CITY OF BOULDER
CITY COUNCIL AGENDA ITEM

MEETING DATE: MAY 15, 2012

AGENDA TITLE
Consideration of a motion providing direction on options for reducing disposable checkout bag use in Boulder.

PRESENTERS
Jane S. Brautigam, City Manager
Paul J. Fetherston, Deputy City Manager
David Driskell, Executive Director, Community Planning and Sustainability
Susan Richstone, Deputy Director, Community Planning and Sustainability
Kara Mertz, Local Environmental Action Manager
Jamie Harkins, Business Sustainability Specialist

EXECUTIVE SUMMARY
The purpose of this item is to request City Council direction on options for reducing disposable plastic and paper checkout bag use in Boulder—both the type of approach and the scope of that approach.

During the summer of 2011 a number of community members and groups asked City Council to reduce disposable bag use in Boulder through an ordinance and began collecting "Bag It Boulder" petition signatures. At the October 11, 2011 study session on the Zero Waste Master Plan, council requested that staff explore options for achieving this goal, involving large stakeholders in the discussion. Options that have been explored and which are addressed in this memo include:

1) Fee or tax on plastic and paper bags;
2) Ban on plastic bags with a fee on paper bags;
3) Ban on plastic and paper bags;
4) Educational campaign only; and
5) No action.

If the chosen approach is an ordinance, its scope would need to address the type of businesses it would apply to, which could include either one or a combination of the following:

- All retail businesses;
- Retail businesses over a determined size threshold;
- Businesses defined as “Food Stores” in the sales tax system;
- “Food Stores” over a determined size threshold; and/or
- Business defined as “Eating Places” in the sales tax database.

Other municipalities and counties across the US have used bans, fees, or a combination of both to reduce disposable bag use. After receiving input from stakeholders including Safeway, King Soopers, Whole Foods, Target, and smaller grocers, staff evaluated the options against a range of criteria aimed at balancing reduction in disposable bags with consumer impacts as well as financial costs to businesses and the city organization to implement, administer and enforce.

Staff also researched the life cycle environmental impacts of both plastic and paper bags. The evidence presented in life cycle studies indicates that paper bags, including those with recycled content, are not a more sustainable option than plastic bags. While local impacts such as litter and contamination at the recycling facilities could be weighted as priorities in the consideration of options, the staff recommendation is based on a life cycle perspective that takes into account potential non-local impacts as well as criteria such as customer and business impacts, ease of enforcement and cost to administer. The staff proposal is also informed by lessons learned from other “early adopter” communities that recommend avoiding a complicated ordinance due to issues they have encountered in implementation and enforcement.

STAFF RECOMMENDATION

Staff recommends the following:

1. **Option 1 - A fee on both disposable plastic and paper checkout bags.** A bag tax would have to await voter approval, while a fee can be implemented in the near-term through an ordinance. This option:
    - acknowledges the life cycle environmental impacts of both types of bags, supporting a shift away from disposable bag use in general and not from one type of bag to another;
    - creates an effective financial incentive to change behavior;
    - is acceptable to all of the large grocers since it minimizes their implementation and administrative costs;
    - retains consumer choice and convenience; and
    - helps offset the city costs for implementation, administration, education and strategies to minimize impacts to low income consumers and tourists.
2. **Apply to food stores.** This option:
    - targets a majority of bag use in Boulder while maximizing clarity of the ordinance;
    - avoids confusion for businesses around who must comply; and
    - minimizes city resources required for administration, enforcement and monitoring of exemptions and threshold levels.

Including additional business types will have a diminishing impact, as more city resources would be needed to apply an ordinance to many more businesses that distribute fewer bags. Staff also believes that addressing disposable bag use in food stores will have a "trickle down" effect on encouraging reusable bag use by residents at all retail stores. Both the approach and scope of this ordinance could be expanded in the future, transitioning to a ban or a fee program that includes more business types.

Suggested Motion Language:
Staff requests council consideration of this matter and action in the form of the following motion:

Motion providing direction to develop an ordinance to reduce disposable checkout bag use that:

1. places a fee on disposable plastic and paper checkout bags distributed in the City of Boulder; and
2. applies to all food stores in the City of Boulder.

COMMUNITY SUSTAINABILITY ASESSMENTS AND IMPACT

- Economic – An ordinance that is designed to reduce disposable plastic and paper checkout bag use will have a fiscal impact on the business community in Boulder because of the need to potentially collect and remit a fee, purchase and stock a different type of bag and/or conduct outreach to customers. The extent of that impact will vary greatly depending on the approach taken and the scope of the approach. More details regarding these costs are included in the Analysis section.
- Environmental – Both plastic and paper disposable bags have wide-ranging direct impacts on the natural environment. These impacts range from "upstream" manufacturing impacts of pollution, greenhouse gas emissions and water use to "downstream" impacts on litter, contamination at recycling facilities and solid waste disposal.
- Social – Addressing disposable bag use through a ban or a fee will potentially have a disproportionate negative effect on low income residents, senior citizens and tourists. However several strategies are available to help mitigate this effect, including targeted bag giveaways and bag fee exemptions for low income consumers receiving government assistance. Staff will work with community groups to identify additional strategies and processes that do not draw attention to consumers eligible for a possible exemption.

OTHER IMPACTS

- Fiscal – The budgetary impacts of the options presented will vary greatly depending on the approach taken. Collection of a new fee will require computer programming and collection process design for the city. Both a fee program and a ban will require additional resources for outreach and education if not offset by fee revenue. A fee nexus study will also be required to determine the appropriate fee level and uses.

- Staff time – Both a fee program and a ban will require additional staff time outside of pre-existing work plans. The finance and enforcement functions will both require additional resources to collect, audit and enforce a bag fee. A ban would also require additional enforcement resources. All of these costs will vary greatly depending on the number of businesses the resulting approach applies to. Significant outreach and education will also need to be conducted with all options presented, possibly requiring additional resources to support community partners as well as city staff.

BOARD AND COMMISSION FEEDBACK

The Environmental Advisory Board (EAB) discussed the options on April 26, 2012, and passed a unanimous resolution in support of the staff recommendation on both approach and scope. In addition, the board members emphasized the following points:

- Interest in a phased approach where a bag fee is a transition to a more comprehensive ban;
- Support for starting with food stores because of simplicity and phasing in more businesses over time-the question regarding restaurants needs more study and consideration;
- Looking at life cycle environmental impacts of both types of bags is important-the message needs to be that single-use products are the problem, not that one type of disposable bag is worse than the other;
- Support for shifting to a "polluter pays" model that captures some of the hidden external costs of bags;
- Concern about low income populations-staff should pay special attention to this issue;
- Concern about staff time being spent on this project with so many other high priority projects-keep it simple and easy to manage;
- Potential for integrating compostable bags;
- Important to define process for making progress over time, not just implementing an ordinance and being done; and
- Education will be critical-use positive messaging about the benefits to our community.

PUBLIC FEEDBACK

City Council, the EAB and staff received public comments regarding this issue over the past nine months. Descriptive materials outlining the options, previous meeting materials, a comment form and a public survey have been available on the city's website. **Attachment A** provides a compilation of the 45 comments that were submitted through the website form and the 507 responses from the survey, which closed on April 24.

A public meeting was held on April 23, 2012 to obtain feedback on the proposed options. Approximately 45 attendees discussed the options in small break-out groups and reconvened to report out on their discussions. Several main themes emerged from the meeting, including:

- Support for using an ordinance to change behavior, other efforts have not worked;
- Contamination, both in the environment and in human health, needs to be addressed;
- No matter what approach is taken, education will be critical; and
- A majority of attendees supported using a fee/fee or ban/fee as a transition to a total bag ban over time that included all retail businesses.

A final tally of the support for the approach and scope options indicated that a majority of the attendees favored a ban on plastic bags with a fee on paper bags applied to all retail businesses in Boulder. A fee on both plastic and paper bags was the next preferred option. Additional feedback obtained at the meeting, as well as the complete tally results, are also provided in **Attachment A**.

Twenty three members of the public provided comments at the EAB meeting on April 26. Similar to the April 23 meeting, the majority testified in favor of a ban on plastic bags and a fee on paper bags. Others testified in favor of a fee on both types of bags and an education only approach.

Staff and a Boulder Chamber research team also obtained input from affected businesses. In-person meetings, telephone interviews or email surveys were conducted with Whole Foods, Safeway, King Soopers, Target, Alfalfa's, Vitamin Cottage, Trader Joe's and Sprouts. Outreach to additional retail stores did not receive a response. The issues and concerns discussed with these businesses included up-front costs to comply with a potential ordinance, on-going administrative and bag costs, existing bag recycling efforts, reusable bag credit programs, preferred implementation timelines and outreach/educational needs. This feedback is captured in the Analysis section.

BACKGROUND

At an October 11, 2011 study session on the Zero Waste Master Plan (ZWMP) update, staff presented research on approaches taken by other communities to reduce disposable bag use. This information was presented in response to community input and petitions to address the issue. City Council requested that staff explore options for reducing disposable plastic and paper checkout bag use in Boulder though a process that involved large stakeholders and ideally resulted in a consensus opinion around an approach.

Context with the Zero Waste Master Plan

The existing 2006 Master Plan for Waste Reduction is currently in the process of being updated and has been renamed the Zero Waste Master Plan (ZWMP). The overarching goal that guides the original master plan is 85% waste diversion by the year 2017. While reducing the use of disposable bags will not significantly impact waste diversion overall, it would address other council priorities such as changing the community's social norms around waste reduction, maximizing participation in zero waste initiatives and addressing a potentially toxic component of the waste stream.

Development of options to reduce disposable checkout bag use was prioritized within the larger zero waste policy and program review due to high levels of community involvement and potential implications on the programs and funding levels for other activities depending on the type of ordinance put in place. Staff will continue with the ZWMP update in the 3rd quarter of 2012.

ANALYSIS

Disposable Bag Use in Boulder

Estimates of disposable checkout bag use in cities are often based on national or statewide estimates; however several communities, including Seattle and San Jose, have conducted studies to determine a more accurate count. These estimates are often communicated in the number of plastic and paper bags used per person per year (Table 1). Figure 1 shows the estimated percentage of bags originating from different types of businesses used in both the Seattle and San Jose studies.

