City of Columbia

701 East Broadway, Columbia, Missouri 65201

Agenda Item Number: B 51-15
Department Source: City Manager
To: City Council
From: City Manager & Staff
Council Meeting Date: 2/16/2015
Re: Ordinance Pertaining to the Regulation of Single-Use Plastic Bags

Documents Included With This Agenda Item

Council Memo, Resolution/Ordinance
Supporting documentation includes: Missouri Farmer's Association (MFA) Response to Proposed Ordinance, Hy-Vee Response to Proposed Ordinance, American Progressive Bag Alliance (APBA) Response to Proposed Ordinance

Executive Summary

As an accompaniment to the proposed ordinance pertaining to the regulation of single-use plastic bags, the following report provides estimates of the cost, staff and volunteer time spent on abating plastic bag waste; an approximate baseline of current city-wide plastic bag usage; reasons plastic bags cannot be recycled at the City's Material Recovery Facility (MRF); and a summary of retailer feedback to the proposed ordinance.

Discussion

City of Columbia Litter Abatement Costs Related to Plastic Bags

As a result of local litter contamination, the City of Columbia coordinates a number of cleanup programs, from individual park and stream clean-up days to Adopt-a-Spot Litter and the Hinkson Creek Clean Sweep, resulting in an estimated $177,448[1] worth of annual volunteer hours.[2] City staff estimates that plastic shopping bags rank third on the list of local litter pollutants, representing a good portion of the time and value spent cleaning up the city.

Moreover, in 2014, the city's landfill spent more than $45,000 specifically on litter control, while its MRF spent approximately $2,700 in litter policing, a total of $47,700. Considering solid waste staff estimates that 1/4 to 1/3 of this litter is plastic bag waste, the city spends anywhere from $11,925 to $15,900 on controlling plastic bag waste at our landfill and MRF annually.[3]

Estimated City of Columbia Annual Plastic Bag Use

A number of public agencies have estimated that the average American uses 350-500 plastic bags annually[4]. At Columbia's current population of 115,276[5], this amounts to the annual distribution of approximately 40 to 57 million plastic shopping bags within the city.

Challenges to Recycling Plastic Bags at Columbia's Material Recovery Facility

The City of Columbia does not accept single-use plastic grocery bags for recycling, because its

Material Recovery Facility does not have enough space to store enough plastic bags to cost-effectively recycle them. In addition, the plastic bags can get caught in the recycling sorting machinery and cause equipment jams. City Solid Waste staff suggests that customers recycle their plastic bags at grocery store receptacles, which can be found at Wal-Mart, Gerbes, Schnucks and Hy-Vee.

Local Retailer Feedback on Proposed Ordinance
Per council request, staff sought feedback on the proposed ordinance from Lucky's Market, Wal-Mart, Gerbes, Schnucks, Hy-Vee, Casey's General Store and Break Time stores (owned by MFA Oil). The manager of Lucky's Market stated that the business fully supported a full ban of single-use plastic bags but did not support any type of charge on paper bags, as such a charge is seen as a punishment to their customers. Lucky's prefers to incentivize customers to utilize reusable bags through the provision of refunds (accompanied by an opportunity to donate refunds to local causes).

MFA Oil, the owner of Break Time stores, provided a letter describing the reasons it does not support the ordinance. MFA views the ordinance as an unfair burden to its customers and employees that will add to the current challenges faced by the stores trying to adapt to a number of other new municipal ordinances, including Ban the Box and Tobacco 21. Hy-Vee also provided written feedback to the potential ordinance, comprised of its 2009 response to attempts to pass similar ordinances in Iowa. Hy-Vee suggests that in place of an ordinance local stores focus on efforts to reduce, reuse and recycle plastic bags.

The other stores contacted by staff did not provide a response to the proposed ordinance.

In addition, APBA, a trade organization representing plastic bag manufacturers, submitted a detailed report that challenges statements included in the City's Environment and Energy Commission report on the single-use plastic bag ordinance.

[1]Estimates based on FY14: Neighborhood Clean-ups:128.5 hours; Clean-up Columbia:2545; Litter-ONS:15: Park Clean-Ups:393.8; Eco-Clean-ups:515.5; Adopt-a-Spot:3192.3; Crawdads: 717; Hinkson Clean Sweep: 318; Stream Clean-up: 44. Total hours on city letter abatement efforts: 7869.1, resulting in an estimated annual value of $177,448.
[2]The hourly value of volunteer time in Missouri is $22.55, according to the Corporation for National & Community Service http://www.volunteeringinamerica.gov/
[3]The city pays temporary laborers through Job Finders, Labor Ready, etc. regularly on good-weather days and also usually has 1 Temp employee that is typically doing litter collection. Litter Collection hours are recorded in a daily log.
[4]Town of Truckee, Single Use Bag Ordinance, Consumer Information
http://www.townoftruckee.com/departments/solid-waste-recycling/single-use-bag-ordinance
[5]Current U.S. census estimates
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Fiscal Impact

Short-Term Impact: The city will not collect any of the bag fees associated with the ordinance.

However, there could be potential costs associated with the enforcement of the ordinance.
Long-Term Impact: Unknown

Vision, Strategic & Comprehensive Plan Impact

Vision Impact: Environment

Strategic Plan Impact: N/A

Comprehensive Plan Impact: Environmental Management

Suggested Council Action

Staff recommends that Council table the vote on this ordinance for one year, in order to allow staff time to collect more input from the general population and retailers, and to potentially engage in a community education outreach effort on this issue.

Legislative History

At the October 20, 2014 city council meeting, Jan Dye and Frederick Vom Saal brought the Single-use plastic bag ordinance to city council for consideration, and Ms. Hoppe requested that the Energy and Environment Commission develop a report relating to the potential ordinance. At the 1/5/15 council meeting, Mr. Skala requested that EEC's report on the plastic bag ordinance be sent to retailers in Columbia requesting a formal response to the ordinance, and input on how they would like to approach the challenge of plastic bag waste. At the 1/20/15 council meeting, Ms. Hoppe made a motion to have a first read of the ordinance at the 2-16-15 council meeting. Mr. Thomas seconded the motion.

Leah Christian
Department Approved

City Manager Approved

Introduced by _____

First Reading _____ Second Reading _____

Ordinance No. _____ Council Bill No. _____B 51-15_____

AN ORDINANCE

amending Chapter 11 of the City Code to add a new Article XII pertaining to the regulation of single-use plastic bags; and fixing the time when this ordinance shall become effective.

WHEREAS, the City of Columbia seeks to protect our waterways, local streams and the Missouri River; and

WHEREAS, single-use plastic carryout bags pollute our local streams and rivers and ultimately break down into smaller bits that contaminate soil and waterways and enter into the food supply that humans, animals and aquatic life ingest; and

WHEREAS, the City Council of the City of Columbia seeks to reduce the toxicity of waste materials in the solid waste stream that are directed to resource recovery and sanitary landfill facilities, and to maximize the removal of plastic carryout bags from the waste stream; and

WHEREAS, the City of Columbia signed Resolution 160-06A, endorsing the U.S. Mayors Climate Protection Agreement striving to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our community; and

WHEREAS, the production of plastic bags worldwide requires the use of more than twelve (12) million barrels of oil per year, which also has a significant environmental impact; and

WHEREAS, many chemicals in plastic products are now known to cause harm, but the chemicals present in plastic bags are not disclosed to the public and are not required to be tested for health effects, so chemicals in plastic bags cannot be assumed to be safe; and

WHEREAS, the City of Columbia has shown an interest in being a leader in initiatives with a positive effect on climate change through its curbside recycling program, methane gas bioenergy facility, solar energy array, LEED certified city buildings and increased use of renewable energy; and

WHEREAS, the City Council finds it in the best interest of the City to regulate the use of single-use plastic bags within the city limits.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. A new Article XII of Chapter 11 of the Code of Ordinances of the City of Columbia, Missouri, is hereby enacted as follows:

Material to be deleted in ~~strikeout~~; material to be added underlined.

ARTICLE XII. ~~RESERVED~~ SINGLE-USE PLASTIC BAGS REDUCTION

Sec. 11-346. Definitions.

The following definitions apply to this article:

Customer means any person purchasing or obtaining goods from a store.

Post-consumer recycled material means any material that would otherwise be destined for solid waste disposal, having completed its intended end use and product life cycle. This does not include materials and byproducts generated from, and commonly reused within, an original manufacturing and fabrication process.

Product bags means a bag without handles that is used to carry items to the point of sale, including:

(1) Bulk items, such as nuts, grain or candy;

(2) Meat, poultry, or fish, whether packaged or not;

(3) Flowers, potted plants, or other items where dampness needs to be controlled;

(4) Unwrapped prepared foods or bakery goods; or

(5) Fresh fruits or vegetables.

Recyclable paper bag means a bag that is made predominantly of paper and meets the following requirements:

(1) Contains no old growth fiber;

(2) Contains a minimum of forty percent (40%) post-consumer recycled material; and

(3) Displays the word “Recycle” or “Recyclable” or the universal recycling symbol on the outside of the bag.

Reusable bag means a bag with handles that is specifically designed and manufactured for reuse and meets the following requirements:

(1) Is machine washable or is made from a material that may be cleaned or disinfected;

(2) Does not contain lead, cadmium, or any other heavy metal in toxic amounts; and

(3) If made predominantly of plastic, is a minimum of at least 2.25 mils thick.

Single-use plastic bag means a bag that is made predominantly of any type of plastic, including degradable or biodegradable; provided, however, single-use plastic bag shall not include a reusable bag or a product bag.

Store means any self-service retail establishment that sells a line of dry grocery, canned goods, frozen food and perishable items, including, but not limited to, drug, pharmacy, supermarket, grocery and convenience stores.

Sec. 11-347. Single-use plastic bags prohibited.

(a) It shall be unlawful for any store to provide to any customer a single-use plastic bag for the purpose of enabling the customer to carry away goods from the point of sale, except as otherwise provided in this article.

(b) A store may provide recyclable paper bags as set forth in section 11-348, reusable bags or any combination thereof, to customers for the purpose of enabling the customer to carry away goods from the point of sale.

(c) This article does not apply to any type of bag that the customer brings to the store.

(d) This article does not apply to plastic or paper bags supplied by the store to enable a customer to carry hot prepared ready-to-eat food for consumption off the premises.

Sec. 11-348. Recyclable paper bag fees.

(a) When a store provides a recyclable paper bag to a customer for the purpose of enabling the customer to carry away goods from the point of sale, the store shall:

(1) Charge the customer a fee of not less than ten (10) cents per bag; and

(2) Indicate on the customer's transaction receipt(s) the count of recyclable paper bags provided as well as the total charge for the bags provided.

(b) The requirements set forth in subsection (a) of this section shall not apply to customers using food assistance programs such as Women, Infants, and Children (WIC) and Supplemental Nutrition Assistance Program at the point of sale.

