revise	March 2019
		B6 – Encourage Voluntary Participation by Other Retailers	March 2020
		B7 – Expand Ordinance to Other Stores	March 2021
EDUCATION	County & Towns	E8 – Implement Special Event Recycling	June 2019
		E9 – Implement School Recycling	January 2020
		E10 – Update Program Materials.	June 2020
LANDFILL	Task Force	L1 – Initiate Discussion	June 2019
OTHER		O6 – Update Waste Diversion Strategy	
		O7 – Repeat County Trash Audits	
PHASE III IMPLEMENTATION (2023-2026)			
NEW DROP SITE	Towns of Fraser & Winter Park	D14 – Measure & Revise	On-going
		D15 – Rebid Hauler Contract	3 months prior to contract expiration
BAG POLICY	Fraser & Granby	B8 – Measure & Revise	July 2023
EDUCATION	County & Towns	E11 – Add Waste Curriculum to Schools	Optional
		E12 – Promulgate Policy Requiring Special Event Recycling	Optional
LANDFILL	Task Force	L2 – Continue Discussion	On-going
OTHER		O8 - Organics Recovery	
		O9 – Evaluate Glass-Out of Single-Stream and/or Dedicated Glass & Cardboard Collection	
		O10 – Update Waste Diversion Strategy	
		O11 – Repeat County Trash Audits	

6.2 Overall Cost of Improvements

It is expected that one or more of the waste diversion improvements evaluated during this study will be implemented. The collective costs have been considered in Table 6-2 (on the next page). Due to the inability to quantify sponsorships, RREO rebates, or other funding they have not been included in the table, but would be expected to help off-set the remaining net costs. It shows a planning period range of net costs (as low as \$2,000/year) and net revenues for the towns (as high as \$15,000/year): for the county net revenues from (\$9,000) to (\$17,000) annually. These ranges depend upon the town, the programs they participate in, and the phase of implementation; for example, Grand County is expected to have costs associated with public outreach in the incorporated areas but not necessarily to partner on the revenue-generating programs. Should the county or towns successfully pursue sponsors, grants, and in-kind contributors their respective activities could be cost-neutral or better.

Finally, if the scope of these programs is expanded such that more towns and the county participate in revenue-generating opportunities, the overall ability for break-even waste diversion systems is possible.

Table 6-2 Collective Waste Diversion Improvements Cost Impacts (2016\$)

IMPROVEMENT	OPERATING NET REVENUES (COSTS)			
		Phase I	Phase II	Phase III
<i>DROP-SITE</i>	Based on highest hauler costs, \$6/trash bag, \$2 donations, 50/50 town/grocer split	Fraser – \$4,000 Winter Park - \$4,000	Fraser – \$6,000 Winter Park - \$6,000	Fraser – \$12,000 Winter Park - \$12,000
<i>DISPOSABLE BAG POLICY</i>	Based on \$0.10/bag fee, 50/50 grocer/town split & 50/50 town share	Fraser - \$4,000 Granby - \$4,000	Fraser - \$3,000 Granby - \$3,000	Fraser - \$4,000 Granby - \$4,000
<i>EDUCATION PROGRAM</i>	Excludes school curriculum (based on population)	County - (\$17,000) Each Town (average) - (\$2,000)	County - (\$9,000) Each Town (average) - (\$1,000)	County - (\$11,000) Each Town (average) - (\$1,000)
<i>TOTAL</i>	Total Per Town Cost Total Grand County Cost	Fraser - \$10,000 Winter Park – \$2,000 Granby - \$2,000 Other towns – (\$2,000) County - (\$17,000)	Fraser - \$8,000 Winter Park - \$5,000 Granby - \$2,000 Other towns – (\$1,000) County - (\$9,000)	Fraser - \$15,000 Winter Park - \$13,000 Granby - \$3,000 Other towns – (\$1,000) County - (\$11,000)

The net revenues (costs) shown in Table 6-2 do not include sponsorships or RREO rebate dollars. They include population growth but do not escalate the future worth of current estimates.

There are some net revenues shown in Table 6-2 that result from the collective implementation of all waste diversion improvements addressed in this document. Actual costs may vary. It is expected that fees charged, rebates sought, and sponsorship dollars collected will be appropriately adjusted for general cost-neutral operations. In the instance of ultimate revenue generation by any town or the county, it is expected that net revenues would be used to support other waste diversion programming and infrastructure.

6.3 Final Observations

This study was successful in i) developing a workable baseline against which to evaluate future system changes and track progress; ii) identifying initial improvements to catalyze Grand County's commitment to waste diversion and improve service options; and iii) crafting an implementation strategy over the next 10 years. The improvements analyzed in this document have the real potential value to Grand County by collectively:

- Increasing waste management services
- Increasing waste diversion and reducing reliance on long-distance hauling to Front Range disposal facilities
- Developing strong partnerships and sponsorships to maintain cost-effectiveness
- Operating a cost-neutral system

There are several final study observations g the study findings, noted below.

- 1. Initial Improvements Have Benefits Beyond Diversion** – recycling at a new drop site may not be significantly greater than current practices as some existing recyclers are expected to shift from Granby to the Fraser/Winter Park drop sites. New recyclers (for whom diversion was not previously convenient) and new quantities will likely be added over time; this quantity is hard to estimate, however. Additionally, the reduction in disposable bags will not move the diversion needle notably due to low weight and the education program will only lead indirectly to diversion over an extended period. Taken collectively, however, these programs will:
 - Greatly raise awareness about waste generation and resource conservation in Grand County for permanent residents, businesses, and tourists
 - Increase the number and convenience of collection services in the southern end of the Fraser River Valley at lower costs than they are currently paying
 - Create an over-arching education and outreach program that will unify the county's commitment to waste diversion and the system improvements with messaging that is not only compelling but consistent from the Winter Park Resort to "Rocky"
- 2. Grand County & Town Involvement is Critical** – although the Town of Fraser has single-handedly conceived, funded, and implemented this project, it will not be able to notably change the rate of waste diversion in Grand County on its own. Ideally the improvements assessed in this document will be embraced on a county-wide basis, with all governments and stakeholders collaborating as appropriate. There likely will be a leadership role for the voluntary Waste Diversion Task Force throughout the planning period.
- 3. Need to Start Program & Policy Development Now** – while initial research into feasibility, logistics, and costs has been conducted as part of this study, the tasks described in Tables 6-1 will require many time consuming actions before implementation can actually occur: public vetting, approval by elected officials, town budgeting, grant funding, securing staff/contractors, and preliminary program development. It is important for the responsible parties to begin work in 2016 to drive a reasonable schedule and effect real change in Grand County's MSW system.

4. Evaluate Local Leadership Mechanism – While the Towns of Fraser, Winter Park and Granby can proceed independently on the infrastructure, policy and programs described in this study, overall effectiveness will be greatly enhanced if the entire county participates. To make such an effort run smoothly, leadership will be needed. This can be provided by the Grand County governmental body, by multiple local governments working together under an intergovernmental agreement or from an independent third-party. The later would most likely be a non-profit organization that can effectively pursue grants, develop and implement outreach campaigns, coordinate and oversee small facilities (such as drop-site collections), track policy efforts and other activities^{lviii}. There are currently two non-profits in Grand County (Infinite West and GRRC) whose mission is consistent with waste diversion. Developing this leadership is beyond the scope of this study, however, and should be rigorously evaluated early in Phase I implementation.

7 Report Notations & Referenced Sources

ⁱ Photo credits winterparklodgingcompany.com and safari.jambotours.sc.

ⁱⁱ There are only 19% owner- and renter-occupied housing units in Town of Winter Park in 2010 per www.nwccog.org/index.php/resources/demographics-of-the-region/grandcounty.

ⁱⁱⁱ Colorado State Demography Office, October 2015.

^{iv} Private companies who compete for business rarely choose to share data (the Trash Company declined to provide current MSW numbers for the transfer station). In addition, many materials (e.g., bulbs, thermostats, tires, oil, ewaste, pharmaceuticals, etc.) are not tracked. Finally, some program managers were not available to provide data (e.g., the Fraser Thrift Store was closed for renovation when this study was conducted).

^v It is probable that this quantity underestimates the total MSW as some small-volume items are not tracked.

^{vi} When Colorado's scrap metal was included, the 2014 diversion was 23%. The national diversion average was 34% in 2013.

^{vii} Due to the limitations of the audit data collected, the results cannot be assumed to fully and accurately represent Grand County's waste and recyclable streams over an extended period (especially in the high season), and should be used judiciously.

^{viii} The audit protocol can be found in the "Grand County Municipal Solid Waste & Recyclables Audit," prepared by LBA Associates for the Town of Fraser (April 2016). The full audit results can be found in the "Trash & Recyclables Audit Findings" report also prepared by LBA Associates (May 2016).

^{ix} In fact, there is very limited processing infrastructure for CDD materials in Colorado.

^x Contamination levels below 10% in single-stream recyclables are generally considered reasonable.

^{xi} State of Colorado Demography Office, October 2015.

^{xii} Additionally, there are smaller sites through Grand County that serve multi-family and neighborhood locations with two or more centralized recycling and/or trash containers. These are typically limited to specific residential or business use and not open to the general public.

^{xiii} 89% and 47% of respondents to the Town of Fraser's 2016 "County-Wide Trash and Recycling Survey," reported that would use a drop site in Fraser and Winter Park, respectively.

^{xiv} Variable rate systems (often called PAYT or save-as-you-recycle in some Colorado communities) references fee systems tied to trash quantity. They establish larger fees for those who have more trash and create an incentive for reducing trash quantities through reuse, reduction, and recycling. These systems can be applied to curbside or drop site programs, and can be used with rigid collections containers or bags.

^{xv} RREO offers annual rebates for public drop-site operational costs to successful applicants, but require minimum operations of 12 hours/week and 12-CY capacity.

^{xvi} Dumpsters have an advantage over larger roll-off containers because i) they can be collected by smaller compaction vehicles already used on daily routes, ii) all trash or all recyclables Dumpsters can be emptied by one vehicle at one time, iii) use of Dumpsters allow more flexibility for a small site whose quantities and growth are unknown, and iv) compaction vehicles require much less turning and maneuvering room than trucks that service roll-offs (allowing for smaller drop sites). The down side is that more Dumpsters are required and must be emptied more often. Additionally, compaction vehicles are not economical to haul further than the Granby transfer station and do not support strategies for hauling materials directly to alternative facilities. Six-cy Dumpsters are compatible with existing compaction equipment of local haulers.

^{xvii} It was observed in the Town of Fraser's 2016 "County-Wide Trash and Recycling Survey" that only 35% of respondents were willing to pay for trash at a drop site – although it is unclear whether these parties understood that this option could be used in lieu of curbside collection (which will likely cost more than drop site).

^{xviii} Monthly curbside costs in Grand Lake are reported to be about \$45/household for trash only (White, April 2015), while drop-site costs are only \$20 for homes that generate only one 40-gallon bag each week.

^{xix} Based on Colorado State Demography Office data, Grand County population growth between Phase I and Phase II is 1.11%, and between Phase II and Phase III is 1.13% (October 2015 estimates).

^{xx} Hauler cost estimates assume that trucks and Dumpsters used by haulers are fully paid for and that no amortization expenses are included in contract pricing.

^{xxi} Based on assumed 950 households using drop site for recycling once/month and paying a \$2 donation 50% of the time.

^{xxii} Based on a trash bag filled to 40 pounds.

^{xxiii} Based on the plasticplace.com cost for 40-gallon bags (at least 80 cases, 100 bags/case) the purchase price would be about \$28/case.

^{xxiv} Both Grand Lake and the Trash Company currently charge \$5 for each 40-gallon trash bag at their drop sites.

^{xxv} The Trash Company's transfer station tip fees for both trash and recycling are among the highest – if not the highest - in Colorado. It includes transfer operations, long-distance haul, and tip fees (either at the Waste Connections Landfill in Erie or the Waste Management Materials Recovery Facility in Denver).

^{xxvi} Photo credits treehugger.com, micromediapubs.com, and the Oregonian article on statewide bag ban (December 2012)

^{xxvii} Based on an average 370 bag/person-year estimate generated by Aspen and Boulder (“Triple Bottom Line Evaluation – Plastic Bag Policy Options,” prepared by Brendle Group for the City of Fort Collins, October 2012) and projected Colorado population (State Demography Office, October 2015).

^{xxviii} Rates of reuse for these purposes are as high as 43% (per the “Life Cycle Assessment of Supermarket Carrier Bags: A Review of the Bags Available in 2006,” by Edwards and Fry, 2011.

^{xxix} Boulder County Recycling Center estimated a cost of \$187,000/year (“Disposal Bag Fee Nexus Study,” prepared by TischlerBise for the City of Boulder, September 2012.

^{xxx} “Key Findings – The Cost of Americans Littering,” Keep America Beautiful, January 2010

^{xxxi} Franklin Associates, Ltd. data as reported in “Paper or Plastic? A Look at the Facts, Myths and Number of Shopping Bags,” Huffington Post, May 2011.

^{xxxii} Over 150 U.S. cities and counties have disposable bag policies. California has a state-wide bag ban and Hawaii has a de facto statewide policy through county ordinances.

^{xxxiii} Other programs that have considered but not successfully adopted bag policies include Basalt (defeated in a public policy vote), Denver, Fort Collins, Frisco, Nederland and Snowmass Village. Grocers in the Town of Mountain Village have voluntarily implemented a plastic bag ban and \$0.25 fee on paper bags.

^{xxxiv} These were primary arguments that supported Aspen's still-pending (but apparently successful) lawsuit brought by the Colorado Union of Taxpayers claiming the policy proposed a tax instead of a fee and therefore required a public vote. Other program components that solidified the city's position included a separate form for grocer remittance of fees, grocer accounting requirements, penalties for grocer violations and late remittance, development of a dedicated municipal fund for payment of remitted fees, and defense for not conducting rigorous and expensive pre-policy research (as large grocers refused to provide bag quantity or cost data).

^{xxxv} This 1989 law has been unsuccessfully challenged once but will likely be targeted in future legislation.