Figure 1: Disposable Bag Generation by Store Type

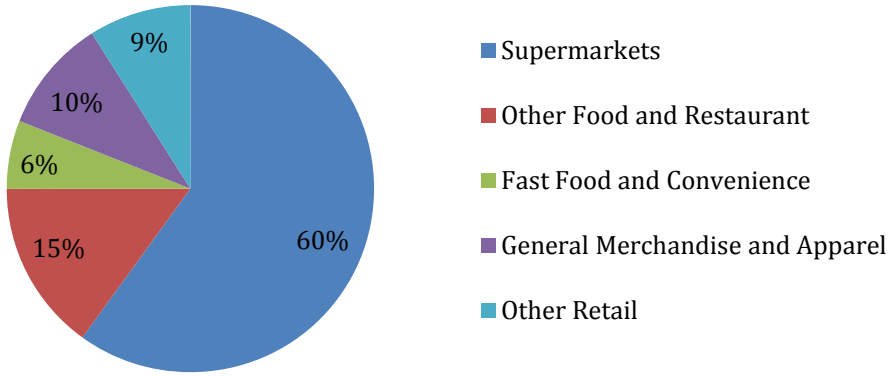

Table 1: *Bag Use Estimates Used in Ordinance Design*

Location	Bags Per Person Per Year
Seattle, WA	630
San Jose, CA	452
Washington, DC	449
Aspen, CO	398

In order to estimate plastic and paper checkout bag use in Boulder, staff obtained 2011 data from several large and mid-range grocery stores to arrive at a total for food stores in the city, and then used the proportions in Figure 1 to estimate total bag use at approximately 21.5 million bags, or 221 bags/person/year. In recognition that this estimate is significantly lower than the estimates from other communities, staff feels it is appropriate to use 21.5 million bags as the low end of a range.

A high estimate of bag use can be based on Boulder County's 2010 Waste Composition Study, which reported that 781 tons of disposable plastic bags were discarded by county residents in one

year. Using a standard industry weight of 0.013 lbs/plastic bag and 2010 Census figures for Boulder County[1] and the City of Boulder[2], the city's contribution to that total is 39.6 million, or 407 plastic bags/person/year. Adding an estimated 55 paper bags/person/year from San Jose's study, the high end of Boulder's range would be 45 million, or 462 bags/person/year. This range was used to calculate an average of **33.3 million bags**, or **342 bags/person/year**.

Table 2: *City of Boulder Disposable Bag Use Estimate*

Boulder, CO	Total Number of Bags	Bags Per Person Per Year
High Estimate	45 million	462
Low Estimate	21.5 million	221
Average Estimate	**33.3 million**	**342**

Bag Recycling and Reuse

While many Boulder residents reuse or properly recycle plastic and paper checkout bags, a majority end up in the landfill. The EPA estimates that the national recycling rate of plastic checkout bags is less than 5 percent.[3] Using bag collection data obtained from King Soopers, Safeway, Whole Foods and Eco-Cycle's Center for Hard-to-Recycle Materials, staff estimates that Boulder's plastic bag recycling rate is approximately 20-24%.

It is not possible to calculate a recycling rate for paper bags since they are included in the general paper stream or composted with food and yard waste. Anecdotal evidence suggests that many residents reuse plastic checkout bags for trash can liners, dog waste or other purposes.

Contamination at Recycling Facilities

Disposable plastic checkout bags are a significant source of contamination at both the Boulder County Recycling Facility and local compost facilities. **Attachment B** provides more detail regarding the estimated costs incurred at these facilities for managing bag contamination issues. Included in these costs are:

- Contamination in the automated recycling process resulting in equipment shut-downs – paid by Boulder County Recycling Center
- Contamination in the composting process – paid by Western Disposal and A-1 Organics
- Portion of the street sweeping and litter cleanup budget – paid by public tax dollars
- Collection and disposal of discarded bags as trash – paid by individual residents and businesses

Eco-Cycle estimates that disposable bags cost City of Boulder residents, businesses and the government more than $200,000 per year to manage, and possibly as much as $524,000 per year. Western Disposal incurred capital investment costs of approximately $200,000 and annual

[1] 2010 Census population of Boulder County: 295,166
[2] 2010 Census population of City of Boulder: 97,385
[3] US EPA 2005 Characterization of Municipal Solid Waste, Table 7

operating costs of approximately $70,000 to remove disposable plastic bag pieces from the compost product.

Life Cycle Environmental Impacts

The forefront of the sustainability movement, especially in regard to consumer products, has shifted towards evaluating the entire life cycle impacts of a product, not simply the visible effects to the consumer or company. In evaluating options to reduce bag use in Boulder it is crucial to consider the environmental impacts of both plastic and paper bags along their entire life cycle in order to design an approach that has an overall net benefit to the environment.

Both plastic and paper checkout bags have considerable life cycle costs. The manufacturing of plastics bags requires nonrenewable fossil fuel in the form of petroleum or natural gas. Plastic bags are difficult to recycle and do not biodegrade in landfills. If not buried in a landfill, plastic bags in the environment photodegrade into smaller and smaller pieces over thousands of years, often resulting in detrimental effects to wildlife and ecosystems. This is especially prevalent in the oceans, where bits of plastic are mistaken as food. In the area of floating trash debris called The Great Pacific Garbage Patch, plastic outweighs plankton by up to six times.[4]

The production of paper bags also has considerable negative impacts, especially on forests, and requires very large amounts of energy and water to produce. While paper bags are recyclable or compostable in Boulder's curbside collection, they do not biodegrade in a landfill due to the lack of oxygen and sunlight. Table 3 provides a summary of the life cycle environmental impacts for both types of bags. This evidence does not support the common perception that paper bags are a more environmentally sustainable alternative than plastic bags.[5] Additional life cycle analysis information is provided in **Attachment C**.

Table 3: *Energy, Water and GHG Impacts of Various Bag Types*[6]

	Paper Bags (30% Recycled Fiber)	**Polyethylene Plastic Bags**[7]
Total Energy Usage (MJ)	2,622	763
Fossil Fuel Use (kg)	23.2	14.9
Municipal Solid Waste (kg)	33.9	7.0
Greenhouse Gas Emissions (CO2 Equiv. Tons)	0.08	0.04
Fresh Water Usage (Gal)	1,004	58

[4] Environment California "Leading the Way Toward a Clean Ocean" p.4

[5] The ULS Report: Review of Life Cycle Data Relating to Disposable, Compostable, Biodegradable, and Reusable Bags, p.3

[6] Boustead Consulting & Associates: Life Cycle Assessment for Three Types of Grocery Bags, p.4

[7] The impacts of polyethylene plastic bags were calculated based on the number of bags needed to equal the carrying capacity of 1,000 paper bags.

Although plastic bags contribute significantly to contamination at recycling facilities and litter (impacting ecosystems and wildlife), the high level of energy and water use required for paper bag manufacturing must also be considered. It is important to encourage reduction of disposable bag use in a way that does not trade one set of environmental impacts for another. The preferred policy approach should aim to reduce the use of all disposable bags. This approach is in line with the Boulder Valley Comprehensive Plan's Principles of Environmental Sustainability, which state that the city will strive to preserve and protect the natural resource base and environmental quality on which life depends by:

- maintaining and enhancing the biodiversity and productivity of ecological systems;
- ensuring the efficient use of natural resources in a manner that does not deplete them over time; and
- reducing and minimizing the use of non-renewable resources.

Approaches Taken By Other Communities

Legislation aimed at reducing disposable bag use is moving quickly throughout the United States, with cities and counties using various approaches including:

- Ban on plastic bags;
- Fee or tax on both plastic and paper checkout bags;
- Ban on plastic bags combined with a fee or tax on paper bags; and
- Ban on both plastic and paper bags.

These ordinances typically apply to checkout bags only, not bags used for produce, baked goods, meat, newspapers, dry-cleaning or general trash bags. **Attachment D** contains a summary of ordinances from around the country. All "lessons learned" presented in the following analysis sections are based on high level discussions with several municipalities. After receiving Council direction on a preferred approach, staff will gather more detailed advice from peer communities with comparable ordinances to ensure final design reflects best practices.

Ban on plastic bags

Example: Portland, San Francisco

The first policies enacted in the United States to reduce disposable bags banned only plastic bags, such as San Francisco's ordinance in 2007. While bans are very effective in achieving a quick and dramatic decrease in use, San Francisco experienced a large shift in consumer use to paper bags, increasing solid waste volumes. San Francisco has now added a fee on paper bags to discourage this trend.

Fee or tax on plastic and paper bags

Example: Washington DC, Ireland

This approach provides customers a financial incentive to reduce bag use while also allowing for the flexibility to pay a fee if a bag is needed. By placing a fee on both types of checkout bags no judgment is made regarding which type of bag is the more sustainable choice. In most communities that have implemented a bag fee, businesses retain a percentage to offset costs and the remaining amount is remitted to the government, creating a revenue source to pay for related expenses such as administration, signage and education, bag giveaways, and litter cleanup. An

additional option is to allow the store to retain the entire fee amount. This approach has been very effective and is discussed in more detail in the following section.

Ban on plastic bags and a fee or tax on paper bags
Examples: Seattle, Aspen, Telluride
This hybrid approach of banning plastic bags and placing a fee on paper bags acknowledges that while both types of bags have significant environmental impacts, paper bags are easily recyclable in curbside collection programs while plastic bags are difficult to recycle and are a larger contributor to local litter and waterway pollution.

Ban on both plastic and paper bags
Austin's City Council recently voted to ban all disposable plastic and paper checkout bags, requiring customers to use reusable bags at all retail locations. However public apprehensiveness and retailer concerns caused a revision to the approach, which now allows for the distribution of recycled content paper bags that have handles for a fee. Pharmacies and restaurants must also use paper bags recyclable in Austin's curbside recycling program. This ordinance is still evolving and the fee level is unknown at this time.

Effectiveness of Fees and Bans
Bans on disposable bags, coupled with enforcement and a consumer complaint hotline, are very effective in achieving a dramatic decrease in bag use. However, as mentioned above, municipalities that did not also address paper bag use saw a shift from one kind of bag to another, rather than reducing overall bag use.[8]

Bag fees are a more recent approach, and their effectiveness is just beginning to be studied. Washington D.C. was the first municipality in the country to implement a fee on both disposable plastic and paper bags in 2009. The motivation behind using a fee instead of a ban in Washington was to create a policy that was politically feasible and acceptable to the large grocery stores while incentivizing behavior change.[9] The five-cent per bag fee has now been in place for over a year, and the results have demonstrated a dramatic decrease in bag use. When the policy was passed projections estimated fee revenue of $3.5 million in the first year. Actual fee revenue in 2010 was a little over $2 million.[10] Consumers in Washington changed their behavior much faster than expected, reducing bag use from 270 million in 2009 to about 55 million in 2010, a reduction of 80 percent.[11]

In addition to the data provided by actual fee revenue, the Alice Ferguson Foundation conducted a survey after one year of Washington's bag fee ordinance to measure public perceptions and effects on businesses (**Attachment E**). The survey showed that:

- 75% of Washington residents reported a reduction in their bag usage;
- a majority of businesses reported that their bag consumption dropped at least 50%; and

[8] "Do Bag Bans Work?" http://earth911.com/news/2010/05/26/do-bag-bans-work/
[9] Email discussions with Jeffrey Seltzer, District Department of the Environment
[10] "Washington DC's Bag Fee: Case Study" http://www.banthebagspdx.com/?p=308
[11] Washington Post, "District Businesses Not Harmed By Bag Tax" http://www.washingtonpost.com/wp-dyn/content/article/2011/02/23/AR2011022306669.html

- 78% of businesses had a neutral or positive response when asked how the bag fee was impacting their business.