SECTION 2. This ordinance shall be in full force and effect from and after October 1, 2015.

PASSED this _____ day of _____, 2015.

ATTEST:

_____ _____

City Clerk Mayor and Presiding Officer

APPROVED AS TO FORM:

_____

City Counselor

City of Columbia
701 East Broadway, Columbia, Missouri 65201

SUPPORTING DOCUMENTS INCLUDED WITH THIS AGENDA ITEM ARE AS FOLLOWS:

1) MFA's Response to Proposed Ordinance
2) Hy-Vee's Response to Proposed Ordinance
3) APBA's Response to Proposed Ordinance

February 2, 2015

Subject: SINGLE-USE PLASTIC BAG ORDINANCE

To Leah Christian

Leah,

MFA Oil is opposed to this ordinance. These types of ordinances, while seemingly small, generally cause a ripple effect that grows as more and more are added making it difficult for businesses to succeed. There are several reasons that we oppose this ordinance.

This ordinance forces us as a retailer to charge a fee to each person that makes a purchase and needs a bag. This fee is in reality a tax on our customer and the ordinance does not spell out exactly how the fee is to be used. If we are forced to meet the standard of a recyclable paper bag, why will there be a fee associated with the use of that bag? In reality there is a very small percentage of customers that take bags from convenience stores when making a purchase. Many of the purchases are small, with a minimum number of items being purchased. It would also be a safe assumption that a large number of the bags taken are used to dispose of waste items, often to keep a vehicle free from trash.

If this ordinance passes we now have to make another change to the operation of our business just for our Columbia locations. We will have to spend time sourcing paper bags, stock these in our grocery warehouse and retrain our employees in Columbia alone to charge someone for a bag. This process will slow down the checkout process, destroying a key component of our business model, speed and convenience.

It is also unfair to single out restaurants as an exception to the rule since many convenience stores offer hot food to our customer. Does that make us exempt from the ordinance at the locations that we prepare food, place in a container and then put in a plastic bag for the consumer to take with them? We also sell bakery items, based on the definition of product bags they meet this criteria, but bakery items are not necessarily mentioned.

The process of determining which consumer does not have to pay for the bag also becomes difficult. Since our locations accept SNAP, we would have to wait until the form of payment was presented before it could be determined whether or not to charge for a bag. Since these purchases are generally larger, at this point in the transaction the

items would have been placed in the bag, and we would have charged the consumer for the bag. We cannot ask for the form of payment prior to beginning the transaction.

The Break Time locations in Columbia do participate in the recycling program, placing the blue receptacles at our locations, both at the dispensers and near the entrance to our stores.

This ordinance would in reality be the third change since Thanksgiving that imposes unnecessary pressure on retailers, especially convenience stores. We have had to change our hiring process because of ban the box. While the intention of this ordinance was admirable, anyone selling lottery should have been exempt since it is a requirement by the state of Missouri that felons cannot sell lottery tickets. We have lost the ability to sell tobacco products to a group of individuals that are legally able to purchase cigarettes everywhere else in the state of Missouri. With the passage of both of these ordinances, we now have to operate our locations in Columbia different than other areas of the state, in essence any change that alters how we do business in Columbia is an added burden and generally added costs because we have to create new policies, procedures and training mechanisms for a portion of our locations. Adding the plastic bag ordinance to these two, in addition to requirements for all employees to pass the SMART exam to acquire an alcohol servers permit in order to just sell packaged alcohol, creates an onerous burden on our employees.

Thank you

Curtis Chaney
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MFA Oil
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Hy-Vee's Response to 2009 Iowa Effort to Ban Plastic Bag

This document was developed in response to communities considering bans on plastic bags.

Many grocery retailers have combatted plastic bag litter (which we believe to be at the heart of the issue when it comes to plastic bags) with programs including the goals outlined below. The Iowa Grocery Industry Association's Build With Bags was developed with these goals in mind (www.itseasytorecycle.com).

REDUCE - Reduce the use plastic bags

- Train baggers to reduce bag usage and eliminate unnecessary double bagging
- Promote us of better quality plastic bags that increase items per bag counts
- Work with customers to identify ways reducing bag use and litter

REUSE - Promote use of reusable bags

- Market and promote increased use of reusable bags
- Offer an assortment of reusable bags
- Implement practices that encourage the use of reusable bags

RECYCLE - Increase recycling of plastic bags

- Offer plastic bag recycling at readily available and easily identified locations
- Promote plastic bag recycling with signage and other communication tools
- Publish information about bag recycling rates

Factors that should play a key role in deliberations over a plastic bag bans include:

Plastic Bag Ban Impacts

The impacts of plastic bag bans are often-times overlooked. Some of these impacts include:

- In small towns bans can cause customers to travel to other towns to shop. The potential financial impact of this can be great – particularly to small towns in close proximity to other towns that do not have bag bans.
- In normal economic conditions, towns may be able to generate revenues by choosing to collect plastic bags, as opposed to banning them.
- Plastic bags from other jurisdictions will continue to cause litter and to enter the town's waste stream from purchases made in other communities.
- While bans may limit the number of plastic shopping bags, they will only force people to purchase other plastic bags (for such things as waste disposal or picking up dog 'litter'). Thus bans only force people to buy plastic bags for these other purchases. Being mindful of economic pressures, this only adds to citizens economic burdens.
- Bans shift bag consumption to paper bags, which have a much larger environmental and carbon footprint than plastic bags.

- In Ireland, where a shopping bag tax was levied, the sales of plastic shopping bags decreased by 90 percent, although the sales of other plastic bags, such as garbage bags, increased by 400 percent!
- There have also been several unintended consequences of the Irish Shopping Bag Tax. These include the loss of shopping baskets and carts and an increase in the instances of shoppers filling their carts and walking out of the store without paying.
- Bans, which aim to control litter, do little to do so. Litter control is better addressed by targeting littering and providing recycling and trash receptacles.
- Plastic bag bans negatively impact the plastic bag recycling industry
- Banning plastic bags will not reduce dependence on foreign oil because 80 percent of plastic bags are made from domestic natural gas (polyethylene is made from ethylene which is made from ethane, which is commonly extracted from natural gas) and the energy used to make plastic bags is embodied in the bag itself and is thus available for new products.
- After considering all the implications of bans, many communities have now chosen to focus their efforts on promoting plastic bag recycling.
- Additional information on the impacts of bag bans may be found in the ULS Report entitled, "A Qualitative Study of Grocery Bag Use in San Francisco"

Plastic Bags Facts

Often-times the facts about plastic bags are clouded in misinformation. Some facts about plastic bags are provided below:

- The environmental footprint of plastic bags is arguably less than that of paper. Reported statistics for plastic bags are as follows:
  - 70 percent less energy to produce than a paper bag and 50 percent less greenhouse gas emissions
  - 80 percent less waste and 90 percent less energy to recycle
  - 6 percent of the water needed to make paper bags
  - Considerably less energy to ship based on paper's greater weight and volume (2000 plastic bags weigh 30 pounds, whereas 2000 paper bags weigh 280 pounds). As an example, for every seven trucks needed to deliver paper bags – only one truck is needed for the same number of plastic bags
- For more information on plastic bags, see the "FMI Backgrounder: Plastic Grocery Bags – Challenges and Opportunities" or go to www.americanchemistry.com.
- Statistics indicate that 90 percent of today's consumers reuse plastic bags as liners for household waste baskets, lunch totes, and laundry or garment bags.
- Many argue about the biodegradability of plastic bags in landfills, while in actuality very little biodegradation takes place in landfills based on their design.
- Plastic bags are used by customers for a variety of reasons, including trash and animal refuse. If banned, the replacement for these bags is likely to be commercially available plastic bags which are both more expensive and have a higher mill rate (and thus degrade even less in landfills).

Plastic Bag Recycling

A number of organizations actively promote plastic bag recycling, with the Progressive Bag Affiliates (a division of the American Chemistry Council) now sponsoring a well developed and comprehensive bag recycling program which provides free education, marketing and support materials to help retailers recycle bags.

- There is a growing market for recycled plastic, with companies now being able to earn upwards of $.15 to $.20 per pound for recycled plastic bags.
- Recycled plastic resins are now less expensive than virgin resins
- Recycled plastic bag resins are now used to make: new plastic shopping bags, shopping carts and baskets, decking boards, pallets, patio pavers, laundry baskets, parking lot speed bumps, car stops, and many other products.
- Through the "The Full Circle Recycling Initiative," plastic bag manufacturers have set a goal of 40 percent recycled content (25 percent post-consumer) by the year 2015.
- For more information on plastic bag recycling, go to: www.plasticfilmrecycling.org

Reusable Bags

Reusable bags are a good alternative to plastic bags, although there are some issues related to their use. These trade-offs include:

- Many reusable bags are made of polyethylene imported from China
- The environmental footprint of these bags has not been proven through life cycle analysis to be better than the typical plastic bag (how many t-shirt bags does it take to make one pressed polyethylene reusable bag?)
- Reusable bags can present cross-contamination/food safety issues that do not exist for single-use bags

Degradable Bags

There are several types of "degradable bags", including biodegradable, photo degradable, and other forms of degradability depending on manufacturer claims. One should exercise caution when it comes to claims of degradability, particularly claims of "biodegradability" that are not backed up by sound scientific evidence.

- Degradable bags do nothing to address the litter problem – which is at the core of the plastic bag problem.
- Some degradable bags contaminate the plastic recycling stream
- Degradable bags can come at a cost premium and performance penalty
- Generally speaking, degradable bags do not biodegrade in landfills
- In order to degrade, biodegradable bags typically need to be composted in commercial compost facilities

Rebuttal to "Report on Plastic Bag Restrictions" by the City of Columbia & County of Boone's Environment & Energy Commission

February 9, 2015

WHEREAS, the City of Columbia seeks to protect our waterways, our local streams including Hinkson Creek, the Missouri River, and ultimately our oceans; and

Plastic bags are not a major source of ocean litter.

- Ocean Conservancy sponsors beach cleanup days throughout the U.S. each year. For the first time, plastic grocery bags were tallied separately in 2013. Based on data from 2,609 U.S. sites surveyed in 44 states, **plastic grocery bags comprised 2.1% of all U.S. beach litter**. **For 25 of the 44 states, plastic grocery bags comprised 1.9% or less**, including California (1.7 percent), Oregon (1.4 percent) and Washington (0.9 percent).[1]

- In 2014, scientists from the U.S. Proceedings of the National Academy of Sciences reported that the **overall amount of plastic in our oceans is "far less than expected."** [2]

- Marine experts at the 2011 International Marine Debris Conference stated that the **most pressing concerns for oceans are derelict fishing gear and general solid waste**—not specific products such as plastic bags.[3]

- According to an Oregon State University study, "if we were to filter the surface area of the ocean equivalent to a football field in waters having the highest concentration [of plastic] ever recorded…**the amount of plastic recovered would not even extend to the 1-inch line."**[4]

WHEREAS, single-use plastic carryout bags pollute our local streams and rivers; these bags ultimately break down into smaller bits that contaminate soil and waterways and enter into the food supply that humans, animals, and aquatic life ingest; and

Plastic bags are safe and non-toxic.