^{xxxvi} Exemptions vary by community but can include bags used for bakery goods, candy, frozen foods/meat/fish, fruit, grains, nuts, unwrapped foods, vegetables; containing liquor; for door-hanger material, dry-cleaning or garments, newspapers, prescription drugs, and small hardware; for containing flowers and plants; for buying in bulk for food storage, garbage, pet waste, yard waste, etc.; and non-handled bags used to protect purchase/prevent from contaminating other. Some also exclude thicker bags (2.25 mils or greater) that are more typically used for pet waste, trash, etc.

^{xxxvii} 53% of the respondents in the Town of Fraser's 2016 “County-Wide Trash and Recycling Survey,” reported the use of re-useable shopping/grocery bags currently.

^{xxxviii} The estimated Grand County bag use is lower than Aspen's estimate of 342 bags/person-year (as reported in the “Triple Bottom Line Evaluation – Plastic Bag Policy Options,” prepared by Brendle Group for the City of Fort Collins, October 2012.

^{xxxix} It is noted that 80% of respondents in the Town of Fraser's 2016 “County-Wide Trash and Recycling Survey” opposed a ban on paper bags, while 59% supported a plastic bag ban. Similarly, most opposed a fee on paper

bags, but 65% supported a fee on plastic. Comprehensive outreach will be needed to educate and compel bag users to understand the basis of this program and support policy changes.

^{xi} “Disposal Bag Fee Nexus Study,” prepared by TischlerBise for the City of Boulder, September 2012 for bag fee programs only. Aspen has found that paper checkout bags have increased since its plastic bag ban was implemented (although plastic bags have been reduced to zero).

^{xlii} Photo credit www.smgov.net.

^{xliii} Photo credit iespia.com.

^{xliiii} Rocky Mountain National Park is the third busiest in the country with over 3 million visitors a year – all of whom generate trash and recyclables during their visit. 2016 is the National Park Service’s 100th anniversary and a good time to involve “Rocky” in an outreach campaign to recycle and “trash” responsibly.

^{xliiv} Winter Park Resort diverts single-stream recyclables, cardboard, and other materials from office, public space, and employee drop site areas (and are currently evaluating the addition of source-separated glass collection). The ski area charges employees a one-time \$20 fee to become CONNEXION members, use the drop site, and support the area’s environmental ethic.

^{xliiv} Based on 3.3% plastic #1/#2 bottles in the samples sorted during the May 2016 trash audit and 2014 total MSW quantities – this value may vary as total quantities increase as with seasonal trash composition fluctuations.

^{xlivi} Town of Cary, NC public education campaign.

^{xliiii} Niagara Region Public Works Illegal Dumping Working Group – Niagara, NY.

^{xliiii} Boulder requires all special events to obtain a permit with specific recycling and organics collection requirements.

^{xlix} Good examples include Delta County School District 50J (part-time environmental coordinator/Colorado Parks and Wildlife teaching nearly 1,000 students; Boulder/Broomfield County Schools (contract with EcoCycle to reach over 40,000 students/year through recycling/composting, “litter-less” lunches, tours, etc.); “How to Start a Recycling Program in Your School,” by Saint Louis County, MO Public Health; “Organizing Cafeteria Recycling Programs in Elementary Schools,” by the Los Angeles County, CA Department of Public Works; “Talking Trash in Tucson – A Middle School Curriculum on Recycling,” by the City of Tucson, AZ; and Buncombe County School Recycling Program (2006 SWANA Recycling System Excellence Nominee)

^l Red Apple Recycling is a Denver-based non-profit organization that uses textile donation programs to fund a school grant program (schools must collect clothing and small household items) to be eligible for a grant award.

^{li} Based on average staff rate of \$38/hour including benefits provided by the Town of Fraser.

^{lii} Based on reports from the Solid Waste Association of North America and Curbside Value Partnerships in SWANA’s “Manager of Recycling Systems Training Manual,” prepared by Kessler Consulting, 2009.

^{liii} Some of the next highest tip fees are Summit County (\$60/ton compacted, \$78/ton loose) and Pitkin County (\$64/ton).

^{liiv} Based on 2014 MY Voluntary Fuel Consumption Standards (day cab) and the 2014 MY CO2 Standards – from the “Final Rulemaking to Establish Greenhouse Gas Emission Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles,” EPA-420-R-11-901-Aug 2011.

^{liv} Flow control policies have not been tested in Colorado at this time.

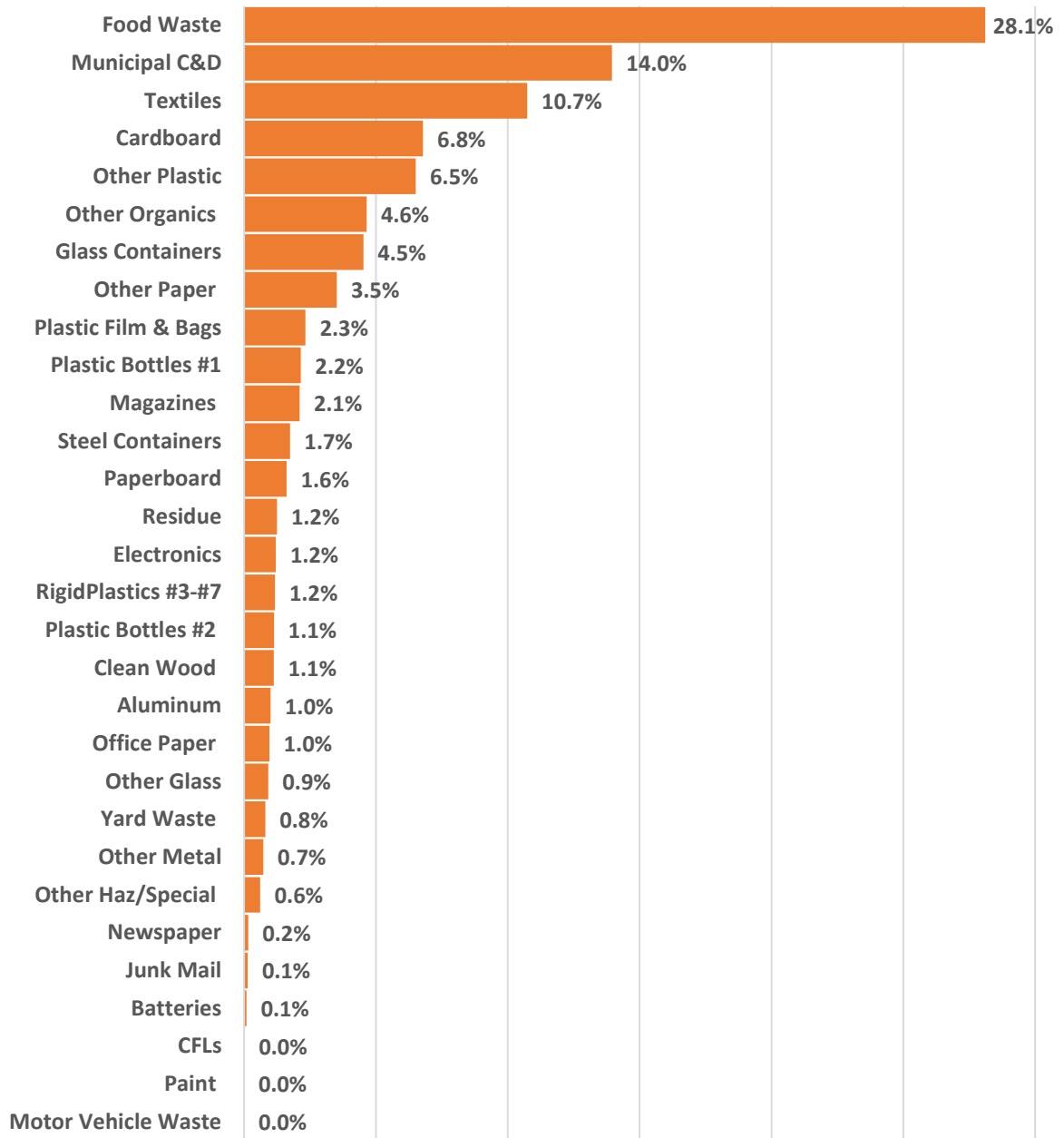
^{lii} David Allaway/Oregon Department of Environmental Quality, “Materials Management, Climate and Waste: Making the Connections,” presentation at the 2008 Colorado Summit for Recycling, May 2008.

^{liii} While this is technically beyond the scope of this study, this consideration should compare and contrast leadership by Grand County, by multiple governments in an inter-governmental relationship and by a third-party non-profit organization. The later would likely be overseen by a board of directors including representatives from each government and would be responsible for education and outreach, drop site operations, bag policy implementation, grant writing, etc.

^{liiii} High County Conservation Center is a non-profit that conducts extensive waste diversion activities in Summit County. HC3 is the primary promoter and educator for recycling and composting, operates special waste collections, gives numerous tours and generally provides the “glue” that links the Towns of Breckenridge, Dillon, Frisco and Silverthorne with Summit County to support a regionally consistent and well-used system.

Appendix A
Grand County Waste Audit Results (May 2016)

Composition of Aggregated Municipal Trash Samples by Material (percent by weight)



Appendix B

Improvements Indicated by Waste Audit Results

Improvements Indicated by Waste Audit Results

	<i>CURRENT PRACTICE</i>	<i>REASON</i>	<i>NEEDED STEPS</i>
<i>TEXTILE DONATION & REUSE</i>	Some donation (more clothing from residents than commercial bedding, bath, etc.)	High seasonal generation of good condition items	Generator education, thrift store support
<i>FOOD DONATION</i>	Safeway (Fraser) and City Market (Granby) donate bakery, dairy, meat & product	Food waste is highest component in MSW and donation programs exist	Expand to other food stores and restaurants, support food distribution organizations
<i>EXPANDED DROP-SITE SINGLE-STREAM RECYCLING</i>	GRRC/Granby Ace location is staffed by volunteers during business hours (9 am to 1 pm Saturdays only)	GRRC model very successful (volume and quality) but hours do not meet residential demand	Expand hours at this location and/or add other (staffed) locations, evaluate ways to use paid staff, collect trash, serve visitors/tourists
<i>REPEATED MSW AUDITS</i>	Limited audit conducted May 2016 but limited to one day in low season	Current baseline not fully established, future product changes & consumption practices require updates	Additional audits 1-2 years for baseline, repeat audits every 4-5 years (can work with haulers, transfer station)
<i>DEDICATED GLASS & CARDBOARD COLLECTION</i>	Glass & cardboard are collected as part of commingled single-stream	Glass is costly to ship (heavy) & breakage contaminates single-stream, cardboard is costly to ship (bulky) & is easily contaminated	Evaluate high season demand, economics of separate collections versus potential material revenue increases
<i>ORGANICS PROCESSING</i>	None beyond grocery food donation (Winter Park Ranch Water & Sanitation District's digester is aerobic)	Food waste is highest component in MSW (biggest MSW diversion potential through digestion or composting), yard waste & biosolids could also be composted	Research available tons, ability to co-process & private partners (processing options are capital-intensive)

Appendix C

Example Drop-Site Hauler Contract (Pitkin County)



CONTRACT FOR PROVISION OF SERVICES

Haul Recyclables from Pitkin County Solid Waste Center to appropriate processing facility

THIS CONTRACT is made and entered by and between the Pitkin County Board of County Commissioners ("County") and Waste Management, (hereinafter "Contractor").

1. Term. The term of this contract is from April 1, 2014 to March 31, 2019.
2. Contractor's Obligations. Contractor shall design, implement, and haul single stream recycling as detailed in the proposal dated November 18, 2013. The proposal is attached and incorporated herein as Attachment A. Contractor shall pay the County \$ [REDACTED] per container to purchase gable top rolloff containers as outlined in the proposal. The number of gable top rolloff containers made available for purchase by Contractor shall be at the County's discretion. The proposal includes services to be provided by Contractor at various sites; however, continued operation of these sites is at the County's discretion. The County shall not be obligated to continue payments to Contractor for any site closed by the County for which Contractor previously, or offered to, provide(d) services as outlined in the proposal.
3. Compensation and Expenses, Invoicing, Payment and Offset. The County shall compensate Contractor for its services in accordance with the Project Budget and Schedule set out in Paragraph 2. It is expressly understood and agreed that in no event will the total compensation and reimbursement to be paid hereunder exceed the sum of \$ [REDACTED] per year for all services rendered. By contract or amendment, the County and Contractor may reallocate the budget among project tasks if the total budget amount remains unchanged. Contractor shall invoice for the project monthly based on hours worked, with payment expected within thirty (30) days of invoice, but any payment by the County may be offset by any amount the Contractor owes the County for any reason.
4. County's Exclusive Ownership of Work Product. Drawings, specifications, guidelines and other documents prepared by Contractor in connection with this contract shall be the property of the County. However, Contractor shall have the right to utilize such documents in the course of its marketing, professional presentations, and for other business purposes. Contractor assigns to County the copyrights to all work prepared, developed, or created pursuant to this contract, including the right to: 1) reproduce the work; 2) prepare derivative works; 3) distribute copies to the public; 4) perform the works publicly; and 5) to display the work publicly. Contractor shall have right to use materials produced in the course of this contract for marketing purposes and professional presentations, articles, speeches and other business purposes.
5. Pitkin County's Obligations. Pitkin County shall administer this contract through a County Representative. Hilary Burgess will manage the project as the County's Representative. The services

provided and products delivered by the Contractor under this contract will be subject to review by the County's Representatives, or a designee, for compliance with Contractor's obligations prior to final payment.

6. Termination Prior to Expiration of Contract Term. The County has the right to terminate this contract, with or without cause, by giving written notice to the Contractor of such termination and specifying the effective date thereof. Such notice shall be given at least thirty (30) days before the effective date of such termination. In such event all finished or unfinished documents, data, studies and reports prepared by the Contractor pursuant to this contract shall become the County's property. Contractor shall be entitled to receive compensation in accordance with the contract for any satisfactory work completed pursuant to the terms of this contract prior to the date of termination. Notwithstanding the above, Contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of the contract by the Contractor.