Other examples of bag fee effectiveness include the country of Ireland and the retail store IKEA. Ireland implemented a 15 Euro cent tax (approximately 20 U.S. cents) on plastic bags in 2002. In the first year of the policy plastic bag consumption decreased 90%. The tax was increased in 2007 because it became less effective over time.[12] IKEA became the first major retailer in the United States to charge a fee for bags in 2007. Customers are required to pay five cents for a plastic checkout bag and 59 cents for a reusable bag. This resulted in a 95 percent drop in plastic checkout bag use at the store.[13]

Fee vs. Tax

The basic difference between a fee and a tax is that a fee is imposed to defray the cost of a particular government service, while a tax is imposed to pay for general government services. A fee is imposed upon those who create the need for the service, while a tax is imposed on the entire community. There must be some reasonable relationship between the fee imposed and the governmental expenditure made. Fee revenue cannot be expended in the same general manner as a tax. One advantage of a fee over a tax is that a fee can be implemented in the near-term through an ordinance, while a tax would need to await voter approval.

Impact to Businesses

In order to understand how various options would impact the largest distributors of checkout bags in Boulder, staff obtained feedback from Safeway, King Soopers, Whole Foods, Target and Alfalfa's. Staff also worked with a research team from the Boulder Chamber to survey smaller stores such as Vitamin Cottage, Sprouts, Sunflower and more. Their input is summarized here, with more detail provided in **Attachment F**.

The following types of costs would be incurred by businesses under an ordinance that included a bag fee, either on both types of bags or just paper:

- Labor costs associated with the training of employees and the increased time it will take to complete a transaction due to bag counting;
- Cost to update programming of the point-of-sale system to allow for a new fee;
- Administrative costs of collecting and remitting the fee to the city; and
- Potential public education costs in addition to materials provided by the city.

The large grocers indicated that a ban on plastic bags and a fee on paper bags would be the most costly option. Complying with this type of ordinance would result in additional expenses, including:

- One-time costs related to changing the infrastructure of checkouts to accommodate the exclusive use of paper bags;
- Cost to update programming of self check-outs to appropriately weigh paper bags;

[12] Environment California "Leading the Way Toward a Clean Ocean" p.14
[13] County of Los Angeles, California "An Overview of Carryout Bags in Los Angeles County" p.43

- Cost differential between purchasing paper bags instead of plastic bags – paper bags are approximately five times more expensive per piece; and
- Costs related to the storage and transportation of paper bags due to their larger size.

Some of these costs could be offset by decreases in the expense of purchasing bags as consumers reduce their use, as well as by a portion of the bag fee that could be retained by the retailer.

The preferred approach of Safeway and King Soopers is an educational campaign aimed at reducing bag use, which would minimize expense to the stores. Their preferred alternative, along with Whole Foods and Target, is a fee on both plastic and paper checkout bags. Alfalfa's indicated that a bag fee would be acceptable, however they felt that if the eventual goal is to totally eliminate the use of disposable checkout bags, Boulder should follow Austin's lead and ban both plastic and paper bags now.

Lesson Learned: Aspen staff indicated that the costs to the large grocery stores have been higher than anticipated, and the amount their ordinance allows the stores to retain is likely not high enough (25% of the 20 cent fee on paper bags up to $1,000 for the first 12 months and $100 for all months thereafter).

Impact to City Organization

All of the ordinance options have associated costs to the city organization. These costs include:

- Enforcement costs – the type and scope of a potential ordinance will affect the cost of enforcement;
- Potential new costs to stock dog waste bag dispensers in the parks and open space if there is a dramatic decline in plastic bags available from residents;
- Education and outreach expenses such as staff hours, signage, advertising and print material production; and
- Cost of bag giveaways, "bag banks," and other strategies to reduce the burden on low-income residents and tourists.

All communities that staff spoke with indicated that a high level of public education was critical. Aspen has budgeted $50,000 this year to implement their ordinance, and Austin has a $1.5 - $2 million education campaign planned for the year before their complete bag ban takes effect.

The option to implement a bag fee, either on both types of bags or just paper, will have additional financial impacts to the city organization. The finance department has indicated that it will cost approximately $5,000 - $10,000 to create a new return and create the procedures to collect it. The ongoing cost to administer a fee program will vary significantly depending on the scope of the ordinance (discussed in the next section). Staff will be able to estimate this cost once the scope has been determined by Council; however an ordinance applying to all retail businesses in the city would likely require additional personnel. These costs could be offset by fee revenue if it is not entirely retained by the retailers.

Fee revenues will obviously vary significantly depending on the approach selected and the number of businesses it applies to. Eco-Cycle has calculated revenue projections based on two scenarios and a bag use estimate of 46.8 million in Boulder, which is higher than staff's estimate. These projections range from $262,000 to $3,837,000 depending on the level of the fee. According to state law, if Council chooses to pursue a bag fee, a fee nexus study will need to be completed to determine the appropriate uses of fee revenues and amount of the fee, which will then allow for revenue projections.

It is important to note that a total ban on paper and plastic bags, an educational campaign only, or a fee program that allows the business to retain the entire fee amount will require the reallocation of funds currently budgeted elsewhere for enforcement and education/outreach expenses.

OPTIONS

To evaluate potential options, the following criteria were developed:

- Effectiveness in reducing disposable plastic and paper checkout bag use;
- Minimizes costs to consumers;
- Minimizes impact to consumer convenience;
- Ease of implementation for businesses;
- Minimizes costs to businesses;
- East of enforcement; and
- Minimizes city organization resources needed to administer.

Attachment G includes a matrix rating options 1-5 against the evaluation criteria.

OPTION 1: Fee or tax on plastic and paper bags

Pros	Cons
• Retains customer choice – uses a market mechanism to incentivize behavior change	• Requires city resources to implement, administer and enforce
• Significantly reduces uses of disposable bags while not making a judgment on which type of bag is the most sustainable option	• Possible opposition from the general public – seen as regulating personal choice
• Residents have adapted quickly in other communities	• May affect low-income populations and tourists negatively
• Option to allow retailers to retain some or all of the fee to offset implementation and administrative costs	• May not decrease bag use as dramatically as bans
• Option to recover costs to city organization for implementation and administration, as well as bag giveaways, litter cleanup, education or other designated purposes	• Policy would differ from other Colorado towns
• Shifts bag use to a "polluter pays" model where users of disposable bags pay for the negative impacts	
• Preferred ordinance option of large grocers	
• Less opposition from the plastic and paper industries	

OPTION 2: Ban on plastic bags with a fee on paper bags

Pros	Cons
• Will reduce the use of plastic bags and therefore contamination at recycling facilities and litter more than a fee	• Greater retailer expenses due to higher cost of paper bags and needed checkout reconfiguration
• Residents have adapted quickly in other communities	• Possible opposition from the general public – seen as regulating personal choice
• Option to allow retailers to retain some or all of the fee to offset implementation and administrative costs	• May affect low-income populations and tourists negatively
• Option to provide revenue to city organization to cover implementation and administrative costs and for bag giveaways, litter cleanup, education or other designated purposes	• Will not provide as much ability to offset costs of the fee program for the stores or city organization
• Uses a market mechanism to incentivize behavior change	• Requires city resources to implement, administer and enforce
• Shifts bag use to a "polluter pays" model where users of disposable bags pay for the negative impacts	• Least preferred ordinance option of the large grocers
• Same policy as other Colorado towns – regional consistency	• Most opposed by the plastic industry
	• Does not take life cycle costs into consideration

OPTION 3: Ban on plastic and paper bags

Pros	Cons
• Will reduce the use of both plastic and paper checkout bags, and therefore contamination at recycling facilities and litter the most dramatically	• Requires city resources to conduct education campaign and bag giveaways that are not offset by a revenue source
• Easiest to administer and enforce	• Possible opposition from the general public
• Most progressive option – establishes Boulder as a leader on this issue	
• Possibility for an "emergency fee" to allow for a small amount of flexibility	
• Retailer cost of purchasing and stocking bags will decrease dramatically	

OPTION 4: Educational campaign only

Pros	Cons
• Preferred approach by the largest grocers	• Unlikely to result in significant reductions in disposable bag use
• May increase disposable bag recycling	• Requires city resources to conduct education campaign that are not offset by a revenue source
• Little objection from the general public	

OPTION 5: No action

Pros	Cons
• No regulation or city resources needed	• Environmental and economic costs to manage and dispose of bags continues

Scope of Ordinance

In addition to direction on which type of approach to pursue, staff is also requesting direction on the scope of an ordinance if option 1, 2 or 3 is chosen. There are two main approaches other communities have taken to define what businesses must comply with a disposable bag ban or fee—retailers that sell food, including grocery, convenience stores, and liquor stores, or all retailers regardless of products sold. The motivation behind only including retailers that sell food is to target the majority of bag use (see Figure 1 on page 4) while minimizing the cost to the city organization to implement, administer and enforce the ordinance.

In addition to determining what type of businesses must comply, an additional option exists to only apply an ordinance to a certain size business. Other communities have used both square footage and revenue to define this threshold. The matrix of ordinances in **Attachment D** includes those thresholds if applicable. This type of threshold eliminates the burden on small businesses, although some communities allow small retailers to voluntarily opt-in.

Staff evaluated the types and reliability of available data and recommends Annual Taxable Sales as the basis of a threshold if one is desired. This information is tracked in the sales tax system and is a better reflection of the volume of bags distributed than square footage. Table 4 presents the number of businesses by SIC code category that a bag reduction ordinance would apply to at each threshold level.

Table 4: *Number of Applicable Businesses by Threshold Level of Annual Taxable Sales*

	Total Number of Businesses	>$500,000 Annual Taxable Sales	>$1 Million Annual Taxable Sales	>$2 Million Annual Taxable Sales
Food Stores	**45**	**24**	**18**	**12**
Apparel Stores	89	35	15	7
Consumer Electronics (Only 1 Retail)	1	1	1	1
Building Material – Retail	35	11	6	4
Automotive Trade	82	31	18	11
General Retail	538	159	79	42
Total	**790**	**261**	**137**	**77**

In addition to retailers, another option is to include restaurants and fast food businesses. Both San Francisco and Portland included restaurants in their ordinances; however many other communities have not. This is due to the relatively small amount of bags they distribute and the large increase in administration and enforcement costs the city organization would incur. In addition to the number of businesses in Table 4, including the SIC code "Eating Places" would add an average of 375 businesses in Boulder that would be impacted by the ordinance.

Lesson Learned: Staff from Washington, DC were asked for important takeaways from their ordinance implementation process. They indicated that their ordinance is overly complicated and has lead to a great deal of confusion regarding who should be complying. The ordinance governs "stores that sell food," which includes department or hardware stores that sell candy, for example. Additional confusion exists over bag material and labeling requirements that were included in the ordinance.