- Retail **plastic bags do not contain Phthalates, Bisphenol A (BPA) or other products often referred to as endocrine disruptors**, which are cited as such environmental contaminates.[5]

    - The American Progressive Bag Alliance (APBA) is committed to providing retailers and shoppers with safe, non-toxic plastic bags. The bags manufactured by APBA companies are made from **polyethylene** and **calcium** only – potentially with color added. Ink and color additives used by APBA companies contain **no heavy metals**, and all suppliers have submitted letters confirming their compliance with federal safety standards.[6]

- According to National Oceanic and Atmospheric Administration (NOAA), "To date **there are no published studies specifically researching how many marine mammals die each year directly due to marine debris**" but the **closest figure available "does not state marine**

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[1] ER Planning PR Bags Report Brief – 2014 Litter Survey Rankings (report available upon request)
[2] PNAS: Plastic debris in the open ocean; Andrés Cózar; 2014
[3] Technical Proceedings of the Fifth International Marine Debris Conference 2011
[4] Oregon State University: Oceanic "garbage patch" not nearly as big as portrayed in media
[5] Polyethylene Resins Product Declaration available upon request
[6] Polyethylene Resins Product Declaration available upon request

mammals are dying from plastic pieces, but rather that mortality is caused by entanglement from lost fishing gear and other unknown causes." [7]

- Regarding Surfrider's claims that plastics are responsible for the deaths of 1.5 million marine animals, Senior Staff Scientist Rick Wilson said: "I will admit **it's difficult to track down a definitive scientific study** source for it."[8]

- Dr. Chris Reddy—a top cited and published marine scientist said **a plastic bag ban may actually increase damage to marine life** since alternatives to plastic bags contribute greatly to "oceanic dead zones" caused by nitrogen in the water.[9]

WHEREAS, the City Council of the City of Columbia seeks to reduce the toxicity of waste materials in the solid waste stream that are directed to resource recovery and sanitary landfill facilities, and to maximize the removal of plastic carryout bags from the waste stream; and

Bag bans and taxes don't reduce waste or litter and don't save cities money.

- **Plastic bags make up just 0.4% of the U.S. municipal solid waste stream**, so banning or taxing them won't effectively reduce the amount of solid waste sent to the landfill.[10]

- In nearby Iowa, a statewide waste characterization study found plastic retail bags make up **only 0.3% of all waste** in the state.[11] (Note: identified Missouri waste studies do not detail the percentage of plastic bags among their waste stream data.)

- Plastic bags take up less space in a landfill than paper or reusable bags. Besides, a standard "reusable bag" is a **petroleum-based** product made from nonwoven polypropylene (NWPP) and is **not recyclable.**[12] Yet, we **import half-a-billion each year** from countries such as China and Vietnam.[13] As a result, **95.5% of NWPP bags are sent to landfills**[14] **after only about 15 uses**;[15] thus, the environmental community is worried about **surplus sacks adding up in our landfills.**[16]

- A 2013 study examined budgets for litter collection and waste disposal in cities that banned plastic grocery bags and found **"no evidence of a reduction in costs attributable to reduced use of plastic bags"** in San Francisco, San Jose, and the City and County of Los Angeles, CA; Washington, D.C.; and Brownsville and Austin, TX.[17]

- Denver, Colorado's Chief of Sustainability called p**lastic bag bans and taxes "misguided" if the policy's goal is to make a substantial dent in waste.**[18]

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[7] NOAA: What we actually know about common marine debris factoids
[8] San Francisco Chronicle: Garbage-patch tale as flimsy as a single-use plastic bag; Debra J. Saunders; July 2014
[9] Kirkland Reporter: The science and comedy of Kirkland's proposed bag ban; Jan. 22, 2015
[10] EPA Municipal Solid Waste Report: 2011
[11] Mid Atlantic Solid Waste Consultants, "2011 Iowa Statewide Waste Characterization Study;" September 2011.
[12] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[13] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[14] Joseph Greene, "Survey of Reusable and Single-use Grocery Bags in Northern California," California State University, Chico Research Foundation, August 31, 2010.
[15] Edelman Berland: "Reusable Bag Study;" May 2014.
[16] The Dec. 4, 2011 article in New York Magazine, "The Inconvenient Truth of Reusable Grocery Bags," also noted that 12% of the bags carry E. coli bacteria.
[17] NCPA: Do Bans on Plastic Grocery Bags Save Cities Money?, December 2013.
[18] Brief: Denver, CO Chief of Sustainability

WHEREAS, the City of Columbia signed Resolution 160-06A, endorsing the Mayors Climate Protection Agreement striving to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our community; and

Plastic bags are the most environmentally friendly option at the checkout.

- 100% recyclable, reusable and American-made **plastic retail bags are produced using high-density polyethylene, a byproduct of U.S. natural gas, not foreign oil**.[19] A standard "reusable bag" is a **petroleum-based** product and is **not recyclable.**[20]

- Plastic bags are more resource efficient and generate **fewer greenhouse gas emissions** than alternatives;[21] Reusable bags make a **greater contribution to global warming** than plastic bags.[22]

- A study by the UK government found a standard **cotton grocery bag must be used *131 times*** before its contribution to global climate change is lower than that of a **plastic bag used only once**.[23]

- In regard to choosing grocery bags, Dr. David Tyler of the University of Oregon said: "If the most important environmental impact you wanted **to alleviate was global warming, then you would go with plastic.**"[24]

- A standard **paper bag must be reused *3 times* before its contribution to global climate change is lower than that of a plastic bag** used only once.[25]

WHEREAS, the City of Columbia has shown an interest in being a leader in initiatives with a positive effect on climate change through its curbside recycling program, methane gas bioenergy facility, solar energy arrays, LEED certified city buildings, increased use of renewable energy; and

Plastic bags are 100% recyclable.

- The **plastic bag manufacturing and recycling industry has invested more than $1.1 million in a public education program** called "A Bag's Life," which **promotes reuse and recycling of plastic bags.**

- Through its Bag-2-Bag program, **APBA member NOVOLEX has been working with grocery stores and retailers across the U.S. to establish roughly 30,000 plastic bag recycling points** over the past four years.

    - **Consumers can bring their 100% recyclable plastic bags and wraps to participating stores** and drop them into plastic bag recycling bins. From there, the bags and wraps are

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[19] [19] Analysis by Chemical Market Associates, Inc.; February, 2011.
[20] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[21] This figure was calculated by Boustead Consulting & Associates in their 2007 study entitled, "Life Cycle Assessment for Three Types of Grocery Bags—Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper." The resource allocation for different types of bags can be found on page 4 and shows that polyethylene grocery bags use less oil, and less potable water. In addition, polyethylene plastic grocery bags emit fewer global warming gases, less acid rain emissions, and less solid wastes.
[22] The lifecycle impacts of each carrier bag on global warming potential can be found on page 33.
[23] U.K. Environmental Agency. "Life Cycle Assessment of Supermarket Carrier Bags." February 2011.
[24] "Paper or Plastic? The answer might surprise you;" University of Oregon, Cascade Magazine; Fall 2012
[25] U.K. Environmental Agency. "Life Cycle Assessment of Supermarket Carrier Bags." February 2011.

picked up for recycling. **Plastic bags are recycled into eco-friendly material** for playgrounds, construction equipment and new plastic bags.

- **Trex Co. recycles about 1.3 billion plastic retail bags each year** to produce splinter-free, mold-resistant decking material that doesn't need staining or painting. Trex products were **used to rebuild boardwalks at four East Coast beaches damaged as a result of Hurricane Sandy.**[26]

- **More than 90% of the U.S. population has access to plastic bag recycling**;[27] according to EPA data, 14.7% of polyethylene bags, sacks and wraps made in the U.S. are recycled.[28]

- Ordinances to ban or tax plastic retail bags hurt our country's recycling infrastructure and positive innovations such as retailer take-back programs.

- "Rather than bans and fees that take away jobs and increase costs to consumers, policy makers should take advantage of the great economic and environmental opportunities associated with responsibly recycling these bags." — Institute of Scrap Recycling Industries (ISRI)[29]

WHEREAS, the production of plastic bags worldwide requires the use of more than 12 million barrels of oil per year, which also has a significant environmental impact; and

Plastic bags are made from natural gas, not oil.

- 100% recyclable, reusable and American-made **plastic retail bags are produced using high-density polyethylene, a byproduct of U.S. natural gas, not foreign oil**.[30] **A standard "reusable bag" is a petroleum-based product** and is **not recyclable.**[31]

WHEREAS, many chemicals in plastic products are now known to cause harm, but the chemicals present in plastic bags are not disclosed to the public and are not required to be tested for health effects, so chemicals in plastic bags cannot be assumed to be safe.

Plastic bags are safe and non-toxic.

- The American Progressive Bag Alliance (APBA) is committed to providing retailers and shoppers with safe, non-toxic plastic bags. The bags manufactured by APBA companies are made from **polyethylene** and **calcium** only – potentially with color added. Ink and color additives used by APBA companies contain **no heavy metals**, and all suppliers have submitted letters confirming their compliance with federal safety standards.[32]

- Full disclosure is included in the "Composition and Compliance" materials of the Appendix.

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[26] Green Builder: "Deck Durability," 4/30/2013
[27] Moore Recycling Associates, "Plastic Film and Bag Recycling Collection: National Reach Study," 2012
[28] EPA Municipal Solid Waste Report: 2011
[29] ISRI statement on bag bans and taxes
[30] [30] Analysis by Chemical Market Associates, Inc.; February, 2011.
[31] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[32] Polyethylene Resins Product Declaration available upon request

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Composition and Compliance

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15. Formolene® Linear Low Density Polyethylene Products FDA Approval 51
FDA approval for the use of linear low density polyethylene plastics in food applications

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Relevant Materials from Other States and Municipalities

17. 2011 Iowa Statewide Waste Characterization Study 56
A study by the Iowa Department of Natural Resources that shows plastic retail bags constituted only .3% of waste in Iowa landfills in 2011

18. Fort Collins Ban Repeal Profile 64
An account of Fort Collins, CO's plastic bag ban repeal

19. Santa Fe, NM Reusable Bag Ban Report 66
A report by the Sustainable Santa Fe Commission describing how the city's plastic bag ban did not achieve the desired sustainability outcomes

PLASTIC BAG RECYCLING: A BETTER SOLUTION FOR COLUMBIA, MO

Communities across the U.S. are looking at ways to help the environment and at the same time support their local economy. Bans and taxes on 100% recyclable, America-made plastic bags—while well intentioned—actually weigh down the economy, increase costs and inconvenience consumers.