7. Independent Contractor Status.

A. The parties to this contract intend that the relationship between them contemplated by the contract is that of independent contractor. Contractor, and any agent, employee, or servant of Contractor shall not be deemed to be an employee, agent, or servant of Pitkin County.

B. Contractor is not required to offer his services exclusively to Pitkin County under this contract. Contractor may choose to work for other individuals or entities during the term of this contract, provided that the basic services and deliverable products required under this contract are submitted in the manner and on the schedule defined under this contract.

C. Contractor warrants that all work produced will conform to all applicable industry standard of care, skill and diligence in the performance of Contractor's obligations under this contract.

D. Contractor shall not attempt to oversee or supervise the work or actions of any Pitkin County employee, servant or agent in the course of completing work under this contract.

E. Contractor is not entitled to any Workers' Compensation benefits through Pitkin County and is responsible for payment of any federal, state, FICA and other income taxes.

8. Assignability. This contract is not assignable by either party. Any use of subcontractors by the Contractor for performance of this contract must be accepted in writing by the County.

9. Binding Arbitration. Any disputes arising out of this contract shall be subject to binding arbitration. The parties agree that any disputes concerning the terms and conditions of this contract shall be submitted and finally settled by arbitration. Arbitration shall be conducted pursuant to the rules of the American Arbitration Association and shall be presided over by the Pitkin County Hearing Officer appointed to arbitrate Pitkin County contract disputes. Costs of the arbitration shall be awarded to the substantially prevailing party.

10. Severability. In the event that any provision of this contract shall be held to be invalid or unenforceable, the remaining provisions of this contract shall remain valid and binding upon the parties hereto

11. Integration and Modification.

A. This contract represents the entire and integrated contract between the County and the Contractor and supersedes all prior negotiations, representations, or contract, either written or oral. This contract may be amended only by written contract signed by both the County and the Contractor.

B. The County may, from time to time, request changes in the scope of services of the Contractor to be performed hereunder. Such changes, including the increase or decrease in the amount of the Contractor's compensation, which are mutually agreed upon between the County and the Contractor, shall be in writing and upon execution shall become part of this contract.

12. Indemnity.

A. The Contractor agrees to indemnify, hold harmless and, not excluding the County's right to participate, defend the County, its subsidiary, parent, associated and/or affiliated entities, successors, or assigns, its elected officials, trustees, employees, agents, volunteers, and any jurisdiction or agency issuing permits for any work included in the project, hereinafter referred to as indemnitee, from all suits and claims, including attorney's fees and cost of litigation, actions, loss, damage, expense, cost or claims of any character or any nature arising out of work done negligently or in omission in the performance of services in fulfillment of the terms of this Contract or on account of any act, claim or amount arising or recovered under workers' compensation law or arising out of the failure of the Contractor to conform to any statutes, ordinances, regulation, law or court decree. It is agreed that the Contractor will be responsible for primary loss investigation, defense and judgment costs where this contract of indemnity applies, except to the extent any suit or claim is caused by the negligence or willful misconduct of an indemnitee. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the County its subsidiary, parent, associated and/or affiliated entities, successors, or assigns, its elected officials, trustees, employees, agents, and volunteers for losses arising from the work performed negligently or in omission in the performance of services by the Contractor for the County.

B. The Contractor further shall investigate, process, respond to, adjust, provide defense for and defend, pay or settle all claims, demands, or lawsuits related hereto at its sole expense and shall bear all other costs and expenses related thereto, even if the claim, demand or lawsuit is groundless, false or fraudulent.

13. Insurance. Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

The County in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, its agents, representatives, employees, or subcontractors. The Contractor shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverages. The Contractor is not relieved of any liability or other obligations assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types.

A. Coverage and Limits of Insurance. Contractor shall provide coverage with limits of liability not less than those stated below. An umbrella and/or excess liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a "following form" basis.

1. Statutory Workers' Compensation: Colorado statutory minimums

- a. Policy shall contain a waiver of subrogation against the County.
- b. This requirement shall not apply when a contractor or subcontractor is exempt under Colorado Workers' Compensation Act., AND when such contractor or subcontractor executes the appropriate sole proprietor waiver form.

Minimum Limits:

Coverage A (Workers' Compensation)

Statutory

Coverage B (Employers Liability)	\$	500,000
	\$	500,000
	\$	500,000

2. Commercial General Liability – ISO ICG 0001 form or equivalent.
(With County named as an additional insured)

Minimum Limits:

General Aggregate	\$	
Products/Completed Operations Aggregate	\$	
Each Occurrence Limit	\$	
Personal/Advertising Injury	\$	
Fire Damage (Any One Fire)	\$	
Medical Payments (Any One Person)	\$	

Coverage to include:

- Premises and Operations
- Explosions, Collapse and Underground Hazards
- Personal / Advertising Injury
- Products / Completed Operations
- Liability assumed under an Insured Contract (including defense costs assumed under contract)
- Independent Contractors
- Designated Construction Projects(s) General Aggregate Limit, ISO CG 2503 (1997 Edition or equivalent)
- Additional Insured—Owners, Lessees or Contractors Endorsement, ISO Form 2010 (2004 Edition or equivalent)
- Additional Insured—Owners, Lessees or Contractors Endorsement, ISO CG 2037 (2004 Edition or equivalent)
- The policy shall be endorsed to include the following additional insured language on the Additional Insured Endorsements specified above: "County, its subsidiary, parent, associated and/or affiliated entities, successors, or assigns, its elected officials, trustees, employees, agents, and volunteers named as an additional insured with respect to liability and defense of suits arising out of the activities performed by, or on behalf of the Contractor, including completed operations".

3. Auto Liability: Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

Minimum Limits:

Bodily Injury/Property Damage (Each Accident)	\$ 1,000,000
-----------------------------------------------	--------------

4. Special Coverages *(check as appropriate and insert amount):*

- (1) Performance Bond \$ _____
- (2) Professional Errors and Omissions
- (3) Aircraft Liability
- (4) Owner's Protective

- (5) Builder's Risk
- (6) Boiler and Machinery
- (7) Loss of Use Insurance
- (8) Pollution Liability
- (9) Crime, including Employee Dishonesty Coverage, or Fidelity Bond

B. Proof of Insurance:

1. Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the County, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice shall be sent directly to (County Representative's Name & Address). If the insurance carrier will not provide the required notice, the Consultant/Contractor and or its insurance broker shall notify the County of any cancellation, or reduction in coverage or limits of any insurance within seven (7) days of receipt of insurers' notification to that effect.

Simultaneously with the Certificates of Insurance, the Contractor shall file with the Procurement Officer a certified statement as to claims pending against the coverages required under this contract, reserves established on account of such claims, defense costs expended and amounts remaining on policy limits.

2. In addition, these Certificates of Insurance/insurance policies shall contain the following clauses or substantially similar clauses:

a. The contractor's insurance shall be primary and non-contributory with any insurance or self-insurance purchased by the County.

b. The insurance companies issuing the policy or policies hereunder shall have no recourse against the County of Pitkin for payment of any premiums or for assessments under any form of policy.

c. Any and all deductibles or self-insured retentions in the above-described insurance policies shall be assumed by and be for the amount of, and at the sole expense of the Contractor.

d. Location of operations shall be: "all operations and locations at which work for the referenced Project is being done."

3. Certificates of Insurance for all renewal policies shall be delivered to the County's Representative at least ten (10) days prior to a policy's expiration date except for any policy expiring on the expiration date of this contract or thereafter.

4. The County reserves the right to request and receive a copy of any policy and any policy endorsement required under this contract at any time during the term of this contract.

14. Exemptions and Preferences. All purchases of construction or building or any other materials for this contract shall not include Federal Excise Taxes or Colorado State or local sales or use taxes. Pitkin County is exempt from such taxes under registration numbers 98-02624 and 84-78000-5K.

15. Records. The Contractor shall maintain comprehensive, complete and accurate books, records, and documents concerning its performance relating to this contract for a period of three (3) years after final payment under the contract and the County shall have the right within the three (3) year period to inspect and audit these books, records and documents, upon demand, in a reasonable manner and at reasonable times, for the purpose of determining, by accepted accounting and auditing standards, compliance with all provisions of the contract and applicable law.

16. Contract Made in Colorado. The parties agree that this contract was made in accordance with the laws of the State of Colorado and shall be so construed. Venue is agreed to be exclusively in the courts of Pitkin County, Colorado.

17. Attorney's Fees. In the event that legal action is necessary to enforce any of the provisions of this contract beyond the arbitration described in Paragraph 9, the substantially prevailing party shall be entitled to its costs and reasonable attorney's fees.

18. Governmental Immunity. Contractor agrees and understands that Pitkin County is relying on and does not waive, by any provision of this contract, the monetary limitations or terms (presently \$150,000 per person and \$600,000 per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, 24-10-101, *et seq.*, C.R.S., as from time to time amended, or otherwise available to Pitkin County or any of its officers, agents or employees. Further, nothing in this contract shall be construed or interpreted to require or provide for indemnification of the Contractor by the County for any injury to any person or any property damage whatsoever which is caused by the negligence or other misconduct of the County or its agent or employees.

19. Current Year Obligations. The parties acknowledge and agree that any payments provided for hereunder or requirements for future appropriations shall constitute only currently budgeted expenditures of Pitkin County. Pitkin County's obligations under this contract are subject to Pitkin County's annual right to budget and appropriate the sums necessary to provide the services set forth herein. No provisions of the contract shall constitute a mandatory charge or requirement in any ensuing fiscal year beyond the then current fiscal year of Pitkin County. No provision of the contract shall be construed or interpreted as creating a multiple-fiscal year direct or indirect debt or other financial obligation of Pitkin County within the meaning of any constitutional or statutory debt limitation. This contract shall not directly or indirectly obligate Pitkin County to make any payments beyond those appropriated for Pitkin County's then current fiscal year. No provisions of this contract shall be construed to pledge or create a lien on any class or source of Pitkin County's moneys, nor shall any provision of this contract restrict the future issuance of Pitkin County's bonds or any obligations payable from any class or source of Pitkin County's money.

20. Notice. Any written notice required by this contract shall be deemed delivered through any of the following: (1) hand delivery to the person at the address below; (2) delivery by facsimile with confirmation of receipt to the fax number below; or (3) within three (3) days of being sent certified first class mail, postage prepaid, return receipt requested addressed as follows:

- | | | |
|----|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| A. | To Pitkin County
Solid Waste Center
76 Service Center RD
Aspen, Colorado 81611
Fax: (970) 923-2043 | <u>with copies to:</u>
Pitkin County Attorney's Office
530 E. Main Street, #302
Aspen, Colorado 81611
Fax: (970) 920-5198 |
| B. | To Contractor:
Waste Management
0062 CR 113 BLDG L
Carbondale, CO 81623 | |

21. Public Contracts for Services and Public Contracts with Natural Persons. In conformance with the provisions of C.R.S. § 8-17.5-101 and 102, as amended and C.R.S. § 24-76.5-101, as amended

PUBLIC CONTRACTS FOR SERVICES. CRS §8-17.5-101. [Not Applicable to agreements relating to the offer, issuance, or sale of securities, investment advisory services or fund management services, sponsored projects, intergovernmental agreements, or information technology services or products and services] Contractor certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this contract and will confirm the employment eligibility of all employees who are newly hired for employment in the United States to perform work under this contract, through participation in the E-Verify Program or the Department program established pursuant to CRS §8-17.5-102(5)(c), Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract. Contractor (a) shall not use E-Verify Program or Department program procedures to undertake pre-employment screening of job applicants while this contract is being performed, (b) shall notify the subcontractor and the contracting State agency within three days if Contractor has actual knowledge that a subcontractor is employing or contracting with an illegal alien for work under this contract, (c) shall terminate the subcontract if a subcontractor does not stop employing or contracting with the illegal alien within three days of receiving the notice, and (d) shall comply with reasonable requests made in the course of an investigation, undertaken pursuant to CRS §8-17.5-102(5), by the Colorado Department of Labor and Employment. If Contractor participates in the Department program, Contractor shall deliver to the contracting State agency, Institution of Higher Education or political subdivision a written, notarized affirmation, affirming that Contractor has examined the legal work status of such employee, and shall comply with all of the other requirements of the Department program. If Contractor fails to comply with any requirement of this provision or CRS §8-17.5-101 et seq., the contracting State agency, institution of higher education or political subdivision may terminate this contract for breach and, if so terminated, Contractor shall be liable for damages.

PUBLIC CONTRACTS WITH NATURAL PERSONS. CRS §24-76.5-101. Contractor, if a natural person eighteen (18) years of age or older, hereby swears and affirms under penalty of perjury that he or she (a) is a citizen or otherwise lawfully present in the United States pursuant to federal law, (b) shall comply with the provisions of CRS §24-76.5-101 et seq., and (c) has produced one form of identification required by CRS §24-76.5-103 prior to the effective date of this contract.

IN WITNESS WHEREOF, the parties have executed this contract as of the date first set out herein above.

CONTRACTOR: WASTE MANAGEMENT

By: 

Printed Name: Scott A. Bradley


Title: President

Date: 4-8-14

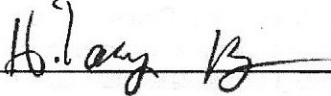
Contract #108-2014
Budget Line Item#416.65.00000.82218

Rev. 8.31.11 jaal/js

PITKIN COUNTY, COLORADO:


By: 
Jon Peacock
Pitkin County Manager

Date: 4/18/2014

By: 
Hilary Burgess
Pitkin County Procurement Officer

Date: 4/14/14

IF NON-STANDARD/ADDITIONAL LANGUAGE ADDED:

By: 
Laura Makar, Assistant County Attorney

Date: 18 Apr 2014

EXECUTIVE SUMMARY

As Pitkin County continues to provide convenient recycling options for its citizens and guests, its need for dependable hauling and collection at its drop facilities is essential to maintain this service. As Colorado's leading trash and recycling services company, Waste Management can provide the County with a level of dependability, safety, and value unmatched by any other trash and recycling services provider.

Any recycling program depends on three factors for sustainable success; participants who use the service responsibly, efficient collection and processing and an end user market for the collected material. Our proposal is designed to provide the County with the most responsible, efficient and cost effective collection and processing option available.