Ordinance Scope Options

In summary, the options available to define the scope of a bag reduction ordinance include:

- All Retail Businesses
- Retail Businesses over a determined threshold
- All Food Stores (including grocery, convenience and liquor stores)
- Food Stores over a determined threshold
- Additional option – include Eating Places

NEXT STEPS

Once City Council provides direction on a preferred approach and scope, additional analysis will be conducted, including a fee nexus study to determine an appropriate fee level and uses for the revenue (if applicable), potential bag reduction projections, and impacts to the city organization to administer and enforce the approach. Staff will return with a draft ordinance for first reading later this year.

POLYSTYRENE TAKEOUT CONTAINER UPDATE

In response to feedback at the October 11, 2011 study session, staff continues to conduct the research and analysis needed to develop options for reducing the use of polystyrene takeout food containers. Due to the variable pricing businesses receive and methods of purchasing service ware, staff is working with restaurant distributors to model the cost impacts to various sizes of businesses in the city. A stakeholder process involving small businesses, restaurant associations, and business district representatives will occur over the summer. Staff will bring options for consideration by the EAB and City Council in the third quarter.

ATTACHMENTS

A – Compilation of Public Feedback
B – Estimated Facility Costs to Mange Disposable Bag Contamination
C – Life Cycle Analysis Studies
D – Summary of Bag Reduction Ordinances
E – Alice Ferguson Survey from Washington, DC
F – Summary of Grocer Input
G – Matrix of Options and Evaluation Criteria

COMPILATION OF PUBLIC FEEDBACK

Summary of Public Input - Bag Use in Boulder Public Meeting
April 23, 2012

A public meeting was held on Monday, April 23rd to gather community input on the options for reducing checkout bag use in Boulder. Staff presented background on the project and options for the approach and scope of a possible ordinance. Attendees then discussed the options in small break-out groups and reconvened to report out on their discussions. After a general question and comment period a tally was recorded of the group's preferences. The final tally as well as general themes from the group discussions and comment form feedback is included below.

Several main themes emerged from the meeting, including:

- Support for using an ordinance to change behavior, other efforts have not worked;
- Contamination, both in the environment and in human health, needs to be addressed;
- No matter what approach is taken, education will be critical; and
- A majority of attendees supported using a fee/fee or ban/fee to transition to a total bag ban over time.

Group Tally Results – Approach Options	
Fee on plastic and paper bags	**18**
Ban on plastic bags with a fee on paper bags	**21**
Ban on both plastic and paper bags	**3**
Education campaign	**1**
No Action	**0**
Additional Option – Fee/fee or ban/fee transitioning to total bag ban?	**33**

Group Tally Results – Scope Options	
All retail businesses	**26**
All retail businesses over a size threshold	**5**
All food stores	**6**
All food stores over a size threshold	**4**
Additional Option – Include eating places?	**38**
Additional Option – End goal to include all retail?	**42**

Small Group Discussions and Comment Forms – Approach:

Fee/Fee:

- We need a transitional period to allow our community to transition to a bagless community. Fee should be ten cents the first year or two and then bump it up to 25 cents for both plastic and paper, grocery and Target first.
- (Transitioning to a total ban) – Gives choice. Buying bags at the checkout will not seem like a tax. It will have a big effect.

- Creates a revenue stream, doesn't give the appearance of one being better than the other because they are about equally bad, you still need cheap or disposable bags with a ban for those who forget to bring bags or shop spontaneously.
- Fees on bags more accurately reflect their true costs and encourages behavior, not bans.
- Mechanism of compliance is more natural/practical. Also, some of the bag fee can be used for recycling programs.
- Cost neutral – it works and gives options and revenue
- Large amount of support for a fee on both transitioning to a total ban.
- Moves to a polluter pays model
- Fees make people pay for their environmental impact – paper bags should not get a pass
- Fee could be used to offset city services impacted by bag litter
- Fee/fee – same goal as ban/ban, but does not fit our culture, maybe start with fee first and move to ban later
- More accurate cost
- People will work harder to reuse if they pay – could change culture of single use.

<u>Ban/Fee</u>:

- I believe that will be the most effective while causing the lease uproar.
- This seems to be an appropriate transition stage. People worry that this option is too extreme, but it has been a successful model in most cities in the U.S.
- Good transitional period, people would view fee/fee as a tax and a ban/ban as too extreme.
- Fee/fee is viewed as a tax so it will often get revoked or just turned into a ban/fee. Ban/ban is very limited and starts a complex issue – education doesn't have much effect.
- Ban/ban creates negative public opinion, people will forget, need another option. Ban/fee is ideal as revenue to support the movement and plastic bags are completely reduced. In Basalt, CO a fee/fee was originally imposed with negative results, so an entire new ordinance had to be passed for a ban/fee. For Boulder, if we can avoid wasting time in resources by putting forth an improper ordinance for our city, that would be ideal.
- This option is a good compromise between the ban/ban and fee/fee. I think it would be effective at encouraging people to use reusable bags. Also, paper is more recyclable than plastic so people could still use paper bags and then recycle them.
- This will have an immediate positive effect on our recycling facilities and may lead to a voluntary reduction in the use of paper disposable bags.
- Some folks, like tourists, may not have a bag with them.
- The ban on plastic and fee on paper helps citizens understand that his is an environmental concern for the city, not just a money generator. While a ban on both would be a possible cause of negative feedback – it's best for the environment.
- This option creates an environmental impact by eliminating plastic bags, but also provides the option of paper bags for people who want or need them. Also, this options has been successful in many cities across the nation and in Colorado, including Aspen, Telluride, San Francisco and Seattle. The fee/fee ordinance may be viewed as just another tax instead of a way to help the environment. Also, the ban/ban ordinance may meet public opposition as it is rather dramatic.
- While a ban/ban is a good measure to promote environmental awareness, it may be seen as draconian by the public. The fee on plastic and paper is more of a tax and would not be as effective in promoting an environmentally aware culture. Mostly, Boulder needs to get rid of their disposable culture, which would be assisted by the ban on plastic bags and a fee on paper.

- I think this is the best way to reduce our impact on the environment and provide a buffer system/transitional period for the ordinance. Plastic bags do have a slightly greater impact on the environment than paper and this provides options for tourists, etc. while still raising awareness and decreasing impact.
- Proven track record, simple
- Ultimately have same goal, good compromise and transitional step, like the ability to recycle paper bags, eventually have a ban on both
- Support for state-wide consistency in approach (ban/fee used in other Colorado towns)

Ban/Ban:

- Plastic is very wasteful and entirely unnecessary. It is an irresponsible and destructive choice, and it needs to go. People will not make large enough efforts to choose reusable bags, the responsible option, on their own, so the city needs to step in. I favor a ban/ban because a fee carries a negative connotation.
- We have options (our own bags). It is a lifestyle choice to use or not to use.
- Include newspaper bags! We've had four decades since Earth Day! 36 years of education from Eco-Cycle! I've volunteered as a block leader since the beginning and carried string and cloth bags for 25 years. People should not need any more transition time! Voluntary reduction has worked poorly – states with higher % have mandated it! We don't need more surveys! Schools have instituted composting/recycling/trash separation and everybody does it. Adults can too, if required.
- Total ban is simple, easy to understand, least expensive
- Ban/ban or ban/fee would be most effective (with an emergency fee – this would be for reusable bags and money would stay with the store).

Education Campaign:

- Haven't done enough education at this point.

Small Group Discussions and Comment Forms – Scope:

All Retail:

- One reason why the ordinance in Seattle failed in 2008 and was successful in 2010 is that a coalition of different groups supported it (grocers association, labor unions and environmental groups) and none felt excluded.
- Bags at retail businesses are often unnecessary.
- All retail should comply with a ban/fee, provided that revenue generated from fees leads to increased availability of resuables. There is no reason why a certain business should be exempt, as plastic disposal is the same no matter who provides them. I would prefer this as an end goal, so a transitional period of food stores would be a reasonable compromise.
- Fairness, biggest positive environmental effect
- This would make the enforcement of this policy easier by having a simple ordinance. Also, if we were to implement a threshold, it would discourage stores from expanding.
- This will have the biggest impact, and will catalyze the most whole-hearted change. It may be easier, both logistically and as far as changing the way we think and really making an effort to move away from the disposable culture, to have single across-the-board removal of bags.

- (Phasing in eating places) – would also want produce bags to be made of compostable plastic
- Fairness - Retail businesses should retain some of the fee if you go to a fee schedule. They're including bag costs as operating costs now, right? Collection/accounting for fees – more work?
- Grocers feel singled out

All Retail Over a Threshold:

- Gets the bigger retails outlets and then transition in two years to all retail.

All Food Stores:

- Ideally and end goal would be to expand the scope to all retail businesses, but for now I think the best thing to do to ease a transition would be to cover only food stores. Over time, behavior will likely trickle down to all retail, and perhaps then the city can expand the scope to all retail.
- (Including eating places) – It is overdue for us to address this issue. In a city of high wind there are bags everywhere. We need to find a substitute baggie for dog feces. Newspaper bags are typically used.
- Most bags come from this source, bags are most necessary at food stores.
- Largest impact, worked in other areas

Food Stores Over a Threshold:

- This would be a good start to changing behavior. Also, other retailers might opt to do this as well.
- Just grocery – they can absorb the initial costs over the smaller convenience stores, also impacts their PR
- Just grocery – largest impact, good transition to all retail one day

General Thoughts and Concerns:

- Everyone should be impacted equally. There definitely should be no distinction between large or small businesses.
- Sad that nobody cares about the grocery checkout clerks who must handle filthy, disease-containing reused bags or poor people.
- Information is seriously incomplete on things like how it will affect other parts of the waste flow – will other plastic use go up, how will non-disposable bags be discarded – they don't look recyclable. No info on how many bags are reused and how many times they are reused.
- People choose a type of bag because it works best for them. The total waste is small. When you inconvenience people for a small benefit, it generates resentment. Extra time spent on inconvenient bags is time that can't be spent on something that may have a larger impact on the environment. Inconveniencing generates stress. At every place of life there are behaviors that are possible without generating much stress. Those same behaviors at another phase are a major inconvenience and a major stressor. People should be encouraged to find easy ways to reduce their environmental impact and others should not be telling them what choices are best for them.
- I believe that Boulder will be more open to change (especially regarding the environment) just due to the culture and the economic situations.
- The purpose of this movement is to change people's behaviors so education is very important.