By targeting a single product, bans and taxes do not address the greater litter issue and will instead steer consumers to alternatives that are worse for the environment. Recycling is a common-sense policy that's good for the economy, the environment and consumers, and it's one that provides a positive direction for everyone.

Here are the facts…

Plastic bags are the most environmentally friendly option at the checkout…

- Plastic bags are **100% recyclable, reusable** and made from a byproduct of **natural gas, not oil**.[i]
- Plastic bags are more resource efficient, take up less landfill space and generate **fewer greenhouse gas emissions** than alternatives.[ii]
- A study by the UK government found a standard **cotton grocery bag must be used *131 times*** before its contribution to global climate change is lower than that of a **plastic bag used only once**.[iii]

So-called "reusable" bags are not the eco-friendly solution…

- Reusable bags make a **greater contribution to global warming** than plastic bags.[iv]
- A standard "reusable" bag is a **petroleum-based** product made from nonwoven polypropylene (NWPP).
- NWPP bags are **not recyclable**[v] and yet, we **import half-a-billion** each year from countries such as China.[vi]
- As a result, **95.5% of NWPP bags are sent to landfills**[vii] **after only about 15 uses**[viii]; and now the environmental community is worried about surplus sacks adding up in our landfills.[ix]

Bag bans and taxes don't reduce waste or litter and don't save cities money…

- Plastic bags typically make up less than **1% of roadside litter**,[x] and only a **tiny fraction (0.4%)** of the U.S. municipal solid waste stream, so a ban or tax would have very little effect on litter and waste overall.[xi]
- In nearby Iowa, a statewide waste characterization study found plastic retail bags make up **only 0.3% of all waste** in the state.[xii] (Note: identified Missouri waste studies do not detail the percentage of plastic bags among their waste stream data.)
- A 2013 study examined budgets for litter collection and waste disposal in cities that banned plastic grocery bags and found **"no evidence of a reduction in costs attributable to reduced use of plastic bags"** in San Francisco, San Jose, and the City and County of Los Angeles, CA; Washington, D.C.; and Brownsville and Austin, TX.[xiii]

Bans and taxes burden local businesses…

- Bans and taxes on plastic bags force local businesses to comply with **additional government regulations** that mandate measuring, counting, and maintaining records, or face fines and penalties.[xiv]
- Retailers across the U.S. are reporting an increase in **shoplifting after their cities banned plastic bags**.[xv]
- A recent study found bans on plastic bags negatively impact retail sales and employment inside the ban area by **shifting business just outside the bag ban region**.[xvi]

Bans and taxes burden consumers…

- Most people **(82%) believe the government shouldn't decide** what types of bags are OK to use.[xvii]
- Reusable **bag owners forget their reusable bags** on nearly half of their grocery trips;[xviii] those people would be forced to pay the tax for a paper bag under this proposed ordinance each time they forget their bags.
- Food prices have risen each year, and are expected to jump **another 3% in 2015**,[xix] making **an extra tax** on grocery bills particularly hurtful to a lot of families struggling to make ends meet.

"Reusable" bags are not a healthy alternative…

- A 2011 study found **bacteria in 99% of reusable bags** tested, coliform bacteria in over 50% of the bags tested, and 8% contained E. coli; plus, **97% of people surveyed never wash their reusable bags**.[xx]
- Another study found bacteria build-up on reusable bags to be **300% higher than what is considered safe**,[xxi] and storing these bags in a hot trunk causes the **bacteria to grow 10 times faster**.[xxii]

Recycling is the better alternative to bans and taxes.

- Plastic bags are **recycled into new items** such as backyard decking, park benches and playground and construction equipment.
- Leading plastic bag recycler NOVOLEX has worked with retailers to establish roughly **30,000 plastic bag recycling drop-off points across the U.S.** over the past four years.
- In 2013 alone, NOVOLEX's "Bag-2-Bag" recycling program **processed more than 35 million pounds** of post-consumer plastic bags, sacks and wraps.
- In nearby Iowa, responsible recycling is promoted through the successful "**Build with Bags Grant Program**"—a cooperative effort among the Iowa Grocery Industry Association, Keep Iowa Beautiful, the Iowa Department of Natural Resources and *The Des Moines Register*, among others—that provides incentive for communities to develop their plastic bag recycling efforts and funds for parks and schools to purchase playground equipment made from recycled plastic bags. As their website states, this program "provides an effective alternative to plastic bag bans and the unintended consequences that often result from bans and other related regulatory efforts."[xxiii]

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[i] An analysis by Chemical Market Associates, Inc. in February 2011, debunked several common myths about plastic bags.
[ii] This figure was calculated by Boustead Consulting & Associates in their 2007 study entitled, "Life Cycle Assessment for Three Types of Grocery Bags—Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper." The resource allocation for different types of bags can be found on page 4 and shows that polyethylene grocery bags use less oil, and less potable water. In addition, polyethylene plastic grocery bags emit fewer global warming gases, less acid rain emissions, and less solid wastes.
[iii] U.K. Environmental Agency. "Life Cycle Assessment of Supermarket Carrier Bags." February 2011.
[iv] The lifecycle impacts of each carrier bag on global warming potential can be found on page 33.
[v] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[vi] Gathered from tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.
[vii] Joseph Greene, "Survey of Reusable and Single-use Grocery Bags in Northern California," California State University, Chico Research Foundation, August 31, 2010.
[viii] Edelman Berland: "Reusable Bag Study;" May 2014.
[ix] The Dec. 4, 2011 article in New York Magazine, "The Inconvenient Truth of Reusable Grocery Bags," also noted that 12% of the bags carry E. coli bacteria.
[x] The number was derived by Environmental Resources Planning LLC in their 2012 ER Planning Report Brief: Plastic Retail Bags in Litter, which randomly surveyed landfills across the U.S. and Canada from 1994-2012.
[xi] EPA Municipal Solid Waste Report: 2011; U.S. Environmental Protection Agency
[xii] Mid Atlantic Solid Waste Consultants, "2011 Iowa Statewide Waste Characterization Study;" September 2011.
[xiii] NCPA: Do Bans on Plastic Grocery Bags Save Cities Money?, December 2013.
[xiv] San Francisco Environment Code: Ch. 17 – Plastic Bag Reduction Ordinance, LA County Department of Public Works: About the Bag Ban FAQ, City of Portland City Code and Charter: Ordinance No. 18573, and District of Columbia Official Code Title 8 Subtitle A Chaper 1 Subchapter 1-A
[xv] Washington City Paper: Safeway: Bag Tax Causes Theft!, SeattlePI: Store Owners Say Plastic Bag Ban Causes More Shoplifting, and San Leandro Times: Plastic Bag Ban Spurs Shoplifting
[xvi] NCPA: A Survey on the Economic Effects of Los Angeles County's Plastic Bag Ban
[xvii] Reason-Rupe May 2013 Public Opinion Survey
[xviii] Edelman Berland: "Reusable Bag Study;" May 2014.
[xix] "Changes in food price indexes, 2010 through 2013;" USDA; January 2013.
[xx] "Assessment of the Potential for Cross Contamination of Food Products by Reusable Shopping Bags;" Charles Gerba; University of Arizona; August 2011.
[xxi] "A Microbiological Study of Reusable Bags and 'First or single-use' Plastic Bags," Environment and Plastics Industry Council; May 20, 2009.
[xxii] "Assessment of the Potential for Cross Contamination of Food Products by Reusable Shopping Bags," Charles Gerba; University of Arizona; August 2011.
[xxiii] Iowa Grocery Industry Association, "Build with Bags Program Overview;" 2014.

bag the ban.

the truth About Plastic Bags

Despite the facts, plastic bags have gotten a bad rap. Here's the truth about your plastic bags and why they are the right choice for the environment, your wallet and your community.

Litter and Composition

Plastic shopping bags made in the United States are made from natural gas.

0.5%

EPA data shows that plastic shopping bags make up only 0.5 percent of the U.S. municipal waste stream.

RECYCLE PLASTIC BAGS

Plastic bags are 100% reusable and recyclable. Recycle your plastic bags in the bins outside your local grocery store.

Thus, ban plastic bags won't reduce overall litter.

the truth... About Plastic Bags

Reusing and Recycling

100%

Plastic bags are 100 percent recyclable and reusable.

Nine Of TEN

Plastic bags are not "single-use". More than 9 out of 10 of Americans reuse their plastic bags at least once, for everything from storage to waste disposal to packing material.

1 BILLION

In 2011, an estimated 1 billion pounds of post-consumer plastic bags and films were collected for recycling in the United States. The same report showed that plastic bag and film recovery has increased by 55 percent since 2005.

30,000

There are over 30,000 locations for plastic bag recycling across the country!

Recycled plastic bags are used to make new plastic bags and products, such as backyard decks, playground equipment, plumbing pipes and fencing.

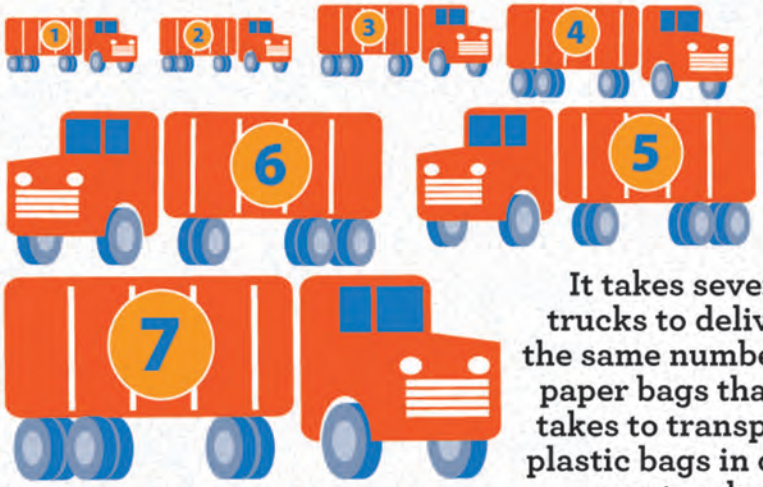
91-93%

91 to 93 percent of the U.S. population has access to nearby plastic bag recycling.