SCOPE OF WORK

Site	Containers	Material	Frequency
Aspen	10 6 yard front load	Single- Stream	M,W,F
Basalt	10 6 yard front load	Single-Stream	M,F
Redstone	1 - Rolloff	Single Stream	On call Est. 1 haul/month
SWC	2 - Rolloffs	Single Stream	On call Est. 2 hauls/week
TOTAL MONTHLY Estimated			

Collection of Recyclables at Drop Locations

Waste Management is proposing to collect all recyclables in single-stream 6-yard front-load containers. We estimate that we will need approximately 10 at both the Aspen and Basalt locations. We have done site reviews and are confident that there is enough space to service this number of containers safely and efficiently. It is estimated that containers at the Aspen, Rio Grande Park, site would be collected three times per week while the containers at the Basalt site would be collected twice per week.

Waste Management would also provide single stream 20-yard rolloff containers at the landfill to be loaded by landfill staff. These containers would be collected twice per week or as needed based on volume generated by this site.

Once a location is determined, Waste Management will place a 20-yard gable top rolloffs container in Redstone that will be serviced once per month or as needed based on volume generated by this site.

Electronics Recycling

The county currently collects electronics recycling for a fee at the landfill. Waste Management proposes to continue this service. Our approach to this service would be to provide the County with an updated price sheet of charges per item that the County would use to bill customers directly for whichever item they were disposing of at the landfill. Waste Management would provide the appropriate collection containers and would haul these containers to our electronics processor on the Front Range as needed.

Christmas Tree Collection

The County currently provides rolloff service for the collection of Christmas trees in January at the Rio Grande Park facility. Waste Management proposes to continue that service by providing rolloff containers subsidized at \$100.00 per haul to the County. These rolloffs would be transported to the Pitkin County landfill for disposal or composting, and would eliminate the need for the County to maintain equipment necessary for delivering this service.

Cost Savings

Waste Management estimates that the cost savings to the County for operating in the fashion described above to be approximately [REDACTED] annually, when using The County's statement that the current costs are estimated at [REDACTED]. There is the potential for higher savings if service levels can be right-sized over time and as additional efficiencies are found. One example of this could be flexing service to meet seasonal demands or placing larger or smaller containers at sites where that makes sense.

PROCESSING

Waste Management will transport the collected for processing and marketing material to our Basalt transfer site. OCC cardboard will be separated out and shipped to market through our Grand Junction MRF. All single-stream material will be consolidated, packed for shipping and processed at our Franklin Street MRF in Denver.


Waste Management contracts with ERI as its electronic material recycler in Colorado. ERI is an approved WM third party service partner. Our partners undergo rigorous due diligence and regularly scheduled audits that meet our requirements and the requirements of our customers. Audits include compliance to the following standards, ISO 9001:2008, 14001:2004, OHSAS

*specifies
transport
processing
to Colorado*

18001:2007, RIOS:2006, R2:2013, and e-Stewards:2009. These are the standards our customers are now demanding. All third party processors within our network adhere to the same environmental, quality, health and safety standards as Waste Management. They comply with all applicable laws and regulations including the prohibition of exporting hazardous electronic waste according to the Basel convention, Basel Amendments and the laws of the importing and exporting countries. New HIPAA privacy and information security rules place a much heavier compliance burden on "Business Associates" which are companies that provide certain services like electronic recycling to "Covered Entities" such as hospitals and medical clinics.

The County will always have cheaper processing options presented for consideration but with electronics, cheaper is not better! Many eWaste processors intentionally abstain from the rigorous audits and compliance procedures we require because they simply cannot meet the standards. We have also seen an increasing number of supposedly competent processors abandon operations for others to clean up. TransparentPlanet's December 2012 report estimates that about 660 million pounds of CRT leaded glass is stockpiled nationally with limited outlets for recycling. Illegal exportation of eWaste continues to be a problem.

REPORTING

 Waste Management understands the importance of tracking the volumes collected and, subsequently, the successful impacts the Towns' recycling, sustainability and beautification goals. With that in mind, Waste Management has the capability to track the average volume of recyclable materials generated under a mutual agreement with the County. Using this information, Waste Management will translate the data into positive environmental impact facts to the County. Waste Management shall provide a written report of these facts to the County quarterly, and an annual overview report on the anniversary date of the contract, starting in with adoption of this proposal. *Please see attachments A&B.*

ACQUISITION OF COUNTY EQUIPMENT AND LEASING OF FACILITIES

If Waste Management is selected as the contractor for this service, Waste Management would like to offer the County \$1,000.00 per container to purchase the gable top rolloff containers currently used to provide this service. In addition, Waste Management would be willing to negotiate with the County to lease the current baling facility and would be interested in acquiring the County's baler.

VARIABLE HAULING SCHEDULE:

If additional service is needed and the County notifies Waste Management before 10:00 a.m. that an additional service is required, Waste Management will complete the service that same day. If the County notifies Waste Management after 10:00 a.m. Waste Management will attempt to

service the container the same day if possible, if not the service will be performed the next business day.

CONTRACTOR INFORMATION/SUBMITTAL REQUIREMENTS

QUALIFICATIONS

Waste Management of Colorado provides collection, recycling and disposal services to more than 190,000 municipal, commercial, industrial and residential customers throughout 41 counties in Colorado. The company employs approximately 1,200 full and part-time personnel, and has been servicing Colorado for nearly 30 years.

In our 30-year history, Waste Management has always been and continues to be in good standing with the State of Colorado. Furthermore, Waste Management maintains a Satisfactory Carrier Safety Rating by the US Department of Transportation - documentation for both items available upon request.

While we have the resources of a national company, make no mistake about it our heart is local, because when you really think about it, the waste industry by its very nature is inherently local. Waste Management's recycling plants, our operations, our equipment, and the people who make us who we are, are all right here. Of note, Waste Management maintains an open door policy at all our facilities, thus County staff and elected officials are welcome at anytime.

In fact, Waste Management has serviced the Pitkin County area for over ten years.

Waste Management of Colorado's Carbondale office is located at:

62 County Road 113 Bldg. L
Carbondale, CO 81623

CUSTOMER REFERENCES RECEIVING SIMILAR SERVICE

Town of Vail – three (3) years

Town of Vail – Waste Management is the hauler of choice for the Town of Vail's recycling drop facility. This location was previously part of the Pitkin County recycling drop system. Waste Management has worked hard to help promote the Town's sustainability goals and developed a strong effective partnership.

Bill Carlson
Environmental Health Officer
Town of Vail
75 South Frontage Road
Vail, CO 81657
970-479-2333
bcarlson@vailgov.com

Garfield County—eighteen (18) months

Though we have only worked with the County for the past eighteen months on providing a recycling drop location in west Rifle, we have maintained a drop location in the Rifle area since 2005. We have provided cardboard, comingle and newspaper recycling containers along with hauling and processing for this location. Garfield County began contracting with Waste Management to provide this service once Rifle privatized its municipal trash and recycling service, to ensure residents in the unincorporated areas had an opportunity to recycle.

Betsy Suerth
Garfield County Public Works Director
Garfield County
0375 County Rd. 352 Bldg. 2060
970-625-5921
bsuerth@garfield-county.com

Additional Items

Inclement Weather - During inclement weather conditions, Waste Management will make all reasonable efforts to continue collection services. In the event that inclement weather conditions or situations beyond our control should prevent Waste Management from performing collections in a safe manner, the County will be notified of the situation immediately when it becomes known and a contingency plan will be established agreeable to both the County and Waste Management. Waste Management also uses an out-dial system to notify customers of service interruptions, and could implement this program within the district with the approval of the Town.

If delays occur, all services will typically resume the following day or when weather conditions will permit safe operations to continue, with the remaining week's pick-up quickly following until completed.

Service Flexibility - Waste Management will provide consistency and dependability in its pick-up schedule. Changes in regular collection routes or schedules may be requested, as needed, to maintain efficiency and productivity. Routing and scheduling changes will be made only where necessary to provide consistent quality service upon commencement of Waste Management service. Waste Management will review and seek approval for any proposed day changes with the County at least 30 days prior to changes being made, and will communicate any necessary changes to residents using the most appropriate method(s) including County offered information distribution system(s).

Consumer Price Index--The County agrees that the contract rate(s) shall be adjusted upward annually on the anniversary date of the contract to reflect changes in the cost of doing business, as measured by fluctuations in the Consumer Price Index (CPI) published by the U.S. Department of Labor, Bureau of Labor Statistics for the Urban Consumers West Coast for all

Items pending an annual review with the Town. Any percent change in the CPI shall equal the percent change in the collection rate, with a floor no lower than 0% per year.

Additional Taxes, Fees or Regulatory Cost – The County agrees that the contract rate(s) agreed to hereby may be increased by the actual amount of any new costs imposed on Waste Management of Colorado after the date hereof in the nature of new or increased fees, taxes or surcharges imposed by any governmental authority or increased operating costs caused by the actions of such regulatory or governing authority adjusted annually on the anniversary date of the contract.

IN CONCLUSION

This proposal details Waste Management of Colorado's solutions for addressing the County's long-term hauling needs. Waste Management offers this program to achieve the optimum balance between service, price and convenience. All of these services are supported by the strength and experience of North America's leading recycling services company and are backed by the waste industry's most comprehensive Service Guarantee.

If the County has any questions about any aspect of this proposal or would like to discuss any topic in greater detail, please feel free to contact:

Aron Diaz
ddiaz@wm.com
62 County Rd. 113 Bldg. L
Carbondale, CO 81623
970-589-0896

Otherwise, Waste Management of Colorado looks forward to working with the County to finalize all necessary contractual documentation.

Appendix D
Drop-Site Cost Estimate

Fraser / Winter Park Trash Recycling Drop Site - Conceptual Cost Estimate

Technology:	Town of Fraser/Grand County Waste Diversion Study Public Trash & Recycling Drop Site
Date:	August, 2016
Cost Estimate Basis:	2016\$ - Cost assumptions from vendors & project data
Location:	Fraser/Winter Park

DROP-SITE COLLECTION INPUT SHEET

Revise items in red for program and site specific information.

GENERAL INPUT ASSUMPTIONS

Interest Rate	4%	
Annual Escalation Rate	2%	CPI-U Western Region 2006-2015
Labor Categories & Rates - Town of Fraser		
Manager	\$50 per hour	Benefits included in hourly rates per Fraser
DOC Recycling Staff	\$38 per hour	Benefits included in hourly rates per Fraser
DOC O&M Staff	\$38 per hour	Benefits included in hourly rates per Fraser
Collection Vehicle Driver	\$20 per hour	
Mechanic	\$25 per hour	
Trash Company Transfer Station (Granby)	\$100 per ton	Based on anecdotal information from hauler

DROP SITE ASSUMPTIONS

Serves All Waste Generators & Recyclers
 Located on land donated for use, with easy public access in Fraser/Winter Park area

Drop-Site Features:

Existing Surface		Smooth, relatively well-grade site requiring minimal final grading
Remediated Surface?	YES	Aggregate base course from local supplier (4" depth, compacted in place)
Site Lighting?	NO	Assume in place on to-be-selected property
Additional Security Fencing?	YES	Six-foot chain link & locking gates to be added
Video Surveillance Package?	YES	Exterior, pole-mounted wireless cameras with night-time capacity

Multi-Drop Site Input for Phase I (2016/2017):

Phase	Trash			Recyclables		
	2016/2017	2021/2022	2026/2027	2016/2017	2021/2022	2026/2027
Tons/Year	800	900	1,000	250	285	320
Number of Trash Dumpsters (2 pulls/week)	11	13	14	9	10	12
Area Required (SF) - total site	6,500					

Assumed Dumpster Sizes:	6 CY	Covered, locked metal containers
Typical % Full at Collection =	80%	
Average Trash Density =	300 lbs/CY	Adjust with actual data when available
Average Recyclables Density =	115 lbs/CY	Actual GRRC data for loose single-stream with glass

Project:	Town of Fraser/Grand County Waste Diversion Study
Technology:	Public Trash & Recycling Drop Site
Date:	August, 2016
Cost Estimate Basis:	2016\$ - Cost assumptions from vendors & project data
Location:	Fraser/Winter Park

Revise items in red for program and site specific information.

DROP-SITE CAPITAL COST		Trash			
Item	Quantity	Units	Unit Cost	Total	
Land Purchase (1)	0.15	Acres	\$0	\$0	
Final Grading (2)	1	LS	\$1,500	\$1,500	
Crushed Rock/Gravel (3)	1	LS	\$5,500	\$5,500	
Site Lighting (4)	0	EA	\$0	\$0	
Drop-Site Signage	1	EA	\$1,000	\$1,000	
Security Fencing (5)	1	LS	\$12,000	\$12,000	
Surveillance System (8 cameras)	1	LS	\$1,500	\$1,500	
Subtotal Site Improvements				\$21,500	
Contingency (30%)				\$6,500	
				\$28,000	
Mobile Equipment - Dumpsters (7):					
Trash Dumpsters	0	EA	\$1,500	\$0	
Recycling Dumpsters	0	EA	\$1,500	\$0	
				\$0	
Total Drop-Site Capital Cost				\$28,000	

Assumptions:

- 1 Land assumed to be existing city/county property or donated use, requiring minimal grading for drainage. See INPUTS sheet for area requirements.
- 2 Minimal grading required by small dozer (including mobilization/demobilization).
- 3 Aggregate base course hauled, placed at 4" depth and compacted on finally graded surface (including mob/demob) approximately 160 tons - based on quotes from Everist Materials in Fraser, CO (August 2016).
- 4 Assumes adequate site lighting already in place.
- 5 Perimeter 6-ft pressure-treated fence and two metal locking gates - from CDOT 2015 bid tabulations/Home Depot pricing.
- 6 Wireless, battery-operated security cameras (8) w adjustable mounts (130-degrees, 25' night distance), cloud storage, assume installation on existing light poles or affixed above dumpsters around site (Netgear on-line pricing).
- 7 Metal 6-CY dumpsters with metal latching lids (recycle units) or locking lids (trash units) - hauler amortization included in hauling costs - see Drop-Site Haul Analysis sheet.