- I'm not concerned about paper, but I can understand people would just switch so a fee is ok. Plastic should go!
- Thanks so much! This is awesome!
- I think any changes should include a transitional period to keep the public happy/to let people adjust.
- I don't believe educational outreach is cost efficient as it requires funding as opposed to "learning it the hard way," which would not only be vastly more effective in education the public but would generate revenue to be reinvested into the program.
- I appreciate this very democratic and respectful process. I felt that I was really listened to.
- Please consider the cost of plastic to wildlife.
- A main point that would be addressed by eliminating disposable bags is that people would be forced to lead a more sustainable lifestyle. I will support the city if a ban/fee or ban/ban is put in place. I believe education should be involved in any ordinance passed. Something that is very important to all of us is that all the citizens are aware of exactly where money for the fee is going.
- Boulder is generally known as a green city, so it would be beneficial to maintain that image. Some concerns that it would negatively affect lower income people do not consider Brownsville, TX's fee of $1.00 on paper while having a ban on plastic. Brownsville is not a "rich" city, but they have largely benefited from this policy. Their environment has also benefited from the reduction in waste from their bags.
- Let's do it! There will be some resistance at first, simple because people don't like change, but it will fade, and this will become normal. It is the right thing to do. The transition will be made easier if the city is able to put some effort into education, positive media expressing the problems with plastic bags and such. Also, I encourage lots of communication with businesses to make the transition easier to them. Clear rules, reach out to everyone.
- Any ordinance should be accompanied by an educational campaign and the end goal should always be to reduce our footprint on the environment in a really impactful way.
- In Austin ban/ban is successful it would be great to have that in Boulder eventually.
- Pet waste – hope there's other options for bags
- How about compostable bags?
- If a fee – should be an exemption for people in food assistance program or some other way to accommodate them
- Concern about the amount of plastic on the earth
- Concern about increased waste from reusable bags
- Concern about clear-cutting of trees, energy use and water if the two bags are treated differently
- Important to get info out up front on what fee revenue will be used for.
- This decision could seriously affect everyone – could the issue go to the ballot?
- Trivial amount of waste for inconvenience
- Not recycling plastic bags correctly is an education issue
- There are health benefits to plastic use
- People may commute out of Boulder for groceries
- Chamber also hearing support for action
- If paper is allowed, require FSC certified bags
- Would increased bag discounts be impractical?
- Make the goal clear

Summary of Bag Use in Boulder Pubic Web Survey
Total responses: 507

If you use disposable checkout bags (plastic or paper), do you recycle them on a consistent basis at appropriate facilities, such as your curbside recycling bin for paper bags or at a designated collection point for plastic bags?

	Response Percent	Response Count
Yes	**56.8%**	**288**
No	29.2%	148
Not Applicable	15.6%	79
	answered question	**507**
	skipped question	**0**

Options for reducing disposable checkout bag use in the City of Boulder include placing a small fee on both plastic and paper bags, banning plastic bags and placing a fee on paper bags, and banning both plastic and paper bags. Are you supportive of any of these approaches?

	Response Percent	Response Count
Yes - I support placing a fee on both plastic and paper bags.	27.2%	138
Yes - I support banning plastic bags and placing a fee on paper bags.	39.4%	200
Yes - I support banning both plastic and paper bags.	22.7%	115
No - I do not support any of these approaches.	**40.0%**	**203**
	answered question	**507**
	skipped question	**0**

In addition to expressing support or opposition to regulating bags, the main theme of the comments submitted was that many residents reuse plastic bags for trash can liners, dog waste, and more. Respondents commented that regulating plastic bags would require them to buy plastic bags at a store, possibly larger bags, for these uses. Full survey results are available at:

Bag Use in Boulder Survey Results

Summary of Survey Comments from City of Boulder Residents:

Support:

- No one NEEDS disposable bags
- Support for banning plastic bags with no fee on paper bags
- Don't want to increase use of paper bags – prefer to place a fee on both
- Sick of seeing plastic bags in trees
- Boulder should be a leader in the US on this issue
- Bringing reusable bags isn't hard – need to just develop the habit
- A small fee would cause people to be more diligent about bringing bags with them
- Support a fee on both types of bags if they know what money will be used for – should be used for distributing or incentivizing reusable bags and education, not to the general fund
- Recognition that even though bags aren't a very large percentage of the waste stream, reducing them will raise people's awareness about disposable products
- Support for total ban, but worried it may be too difficult
- Fee should be minimal at first, and then raised over time
- Support for not applying to all retail stores – concern over small businesses
- Would gladly pay fee – do not want a ban on plastic bags because of many reuse options

Opposition:

- Reuse of plastic bags – regulating them will cause consumers to buy plastic bags for trash can liners and dog waste
- For seniors – plastic bags are much easier to carry, does not support a ban
- Use education instead
- Unnecessary government meddling
- Fee may be seen as just another tax
- City shouldn't ban an item simply because it has the potential to harm the environment
- Should be put on the ballot for a full vote
- Concern about germs in reusable bags – would have to be washed
- Will shop outside of Boulder if banned
- Stores already encourage customers to bring their own bags
- Restricts freedom

General Comments:

- Concern about low income populations and food banks that need donated bags
- Paper takes more energy to make than plastic – we don't want to send the message that paper bags are a better environmental choice

- Should be consistent with other Colorado communities
- Should also address newspaper bags
- Concern for residents without cars
- Is there a way to make plastic bags easier to recycle?
- City should distribute compostable bags
- Needs to be more education on where to recycling plastic bags

Summary of Survey Comments from Boulder County Residents:

- Transition into a ban on both types of bags
- Bags should be banned everywhere - Boulder can set an example
- Any regulation would offer improvement
- A fee or ban will help people remember their bags - a fee or ban will help people remember their bags
- Leave the choice to shoppers
- Increase education and ideas for remembering reusable bags
- Encourage people to use reusable bags with a reward, rather than a fee or ban
- Bags are already reused and recycled – increase recycling opportunities
- Bags are reused for trash bags
- More education on how to reuse bags
- Concern about low income populations
- Could drive shoppers out of city limits

Summary of Survey Comments from Outside of Boulder County:

- Reusable bags are the way to go - I hope you are able to pass this plastic bag ban
- Plastic bags have been banned in Hawaii - I think this is a great idea
- There is no good reason for us to still be relying on plastic bags, and with this system if you really need them they are available to purchase
- It would be best to charge a fee for use of plastic bags and paper bags. That way, those who complain that they have will have nothing with which to pick up their dog's feces will be able to get the plastic bags they so sorely need. Personally, I don't mind a complete ban.
- Why add fees or ban something that has many uses?
- Encouraging recycling is reasonable but forcing people or requiring them to pay for something that is a reasonably free service is not applicable
- Don't add more government regulations and costs to an already overcharged public
- Discourages me from wanting to shop in Boulder

Website Comments Received:

In favor of a ban on plastic bags, fee on paper bags

Katie Li, Boulder: A combination of both a plastic bag ban and a paper bag fee would have the largest impact on Boulder's culture increasing environmental awareness. The bag fees by themselves would be seen as a tax and would be supported by the community.

Alyssa DeBella, Superior (attends Fairview HS): I think that there should be a combination of both a bag ban and a bag fee. If you put a bag fee on the plastic bags then people might still use them as much as they do today--especially if the fee is very low (such as 10 cents). If you place a bag ban or even give higher rewards for using reusable shopping bags the amount of plastic bags used will greatly decrease. The use of reusable shopping bags is already being rewarded in some grocery stores but the reward is only about 10 cents which is not great incentive for people to purchase and use reusable bags. If we combine a bag ban and a bag fee/greater reward for shopping with reusable bags our impact as a city on the environment will greatly decrease and the indirect impacts (such as the bags ending up in the oceans and suffocating sea life) will be decreased as well.

Janna Plant, Boulder: I support a combination of bag bans and bag fees. So many of us have reusable bags but carelessly leave them at home or in the car. If the stores didn't offer bags we would learn to remember our reusable ones. I appreciate how some stores reuse their cardboard boxes as a way for the consumer to carry goods home. Perhaps instead of offering bags to those of us who don't arrive with our own the stores could offer these boxes and then the consumer could recycle those from home. Another idea: stores could charge a bag deposit fee (for their own reusable bags which could be reimbursed when the consumer returns the bags. This would be somewhat analogous to the bottle deposit on certain brands of milk at Whole Foods: consumer returns bottle and gets their 1.50 back. Thanks for the consideration!

Kira, Boulder: I think a plastic bag ban and a paper bag fee is a good idea.

Stephen Goettsche, Boulder: The city should adopt a policy of banning plastic bags and imposing a user-fee on single-use paper bags.

In favor of a ban on plastic bags

Kirsten Walters, Boulder: My name is Kirsten Walters and I am an 8th grader at Summit Charter Middle School here in Boulder. I am also a participant in Summit Charter Middle School's NetZero Club. I'd like to thank the city council for putting the issue of putting a fee on plastic bags on their waste management plan. But this isn't enough. Boulder is an environmental leader in Colorado and in the United States of America. To make more of an impact on other towns and to reduce our plastic and paper consumption even more I'd like to recommend that you consider putting a ban on all plastic bags and a fee on all paper bags.

Many other cities around the world have implemented this policy and have found it useful. For example the sunny city of San Francisco has always been an environmental mecca just like Boulder. Earlier this year San Francisco passed a ban on all disposable bags. These bags end up as litter on our streets as trash on our bay [and are] a costly nuisance in our waste processing system one member of the town's board of supervisors commented. The citizens are appreciative of the change as well. At Church Produce a small convenience store customers cued up with their groceries and their own reusable bags. "Probably I'm going to save some money" said one customer "and some plastic from the environment". Before the ban was implemented over 200 million single-use bags were used each year in San Francisco alone. This meant that each citizen of San Francisco used about 450 disposable bags each year. Imagine the impact this had on San Francisco's environment in particular their coastline! In fact bags had started to pile up on the beaches. The people knew a ban on single-use bags was necessary. And so one was passed.

This ban is just as necessary in Boulder. The average citizen here uses 513 bags each and every year. We need to stop depending on these bags before they start polluting our rivers our parks and in general our city. Please make a decision that will benefit generations to come and pass this ban on single use bags now. Every minute you wait 95 bags are used in the City of Boulder alone. Thank you for your time and your consideration to this pressing issue.

J'Lyn Chapman, Boulder: I strongly support a ban on plastic bags although I'd be happy with a fee at least. I am aware of other US and international cities that have taken these measures with positive results. Not only will such a measure help to eliminate waste it will also help the US to cut down on its use of petroleum products.

Lena Michels, Boulder: Please help get rid of plastic bags. They are extremely wasteful and harmful to the environment.

I like my reusable bags much better. They hold more. They are more comfortable to carry. They don't break. It takes a little effort to remember to always have them but the more you use them the easier it gets. So if there is no alternative it would be a very easy thing to learn.

Education is key. Both for consumers and the stores. I recently had an unpleasant experience when a not so forward store clerk made a snotty comment about you people and your bags.... But I think it was mostly because she didn't know how to best manage my bags and pack them. They didn't fit into her normal bag system and it was much easier for her to just use the plastic bag. Education and some changes to the store packing set up at the checkout would be key here.

It feels good to use your own bags. It's a small thing we all can do.