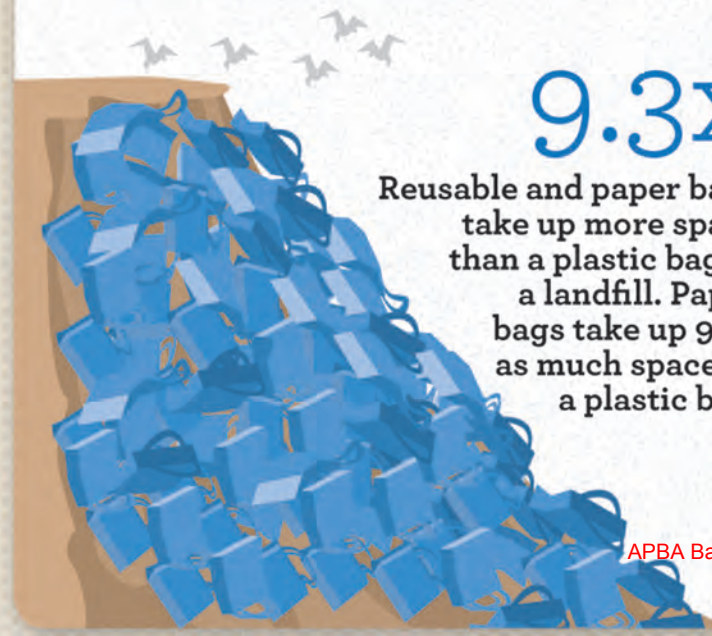
the truth... About Plastic Bags

The Real Green Bag

Plastic grocery bags require 70% less energy to manufacture than paper bags. The production of plastic bags consumes less than 4% of the water needed to make paper bags.



It takes seven trucks to deliver the same number of paper bags that it takes to transport plastic bags in only one truck.



9.3x

Reusable and paper bags take up more space than a plastic bag in a landfill. Paper bags take up 9.3x as much space as a plastic bag.

Plastic bags produce FEWER greenhouse gasses per use than paper bags or cotton bags.

the truth... About Plastic Bags

The Not So Green Reusable Bags

131x

A reusable cotton bag must be used no less than 131 times before having a "greener" environmental impact than a common plastic grocery bag!

MORE

Many reusable bags are made from heavier and thicker plastic or cotton which takes up more energy to produce. Reusable bags aren't recyclable.

The U.S. ITC reports that hundreds of millions of reusable bags are imported to the United States each year. It takes more energy to transport a reusable bag from overseas than it does to manufacture and transport an American-made plastic bag.

TRASHED

Reusable bag giveaways are environmentally costly when unwanted bags end up inthe dumpster, often after only one use.

the truth... About Plastic Bags

Bag Bans Hurt Businesses

-25%

Some stores have seen declines in business. One Solana Beach business saw a 25 percent decline in business following the implementation of the ban.

-$10,000

A Grocery Outlet Store told a Portland newspaper that they have lost over $10,000 to shoplifters using reusable bags.

300

One store found that 300 plastic grocery baskets have been stolen by customers since the bag ban was announced.

40%

Following Seattle's ban on plastic bags, nearly 40 percent of storeowners surveyed post-ban reported seeing their costs for carryout bags increase between 40 and 200 percent.

Sources:

http://clerk.seattle.gov/~public/meetingrecords/2013/luc20130115_3c.pdf

http://heartland.org/sites/default/files/threetypeofgrocerybags.pdf

http://marinedebris.noaa.gov/info/faqs.html#1

http://marinedebris.noaa.gov/info/patch.html

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http://www.mnn.com/food/healthy-eating/blogs/are-reusable-bags-doing-the-good-we-think-they-are

http://www.plasticsnews.com/article/20130225/NEWS/130229956/us-bag-and-film-recycling-surpasses-1-billion-pounds

http://www.seattlepi.com/local/article/Store-owners-say-plastic-bag-ban-causes-more-4314744.php

http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/scho0711buan-e-e.pdf

http://cascade.uoregon.edu/fall2012/expert/expert-article/

http://abcnews.go.com/Technology/story?id=97476&page=1#.UWRCTKJQGO0

http://www.rannv.org/documents/8/April%202008.pdf

Boustead Consulting & Associates: "Life Cycle Assessment for Three Types of Grocery Bags—Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper," 2007.

Tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission.

Plastic Retail Bags & Recycling

Presentation to City of Columbia, MO Energy & Environment Commission

January 27, 2015

Overview

- About the Plastic Retail Bag Industry
- About Plastic Retail Bags
- About Reuse and Recycling
- About “Reusable” Bags
- Facts and Avoiding Misguided Policies
- Economic Consequences of Bag Regulation
- Environmental Consequences of Bag Regulation
- Viable Alternatives to Bag Legislation
- Conclusion

About the Plastic Retail Bag Industry

380 Facilities

30,900 Jobs in U.S.
500 in Missouri

$1.3 Billion in
Annual Payroll

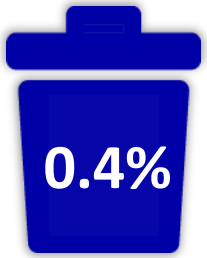
$268 Million in
Capital Expenditures

Provides **Manufacturing and Recycling Jobs**

Millions Invested in
Recycling Education

About Plastic Retail Bags

Most plastic retail bags are made from a **by-product of natural gas.**[1]



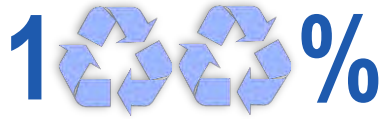
EPA data shows that plastic shopping bags make up just **0.4% of the U.S. municipal waste stream.**[2]

Plastic retail bags are 100% recyclable and can be recycled through retail take-back bins. [3]

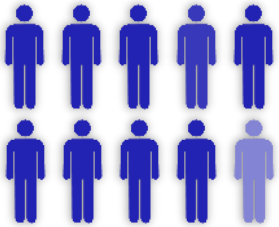
The Better Alternative: Plastic Retail Bags are

- ✓ **More resource-efficient**
- ✓ **Take up less landfill space**
- ✓ **Generate fewer greenhouse gas emissions**

About Reuse and Recycling



100% Recyclable and Reusable [4]



9 out of 10 People Reuse Plastic Retail Bags [5]

NOVOLEX has issued **30,000** Plastic Retail Bag Recycling Bins Across U.S. [6]

More than 90% of People Have Access to Plastic Retail Bag Recycling [7]

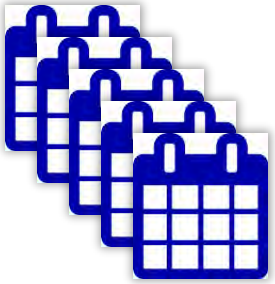
Recycled Plastic Retail Bags Are Used to Create **New Products** [8]

More than **1 Billion lbs. Collected** Annually [9]

About "Reusable" Bags

Standard "reusable" grocery bags are

- **Made from oil**
- **Non-recyclable**
- **500 million imported annually into the U.S. from overseas, primarily China**



We support consumer choice, but certain facts about alternatives are undeniable:

- You would have to use the same cotton bag for **5 years** before it is a better option for the environment than a plastic retail bag *used twice*. [10]

- Reusable bags **spread bacteria and disease** because they are rarely washed. In one study, coliform bacteria were found in 51% of the bags tested, with generic *E. coli* in 8%. [11]

Facts and Avoiding Misguided Policies

"Garbage-patch tale as flimsy as a single-use plastic bag,"
San Francisco Chronicle, July 2, 2014

Economic Consequences of Bag Regulation

Plastic Retail Bag Bans and Taxes:

- **Threaten thousands** of U.S. manufacturing and recycling jobs
- Incentivize consumers to **shop outside of the ban region**—a particular issue for shops located near border regions
- Increase **shop-lifting** [12]

- Create **bureaucratic red tape** for small business owners and more **administrative challenges**
- Present storage **challenges for small store owners** with limited space for bulkier bagging options
- **Impose a regressive tax** on low-income families.
- Reveal **no evidence of a reduction in costs** attributable to reduced use of plastic retail bags [13]

Environmental Consequences of Bag Regulation

Plastic Retail Bag Bans and Taxes:

- Force customers to alternatives that generate **more greenhouse gases**
- Can introduce **more plastic into landfills** after reusable bags and thicker plastic retail bags are discarded
- **Do not reduce litter or waste**—or the cost of litter and waste collection
- **Waste more water**, which is needed to manufacture alternatives to plastic retail bags
- **Distract local officials** from tackling serious environmental problems

Evaluating the Facts

"It's very unlikely that many animals are killed by plastic bags. The evidence show just the opposite. We are not going to solve the problem of waste by focusing on plastic bags… With larger mammals it's fishing gear that's the big problem. On a global basis plastic bags aren't an issue."

- David Santillo, marine biologist Greenpeace [14]

Evaluating the Facts

"Concluding that a bag fee will make a substantial dent in waste going to landfills is misguided."

- Chief of Sustainability, Denver, Colorado [15]

"There are much greater threats to the ocean than plastic bags and a bag ban in Rhode Island would not be meaningful."

- Woods Hole Oceanographic Institute [16]

"…this problem is solved not by bans on products but by proper disposal, recycling and education."

- Timothy Wright, Retired Captain, National Oceanic and Atmospheric Administration [17]

"Reusable shopping bags have proliferated so greatly that eco-activists are worried about surplus sacks winding up in landfills."

- New York Magazine [18]

Avoiding Misguided Policies

- **January 2015** – **Huntington Beach, CA,** City Council voted to repeal with their bag ban / fee ordinance
- **December 2014** – More than 800,000 citizens in **California** signed petitions to place a statewide bag ban law (approved by the Governor in Sept. 2014) on hold and the measure will now go to a public referendum in November 2016.
- **December 2014** – The mayor of **Baltimore, MD,** vetoed an ordinance
- **November 2014** – Citizens of **Mercer County, NJ,** reject referendum to place 5-cent fee on bags
- **October 2014** – **Fort Collins, CO,** voted 6-1 in favor of repealing a fee on bags
- **August 2014** – Texas Attorney General Greg Abbott issued a 5-page opinion article concluding that municipal plastic retail bag relegation is illegal under **Texas** state law
- **April 2014** – Local policymakers in **Johnson County, IA,** decided to pursue recycling strategies in lieu of ban
- **November 2013**– **Durango, CO,** voters overturn ban on plastic bags
- **March 2013** – **Eau Claire, WI,** adopts plan for sustainable bag use

Viable Alternatives to Bag Legislation

Nearly 90% of the country recycles plastic retail bags through initiatives such as **"A Bags Life"** which aims to:

- **Reduce** – Encourage reuse of plastic retail bags at the grocery store
- **Recycle** – Collect plastic retail bags from consumers after use
- **Reuse** – Promote reuse of plastic retail bags in a variety of ways such as a trash can liner, lunch bag and for their pets

www.ABagsLife.com

Bag-2-Bag® Recycling Program

Education Works

- With help, we can implement educational programs such as:
  - Retailer take-back programs and drop-off sites
  - School system initiatives (e.g., collection contests)
  - Online marketing and consumer education
  - Advertising campaigns

The Result

Smart Sustainability	Consumer Education	Increased Recycled Content
Litter Prevention	Landfill Diversion	Robust Recycling Infrastructure

Thank you.