Project:	Town of Fraser/Grand County Waste Diversion Study
Technology:	Public Trash & Recycling Drop Site
Date:	August, 2016
Cost Estimate Basis:	2016\$ - Cost assumptions from vendors & project data
Location:	Fraser/Winter Park

Revise items in red for program and site specific information.

PHASE I 2016/2017:

Item Description	Quantity	Units	Unit Cost	Total
LABOR				
Job Classification	Qty	Labor Rate	Hrs/Yr (1)	Total
Local Agency Manager	1	\$50	24	\$ 1,200
O&M Staff	1	\$38	416 hrs	\$ 15,800
Recycling Staff	1	\$38	702 hrs	\$ 26,700
			Subtotal	\$ 43,700
Notes:				
Manager oversight =				2 hrs/month
O&M staff performs minor clean-up, snow plow, surveillance, hauler contact =				8 hrs/week
Recycling staff 12 hrs per week plus 10% for sponsorships, etc. =				14 hrs/week
SITE MAINTENANCE & UTILITIES				
Item	Quantity	Unit Price	Total	
Site Maintenance	2%	\$28,000	\$	600
Dumpster Maintenance	0%	\$28,000	\$	-
Electricity		000 kwh	\$0.00	\$ -
			Subtotal	\$ 600
CONTINGENCY (20%)				\$8,860
ANNUAL TOTAL O&M				\$ 53,160

Project:	Town of Fraser/Grand County Waste Diversion Study
Technology:	Public Trash & Recycling Drop Site
Date:	October, 2016
Cost Estimate Basis:	2016\$ - Cost assumptions from vendors, costing manuals & project data
Location:	Fraser/Winter Park

Drop-Site Collection	Trash	Recyclables	Comments
Tonnages (tpy): Yr 2016	800	250	
Yards (CY/week): Yr 2016	103	84	
No of Pulls/Week	2	2	
No of 6-CY Dumpsters	11	9	From INPUTS sheet, based on average 80% fill rate
Hook-Up & Unload Time/Pull (minutes):	33	27	3 minutes per dumpster
One-Way Distance (miles)	25	25	From INPUTS sheet
Average Speed (mph):	35	35	
Average Trips/Year:	104	104	Based on 2 pulls/week
Hours Per Trip	2.0	1.9	
Weekly Freight Hours:	4.0	3.8	
Wkly Prorated Veh Inspect/Breaks:	0.7	0.7	Ratio wkly freight hrs to Total wkly inspectns/breaks
Annual Freight Hours:	205.8	195.4	Freight hours only for vehicle fuel, oil & grease cost
Total Miles/Yr:	5,200	5,200	

Truck Fuel, Oil & Grease			
Fuel Cost per Gallon	\$4.00	\$4.00	Diesel prices, August 2016 US Energy Info Admin
Miles per Gallon	3	3	Estimate based on collection vehicles
Oil & Grease (\$/freight hour)	\$0.50	\$0.50	

Truck Tires			
New Tires Price	\$800	800	2012 prices escalated
# New Tires Per 50,000 Miles	2	2	
Retread Tires	\$350	\$350	2012 prices escalated
# Retread Tires Per 25,000 Miles	8	8	

Truck Maintenance & Repairs			
Mechanic Labor annual salary	\$52,000	\$52,000	See INPUTS sheet, benefits incl. with rate
Mechanic Labor % per Truck	10%	10%	
Parts, Repairs, Overhaul (\$/mile)	\$0.50	\$0.50	

Truck Driver Labor			
Driver % (based on freight time)	12%	12%	
Driver annual salary	\$41,600	\$41,600	See INPUTS sheet
Fringe benefits (% of salary)	0%	0%	See INPUTS sheet

Tip Fees			
Granby Transfer Station	\$100	\$100	See INPUTS sheet (cost/ton)
30% Contingency	30%	30%	

PHASE I 2016/2017:

Annual Drop-Site Haul Costs:	Trash	Recyclables	Comments
Fuel, Oil & Grease	\$7,040	\$7,030	Mileage & Time Based
Tires	\$750	\$750	Mileage Based
Maintenance & Repairs	\$3,220	\$3,220	Mileage & Time Based Pro-Rated
Driver Labor	\$4,990	\$4,990	Time Based
Tip Fees	\$80,000	\$25,000	
30% Contingency	\$28,800	\$12,297	
Without 30% Contingency	\$96,000	\$40,990	
Avg Haul Cost per Trip	\$923	\$394	
Avg Haul Cost per Dumpster	\$84	\$44	
Avg Haul Cost per Ton	\$120	\$164	
With 30% Contingency	\$124,800	\$53,287	
Avg Haul Cost per Trip	\$1,200	\$512	
Avg Haul Cost per Dumpster	\$109	\$57	
Avg Haul Cost per Ton	\$156	\$213	

ASSUMES hauler use of trucks & dumpsters fully paid for (no amortization)

CHECK ON ESTIMATED CONTRACT HAUL PRICING (all examples include hauler-provided containers)

Existing Drop Site	Location	Material	Contract Amount & Cost Basis
GRRC (current)	Granby	SS recycling	Approx \$40/dumpster - roughly \$120/ton
staffed recycling			Twelve 6-cy dumpsters (approx 0.3 tons/dump)
			Pulled one/week by Waste Management ~80% full
			WM verbalized "no profit" on this client
			Hauled < 1mi to non-hauler transfer station
			\$113/ton tip fee at transfer station
Pitkin County/City of Aspen	Aspen	SS recycling	\$50/dumpster - roughly \$170/ton
Rio Grande Drop Site (2014-2019)			Ten 6-cy dumpsters (approx 0.3 tons/dump)
staffed recycling			Pulled 3X/week by Waste Management ~80% full
			Hauled ~20 mi to hauler transfer station (then 150 miles to hauler MRF)
			Negligible tip fee
Hi Country Haus (current)	Winter Par	Trash	\$40/dumpster - roughly \$90/ton
unstaffed trash			Eighteen 6-cy dumpsters (approx 0.45 tons/dump) ~50% full
			Pulled 1-2X/week
			Hauled ~ 25 mi to non-hauler transfer station
			#113/ton tip fee at transfer station
Grand Lake (current)	Gr Lake	Trash	\$50/dumpster - roughly \$85/ton
unstaffed trash			Based on 8-cy dumpsters (approx 0.6 ton/dump)
			Pulled twice/week by Trash Company ~50% full
			Hauled 15 mi to hauler transfer station
			\$113/to tip fee at transfer station

Appendix E

Example Disposable Bag Ordinances (Breckenridge & Boulder)

Chapter 12

DISPOSABLE BAG FEE

5-12-1: SHORT TITLE:

5-12-2: AUTHORITY:

5-12-3: INTENT:

5-12-4: PURPOSE:

5-12-5: LEGISLATIVE FINDINGS:

5-12-6: DEFINITIONS:

5-12-7: DISPOSABLE BAG FEE ESTABLISHED:

5-12-8: DISPOSABLE BAG FEE REQUIREMENTS:

5-12-9: RETENTION, REMITTANCE, AND TRANSFER OF THE DISPOSABLE BAG FEE:

5-12-10: REQUIRED SIGNAGE:

5-12-11: EXEMPTION:

5-12-12: AUDITS AND COLLECTION OF THE DISPOSABLE BAG FEE:

5-12-13: HEARINGS:

5-12-14: PENALTIES:

5-12-1: SHORT TITLE:

This chapter is to be known and may be cited as the *TOWN OF BRECKENRIDGE DISPOSABLE BAG FEE ORDINANCE*. (Ord. 6, Series 2013)

5-12-2: AUTHORITY:

This chapter is adopted by the town council pursuant to the following authority:

- A. Section 31-15-103, Colorado Revised Statutes (concerning municipal police powers).
- B. The authority granted to home rule municipalities by article XX of the Colorado constitution.
- C. The powers contained in the Breckenridge town charter. (Ord. 6, Series 2013)

5-12-3: INTENT:

- A. The disposable bag fee adopted by this chapter is necessary to address the environmental problems associated with disposable bags and to relieve town taxpayers of the costs imposed upon the town associated with the use of disposable bags. The town council intends that the requirements of this chapter will assist in offsetting the costs associated with using disposable

bags by paying for the mitigation, educational, replacement, and administrative efforts of the town.

- B. The disposable bag fee established by this chapter is not designed to raise revenues to defray the general expenses of town government, but rather is a charge imposed for the purpose of defraying the cost of the particular town services and programs described in this chapter. (Ord. 6, Series 2013)

5-12-4: PURPOSE:

It is the purpose of this chapter to protect the public health, safety, and welfare, and to implement both the town's SustainableBreck Plan and the town's comprehensive plan. (Ord. 6, Series 2013)

5-12-5: LEGISLATIVE FINDINGS:

The town council finds and determines as follows:

- A. The use of all disposable shopping bags (plastic and paper) has significant environmental impacts on a local and global scale, including greenhouse gas emissions, litter, harm to wildlife, water consumption, and solid waste generation.
- B. After several years of public involvement the town council adopted the "SustainableBreck Plan" in 2011, which sets forth a series of sustainability initiatives that the town should undertake. One such initiative is to "(e)ncourage reduction in the use of disposable bags".
- C. Despite recycling and voluntary efforts to control pollution from disposable bags, relatively few disposable bags are recycled, and these bags last decades in the landfill or end up as litter.
- D. Numerous studies have documented the prevalence of disposable bags littering the environment, blocking storm drains, and endangering wildlife.
- E. Approximately two billion (2,000,000,000) disposable bags are used annually in Colorado, but less than five percent (5%) are recycled.
- F. The best alternative to disposable bags is to shift to reusable bags for shopping.

- G. The town council aims to conserve resources, reduce greenhouse gas emissions, waste, and litter, and to protect the public health, safety, and welfare, including wildlife, all of which increase the quality of life for the town's residents and visitors.
- H. Studies document that charging a mandatory fee on disposable bags can dramatically reduce the use of these bags.
- I. The town of Breckenridge believes that residents and visitors should use reusable bags and that a fee on the distribution of disposable bags is appropriate to dissuade the use of disposable bags and fund the town's efforts to educate residents, businesses, and visitors about the impact of disposable bags on the regional environmental health and to fund the use of reusable bags, town cleanup events, and infrastructure and programs that reduce waste in the community.
- J. Based on the information that has been provided to the town council by the town staff, the disposable bag fee imposed by this chapter bears a reasonable relationship to the anticipated cost of providing the town programs and services described in this chapter. (Ord. 6, Series 2013)

5-12-6: DEFINITIONS:

As used in this chapter, the following words shall have the following meanings. Where terms are not defined, they shall have their ordinarily accepted meanings within the context that they are used.

CUSTOMER: Any person who makes a retail purchase from a retail store.

DISPOSABLE BAG: Except as provided in section [5-12-11](#) of this chapter, any bag, other than a reusable bag, that is provided to a customer by a retailer at the point of sale for the purpose of transporting goods.

DISPOSABLE BAG FEE: The town fee imposed by this chapter that is required to be paid by each consumer making a purchase from a retail store for each disposable bag used during the purchase, and imposed for the purpose of mitigating the impacts of disposable bags.

DISPOSABLE BAG FEE PUBLIC OUTREACH PLAN: A program to be put in place by the town to raise awareness and educate both residents and visitors on the disposable bag fee. The program shall at a minimum include: the development of informational signage for all retail stores; informational sessions and communications with retail stores to explain the disposable bag fee and the retail store's obligations; and the production of a "Breckenridge reusable bag" and distribution of such bags to lodging companies and retail stores.

FINANCIAL SERVICES MANAGER: The financial services manager of the town, or such person's designee.

RETAIL STORE: Any public commercial business engaged in the sale of personal consumer goods, household items, or groceries to customers who use or consume such items.

"Retail store" does not include temporary vendors at farmers' markets or other temporary events; or restaurants or other businesses (e.g., service providers such as salons and spas) where retail sales are clearly secondary and incidental to the primary activity occurring within the business.

REUSABLE BAG: A plastic bag that is at least 2.25 mil thick or a bag made of canvas, woven polypropylene, or similar types of durable materials. (Ord. 6, Series 2013)

5-12-7: DISPOSABLE BAG FEE ESTABLISHED:

For each disposable bag provided to a customer, each retail store shall collect from customers, and customers shall pay, at the time of purchase a disposable bag fee of ten cents (\$0.10). The disposable bag fee shall be remitted by the retail store to the town in accordance with section [5-12-9](#) of this chapter. The town council may annually evaluate and change by resolution the amount of the disposable bag fee, the amount of the retained percent, or both the amount of the disposable bag fee and the amount of the retained percent. (Ord. 6, Series 2013)

5-12-8: DISPOSABLE BAG FEE REQUIREMENTS:

A. Retail stores shall record the number of disposable bags provided and the total amount of disposable bag fees charged on the customer transaction receipt as a separate and distinct item.

B. A retail store shall not refund to the customer any part of the disposable bag fee, either directly or indirectly, nor shall the retail store advertise or state to customers that any part of the disposable bag fee will be refunded to the customer.

C. A retail store shall not exempt any customer from any part of the disposable bag fee for any reason except as stated in section [5-12-11](#) of this chapter. (Ord. 6, Series 2013)

5-12-9: RETENTION, REMITTANCE, AND TRANSFER OF THE DISPOSABLE BAG FEE:

A. A retail store may retain fifty percent (50%) of each disposable bag fee collected, which is the "retained percent", up to a maximum amount of one thousand dollars (\$1,000.00) per month within the first twelve (12) months of the effective date hereof and one hundred dollars (\$100.00) per month maximum for all months thereafter.

B. The retained percent may only be used by the retail store to:

1. Provide educational information about the disposable bag fee to customers;
2. Provide the signage required by section [5-12-10](#), "Required Signage", of this chapter;

3. Train staff in the implementation and administration of the fee;
4. Improve or alter infrastructure to allow for the implementation, collection, administration of the fee;
5. Collect, account for, and remit the fee to the town;
6. Develop and display informational signage to inform consumers about the fee;
7. Encourage the use of reusable bags or promote recycling of disposable bags; and
8. Improve infrastructure to increase disposable bag recycling.