Tatjana Kunz, Boulder: I think that the plastic bag ban is immensely important! We have so much plastic in this world keep your eyes open for five seconds and look around you. You just saw many different forms of plastic. Even if you recycle plastic bags they often blow in the wind. This ends up destroying habitat by killing thousands of plants and animals as well as destroying ocean habitat. As an environmental city I find it essential that we ban plastic bags to make our world a better place for us our children and all other generations.

Emilia Van Buskirk, Nederland: I think it would be good to have a plastic bag ban to save the environment but there are also other factors to consider. For example people who can't afford re - usable bags need to use one time plastic bags. However I believe that a plastic bag ban would be an excellent step towards reducing waste and pollution but re - usable bags would have to become cheap and readily available for everybody to use them.

Sabine Kunz, Boulder: I think a plastic bag ban would be a good idea - following Whole Food's example all stores could provide a small discount if customers bring their own reusable cloth bags instead of using the store's paper bags.

In favor of a fee on plastic and paper bags

Ban free plastic paper and disposable bags! Boulder should continue to take the lead on environmental issues such as this and make the decision to reduce waste and unsightly pollution.

Audrey McClurg, Boulder: I think that a fee on single use bags would be extremely beneficial. I would like for the money spent on the fee to go to Eco-Cycle or towards research about the environment rather than just to the city of Boulder. I think that this fee would help to protect our beautiful earth and would promote the learning and care of the environment in Boulder.If done properly this should not cause any extreme inconveniences for the public. Also i believe that money would be saved by not having to produce so many single use bags. A fee on single-use bags would be a win-win for the people and the environment.

Elizabeth Burrows, Boulder: I agree that we should reduce the use of plastic bags. I think an incentive system helps but perhaps working with local shop owners would be advisable as well. A limit of bags one can obtain free of charge (i.e. you have to pay a substantial amount for plastic bags).

Grace, Boulder: I feel we should put a fee on the use of disposable bags. They are hurting our environment as well as litter reduction. Some people may disagree however this is a necessary step in our environmental success.

Kirk Johnson, Boulder: I support efforts to reduce the number of single-use plastic bags in Boulder. Our family has made the effort to change over to reusable bags over the past 6 months or so and while we still forget to bring them along occasionally we've definitely cut down on the number of plastic bags we bring home from the grocery store.

I am not in favor of an outright ban. That said I'm also not interested in per-bag fees being used to support the city budget but would instead *strongly* prefer to see a per-bag fee program that was revenue neutral to the city (e.g. by using revenues collected through fees to directly incentivize reusable bag usage perhaps through something like rebates to participating retailers).

Calvin Lincoln, Boulder: I think bag fees would be a good balance between convenience and environmental awareness.

Haydee, Boulder County: A great idea whose time has come. I am in favor of a fee that way people would reuse and reduce the number of bags in circulation and in trash. A ban might restrict people too much...sometimes even I do forget my reusable bag when I go to the store. However I like what Vitamin Cottage has done by eliminating bags making reusable bags available for a small fee and also offering their used boxes for free. An excellent model.

Brooke Garbarini, Boulder: While disposable bags are useful (such as compostable bags or paper bags) plastic bags damage the environment and contaminate recycling and composting facilities. Though I don't believe in an outright ban plastic bag fees could go a long way to reducing waste in Boulder.

Jessica, Denver: I think there should be a small fee (perhaps only five cents) for single-use bags--not enought to be too costly if (when) people forget to bring a cloth bag but enough to encourage people to bring their own bags. When I lived in Germany I found this approach worked quite well.

Liz Johnson, Boulder: I am in favor of bag fees in order to reduce plastic bag usage. I am open towards a bag ban on plastic bags but stores need to provide an option (paper bags biodegradable bags made of other materials) for people who forget to bring or who do not choose to use reusable bags.

Tim Nickles, Boulder: I am encouraged there seems to be universal interest in pursuing an ordinance to limit disposable grocery bag use in Boulder. The question is now one of implementation - you have a few options and several specifics to consider. The main question seems to be whether to implement a ban on plastic and fee on paper or a fee on paper and plastic. I wanted to bring to your attention the Life-Cycle Analysis (LCA) studies relevant to this question. LCA's look at the complete environmental impact of any product - the impact of manufacture transportation use and disposal. They attempt to be a complete picture of the impact of a product.

There are several LCA's on disposable grocery bags - many compare paper plastic compostable paper/plastic reusable bags etc. I've attached two documents both are short (and have pictures!).

The first is bag LCA-Summary. This is a summary of 4 LCA studies 3 conducted in Europe and 1 in the united states. It is a quick read has references and links to additional research if you are interested.

The second is LCA-shopping_bags. This is a full study conducted in Australia for Sustainability Victoria. This document is longer but summarizes its findings with easy-to-read Tables on pages 13-14 and a summary of key findings starting on page 15. This study looked at many different bag options and will help you to think about all the impacts of all the different choices.

Finally - my own thinking on this subject leads me to favor a fee on plastic and paper not a ban on plastic fee on paper. My reasoning is that paper bags have a greater environmental cost in terms of greenhouse gas emissions than plastic and this is likely the biggest single environmental issue today. Specifically I agree with the following statement in the key findings of the Australian LCA study:

The shift from one single use bag to another single use bag may improve one environmental outcome but be offset by another environmental impact. As a result no single use bag produced an overall environmental benefit.

Placing a ban on plastic and a fee on paper sends the message that paper is OK while plastic is bad. The reality (from the available research) is that neither is OK and reusable bags are far superior in environmental terms.

In favor of a ban on plastic and paper bags

Dustin Michels, Boulder: Plastic bags need to go. They are idiotically wasteful devices that represent a backwards inconsiderate culture. How could extracting petroleum from the ground shipping it to refineries molding it into bag form and shipping that off to stores to be used once briefly before being shipped off to landfills to rot in the earth for hundreds of years be considered less effort than keeping track of a couple reusable bags?

The mentality is wrong and the result is horrifically wasteful. The city needs to step up and get people to take responsibility for their own bags and in doing so take responsibility for their planet.

I feel both plastic and paper bags should be banned. A fee can give the impression the city is adding a new tax to try to make money while a ban appears decidedly as an environmental protection measure which I think people can generally respect more and will respond to more positively.

Please do your best to execute the ban in a fair uncomplicated way. Give plenty of warning both to stores and to the public. Give all stores clear information on how to adhere to new guidelines and give the public clear information on what this is and why it is important. I suggest you look for some organizations that can really spread awareness and generate interest and get them involved. Misinformation and confusion are the two primary factors that could really stymie this beautiful initiative.

This online forum and the meetings you are already having are perfect. Continue to gain as much feedback as you can and try to address the concerns people have. But please donâ€™t back down. Banning the bag is a good move. Best of luck

---

Sophie Chen, Colordo: I think we should ban paper and plastic bags.

Samantha Broadfoot, Boulder: Having a ban on single use bags would be awesome because then we could not put as much stuff in the dumpster that will never go away.

Ayesha Rawal, Erie: I think that single-use bags should be banned because they will help the environment animals won't get sick and they will reduce the plastic in the world.

Sue Kunz, Boulder: I fully support the bag ban. I think that this is long overdue as a Boulder community we should have done this long ago.

Kristen Courtney, Monument: I think a bag ban is a very good idea and it would be good to recycle and take a step closer to forever green. :-) I am a girl scout so I really believe a bag ban is a good idea for Boulder.

Aaron Bradley, Boulder: I support a bag ban. I also encourage exploring the possibility of banning the sale of bottled water in Boulder especially given how fortunate we are to have high quality tap water.

Jules Pierce, Boulder: I think that it is a really good idea to ban bags; we need to do something about pollution bags are a good place to start and most people will just pay bag fees without thinking.

Elizabeth Drozda-Freeman, Boulder: I support a transitional phase of bag fees and bag bans followed by a strict bag ban.

Will, Boulder: I agree with the disposable bag ban and the bag fees (but more agree with the ban). If possible we should convince local businesses that use plastic bags to phase out disposable ones instead of making a fee.

General Support

Diana McLean, Louisville: I support a Ban or fee or combination. Anything to reduce the number of plastic bags being used and thrown away. Thank you!

Doug Kennedy, Boulder: I think a disposable bag ordinance is a good idea.
Every person from every financial stratum can carry a bag to go shopping. It is done in Europe all the time and has been for years. Go Boulder!!!

Stacy Hsu, Boulder: I think this is a great idea; encouraging others to reduce waste and also committing to a better and healthier environmental society.

Cliff Lester, Boulder: I think there are many alternatives to plastic bag use such as reusing boxes (Costco) and charging for bags.

Eric Johnson, Boulder: I'm supportive of bag bans and/or fees and would like City Council to take action on this topic.

Alik Christianian, Superior: Dear City Council Members, On behalf of many I would like to develop a potential ordinance to reduce the use of disposable plastic and paper bags within the city. I believe that this will reduce the amount of waste created by plastic bags annually and will in turn provide Colorado and our Earth with a cleaner environment. I do not understand myself being a shopper why it would be so hard to just bring along reusable bags in your car for whenever you need to go shopping. For those that feel that this is a hastle and will not put the effort into this shows their efforts towards creating a cleaner and more sustainable planet to live on. With this ordinance I believe that we will see the plastic bag usage decrease and in turn we will see a cleaner boulder community.
Thank you very much for your time.

Mark Johnson, Durham, NC: I grew up in Boulder and graduated from Boulder High. My mother brothers and their kids still live in Boulder. Boulder is home. It makes me PROUD to know that Boulder is considering bag bans and/or fees. This is forward-thinking smart --- in short the kind of leadership I love about Boulder. Please do all you can to reduce disposable bag use. I thank my Summit Middle School niece for calling this to my attention!

Mark Ferguson, Boulder: Sounds good

General Opposition

David Ritzwoller, Boulder: The proposed concepts are coming from a correct vantage point but I predict that the execution of either a ban or a fee could be harmful environmentally and economically to a city in the midst of a national fiscal crisis. A ban on plastic bags for grocery stores is not a path that should be approached. Although seemingly wasteful plastic bags may in fact be more beneficial environmentally. The common alternative to plastic bags are paper ones. Plastic bags use 40 percent less energy to be produced than plastic bags and paper bags create more than 50 percent more air pollution. Hundreds of thousands of largely American trees are cut down each year to produce paper bags. Paper bags are far sturdier than plastic ones but on average they could only be used once so they would be defined as a one use bag. The common reusable bag is constructed using the same type of plastic as a one use

bag but takes 30 times the energy to produce. So a reusable bag would need to be used 30 times before it environmentally breaks even. From my own experience I know that it would be difficult to use reusable bags more than 30 times before they severely deteriorate. Cotton or woven bags require water and large amounts of land to grow and still contain high quantities of plastic and chemicals used in the modern textile manufacturing industry. A large issue that presents itself if one use bags are banned is that the consumer needs to guess precisely the volume of groceries they will buy and if they underestimate that volume they are out of luck.