Questions?

References

1 Analysis by Chemical Market Associates, Inc.; February, 2011
2 EPA Municipal Solid Waste Report: 2011
3 Analysis by Chemical Market Associates, Inc.; February, 2011
4 Analysis by Chemical Market Associates, Inc.; February, 2011
5 Reason-Rupe May 2013 Public Opinion Survey
6 Bag the Ban website
7 Bag the Ban website, "NYC Myth vs Facts"
8 Green Builder: "Deck Durability," April 2013
9 2011 National Postconsumer Plastic Bag & Film Recycling Report
10 U.K. Environmental Agency. "Life Cycle Assessment of Supermarket Carrier Bags." February 2011
11 International Association for Food Protection, "Assessment of the Potential for Cross-contamination of Food Products by Reusable Shopping Bags," 2011
12 Washington City Paper: Safeway: Bag Tax Causes Theft!, Seattle PI: Store Owners Say Plastic Bag Ban Causes More Shoplifting, and San Leandro Times: Plastic Bag Ban Spurs Shoplifting
13 NCPA: Do Bans on Plastic Grocery Bags Save Cities Money?, Dec. 2013
14 Las Cruces Sun-News, Julian Morris: Bans on plastic shopping bags don't help environment; Oct. 5, 2014
15 Denver, CO Office of Sustainability, September 2009
16 Testimony to Rhode Island Senate's Committee on Environment and Agriculture
17 *Providence Journal*, Timothy B. Wright: The oceans face much bigger problems than plastic bags; Feb. 2014
18 *New York Magazine*: Noelia De La Cruz, Tote Overload; Dec. 4, 2011

Appendix

NOVOLEX's Environmental Mission

Recycle if Clean & Dry
Store Drop-off
PLASTIC
BAG
how2recycle.info

To be a leading provider of environmentally-preferred, high-quality packaging solutions that create value and provide superior service for our customers by…

1. **Embracing Innovation That Reduces Waste**
   Product quality / source reduction / material innovation

2. **Promoting Recycling**
   Diversion from waste stream / increased use of recycled content

3. **Advocating Waste Reduction**
   Consumer education / supporting recycling programs

The Oil Myth

There is a claim repeated over and over again on the Internet that plastic bags are made out of oil and that 12 million barrels of oil are used annually in the United States to make the plastic bags that Americans use.

It is not true.

About 72.5% of plastic bags used in the United States are made in the United States. Plastic bags are made out of polyethylene. In the United States, ethylene is made of ethane which is a waste by-product obtained from natural gas refining. **Domestically produced plastic bags are not made out of oil.**

The ethane must be removed from the natural gas anyway to lower the BTU value of the natural gas to an acceptable level. Ethane burns too hot to be allowed to remain in high levels in natural gas that is delivered to homes and businesses for fuel. There is nothing else that the ethane can be used for except to make ethylene. If ethane is not used to make plastic, it will have to be burned off, resulting in greenhouse gas emissions.

Using the ethane to make plastic does not in any way reduce the amount of fuel available for transportation or power generation or increase our energy imports.

If we were to abolish plastic bags, it would have zero impact on our dependence on foreign oil.

The United States is an exporter of polyethylene. The United States imports virtually no polyethylene.

ER Planning Report Brief: Plastic Retail Bags in Litter

Environmental Resources Planning, LLC is the only U.S. firm focusing exclusively on litter-related field surveys and research studies. Our firm analyzes select components of the litter stream to better understand the dynamics underlying littering rates. Our staff led the design and project management of Keep America Beautiful's *2009 National Litter Survey*. That study found that plastic bags of all types comprise only 0.6 percent of litter. Percentages for categories such as plastic bags constituted such a minute portion of roadside litter that they were not specifically addressed in the *2009 National Litter Survey*.

National, state and city-wide litter surveys conducted with statistically-based scientific methodologies have established that plastic retail bags continue to comprise a small percentage of litter and the waste stream. Our staff have planned and conducted a number of recent litter surveys. These statistically-based studies were conducted with scientific rigor using trained professionals. Data and methodologies were explained in detail to allow review by interested parties and affected stakeholders.

Litter surveys showing unusually high rates of items such as plastic bags were typically conducted by volunteers rather than professional staff. These surveys tended to lack random sampling and statistical methodologies. At times, material categories were not consistent. While such studies have helped create the awareness of litter's impacts, their limitations have, in some cases, resulted in erroneous depictions of plastic retail bags as a component of the overall litter stream.

Retail Plastic Bags in Recent Litter Surveys

#	Survey	Year	Percent	#	Survey	Year	Percent
1	Toronto	2012	0.8%	11	Durham	2003	0.3%
2	Edmonton	2011	1.1%	12	Peel	2003	0.1%
3	Alberta	2009	0.0%	13	York	2003	0.4%
4	San Francisco	2008	0.6%	14	Toronto	2002	0.6%
5	San Jose	2008	0.4%	15	Florida	2002	0.5%
6	KAB	2008	0.6%	16	Florida	2001	0.7%
7	Alberta	2007	2.0%	17	Florida	1997	0.6%
8	San Francisco	2007	0.6%	18	Florida	1996	1.0%
9	Toronto	2006	0.1%	19	Florida	1995	0.7%
10	Toronto	2004	0.2%	20	Florida	1994	0.6%

As shown in the table above, recent science-based litter surveys using random sampling methodologies consistently found that retail plastic bags comprise a minor portion of litter, usually less than one percent.

Steven R. Stein

Steven R. Stein, Principal
Environmental Resources Planning, LLC

ER PLANNING

© Environmental Resources Planning, LLC

Executive Summary

As shown in the statistically based studies outlined in this report, plastic retail bags (*PR Bags)* comprise a very small portion of litter. National, statewide and citywide litter surveys that characterize litter using statistically based sampling methodologies have established and consistently show that *PR Bags* typically constitute less than 1.0 percent of litter.

Of that small portion, a significant number are unbranded and originate from sources such as small independent restaurants, retailers and convenience stores - the very stores often exempted from bag ordinances. A summary of *PR Bags* found in recent visible litter surveys is provided below:

- Texas: 1.95 percent in 2013 (ERP 2013)[1],
- Toronto (Canada): 0.80 percent in 2012 (ERP 2012),
- Northeast Litter Survey in 2010 (Maine, New Hampshire and Vermont) showed that plastic film, bags and wraps of all types constituted between 2.1 percent and 3.0 percent of all litter (ERP 2010),
- San Francisco: 0.64 percent in 2008 (HDR 2008),
- San Francisco: 0.59 percent in 2007 (HDR 2007),
- Florida: <1.0 percent in five litter surveys conducted 1994-2002 (FL 2002), and
- Nationally, all plastic bags (e.g., trash bags, retail bags, take-out food bags, bulk food bags, sandwich bags, etc.) comprise 0.60 percent of all litter based on Keep America Beautiful's 2009 National Litter Survey (KAB 2009).

With cities and counties focusing on litter issues, this study will help government officials understand the types of *PR Bags* found along city streets.

To accurately determine the types of plastic and paper bags found in litter, ER Planning conducted three separate citywide litter surveys between December 2011 and January 2012 in two California cities (Oakland and San Francisco) and in Washington, D.C. Each of these cities has taken a different approach to managing bag litter.

Field crews physically surveyed 180 sites (60 in each city), covering a total of 6.48 million square feet. In each city, field crews collected data for all types of plastic and paper bags including the source (e.g., convenience store) and brand label on each bag found in litter.

PR Bags from grocery stores, pharmacies, convenience stores and take-out food outlets were each categorized separately. *PR Bags* from all other retail stores such as Dollar Tree and Home Depot were categorized as *Other Retail Bags*.

Table ES-1 below shows the percentage of paper and plastic bags that were unbranded. San Francisco yielded the highest percentage of unbranded bags (82 percent).

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[1] *Unbranded or generically labeled PR Bags comprised 1.3 percent of this total, while branded bags (with store names) comprised 0.7 percent (ERP 2013).*

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Oakland (66 percent) and Washington, D.C. (67 percent) yielded a similar percentage of unbranded bags. Unbranded bags are used by independent stores and small vendors, but are not typically used by corporate stores, which tend to emboss their logos on the bags they use.

Table ES-1 – Unbranded Bags

City	All Paper Bags	All Plastic Bags	All Paper and All Plastic Bags
Oakland	49%	72%	66%
San Francisco	56%	96%	82%
Washington, D.C.	29%	73%	67%
All Cities	**48%**	**75%**	**68%**

PR Bags from all types of stores (i.e., convenience stores, take-out food establishments, grocery, pharmacy and other retail stores) comprised less than half of all bags and slightly more than half of plastic bags littered in Washington D.C. and Oakland, and much less in San Francisco.

Table ES-2 – *PR Bags* (Branded and Unbranded)

City	#	% of All Plastic Bags	% of All Paper & Plastic Bags
Oakland	149	57%	42%
San Francisco	9	18%	12%
Washington, D.C.	49	52%	44%
All Cities	**207**	**51%**	**38%**

Table ES-3 shows the percentage of *PR Bags* in each city that were unbranded. The highest percentage of unbranded *PR Bags* was observed in San Francisco (78 percent). Approximately half of the *PR Bags* littered in Oakland (50 percent) and Washington D.C. (49 percent) were unbranded.

The high percentage of unbranded *PR Bags* observed in all three cities suggests smaller, independent stores as the likely source. Cities that exempt independent stores from bag ordinances do so at their own peril, since more than half of all *PR Bags* surveyed in these three cities represented bags used by independent stores (unbranded).

Table ES-3 – Unbranded *PR Bags* in Litter

City	Unbranded *PR Bags*	All *PR Bags*	Percent Unbranded
Oakland	75	149	50%
San Francisco	7	9	78%
Washington, D.C.	24	49	49%
All Cities	**106**	**207**	**51%**

Similar to *PR Bags*, almost half of all paper bags observed in the three cities (48 percent) were unbranded as shown in Figure ES-4. This was particularly true in Oakland (49 percent) and San Francisco (56%), while slightly less than one-third of all littered paper bags in D.C. (29 percent) were unbranded.

Table ES-4 – Unbranded Paper Bags in Litter

City	Unbranded Paper Bags	All Paper Bags	Percent Unbranded
Oakland	44	90	49%
San Francisco	15	27	56%
Washington, D.C.	5	17	29%
All Cities	**64**	**134**	**48%**

Key Findings

- Most littered paper and plastic bags were unbranded in San Francisco (82 percent), D.C. (67 percent) and Oakland (66 percent) as shown in Table ES-1.
- A significant portion of *PR Bags* littered were unbranded in San Francisco (78 percent). About half of the *PR Bags* littered in Oakland (50 percent) and D.C. (49 percent) were unbranded (Table ES-3).
- *Other Retail Bags* (Home Depot, Dollar Tree, etc.) made up the largest portion of plastic bag litter (29 percent), followed by Bulk Food bags (21 percent) and Trash bags (19 percent).
- Field crews observed a number of unsecured trash setouts in all three cities. Such setouts have the potential to create litter of many types.
- Independent store sites had almost twice as many littered plastic bags as corporate store sites.
- San Francisco had the highest percentage of littered paper grocery bags (44 percent) compared to Oakland (2 percent) and D.C. (none).