C. The disposable bag fee shall be exempt from the town of Breckenridge sales tax.

D. The amount of the disposable bag fee collected by a retail store in excess of the retained percent shall be paid to the town and shall be used only as set forth in subsection G of this section to mitigate the effects of disposable bags in Breckenridge.

E. Every retail store providing disposable bags subject to the disposable bag fee shall be liable and responsible for the payment of the amount outlined in subsection D of this section to the town, and shall file a report each month on forms prescribed by the financial services manager before the twentieth day of each month for the preceding month.

1. All sums of money collected by retail stores for the disposable bag fee imposed by this chapter minus the "retained percent" are intended exclusively for use as outlined in subsection G of this section. Each retail store required to collect and remit the disposable bag fee shall hold such monies in trust until paying them to the town.

F. The disposable bag fee shall be administered by the financial services manager. The financial services manager is authorized to adopt administrative rules pursuant to [title 1, chapter 18](#) of this code to implement this chapter, prescribe forms and provide methods of payment and collection, and otherwise implement requirements of this chapter.

G. Funds from the disposable bag fee paid to the town shall be used only for the expenditures that are intended to mitigate the effects of disposable bags, including, without limitation, the following:

1. Administrative costs associated with developing and implementing the disposable bag fee.
2. Activities of the town to:

- a. Provide reusable bags to residents and visitors;
- b. Educate residents, businesses, and visitors about the impact of disposable bags on the town's environmental health, the importance of reducing the number of disposable bags entering the waste stream, and the impacts of disposable bags on wildlife and the environment;
- c. Fund programs and infrastructure that allow the Breckenridge community to reduce waste associated with disposable bags;
- d. Purchase and install equipment designed to minimize bag pollution, including, recycling containers, and waste receptacles associated with disposable bags;
- e. Fund community cleanup events and other activities that reduce litter associated with disposable bags;
- f. Maintain a public website that educates residents on the progress of waste reduction efforts associated with disposable bags; and
- g. Fund the administration of the disposable bag fee program.

H. No disposable bag fees collected in accordance with this chapter shall be used only for general municipal or governmental purposes or spending.

I. Disposable bag fees collected in accordance with this chapter shall be continually available for the uses and purposes set forth in subsection G of this section without regard to fiscal year limitation. No disposable bag fee funds shall be used for any purpose not authorized in this chapter. (Ord. 6, Series 2013)

5-12-10: REQUIRED SIGNAGE:

Every retail store required to collect the disposable bag fee shall display a sign in a location outside or inside of the store, viewable by customers, alerting customers to the town of Breckenridge's disposable bag fee. (Ord. 6, Series 2013)

5-12-11: EXEMPTION:

The disposable bag fee imposed by this chapter does not apply to:

A. A bag brought into a retail store by a customer and used to transport goods from the retail store.

B. A bag that was previously used and made available to customers at a retail store.

C. A bag provided to a customer at no charge if the customer provides evidence that he or she is a participant in a federal or state food assistance program.

D. Bags used by consumers inside retail stores to:

1. Package bulk items, such as fruit, vegetables, nuts, grains, candy or small hardware items like nails, nuts, and screws;
2. Contain or wrap frozen or fresh foods, meat, or fish;
3. Contain or wrap flowers, potted plants, or other items where dampness may be a problem; and
4. Contain unwrapped prepared foods or bakery goods;

E. A nonhandled bag used to protect purchased items from damaging or contaminating other purchased items when placed in a disposable bag or a reusable bag.

F. Bags used for loose small retail items, including, but not limited to, jewelry, buttons, beads, ribbon, herbs and spices, medical marijuana or adult use marijuana if sold by the holder of a permit issued pursuant to applicable law, and similar items.

G. Bags provided by pharmacists to contain prescription drugs.

H. Newspaper bags, door hanger bags, laundry-dry cleaning and garment bags, and bags sold in packages containing multiple bags for uses such as food storage, garbage, pet waste, or yard waste. (Ord. 6, Series 2013)

5-12-12: AUDITS AND COLLECTION OF THE DISPOSABLE BAG FEE:



A. Each retail store shall maintain accurate and complete records of the disposable bag fees collected, the number of disposable bags provided to customers, the form and recipients of any notice required pursuant to this chapter, and any underlying records, including any books, accounts, invoices, or other records necessary to verify the accuracy and completeness of such records. It shall be the duty of each retail store to keep and preserve all such documents and records, including any electronic information, for a period of three (3) years from the end of the calendar year of such records.

B. If requested, each retail store shall make its records available for audit by the financial services manager during regular business hours for the town to verify compliance with the provisions of this chapter. All such information shall be treated as confidential commercial documents.

C. If any person fails, neglects, or refuses to collect or pay the disposable bag fee, or underpays the disposable bag fee, the financial services manager shall make an estimate of the fees due, based on available information, and shall add thereto penalties, interest, and any additions to the fees. The financial services manager shall serve upon the delinquent retail store personally, by electronic mail or by first class mail directed to the last address of the retail store on file with the town, written notice of such estimated fees, penalties, and interest, constituting a notice of final determination, assessment, and demand for payment (also referred to as "notice of final determination") due and payable within thirty (30) calendar days after the date of the notice. The retail store may request a hearing on the assessment as provided in section [5-12-13](#) of this chapter.

D. If payment of any amount of the disposable bag fee due to the town is not received on or before the applicable due date, penalty and interest charges shall be added to the amount due in the amount of:

1. A penalty of ten percent (10%) of total due;
2. Interest charge of one percent (1%) of total penalty per month. (Ord. 6, Series 2013)

5-12-13: HEARINGS:

A. A retail store may request a hearing on any proposed fee imposed under this chapter after receiving a notice of final determination, by filing a written request for hearing within thirty (30) calendar days of the date of mailing of the notice of final determination. The request for hearing shall set forth the reasons for and amount of changes in the notice of final determination that the retail store seeks and such other information as the financial services manager may prescribe.

B. The financial services manager shall conduct the hearing under the procedures prescribed by [title 1, chapter 19](#) of this code, except that the financial services manager shall notify the retail store in writing of the time and place of the hearing at least ten (10) days before it is scheduled, unless the retail store agrees to a shorter time. The hearing shall be held within sixty (60) days of the date of receipt of the request for a hearing, unless the retail store agrees to a later date. (Ord. 6, Series 2013)

5-12-14: PENALTIES:

A. It is unlawful for any person to violate any provision of this chapter.

- B. The first or second violation of this chapter within two (2) years, based on the date of the violation, shall be an infraction. Every person found liable for such a violation shall be punished as provided in section [1-4-1-1](#) of this code; provided, however, the maximum penalty for each such violation shall be a fine of five hundred dollars (\$500.00).
- C. A third and each subsequent violation of this chapter within two (2) years, based on the date of violation, shall be a misdemeanor offense. Any person convicted of such a violation shall be punished as provided in [title 1, chapter 4](#) of this code. (Ord. 6, Series 2013)

ORDINANCE NO. 7870

AN ORDINANCE ESTABLISHING A NEW CHAPTER 6-15, "DISPOSABLE BAG FEE," B.R.C. 1981, AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. A new Chapter 6-15, "Disposable Bag Fee," B.R.C. 1981 is added as follows:

Title 6 Health, Safety and Sanitation

Chapter 6-15 Disposable Bag Fee

6-15-1

- (a) **Purpose:** It is the purpose of this chapter to protect the public health and safety and implement the city's Climate Action Plan, Zero Waste Master Plan and the Boulder Valley Comprehensive Plan.
- (b) **Findings:** The City Council finds as follows:
- (1) The city, through its policies, programs, and laws, supports efforts to reduce the amount of waste that must be land-filled and pursue "zero waste" as a long term goal by emphasizing waste prevention efforts;
 - (2) That the use of single-use disposable bags has severe impacts on the environment on a local and global scale, including greenhouse gas emissions, litter, harm to wildlife, atmospheric acidification, water consumption and solid waste generation;
 - (3) Despite recycling and voluntary solutions to control pollution from disposable carryout bags, many disposable single-use bags ultimately are disposed of in landfills, litter the environment, block storm drains and endanger wildlife;
 - (4) Boulder consumers use approximately 14.3 million disposable bags from food stores each year; and
 - (5) The city's taxpayers bear the costs associated with the effects of disposable bags on the solid waste stream, drainage, litter and wildlife.
- (c) **Intent:** The disposable bag fee is necessary to address the environmental problems associated with disposable bags and to relieve city taxpayers of the costs imposed upon the city associated with the use of disposable bags. The City Council intends that the requirements of this chapter will assist in offsetting the costs associated with using disposable bags to pay for the mitigation, educational, replacement, and administrative efforts of the city.

6-15-2 Definitions.

The following terms used in this chapter have the following meanings unless the context clearly indicates otherwise:

“Disposable Bag” means a bag that is not a Reusable Bag.

“Disposable Bag” does not include:

- (a) Bags used by consumers inside stores to:
 - (1) Package bulk items, such as fruit, vegetables, nuts, grains, candy or small hardware items;
 - (2) Contain or wrap frozen foods, meat, or fish;
 - (3) Contain or wrap flowers, potted plants, or other items where dampness may be a problem;
 - (4) Contain unwrapped prepared foods or bakery goods; or
 - (5) A non-handled bag used to protect a purchased item from damaging or contaminating other purchased items when placed in a recyclable paper bag or reusable bag.
- (b) Bags provided by pharmacists to contain prescription drugs.
- (c) Newspaper bags, door-hanger bags, laundry-dry cleaning bags, or bags sold in packages containing multiple bags for uses such as food storage, garbage, pet waste, or yard waste bags.

“Food Store” means a retail establishment or business located within Boulder city limits in a permanent building, operating year round, that is a full-line, self-service market and which sells a line of staple foodstuffs, meats, produce or dairy products or other perishable items.

“Food Store” does not include:

- (a) Temporary vending establishment for fruits, vegetables, packaged meats and dairy;
- (b) Vendors at farmer’s markets or other temporary events;
- (c) Businesses at which foodstuffs are an incidental part of the business. Food sales will be considered to be “incidental” if such sales comprise no more than 2 percent of the business’s gross sales in the city as measured by the dollar value of food sales as a percentage of the dollar value of total sales at any single location.

“Recycled Paper Bag” means a paper bag that is 100 percent recyclable and contains at least 40 percent post-consumer recycled content.

“Reusable Bag” means a bag that is:

- (a) Designed and manufactured to withstand repeated uses over a period of time;

- (b) Is made from a material that can be cleaned and disinfected regularly;
- (c) That is at least 2.25 mil thick if made from plastic;
- (d) Has a minimum lifetime of 75 uses; and
- (e) Has the capability of carrying a minimum of 18 pounds.

“Disposable Bag Fee” means a city fee imposed and required to be paid by each consumer making a purchase from a Food Store for each Disposable Bag used during the purchase assessed for the purpose of mitigating the impacts of Disposable Bags.

6-15-3 Disposable Bag Fee Requirements.

- (a) For each Disposable Bag provided to a customer, Food Stores shall collect from customers, and customers shall pay, at the time of purchase, a Disposable Bag Fee of \$0.10.
- (b) Food Stores shall record the number of Disposable Bags provided and the total amount of Disposable Bag Fees charged on the customer transaction receipt.
- (c) A Food Store shall not refund to the customer any part of the Disposable Bag Fee, nor shall the Food Store advertise or state to customers that any part of the Disposable Bag Fee will be refunded to the customer.
- (d) A Food Store shall not exempt any customer from any part of the Disposable Bag Fee for any reason except as stated in section 6-15-7, “Exemptions,” B.R.C. 1981.

6-15-4 Retention, Remittance, and Transfer of the Disposable Bag Fee.

- (a) A Food Store may retain 40 percent of each Disposable Bag Fee collected, which is the “Retained Percent.”
- (b) The Retained Percent may only be used by the Food Store to:
 - (1) Provide educational information about the Disposable Bag Fee to customers;
 - (2) Provide the signage required by section 6-15-5, “Required Signage for Food Stores,” B.R.C. 1981;
 - (3) Train staff in the implementation and administration of the fee;
 - (4) Improve or alter infrastructure to allow for the implementation, collection, administration of the fee;
 - (5) Collect, account for and remit the fee to the city;
 - (6) Develop and display informational signage to inform consumers about the fee, encourage the use of reusable bags or promote recycling of plastic bags; and
 - (7) Improve infrastructure to increase plastic bag recycling.

- (c) The Retained Percent shall not be classified as revenue for the purposes of calculating sales tax.
- (d) The amount of the Disposable Bag Fee collected by a Food Store in excess of the Retained Percent shall be paid to the city and shall be used only as set forth in subsection (g) to mitigate the effects of Disposable Bags in Boulder.
- (e) A Food Store shall pay and the city shall collect all Disposable Bag Fees. The city shall provide the necessary forms for Food Stores to file with the city, to demonstrate compliance with the provisions of this ordinance.
 - (1) If payment of any amount to the city is not received on or before the applicable due date, penalty and interest charges shall be added to the amount due as described in section 6-15-8, "Audits and Violations," B.R.C. 1981.
- (f) The Disposable Bag Fee shall be administered by the city manager. The city manager is authorized to adopt interpretive rules pursuant to chapter 1-4, "Rulemaking," B.R.C. 1981, to implement this chapter, prescribe forms and provide methods of payment and collection and otherwise implement requirements of this chapter.
- (g) Funds from the Disposable Bag Fee shall be used only for the expenditures that are intended to mitigate the effects of Disposable Bags, including without limitation the following:
 - (1) Administrative costs associated with developing and implementing the Disposable Bag Fee.
 - (2) Activities of the city to:
 - (A) Provide reusable carryout bags to residents and visitors;
 - (B) Educate residents, businesses, and visitors about the impact of Disposable Bags on the city's environmental health, the importance of reducing the number of single-use carryout bags entering the waste stream, and the expenses associated with mitigating the affects of single-use bags on the city's drainage system, transportation system, wildlife and environment;
 - (C) Fund programs and infrastructure that allow the Boulder community to reduce waste associated with Disposable Bags;
 - (D) Purchase and install equipment designed to minimize bag pollution, including, recycling containers, and waste receptacles associated with Disposable Bags;
 - (E) Fund community cleanup events and other activities that reduce trash associated with Disposable Bags;
 - (F) Mitigate the effects of Disposable Bags on the city's drainage system, transportation system, wildlife and environment;

- (G) Maintain a public website that educates residents on the progress of waste reduction efforts associated with Disposable Bags; and
 - (H) Fund the administration of the Disposable Bag Fee program.
- (h) No Disposable Bag Fees collected in accordance with this ordinance shall be used only for general government purposes.
- (i) Disposable Bag Fees collected in accordance with this chapter shall be continually available for the uses and purposes set forth in subsection (g) of this section without regard to fiscal year limitation. No Disposable Bag Fee funds shall be used for any purpose not authorized in this chapter.