The current system that is in place in most grocery stores allows for choice. It is the job of the consumer to determine for themselves their own environmental impact. Currently only people with a high social economic status regularly use multi use bags in boulder. So either a ban or a tax of one use bags would only notably affect the pocketbook and the environmental impact of the lower class. In recent years food prices have risen exponentially putting an extra strain on those who live hand to mouth. Making them spend large percentages of their hard earned money on fabric bags so that they can have the right to feed their family just doesn't seem just.

I believe that we should have the right of choice about something as mundane as shopping bags. The cost of enforcement and the cost and burden on the financially struggling people of boulder is not worth the environmental advantages. The money is better spent on recycling initiatives or open space. An alternative would be a tax deduction for people who could prove that they have used multi use bags. I would recommend reconsidering the non environmental impact and validity environmentally before passing this measure.

General Comments

John, Boulder: The number saying that 120 million bags are thrown away in boulder is blatantly wrong. If there are 300000 people in the boulder metro area the average person not household would have to throw away over 400 bags each year. This is highly improbable. Before quoting facts please try to examine if they are mathematically feasible.

Maddie Werner, Boulder: paper>plastic

Nancy, Boulder: Have grocery stores use biodegradable plastic bags as well as paper bags.

Lynne Pierce, Hudson, OH: Most of our grocery stores have bins where single use plastic bags can be recycled. While I applaud your efforts to curb use of single use bags I think it would also help if recycling containers could be placed in every establishment that uses these bags.
Stores other than grocery stores could also sell reusable bags. Reminders could be placed around town urging the use of reusable bags. How about a bag for your bags for your car so you would always have them with you?

Estimated Facility Costs to Manage Disposable Bag Contamination

Eco-Cycle estimates single-use plastic and paper bags cost City of Boulder residents, businesses and the local government more than $200,000 per year to manage, and possibly as much as $524,000 per year. These costs include:

Contamination in the recycling process—paid by the Boulder County Recycling Center
Contamination in the composting process—paid by Western Disposal and A-1 Organics
Portion of the street sweeping and litter cleanup budget—paid by public tax dollars
Collection and disposal of discarded bags as trash—paid by individual residents and businesses

There are also indeterminable costs of paper and plastic bags such as the time spent by private businesses and residents cleaning up these bags as litter, impacts to storm water systems and local waterways from clogging, stress upon local wildlife and ecosystems, and aesthetic damage from bag litter.

Cost estimates for the impacts of single-use bags were derived by comparing similar data from three communities: Austin, TX; San Jose, CA; and Seattle, WA. Calculations are included and discussed below.

COST COMPARISON: SAN JOSE, CA

Eco-Cycle believes the best cost estimate for the financial impact of single-use paper and plastic bags comes from San Jose, CA. The San Jose estimate includes recycling contamination, compost contamination, street sweeping, and trash collection and disposal for both paper and plastic bags.

	San Jose, CA	Boulder, CO
Number of paper and plastic bags	409,587,448	46,849,800
Processing contamination costs	$1,000,000	$ 114,383
Composting contamination costs	$ 126,000	$ 14,412
Collection and disposal costs	$ 286,903	$ 32,817
City street sweeping costs (related to bags)	$ 378,135	$ 43,252
TOTAL COMMUNITY COSTS	$ 1,791,038	**$ 204,864**
TOTAL COSTS PER BAG	$ 0.004	**$ 0.004**
TOTAL COSTS PER PERSON	$ 1.73	**$ 1.98**

Table 1: Costs to manage single-use bags, San Jose and Boulder

COST COMPARISON: SEATTLE, WA

The City of Seattle, Washington estimated the costs to the city to manage paper and plastic single-use bags. These numbers are significantly higher than the cost estimates derived by the cities of Austin and San Jose, and are presented here to represent a higher range estimate for the City of Boulder. Impacts include recycling and composting contamination, trash collection and disposal costs, street sweeping and future landfill liability.

	Seattle, WA	Boulder, CO
Number of paper and plastic bags	360,000,000	46,849,800
Processing contamination costs	$ 561,837	$ 73,117
Composting contamination costs	$ 312,000	$ 40,603
Collection and disposal costs	$ 2,477,264	$ 322,387
City street cleaning costs	$ 503,567	$ 65,533
Future landfill liability costs	$ 173,491	$ 22,578
TOTAL COMMUNITY COSTS	$ 4,028,160	**$ 524,218**
TOTAL COSTS PER BAG	$ 0.011	**$ 0.011**
TOTAL COSTS PER PERSON	$ 7.03	**$ 5.06**

Table 2: Costs to manage single-use bags, Seattle and Boulder.

COST COMPARISON: AUSTIN, TX

The City of Austin, Texas estimated the annual costs to the city to manage just single-use plastic bags. These costs included trash collection and disposal, litter cleanup, street sweeping, recycling contamination and landfill litter cleanup. Because these estimates apply only to plastic bags, do not include composting contamination, and since the City of Boulder is not responsible for landfill litter cleanup, these estimates were not considered the best available data and are presented as an additional reference.

	Austin, TX	Boulder, CO
Number of plastic bags*	263,259,750	41,149,050
Garbage collection and disposal	$ 540,000	$ 84,405
Litter cleanup and street sweeping	$ 130,000	$ 20,320
Landfill litter cleanup	$ 4,000	$ 625
Recycling contamination, machinery costs and revenue	$ 176,000	$ 27,510
TOTAL COMMUNITY COSTS	$ 850,000	**$ 132,860**
TOTAL COSTS PER BAG	$0.003	**$ 0.003**
TOTAL COSTS PER PERSON	$ 1.08	**$ 1.28**

Table 3: Costs to manage single-use bags, Austin and Boulder.
* Applies only to plastic bags.

WESTERN DISPOSAL COSTS

Western Disposal provided the following information regarding the company's investment in equipment and operational costs to extract plastic bags in the compost process and to improve the final product. These expenses are approximate due to labor estimations and changing equipment costs.

Bag extraction process for compost operation

Equipment utilized:		Original Cost
Wildcat Screen	$	137,412.00
Power Screen Conveyor	$	32,451.00
(2) Billy goat vacuums	$	22,690.00
Trailer for vacuums	$	7,125.00
Capital Investment	**$**	**199,678.00**

Operating costs (annual for 2011)		
Labor to operate and load screen (estimate)	$	20,000.00
Wildcat Screen	$	33,353.00
Power Screen Conveyor	$	5,997.00
(2) Billy goat vacuums	$	6,276.00
Trailer for vacuums	$	2,315.00
Annual Operating costs	**$**	**67,941.00**

Life Cycle Analysis Studies

Studies on the life cycle impacts of disposable plastic and paper checkout bags can be found at the following links:

- The ULS Report: "Review of Life Cycle Data Relating to Disposable, Compostable, Biodegradable, and Reusable Grocery Bags"
  http://www.use-less-stuff.com/Paper-and-Plastic-Grocery-Bag-LCA-Summary.pdf

- Boustead Consulting and Associates: "Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper"
  http://static.reuseit.com/PDFs/Boustead%20Associates.pdf

- Hyder Consulting, issued by Sustainability Victoria: "Comparison of Existing Life Cycle Analysis of Shopping Bag Alternatives"
  http://www.sustainability.vic.gov.au/resources/documents/LCA_shopping_bags_full_report%5B2%5D.pdf

Example Bag Reduction Ordinances **ATTACHMENT D**

	Jurisdiction	Enacted	Fee Level if applicable	Fee Retained by Businesses	Type Applicable Business*		Size of Business (Square Feet)	Comments
					Grocery	All Retail		
Fee on Plastic and Paper	Washington, DC	6/1/2009	5 cents	1 cent	X			Applies to all stores that sell food, potentially including department stores, hardware stores, etc.
	Toronto, Canada	3/31/2009	5 cents	5 cents		X		
	Montgomery County, MD	6/1/2011	5 cents	1 cent		X		
Ban on Plastic & Fee on Paper	San Francisco, CA	4/20/2007	10 cents	10 cents		X		Began as a plastic bag ban, recently expanded to include a fee on paper bags at all retail businesses - Includes restaurants beginning 10/2013
	Seattle, WA	12/19/2011	5 cents	5 cents		X		
	San Jose, CA	12/1/2010	10 cents	10 cents		X		Fee to increase to 25 cents in 2014
	Los Angeles County, CA	11/16/2010	10 cents	10 cents	X			Initially applied to stores with gross annual sales over $2 million or over 10,000 s.f. - later expanded to include all food and liquor stores
	Telluride, CO	5/24/2011	10 cents	5 cents		X	Above 2,000 s.f.	
	Carbondale, CO	10/25/2011	20 cents	25%	X		Above 3,500 s.f.	Grocer may retain 25% of fee up to $1,000 per month within the first 12 months and $100 per month for all months thereafter.
	Aspen, CO	10/11/2011	20 cents	25%	X		Above 3,500 s.f.	Grocer may retain 25% of fee up to $1,000 per month within the first 12 months and $100 per month for all months thereafter.
	Austin, TX	3/2/2012	*not yet determinded	*not yet determinded	X			Originally passed as a total ban on plastic and paper, but now allows for recycled content paper bags distributed for a fee. Requires restaurants and pharmacies to use recyclable paper bags.
Ban on Pastic	Portland, OR	10/15/2011	N/A	N/A		X	Supermarkets with $2 million or more in gross annual sales and retailers of at least 10,000 s.f. that have pharmacies	
	Palo Alto, CA	3/30/2009	N/A	N/A	X			
	Westport, CT	3/19/2008	N/A	N/A		X		
	Maui County, HI	8/22/2008	N/A	N/A		X		

The following websites contain comprehensive lists of disposable bags regulations:
http://www.dep.state.fl.us/waste/retailbags/pages/mapsandlists.htm
http://plasticbaglaws.org/

FOR IMMEDIATE RELEASE

Contact: Katie Christopher
P: 202.974.5084
christopherk@ruderfinn.com

Laura Chamberlin
Program Manager
Alice Ferguson Foundation
P: 202-973-8203
lchamberlin@fergusonfoundation.org

STUDY OF U.S CAPITAL'S PLASTIC BAG FEE INDICATES BEHAVIORAL CHANGE AND POSITIVE SUPPORT

Research Shows Litter is a Widespread Issue for Washington, D.C Residents and Businesses

Washington, DC (February 23, 2011) — Today, Alice Ferguson Foundation (AFF), a leader of the Trash Free Potomac Watershed Initiative and environmental education in the Washington, D.C. metro area, released data from research on ***"Public Perceptions and Willingness to Address Litter in the District of Columbia***". The research examines current opinions and perceptions of the District of Columbia citizens and business community on litter and public policy approaches, with special attention to the city's bag fee.

The research, funded by the District Department of Environment (DDOE), concluded:

- Littering is a widespread problem in the District, with as many as four in ten residents actively littering;
- Unwanted litter is a problem for many of the District businesses surveyed; it results in increased operational costs; and
- The recent D.C. bag fee has been overwhelmingly effective in changing behavior, with **75%** of District residents reporting a reduction in their bag usage; and businesses reporting drastic reductions in bag usage.