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Table 7 (continued)

PLASTICS IN PRODUCTS IN MSW, 2011

(In thousands of tons, and percent of generation by resin)

Product Category	Generation (Thousand tons)	Recovery (Thousand tons)	Recovery (Percent of Gen.)	Discards (Thousand tons)
Plastic Containers & Packaging, cont.				
Other plastic containers				
HDPE	1,480	270	18.2%	1,210
PVC	30	Neg.		30
LDPE/LLDPE	30	Neg.		30
PP	240	20	8.3%	220
PS	90	Neg.		90
Subtotal Other Containers	**1,870**	**290**	**15.5%**	**1,580**
Bags, sacks, & wraps				
HDPE	700	60	8.6%	640
PVC	50			50
LDPE/LLDPE	2,350	370	15.7%	1,980
PP	660			660
PS	120			120
Subtotal Bags, Sacks, & Wraps	**3,880**	**430**	**11.1%**	**3,450**
Other Plastics Packaging‡				
PET	790	30	3.8%	760
HDPE	650	Neg.		650
PVC	320	Neg.		320
LDPE/LLDPE	1,140	Neg.		1,140
PLA	10	Neg.		10
PP	1,060	10	0.9%	1,050
PS	290	20	6.9%	270
Other resins	380	Neg.		380
Subtotal Other Packaging	**4,640**	**60**	**1.3%**	**4,580**
Total Plastics in Containers & Packaging, by resin				
PET	3,530	830	23.5%	2,700
HDPE	3,600	550	15.3%	3,050
PVC	400	Neg.		400
LDPE/LLDPE	3,520	370	10.5%	3,150
PLA	10	Neg.		10
PP	1,960	30	1.5%	1,930
PS	500	20	4.0%	480
Other resins	380	Neg.		380
Total Plastics in Cont. & Packaging	**13,900**	**1,800**	**12.9%**	**12,100**
Total Plastics in MSW, by resin				
PET	4,280	830	19.4%	3,450
HDPE	5,590	550	9.8%	5,040
PVC	900			900
LDPE/LLDPE	7,520	370	4.9%	7,150
PLA	50			50
PP	7,180	30	0.4%	7,150
PS	2,170	20	0.9%	2,150
Other resins	4,150	850	20.5%	3,300
Total Plastics in MSW	**31,840**	**2,650**	**8.3%**	**29,190**

HDPE = High density polyethylene
LDPE = Low density polyethylene
LLDPE = Linear low density polyethylene
PET = Polyethylene terephthalate
PLA = Polylactide
PP = Polypropylene
PS = Polystyrene
PVC = Polyvinyl chloride

‡ Other plastic packaging includes coatings, closures, lids, PET cups, caps, clamshells, egg cartons, produce baskets, trays, shapes, loose fill, etc.
PP caps and lids recovered with PET bottles and jars are included in the recovery estimate for PET bottles and jars.
Other resins include commingled/undefined plastic packaging recovery.
Some detail of recovery by resin omitted due to lack of data.

Table 7 (continued)

PLASTICS IN PRODUCTS IN MSW, 2012

(In thousands of tons, and percent of generation by resin)

Product Category	Generation (Thousand tons)	Recovery (Thousand tons)	Recovery (Percent of Gen.)	Discards (Thousand tons)
Plastic Containers & Packaging, cont.				
Other plastic containers				
HDPE	1,410	290	20.6%	1,120
PVC	40	Neg.		40
LDPE/LLDPE	40	Neg.		40
PP	280	20	7.1%	260
PS	80	Neg.		80
Subtotal Other Containers	**1,850**	**310**	**16.8%**	**1,540**
Bags, sacks, & wraps				
HDPE	700	50	7.1%	650
PVC	50			50
LDPE/LLDPE	2,280	390	17.1%	1,890
PP	640			640
PS	140			140
Subtotal Bags, Sacks, & Wraps	**3,810**	**440**	**11.5%**	**3,370**
Other Plastics Packaging‡				
PET	840	20	2.4%	820
HDPE	670	10	1.5%	660
PVC	330	Neg.		330
LDPE/LLDPE	1,070	Neg.		1,070
PLA	10	Neg.		10
PP	960	20	2.1%	940
PS	300	20	6.7%	280
Other resins	370	Neg.		370
Subtotal Other Packaging	**4,550**	**70**	**1.5%**	**4,480**
Total Plastics in Containers & Packaging, by resin				
PET	3,630	880	24.2%	2,750
HDPE	3,560	570	16.0%	2,990
PVC	420	Neg.		420
LDPE/LLDPE	3,390	390	11.5%	3,000
PLA	10	Neg.		10
PP	1,880	40	2.1%	1,840
PS	520	20	3.8%	500
Other resins	370	Neg.		370
Total Plastics in Cont. & Packaging	**13,780**	**1,900**	**13.8%**	**11,880**
Total Plastics in MSW, by resin				
PET	4,520	880	19.5%	3,640
HDPE	5,530	570	10.3%	4,960
PVC	870	Neg.		870
LDPE/LLDPE	7,350	390	5.3%	6,960
PLA	50	Neg.		50
PP	7,190	40	0.6%	7,150
PS	2,240	20	0.9%	2,220
Other resins	4,000	900	22.5%	3,100
Total Plastics in MSW	**31,750**	**2,800**	**8.8%**	**28,950**

HDPE = High density polyethylene
LDPE = Low density polyethylene
LLDPE = Linear low density polyethylene
PET = Polyethylene terephthalate
PP = Polypropylene
PLA = Polylactide
PS = Polystyrene
PVC = Polyvinyl chloride

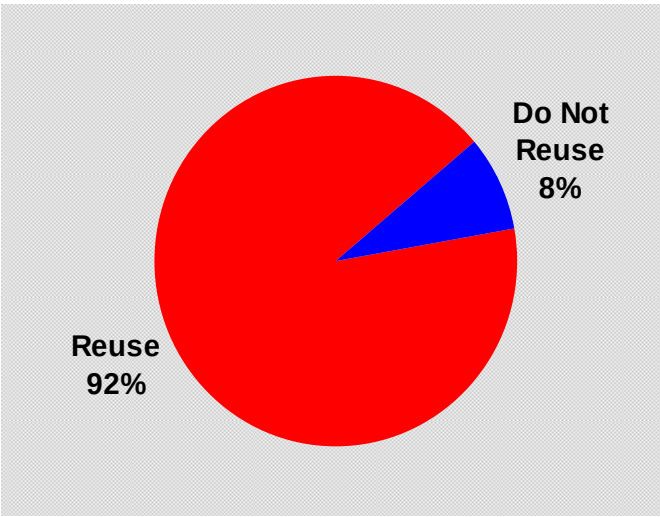
‡ Other plastic packaging includes coatings, closures, lids, PET cups, caps, clamshells, egg cartons, produce baskets, trays, shapes, loose fill, etc.
PP caps and lids recovered with PET bottles and jars are included in the recovery estimate for PET bottles and jars.
Other resins include commingled/undefined plastic packaging recovery.
Some detail of recovery by resin omitted due to lack of data.

According to a nationally representative survey conducted by APCO, a third-party research firm, over 92 percent of American consumers reuse their plastic bags.

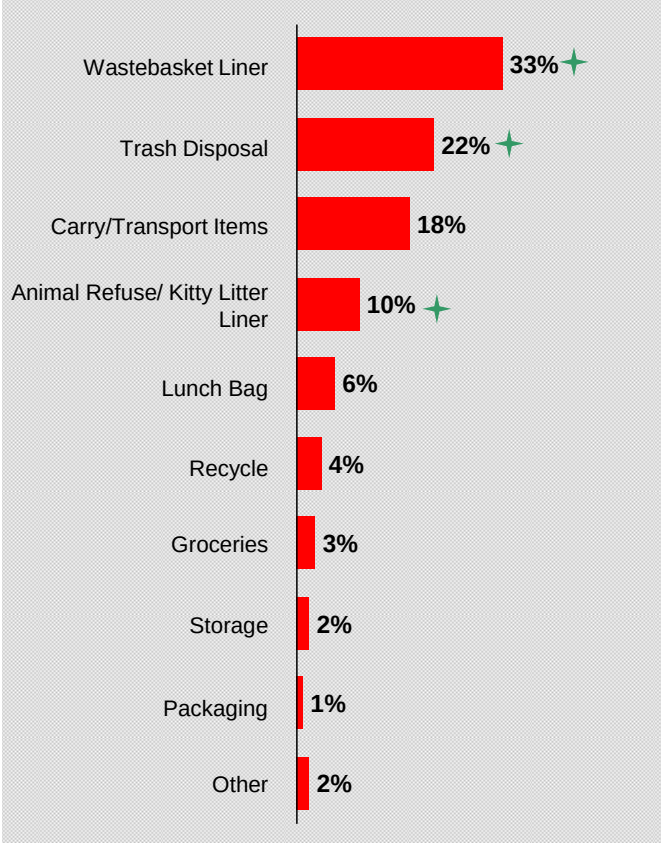
Near Universal Reuse of Plastic Shopping Bags…

- The reuse of plastic shopping bags is nearly universal, with about two thirds (65%) of respondents using them to contain trash

Reuse of Plastic Shopping Bags



Uses for Plastic Shopping Bags



Q5. Do you or does anyone in your household ever reuse plastic shopping bags?
Q6. [IF Q5 = YES]: What is the primary purpose you reuse plastic bags for? (n=462)

APCO insight

9

Methodology

- This APCO Insight study is an assessments of attitudes and awareness associated with the recycling of plastic shopping bags as well as a quantitative evaluation of two creative executions of plastic shopping bag recycling logos/posters. It was conducted among 502 randomly selected consumers who are responsible for household grocery shopping at least "some of the time".

Survey Population:	General Adult Public
Sample Design:	Screened Random Sample
Eligibility Criteria:	Responsible for some household grocery shopping. Marketing, PR, opinion research or media exclusion.
Sample Size:	n = 502
Margin of Error:	± 4.5 % (at 95% confidence level)
Data Collection Methodology:	Interactive TV panel
Field Dates:	03/06/07 – 03/15/06

2

APCO insight

December 10, 2013

Re: Product Declaration - Formolene® Polyethylene Resins

Dear Valued Customer**:**

Formolene® polyethylene resins are manufactured in Formosa's Point Comfort, Texas facility. Greater than 99 percent of all materials used in the manufacture of these resins are sourced from domestic suppliers. NAFTA Certificates of Origin are available upon request.