6-15-5 Required Signage for Food Stores.

Every Food Store subject to the collection of the Disposable Bag Fee shall display a sign in a location outside or inside of the business, viewable by customers, alerting customers to the city of Boulder's Disposable Bag Fee.

6-15-6 Requirement for Disposable Paper Bags.

No Food Store shall provide any paper bag that is not a Recycled Paper Bag.

6-15-7 Exemptions.

A Food Store may provide a Disposable Bag to a customer at no charge if the customer provides evidence that he or she is a participant in a federal or state Food Assistance Program.

6-15-8 Audits and Violations.

- (a) Each Food Store licensed pursuant to the provisions of this chapter shall maintain accurate and complete records of the Disposable Bag Fees collected, the number of Disposable Bags provided to customers, the form and recipients of any notice required pursuant to this chapter, and any underlying records, including any books, accounts, invoices, or other records necessary to verify the accuracy and completeness of such records. It shall be the duty of each Food Store to keep and preserve all such documents and records, including any electronic information, for a period of three years from the end of the calendar year of such records.
- (b) If requested, each Food Store shall make its records available for audit by the city manager during regular business hours for the city to verify compliance with the provisions of this chapter. All such information shall be treated as confidential commercial documents.
- (c) If any person fails, neglects, or refuses to collect the Disposable Bag Fee, or underpays the Disposable Bag Fee, the city manager shall make an estimate of the fees due, based on available information, and shall add thereto penalties, interest, and any additions to the

fees. The manager shall serve upon the delinquent Food Store personally, by electronic mail or by first class mail directed to the last address of the Food Store on file with the city, written notice of such estimated fees, penalties, and interest, constituting a Notice of Final Determination, Assessment, and Demand for Payment, (also referred to as "Notice of Final Determination") due and payable within 20 calendar days after the date of the notice. The Food Store may request a hearing on the assessment as provided in section 6-15-9, "Hearings," B.R.C. 1981.

- (d) If payment of any amount of the Disposable Bag Fee to the city is not received on or before the applicable due date, penalty and interest charges shall be added to the amount due in the amount of:
 - (1) A penalty of ten percent of total due;
 - (2) Interest charge of one percent of total penalty per month.

6-15-9 Hearings.

- (a) A Food Store may request a hearing on any proposed fee imposed under this title after receiving a Notice of Final Determination, by filing a written request for hearing within 20 calendar days of the date of mailing of the Notice of Final Determination. The request for hearing shall set forth the reasons for and amount of changes in the Notice of Final Determination that the Food Store seeks and such other information as the manager may prescribe.
- (b) The city manager shall conduct the hearing under the procedures prescribed by chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981, except that the manager shall notify the Food Store in writing of the time and place of the hearing at least ten days before it is scheduled, unless the Food Store agrees to a shorter time. The hearing shall be held within 60 days of the date of receipt of the request for a hearing, unless the Food Store agrees to a later date.

6-15-10 Criminal Sanctions.

- (a) The city attorney, acting on behalf of the people of the city, may prosecute any violation of this title in municipal court in the same manner that other municipal offenses are prosecuted.
- (b) The maximum penalty for a first or second conviction within two years, based on date of violation of this section, is a fine of \$500.00. For a third and each subsequent conviction within two years, based upon the date of the first violation, the general penalty provisions of section 5-2-4, "General Penalties," B.R.C. 1981, shall apply.

Section 3. The provisions of this ordinance relating to the collection of the Disposable Bag Fee and required store signage shall become effective July 1, 2013. All other provisions shall be effective 30 days from the date of passage. The city manager shall develop and

implement the administrative and financial processes for the collection of the fee between the effective date of this ordinance and June 30, 2013.

Section 4. If any section, subsection, sentence, clause or phrase of this chapter is for any reason held invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter.

Section 5. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern.

Section 6. The City Council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY
TITLE ONLY this 2nd day of October, 2012

Mayor

Attest:

City Clerk

READ ON SECOND READING, AMENDED, ADOPTED, AND ORDERED
PUBLISHED BY TITLE ONLY this 16th day of October, 2012.

Mayor

Attest:

City Clerk

READ ON THIRD READING, AMENDED, ADOPTED, AND ORDERED
PUBLISHED BY TITLE ONLY this 1st day of November, 2012.

Mayor

Attest:

City Clerk

READ ON FOURTH READING, PASSED, ADOPTED, AND ORDERED
PUBLISHED BY TITLE ONLY this 15th day of November, 2012.

Mayor

Attest:

City Clerk

Appendix F
Disposable Bag Cost Estimate

PHASE I - ANNUAL COSTS (2016\$)

		Applicable Quantities		Cost to Grocer		Cost to Towns		Fees to Grocer		Fees to Town		Net Fees (Cost)	
		Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby
STATUS QUO	plastic	924,600	924,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	paper	102,700	102,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		2,054,600	bags										
BAN ON ALL BAGS	plastic	92,460	92,460	\$4,068	\$4,068	\$22,250	\$22,250	\$0	\$0	\$0	\$0	-\$22,250	-\$22,250
	paper	10,270	10,270	\$452	\$452			\$0	\$0	\$0	\$0		
		205,460	bags	\$0.044	grocer	\$0.217	towns	-\$9,040	net fee (cost) to grocers		total cost	\$0.261	
PLASTIC BAN/ PAPER FEE	plastic	92,460	92,460	\$4,068	\$4,068	\$22,250	\$22,250	\$0	\$0	\$0	\$0	-\$19,683	-\$19,683
	paper	51,350	51,350	\$2,259	\$2,259			\$2,568	\$2,568	\$2,568	\$2,568		
		287,620	bags	\$0.044	grocer	\$0.155	towns	-\$7,520	net fee (cost) to grocers		total cost	\$0.199	
FEE ON ALL	plastic	462,300	462,300	\$20,341	\$20,341	\$22,250	\$22,250	\$23,115	\$23,115	\$23,115	\$23,115	\$3,433	\$3,433
	paper	51,350	51,350	\$2,259	\$2,259			\$2,568	\$2,568	\$2,568	\$2,568		
		1,027,300	bags	\$0.044	grocer	\$0.043	towns	\$6,164	net fee (cost) to grocers		total cost	\$0.087	

50% bags - Fraser, 50% - Granby

Banned bag reductions - 90% initial year

Fee bag reductions - 50% initial year

Retailer cost/ban - \$0.071 (same source)

Retailer cost/fee - \$0.044/bag retailer cost for implementation, customer interaction, computer system changes for new fees/tracking, compliance with town reqts, re-useable bag storage, etc.

Grocer cost \$0.044/bag

Fees = \$0.10/bag (50/50 split grocer/towns)

Fraser Costs - Phase I

Labor					<i>Excludes policy promulgation & research beyond this study</i>
	Develop program	80 hrs @ \$50/hr	\$4,000		<i>Create forms, change accounting, work with stores on compliance</i>
	Accounting/reporting	20 hrs @ \$50/hr	\$1,000		
	Enforcement	40 hrs @ \$50	\$2,000		
	Education/Sponsorships		\$1,000		
Re-useable bags	3,500 bags @ \$3.50/bag		\$12,250		<i>Based on 8,300 seasonal/recreational/occasional use housing county</i>
Signage			\$2,000		<i>\$3.50/bag quote from GarCo (provided survey bags)</i>
Total			\$22,250		

Granby Costs - Phase I

Labor					<i>Excludes policy promulgation & research beyond this study</i>
	Develop program	80 hrs @ \$50/hr	\$4,000		<i>Create forms, change accounting, work with stores on compliance</i>
	Accounting/reporting	20 hrs @ \$50/hr	\$1,000		
	Enforcement	40 hrs @ \$50	\$2,000		
	Education/Sponsorships		\$1,000		
Re-useable bags	3,500 bags @ \$3.50/bag		\$12,250		<i>Based on 8,300 seasonal/recreational/occasional use housing county</i>
Signage			\$2,000		<i>\$3.50/bag quote from GarCo (provided survey bags)</i>
Total			\$22,250		

PHASE II - ANNUAL COSTS (2016\$)

		Applicable Quantities		Cost to Grocer		Cost to Towns		Fees to Grocer		Fees to Town		Net Fees (Cost)	
		Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby
STATUS QUO	plastic	1,030,900	1,030,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	paper	114,500	114,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		2,290,800	bags										
BAN ON ALL BAGS	plastic	0	0	\$0	\$0	\$11,250	\$11,250	\$0	\$0	\$0	\$0	-\$11,250	-\$11,250
	paper	0	0	\$0	\$0			\$0	\$0	\$0	\$0		
		0	bags	\$0.044	grocer	NA	towns					total cost	NA
PLASTIC BAN/ PAPER FEE	plastic	0	0	\$0	\$0	\$11,250	\$11,250	\$0	\$0	\$0	\$0	-\$9,819	-\$9,819
	paper	28,625	28,625	\$1,260	\$1,260			\$1,431	\$1,431	\$1,431	\$1,431		
		57,250	bags	\$0.044	grocer	\$0.393	towns	\$344	net fee (cost) to grocers			total cost	\$0.437
FEE ON ALL BAGS	plastic	257,725	257,725	\$11,340	\$11,340	\$11,250	\$11,250	\$12,886	\$12,886	\$12,886	\$12,886	\$3,068	\$3,068
	paper	28,625	28,625	\$1,260	\$1,260			\$1,431	\$1,431	\$1,431	\$1,431		
		572,700	bags	\$0.044	grocer	\$0.039	towns	\$3,436	net fee (cost) to grocers			total cost	\$0.083

Bags numbers increase by 11.5% by population increase 2016 to 2021

Banned bag reductions - 100% year 5

Fee bag reductions - 75% year 5

All other assumptions/bases from Phase I apply

Fraser Costs - Phase II

Labor					<i>Excludes policy promulgation & research beyond this study</i>
Develop program	0 hrs @ \$50/hr	\$0			<i>Create forms, change accounting, work with stores on compliance</i>
Accounting/reporting	20 hrs @ \$50/hr	\$1,000			
Enforcement	10 hrs @ \$50	\$500			
Education/Sponsorships		\$1,000			
Re-useable bags	2,500 bags @ \$3.50/bag	\$8,750			<i>Based on 8,300 seasonal/recreational/occasional use housing county</i>
Signage		\$0			<i>\$3.50/bag quote from GarCo (provided survey bags)</i>
Total		\$11,250			

Granby Costs - Phase II

Labor					<i>Excludes policy promulgation & research beyond this study</i>
Develop program	0 hrs @ \$50/hr	\$0			<i>Create forms, change accounting, work with stores on compliance</i>
Accounting/reporting	20 hrs @ \$50/hr	\$1,000			
Enforcement	10 hrs @ \$50	\$500			
Education/Sponsorships		\$1,000			
Re-useable bags	2,500 bags @ \$3.50/bag	\$8,750			<i>Based on 8,300 seasonal/recreational/occasional use housing county</i>
Signage		\$0			<i>\$3.50/bag quote from GarCo (provided survey bags)</i>
Total		\$11,250			

PHASE III - ANNUAL COSTS (2016\$)

		Applicable Quantities		Cost to Grocer		Cost to Towns		Fees to Grocer		Fees to Town		Net Fees (Cost)	
		Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby	Fraser	Granby
STATUS QUO	plastic paper	1,164,500	1,164,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		129,400	129,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		2,587,800	bags										
BAN ON ALL BAGS	plastic paper	0	0	\$0	\$0	\$6,000	\$6,000	\$0	\$0	\$0	\$0	-\$6,000	-\$6,000
		0	0	\$0	\$0			\$0	\$0	\$0	\$0		
		0	bags	\$0.044	grocer	NA	towns					total cost	NA
PLASTIC BAN/ PAPER FEE	plastic paper	0	0	\$0	\$0	\$6,000	\$6,000	\$0	\$0	\$0	\$0	-\$5,030	-\$5,030
		19,410	19,410	\$854	\$854			\$971	\$971	\$971	\$971		
		38,820	bags	\$0.044	grocer	\$0.309	towns	\$233	net fee (cost) to grocers		total cost	\$0.353	
FEE ON ALL BAGS	plastic paper	174,675	174,675	\$7,686	\$7,686	\$6,000	\$6,000	\$8,734	\$8,734	\$8,734	\$8,734	\$3,704	\$3,704
		19,410	19,410	\$854	\$854			\$971	\$971	\$971	\$971		
		388,170	bags	\$0.044	grocer	\$0.031	towns	\$2,329	net fee (cost) to grocers		total cost	\$0.075	

Banned bag reductions - 100% year 5

Fee bag reductions - 85% year 5

All other assumptions/bases from Phase I apply

Fraser Costs - Phase III

Labor				<i>Excludes policy promulgation & research beyond this study</i>
Develop program	0 hrs @ \$50/hr	\$0		Create forms, change accounting, work with stores on compliance
Accounting/reporting	20 hrs @ \$50/hr	\$1,000		
Enforcement	10 hrs @ \$50	\$500		
Education/Sponsorships		\$1,000		
Re-useable bags	1,000 bags @ \$3.50/bag	\$3,500		Based on 8,300 seasonal/recreational/occasional use housing county
Signage		\$0		\$3.50/bag quote from GarCo (provided survey bags)
Total		\$6,000		