"The public opinion poll provided us with valuable information that will help to inform our ongoing litter prevention programs," said Tracy Bowen, with the Alice Ferguson Foundation, "The results from this survey prove that behavior can be changed and that our upcoming cross-jurisdictional litter prevention campaign *will* have an impact."

AFF has a goal for a trash free Potomac Watershed by 2013, and is collaborating with government and business partners throughout the region to prepare a regional litter prevention campaign set to launch this spring. The research released today is an important part of this larger effort to gather valuable insights and understanding. It will allow AFF to design strategies to challenge regional citizens to think about their actions and to change their littering ways.

Research Methodology

AFF worked with social marketing research firm, OpinionWorks, to gather public opinion and business community data through three approaches: 1) telephone opinion poll of 600 randomly-selected District of Columbia residents throughout all eight wards; 2) focus groups of citizens who were admitted litterers; 3) one-on-one interviews with 51 D.C.- based business owners and managers to assess their first hand experience in implementing the bag fee, as well as their experience with litter and trash. 90% of the companies interviewed are regulated by the bag fee and include such businesses as liquor stores, convenience stores, coffee shops, grocery stores, restaurants/carryouts, hotels, large retail stores and institutions.

Key findings of the research included the following:

Litter is a Problem for Citizens and the Business Community

Littering is a widespread problem in the District, with many citizens admitting to engaging in this behavior and many others observing it and bothered by it. Likewise many District business owners and managers stated that littering has impacts on their business.

- 68% of citizens report that they see others tossing litter on the ground or in water often or sometimes. Between 12% to 40% of citizens reported that they litter, depending on the type of litter.
- While 85% know littering is against the law, only 7% think there is a good chance a litterer will get caught.
- Unwanted litter is a problem for 40% of the District businesses interviewed, with 23% of businesses stating that they commit resources to cleaning up trash around their property.
- When asked what the City could be doing to help businesses deal with the litter problem, most want more street and sidewalk sweeping, and some ask for better law enforcement of anti-littering laws.

Five-Cent Bag Fee Drastically Changes Citizen Behavior:

In January 2010, the *Anacostia River Cleanup and Protection Act of 2009,* placed a five-cent fee on plastic and paper bags in businesses selling food or alcohol throughout the nation's capital. AFF's research shows that the bag fee has drastically changed behavior of citizens in their bag usage, and found overwhelming positive support for this law.

"Through AFF's research, we were able to gather opinions from residents and a diverse set of businesses impacted by the bag fee" said Christophe Tulou, Director, DDOE. "Responses were favorable and knowledge of the five-cent fee seems to be close to universal. The bag fee is an extraordinary example of how public policy can have a positive impact for our environment."

- 75% of District residents respondents polled indicated that they have reduced their bag use since the fee was introduced in January 2010.
- A majority of businesses said their consumption of bags is at least 50% lower as a result of the fee.

- 78% of businesses had neutral or positive responses to the how the bag fee was impacting their businesses -- 58% of businesses survey reported the bag fee has not affected their business at all; 20% said it has affected their business positively. Only 12% of business owners and managers said the bag fee has affected their business negatively.
- When asked specifically what positives they see from the law, business owners and managers mentioned a reduction in litter and a benefit to their bottom line as they had to spend less on bags.
- When asked specifically what negatives they see from the law, business owners/managers mentioned that some customers complain about the 5-cent fee, and that they are skeptical about where the money goes within the DC government.
- When asked what the District of Columbia can do to better help the business community implement the law, the greatest response by businesses is for the DC government to provide more publicity of the law, which explains the fee to customers and how the government is using the fee.

For further information on the AFF research, please visit www.fergusonfoundation.org or call 202.973.8203.

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About Alice Ferguson Foundation

The Alice Ferguson Foundation (AFF) was established in 1954 as a non-profit organization chartered in the state of Maryland. Its mission is to provide experiences that encourage connections between people, the natural environment, farming and the cultural heritage of the Potomac River Watershed, which lead to personal environmental responsibility. AFF shares the wonder and excitement of the Potomac River, a 330-acre working farm (Hard Bargain Farm), woods and wetlands each year with more than 10,000 students from the Washington, DC Metropolitan Area.

The ***Trash Free Potomac Watershed Initiative*** (TFPWI) is a region-wide effort spearheaded by the Alice Ferguson Foundation to reduce trash and litter, increase recycling, education, and awareness of trash issues in the Potomac Watershed. The primary goal of TFPWI is to create a "Trash Free Potomac by 2013." The goals of TFPWI are being addressed through the *Potomac River Watershed Trash Treaty*, *Annual Potomac River Watershed Trash Summit*, *Annual Potomac River Watershed Cleanup*, and *Regional Public Education & Awareness Campaigns*. For more information on these programs or to volunteer, visit www.Fergusonfoundation.org or call (202) 973-8203 and (301) 292-5665.

About OpinionWorks

OpinionWorks conducts frequent opinion studies in Maryland and the surrounding states. They are the polling organization for *The Baltimore Sun*, having accurately forecast the 14-point gubernatorial margin in 2010, and have polled for numerous other media throughout the region. They work for state and local agencies throughout the Mid-Atlantic, and for a variety of non-profit and for-profit entities within the region and nationally. For more information, please visit www.OpinionWorks.com.

About District Department of the Environment

The District Department of the Environment funded this research to further the District of Columbia's understanding of how citizens are affected by litter, examine the effects of government policy, and develop a strategy for changing the behavior of those citizens and visitors to the District who dispose of their trash improperly. DDOE is the lead District agency for compliance with federal Clean Water Act requirements, including requirements for pollution caused by trash. The EPA has issued a Total Maximum Daily Load (TMDL), or trash diet, for the Anacostia Watershed. This is a first in the Nation multi-state TMDL for trash, which includes Maryland's Prince Georges and Montgomery Counties and the District. In addition DDOE is the lead agency for implementing the Anacostia Clean Up and Protection Act. This legislation place a $0.05 fee on all non-reusable bags sold at stores that sell food and/or alcohol. Revenues from the fee are administered by DDOE and used to restore and protect the Anacostia River and other District waterways.

Summary of Grocer Input

Whole Foods:

- Currently collects plastic bags for recycling, sent to Trex to be made into composite lumber
- Currently give a credit for reusable bags (10 cents)
- Has a recycling program for reusable bags
- Prefers a fee program – it "levels the playing field"
- Customers are inquisitive – City staff will need to provide signage/information showing where the money goes

Safeway & King Soopers:

- Currently collects plastic bags for recycling
- Would prefer a campaign around recycling options – message has gotten lost. They would contribute funds to a campaign
- Customer would see a fee as the store charging them, not the city
- Paper bags are about five times more expensive than plastic bags
- Checkout infrastructure is no longer configured to use paper bags – this would need to be changed with a ban on plastic bags
- Difficulty with self-checkout – doesn't account for paper bag weight
- Will add time, and therefore labor costs, to the checkout process
- Does not believe a fee will change behavior
- Ban on plastic would be the least preferred option – would prefer a fee on both
- Would like to retain some of the fee to cover costs
- Would like it to apply to all retail stores

Target:

- Would prefer a statewide mandate
- Currently give a five cent credit for reusable bags
- Currently collects plastic bags for recycling
- Would prefer a bag fee over a ban

- Stores do provide paper bags if requested – these bags contain a minimum of 90 percent post-consumer recycled content. Plastic bags also contain a percentage of recycled material.
- Would like at least a six month implementation period for a fee program since their POS system is updated every six months – this would allow adding a fee to be part of a normal update and therefore reduce costs.
- Concerned that paper bags slow down the checkout process

Alfalfa's:

- Prefer a ban on all checkout bags, thinks this approach would work with Boulder's population
- A fee will be a pain – many of their customers are students and tourists
- "Grocery stores are creatures of habit" – stores would adjust to the policy
- If council believes that a bag fee would eventually phase into a ban, why not save time, money and staff hours and just ban all bags from the beginning?
- Current paper bags contain recycled content

Vitamin Cottage:

- Currently does not use checkout bags
- Customers have responded very favorably to the phasing-out of plastic bags (in 2008) and then paper bags (in 2009) from the stores
- Has clean shipping boxes available for customers to use at the checkout
- Good communication and education on the benefits of reducing bags will help the public through the transition

Sprouts:

- Currently uses plastic and paper bags made from recycled content or corn material
- Currently collects plastic bags for recycling
- Currently gives a five cent credit for reusable bags
- Store will incur costs for collecting/remitting fee and labor costs due to longer checkout transaction
- Does not see the need for this type of regulation
- Concerned that an ordinance will drive customers out of Boulder

Options for Disposable Bag Reduction Approaches

	Effectiveness in reducing disposable bag use	Minimizes costs to consumers	Minimizes impact to consumer convenience	Ease of implementation for businesses	Minimizes costs to businesses	Ease of enforcement*	Minimizes city organization resources needed to administer*	PROS/CONS
Option 1 - Fee or tax on plastic and paper bags	+ +	- -	+ +	+ +	+ +	+	+ + +	**Pros:** Retains customer choice. Avoids a judgment on which type of bag is more sustainable. Residents have changed behavior quickly in other communities. Preferred ordinance option of the large grocers. Uses market mechanism to change behavior. **Cons:** Requires city resources to implement, administer and enforce. Strategies needed to address impact to low-income populations and tourists. Does not decrease bag use as dramatically as bans.
Option 2 – Ban on plastic bags, fee on paper bags	+ +	- -	+	- -	- -	+	+ +	**Pros:** Will reduce use of plastic bags and therefore contamination and litter more dramatically than a fee. Residents have changed behavior quickly in other communities. Uses market mechanism to change behavior. **Cons:** Requires city resources to implement, administer and enforce. Will not provide as much fee revenue to cover city and business costs. Least preferred option of the large grocers due to compliance costs.
Option 3 – Ban on plastic and paper bags	+ + +	+ +	- - -	+ + +	+ + +	+ +	- -	**Pros:** Will reduce use of plastic and paper bags and therefore contamination and litter more dramatically than a fee. Most progressive option. Possibility for an "emergency fee." Retailer costs to purchasing bags will decrease dramatically. **Cons:** Most stringent option. Requires city resources to conduct education that are not offset by fee revenue. Possible opposition from the public.
Option 4 – Education and outreach campaign	- -	+ + +	+ + +	+ + +	+	N/A	- -	**Pros:** Preferred approach by the largest grocers. May increase disposable bag recycling. Little objection from the public. **Cons:** Unlikely to result in significant reductions in bag use. Requires city resources to conduct education that are not offset by fee revenue.
Option 5 – No action	- - -	N/A	N/A	N/A	N/A	N/A	+ + + +	**Pros:** No regulation or city resources required. **Cons:** Environmental and economic costs to manage and dispose of bags continues.

*Ratings will vary depending on the scope of the ordinance options.