Granby Costs - Phase III

Labor				<i>Excludes policy promulgation & research beyond this study</i>
Develop program	0 hrs @ \$50/hr	\$0		Create forms, change accounting, work with stores on compliance
Accounting/reporting	20 hrs @ \$50/hr	\$1,000		
Enforcement	10 hrs @ \$50	\$500		
Education/Sponsorships		\$1,000		
Re-useable bags	1,000 bags @ \$3.50/bag	\$3,500		Based on 8,300 seasonal/recreational/occasional use housing county
Signage		\$0		\$3.50/bag quote from GarCo (provided survey bags)
Total		\$6,000		

Appendix G
Implementation Guidance

Phase I Implementation Steps (2016 through 2018)

ACTIVITY	DESCRIPTION & SCHEDULE	GUIDANCE
NEW DROP SITE <i>(Fraser & Winter Park)</i>	D1 - Identify site <i>(by December 2016)</i>	Ideally donated by a business whose daily activities provide disincentive for abuse & in turn will benefit from customer access. Total site should be 0.15 acres, fairly level, relatively flat with adequate lighting & located on a major thoroughfare near (or on) Highway 40. Could potentially become waste diversion hub in future (special waste collections, reuse, or repurposing) - ability for town to purchase may be an advantage.
	D2 - Establish a Responsible Government Agency(ies) & Funding Sources <i>(by March 2017)</i>	Formal agreement with clear roles/responsibilities for site selection, development, hauler selection, bag purchase/sales, contract administration, grant funding (e.g., Fraser, Winter Park, county, or joint organization). Any expected funding deficit may be addressed in part by towns whose residents/businesses/tourists use site (GRRC receives payments from Granby and Grand Lake ⁱ), sponsors, partners, in-kind contributions, etc.
	D3 - Submit RREO Grant Application <i>(by May 2017)</i>	For site development. Annual capital grant cycle July to June (applications due previous March).
	D4 – Develop Site <i>(by July 2017)</i>	See Table3-4 costs. Partner with property owner, partner towns, county & sponsors to reduce costs.
	D5 - Obtain Hauler Bids <i>(August 2017)</i>	Use competitive process, ideally with at least two haulers. Use process to refine quantities/subsequent costs (not previously shared by local haulers). Request bids for multiple contract terms (e.g., two, three, and five years) to considers Dumpsters (10-year life). Key requirements are bi-annual weight data report on all materials hauled & participation in education program.
	D6 - Confirm Trash Bag Source & Establish Retail Partners for Bag Sales <i>(by August 2017)</i>	To obtain best vendor at lowest price. Provide access to bags county-wide (concentration in Fraser/Winter Park). Consider bag color - different colors from Grand Lake (blue and green) beneficial for tracking out-of-town use; decals in addition to bags (for folks who have bags); multiple bag sizes – 40-gallon bags may reduce site litter ⁱⁱ but public may also want smaller for homes, campers, etc.
	D7 – Begin Operations <i>(by September 2017)</i>	Establish rules for public use (see E___), enforcement & penalties. Pair with drop-site education campaign. Test site layout, hours & surveillance – readjust as needed.
	D8 – Apply for Rebate <i>(by August 2018)</i>	Annual RREO rebate cycle July to June fiscal year (applications submitted the following August).
BAG POLICY <i>(Fraser & Granby initially)</i>	B1 - Evaluate Potential Programs with Grocers & Verify Assumptions <i>(by June 2017)</i>	To obtain grocer support, input on specific implementation & data. Safeway/City Market are part of national companies - dialogue may involve multiple parties. To substantiate assumptions used in Section 4 analysis above. Average annual checkout bag quantities & store-specific program costs need further evaluation (conducting extensive studies may not be effective if stores do not provide better data, however). Verify that fee on all bags is best option; applying to large grocers is best balance of political acceptability, ease of implementation, effectiveness & public support; \$0.10/bag will cover grocer/town costs; 50/50 split is equitable & fair.

Phase I Implementation Steps (continued)

<p>B2 - Develop Draft Policy (by June 2017)</p>	<p>Implemented at the municipal level but could be undertaken by both towns at same time to simply & make consistent (Aspen/Carbondale took this approach in 2011). Universal ordinance language can be developed from existing Colorado ordinances (especially Breckenridge & Boulder). Establish threshold grocery size for applicability (e.g., 5,000 to 10,000ft²). Enable policy expansion to other retailers and/or Grand County municipalities in the future. Other components: exemptions for bags not subject to new policy & low-income households; requiring/encouraging grocers to provide re-useable bags & no-cost container option (e.g., used cardboard boxes) to minimize customer frustration; commitment to direct net fee earnings to bag or waste diversion programs; minimum recycled content for paper bags (as Boulder and Telluride have done); ability to accommodate re-useable bags at self-checkout, use of grocer boxes, etc. Identify grocer enforcement/penalties - <i>key to early implementation but likely to drop after the first year. Grocer "short-cuts" may include use of non-checkout bags at checkout & exchanging checkout bags for thicker 2.25-mil bags (typically exempted from policy, often used/re-used for pet waste, trash, etc.). Penalties should address overdue fee remittance (penalty from 5% to 10%) & per-instance offenses from \$50 to \$500 (most Table 4-2 towns rarely applied, however).</i></p>	
<p>B3 - Evaluate Re-Useable Bag Specification, Distribution & Sponsors (by December 2017)</p>	<p>Re-useable bags should be durable, able to be cleaned/disinfected, reused multiple times & ideally made of recycled or donated materials that can be reused or recycled locally. Colorado-made GarCo bags (Rifle, CO) were used in Table 4-4 estimateⁱⁱⁱ. Alternative options have more standardized specifications but are out-of-state companies. New local business could potentially be encouraged. Distribution of bags is key to address inconvenience - include town distribution through local outlets, partnership with grocers to distribute in stores, providing to property managers for distribution to visitors (the town's ability to control the later may be limited, however). Given resort nature of Grand County, these distributions may not be reduced over time.</p>	
<p>B4 – Implement & Enforce (by March 2018)</p>		
<p>EDUCATION (Grand County plus Towns)</p>	<p>E1 – Obtain Grant Funding (May 2017)</p>	<p>RREO or USDA grant funding is available and could be appropriate to initially develop this program.</p>
	<p>E2 – Obtain/Dedicate Part-Time Staff or Contractor (by May 2017)</p>	<p>Staffing needs expected to be at least 0.25 FTE first year (can be more or less depending on program goals & resources), less in subsequent years. Additional costs to include graphic design, website development, printing & production. Ideally will be managed by county, partnered with towns & sponsors (may be specific to drop site, bag or other programs).</p>
	<p>E3 – Develop Program Framework & Brand (by June 2017)</p>	<p>Establishing overall program objectives & breadth important blue print for multi-year strategy. Brand can be simple but is key to overall program visibility & consistency.</p>
	<p>E4 – Establish Program Partners & Sponsors (by June 2017)</p>	<p>Should include towns, businesses (especially Winter Park Resort & Rocky Mountain National Park), non-profits, chambers, etc. (may be specific to drop site, bag or other programs).</p>
	<p>E5 – Develop Drop-Side Education Campaign (by July 2017)</p>	<p>Should focus on drop-site materials, hours, pre-purchase trash bag purchase, rules (especially around plastic bags), donations, penalties. Drop-site specific activities could be limited to Fraser/Winter Park.</p>

Phase I Implementation Steps (continued)

<p>LANDFILL (Task Force)</p> <p>OTHER</p>	E6 – Develop Bag Policy Education Campaign <i>(by January 2018)</i>	Should focus on leveraging program to raise awareness about waste generation/resource conservation. Include what/how bag fees work, options to disposable bags, penalties.
	E7 – Develop County-Wide Materials <i>(by December 2017)</i>	Should focus on specific messages to incentivize public to recycle, address problem materials, “recycle right”, illegal dumping, new policies or programs. Bag specific activities could be limited to Fraser/Granby.
		Delay until Phase II.
	O1 – Determine Leadership	By Grand County, multiple agencies or non-profit.
	O2 – Encourage Textile Reuse/Recycling	Respond to apparent spike in bedding, clothing & bath textiles generated at end of high season (11% of trash samples in May audit). Work to support/expand existing thrift operations.
	O3 – Encourage Food Donations	Encourage/support donation by grocers, collections that match quantity & generation schedule, distribution & use by shelters (only 50 tons donated in 2014 – this is only regular organics recovery in county).
	O4 – Evaluate County-Wide Hauler Ordinance	Local governments in Colorado have authorities to establish a hauler ordinance that standardize services, require participate in education programs & report data. Consult county attorney (Winter Park is only home rule town). Alternatively, towns can implement individually (are many hauler ordinance examples in Colorado).
O5 - Repeat County Trash Audits	Conduct full-season audits to evaluate representative annual quantities & track diversion progress (current audit results are “spot” only & cannot be assumed to represent annual averages). Specifically measure plastics & CDD. Should be conducted by Grand County at Granby transfer station. Alternative, cost-reducing approach would be to sort recyclables only and track against 2015 level of 37% recyclables remaining in trash samples.	

**Phase II Implementation Steps
(2019 through 2022)**

ACTIVITY	DESCRIPTION	SUPPORTING IMPLEMENTATION GUIDANCE
NEW DROP SITE <i>(Fraser & Winter Park)</i>	D9 – Evaluate Quantities/Costs <i>(by September 2019)</i>	Add Dumpsters, add hours for recyclables collection, revise pre-purchase trash bags, revise signage for new materials, revise enforcement needs, etc. as needed
	D10 – Expand <i>(by September 2010)</i>	Possibly to Hot Sulphur Springs
	D11 – Work with Grand Lake & Grand County to Regionalize Drop Sites <i>(by December 2020)</i>	Evaluate pros/cons of coordinating public trash drop sites. Benefits may include standardizing trash bags, pool resources (especially education activities) & sharing hauler contract to reduce costs.
	D12 - Evaluate Out-of-County Facility Options	To confirm cost-effectiveness of hauling materials to transfer station. There may be other options in future to reduce costs & impacts. Timberline Disposal operates trash/recyclables transfer in Silver Plume (30 miles from Winter Park), then hauls materials to Denver area ^{iv} . Summit County has recyclables transfer station in Keystone ^v (60 miles) for single-stream without glass.
	D13 – Rebid Hauler Contract <i>(3 months prior to expiration)</i>	See D5. Address out-of-county options to extent feasible.
BAG POLICY <i>(Fraser & Granby)</i>	B5 - Re-Evaluate Program <i>(by March 2019)</i>	To verify adequacy of policy constraints & fee collections (note “death spiral” nature of a program that depends on widget fee but success is based on decreasing widgets). May also reduce grocer/town fee split after first years (done in some Table 4-2 programs), change re-useable bag purchase and distribution & public education messages.
	B6 - Work with Other Food Stores & Retailers <i>(by March 2020)</i>	<i>To encourage voluntary compliance (e.g., existing or future natural food stores - there is one store in Pitkin County that voluntarily complies with Aspen’s policy & grocers in Mountain Village, CO voluntarily complies with Telluride’s policy). Targets may include Murdoch’s & Winter Park Resort). No enforcement required if voluntary. Could also evaluate expanding ordinance applicability to smaller grocers & other retailers.</i>
	B7 - Expand to Other Towns <i>(by March 2021)</i>	As new groceries are added, new town (e.g., Winter Park) should consider adopting same ordinance.
EDUCATION <i>(Grand County)</i>	E8 – Implement Special Event Recycling <i>(by June 2019)</i>	Concerts, fairs, sports events, etc.
	E9 – Implement On-Site School Recycling <i>(by January 2020)</i>	For any schools not already recycling. Identify school coordinator & Coordinate/partner with local haulers. At full build-out, all schools in both districts will have programs & may use single procurement process to select hauler for best value.
	E10 – Update Program Materials <i>(by June 2020)</i>	As needed. Messaging needs reformatting, graphics & catch phrases every two or three years even when content doesn’t change.

<i>LANDFILL (Task Force)</i>	L1 – Initiate Discussion (by June 2019))	
<i>OTHER</i>	O6 – Update Waste Diversion Strategy	This should be done every five years or sooner.
	O7 – Repeat County Trash Audits	See O4

Phase III Implementation Steps (2023 through 2026)

ACTIVITY	DESCRIPTION	SUPPORTING IMPLEMENTATION GUIDANCE
<i>NEW DROP SITE (Fraser & Winter Park)</i>	D14 – Continue to Adjust Program	Dumpsters, hours, trash bag pricing, signage, etc. as needed.
	D15 – Rebid Hauler Contract (3 months prior to expiration)	See D5. Address out-of-county options to extent feasible.
<i>BAG POLICY (Fraser & Granby)</i>	B8 - Re-Evaluate Program	Fees, re-useable bags, public education, etc. as needed.
<i>EDUCA- TION (Grand County)</i>	E11 – Add Waste Curriculum to Schools	See Section 5.1. May limit to middle grades.
	E12 – Promulgate Special Event Policy	New rules requiring recycling at special events.
<i>LANDFILL (Task Force)</i>	L2 – Continue Discussion (on-going)	
<i>OTHER</i>	O8 - Organics Recovery	Evaluate opportunities for additional organics recovery (most likely windrow composting of yard & commercial food waste).
	O9 – Evaluate Glass-Out	From single-stream and/or consider a dedicated glass or cardboard collection.
	O10 – Update Waste Diversion Strategy	See O5.
	O11 – Repeat County Trash Audits	See O4.

ⁱ The Town of Granby pays \$4,800/year and the Town of Grand Lake \$1,500/year.

ⁱⁱ According to the Town of Fraser's 2016 "County-Wide Trash and Recycling Survey," about 60% of respondents generate one 40-gallon of trash/week or less.

ⁱⁱⁱ GarCo bags (Rifle, CO) are made from recycled/plastic or reused/cloth materials that cannot be recycled in Grand County currently. Other bag options (e.g., Chico Bags in Chico, CA) can be 100% recycled plastic and reused through company's End-of-Life-Take-Back-Program, but are approximately 150% more expensive to purchase. The Chico bags are also more standardized in the industry, durable, and customizable with store/town logos.

^{iv} Timberline Disposal could not be reached for comment.

^v Summit County's landfill tip fees are currently \$60/ton (compacted loads) and the recycling tip fee is \$25/ton.