Please be advised that, Formosa Plastics Corporation does not intentionally add any of the materials listed below during the manufacture of *Formolene*® polyethylene resins. Furthermore, based upon our knowledge of the manufacturing process and information provided by our raw material suppliers, we would not expect these substances to be present in our final product. Analysis for these chemicals is not routinely performed. Please note that, as the supplier of the raw material, Formosa cannot make any claim with regard to extruded or molded products or components made from these resins.

Food Allergens
Formolene® polyethylene resins do not contain allergenic ingredients such as tree nuts, peanut products, soybean products, egg products, milk products, fish, shell fish, wheat products, sunflower seeds, poppy seeds, sesame seeds, or sulfites.

Genetically Modified Organisms
Genetically modified organisms are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

Latex
To the best of our knowledge, the materials used, manufactured, and processed for *Formolene*® polyethylene resins do not contain natural latex rubber or dry natural rubber.

Ozone Depleting Substances
Materials listed in the Clean Air Act Amendments of 1990 (Class I CFC's, Class II HCFC's and the solvents, carbon tetrachloride and 1,1,1-trichloroethane) are not used in the manufacture of *Formolene*® polyethylene resins.

Heavy Metals
These resins comply with the package requirements for heavy metals as set forth by the Coalition of Northeast Governors (CONEG), the California Toxics in Packaging Act and Article 11 of EU Directive 94/62/EC. Lead, cadmium, mercury, and hexavalent chromium are not used in the formulation or manufacture of *Formolene*® polyethylene resins. The incidental (non-intentionally added) concentrations of these heavy metals does not exceed 100 parts per million by weight.

EU Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU
These resins meet the safety and regulatory requirements for certification under this standard. Formosa Plastics Corporation does not intentionally add lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB), or polybrominated diphenyl ethers (PBDE) during the manufacture of *Formolene*® polyethylene resins.

California Proposition 65
To the best of our knowledge, *Formolene*® polyethylene resins do not contain any of the chemical substances listed by the State of California in Proposition 65.

Pentabromodiphenyl Ether & Octabromodiphenyl Ether
Pentabromodiphenyl Ether & Octabromodiphenyl Ether are not used in the formulation or manufacture of *Formolene*® polyethylene resins. To the best of our knowledge, this product is in compliance with EU Directives 2003/11/EC and 76/769/EEC.

Phthalates and Bisphenol A (BPA)
Phthalates (DEHP, DBP, BBP, DINP, DIDP, DNOP) or Bisphenol A are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

Glycidyl Ethers (BADGE, BFDGE, NOGE)
Bisphenol A Diglycicyl ether (BADGE), Bisphenol F diglycidyl ether (BFDGE) and Novolac glycidyl ether (NOGE) are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

Butylated Hydroxytoluene (BHT) & Butylated Hyroxyanisole (BHA)
Butylated Hydroxytoluene (BHT) & Butylated Hyroxyanisole (BHA) are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

Organotin Compounds
Organotin compounds are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

PFOA, PFOS, DMF
Perfluorooctanoic Acid (PFOA), Perfluorooctanesulfonic Acid (PFOS) and Dimethyl Fumarate (DMF) are not used in the formulation or manufacture of *Formolene*® polyethylene resins.

Some *Formolene*® polyethylene resins may contain the following ingredients:

Animal Derived Materials
Glycerol Monostearate and Calcium Stearate are used to manufacture some resin grades and these are known to contain substances derived from animals. However, these resin grades meet both European Union and U.S. Food & Drug Administration standards for being free from contamination with Transmissible Spongiform Encephalopathy (TSE) agents. Also, to the best of our knowledge, all materials used in cleaning and validation

are similarly compliant. If you require a resin grade to be completely free of animal derived materials, please contact your Sales Representative. Many grades can be made with alternate materials upon request.

As always, *You expect more. And Formosa delivers*®. If you have questions, please contact your Sales Representative.

Kind Regards,

Fred W. Neske, CIH, CSP, CFPS
Manager – Corporate Safety & Industrial Hygiene

IMPORTANT NOTICE:
The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Omya Inc.

61 Main Street
Proctor, Vermont 05765
Tel: (802) 459-3311 Fax: (802) 459-3428
www.omya-na.com

Product Data Sheet

OMYACARB® FT - FL

Production Plant	Florence, VT/USA	
Short Description of Product	A high purity, fine, wet ground, surface-treated natural calcium carbonate.	
Chemical Analysis of Raw Material	Calcium Carbonate, percent*	98
	Magnesium Carbonate, percent*	1
	Treatment, percent	1.1
Typical Properties	Y Brightness	95
	Retained on 325 mesh, ppm*	7
	Moisture Loss at 110°C, percent	0.04
	Hegman	5.5
	Specific Gravity	2.7
	Mean Refractive Index	1.57
	Pounds Pigment/Solid Gallon	22.6
General Product Data	Median Diameter, microns*	1.4
	Percent Finer than 2 Microns*	60
	Percent Finer than 1 Micron*	40
	Specific Surface Area, m^2/g	5.5

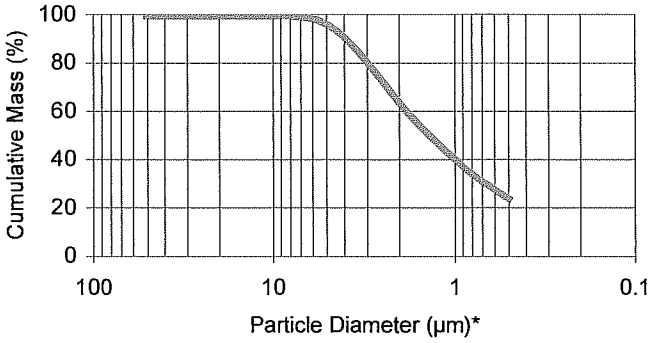
* Measured on untreated pigment

Applications

Plastics applications in rigid PVC, flexible PVC, and polyolefins. Paint applications in solvent based and powder coatings.

Regulatory Approvals

This product may be used as an indirect food additive in food packaging applications under 21 CFR (FDA) Sections 174.5, 175.300, and 178.3297. It does not quality as a substance permitted for direct addition to human food or animal feed.



Other than a representation that the products sold by Omya Inc. will, on the average, meet the criteria set forth above, which is and shall be subject to confirmation by the purchaser prior to the use of the products by purchaser, Omya Inc. makes no warranty, guarantee, or representation of any kind, express or implied, and specifically EXCLUDES without limitation any and all WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND MAKES NO WARRANTIES BEYOND THOSE CONTAINED HEREIN. If any of the products in any shipment do not conform to the representation contained herein, purchaser's sole remedy will be to provide written notice to Omya Inc. of such non-conforming product. Such notice shall be given within fourteen (14) days of product delivery to purchaser and Omya Inc., at its option if it determines the product does not conform, either promptly will replace the non-conforming product or will refund the purchase price paid for the non-conforming product. In no event shall Omya Inc. be liable for special, indirect or consequential damages nor shall Omya Inc. be liable for damages of any kind arising from the presence or use of products delivered, whether used singly or in combination with other substances. Omya Inc. disclaims any liability arising from the use of the products, which may infringe upon patents applied for, pending, or existing. No claim of any kind shall be greater than nor shall Omya Inc. in any event be liable for an amount in excess of the purchase price paid for the products in respect of which such claim is made.

valid: 8/16/2004
6-prodinfo>: USFL_PI_40210
version : 5

AMERICAN INKS AND COATINGS

(503) 284-1822 phone
(503) 284-1734 fax

Perseco Ink Compliance Certification

March 24, 2014

We certify that all materials sold in the United States to **Hilex Poly – All locations** for the manufacturing of packages and packaging components, comply with the following requirements for Perseco-McDonalds:

- 16 CFR, Section 1303 (Ban of Lead-Containing Paint)
- ASTM F963-96a:

Antimony	< 60 ppm
Arsenic	< 25 ppm
Barium	< 250 ppm
Cadmium	< 50 ppm
Chromium	< 25 ppm
Lead	< 90 ppm
Mercury	< 25 ppm
Selenium	< 100 ppm

- Inks will resist rub off under normal usage in the presence of moisture, carbonated beverage, grease, ketchup, vinegar, and mayonnaise following ASTM D5264.

Please let me know if you have any questions or if I can be of further assistance with this or any other regulatory issue you may have. Thank you.

Tony Ellis
EHS/Regulatory Manager

AMERICAN INKS AND COATINGS

(503) 284-1822 phone
(503) 284-1734 fax

CONEG Certification
(Reduction of Toxins in Packaging)

March 24, 2014

We certify that all materials sold to **Hilex Poly – All locations** for the manufacturing of packages and packaging components comply in all respects to the package requirements for heavy metals of the CONEG Model legislation; namely, that the sum of the concentration levels of lead, cadmium, mercury, and hexavalent chromium present in any package or package component shall not exceed 100 parts per million by weight as incidental contaminants (effective January 1, 1994).

American Inks does not use these items in our manufacturing process nor are they intentionally added to any of our products. We will maintain adequate documentation of this certification, including that of any exemptions permitted by legislation. Documentation will be made available for inspection.

Tony Ellis
EHS/Regulatory Manager

colortech
A PPM COMPANY

Mr.Glenn Strickland, Area Quality/Material Compliance Manager
Hilex Poly Co. LLC
2800 Sprouse Drive
Richmond Virginia 23231

CONEG CERTIFICATION AND 94/62/EEC COMPLIANCE REGARDING HEAVY METALS

Colortech Incorporated certifies that color and additive concentrate products, supplied to **Hilex Poly Co. LLC** comply in all respects to the package requirements for heavy metals as defined by the Coalition of Northeastern Governors Model Toxics Legislation (CONEG) and the European Parliament and Council Directive 94/62/EEC of 20 December 1994 on Packaging and Packaging Waste regarding heavy metal content.

Concentrate products supplied to **Hilex Poly Co. LLC** by Colortech are formulated with components, which do not incorporate lead, mercury, cadmium or hexavalent chromium as a key chemical constituent. To the best of our knowledge, the summation of the trace concentration levels of lead, mercury, cadmium and hexavalent chromium in these products do not exceed 100 parts per million (ppm) by weight. These assurances are based on typical trace heavy metal analyses provided by our raw material suppliers.

This certification applies to the following concentrate products currently supplied to **Hilex Poly Co. LLC:**

11932-18 Cover White
12557-18 Yellow
13271-18 HMF Orange
16976-18 Blue
18690-18 Kraft
19516-00 Gray
19554-73 Gray
20005-00 Black
57232-18 Green
58165-18 Kraft

In addition, Colortech agrees to maintain adequate documentation in support of this certification and to make it available for inspection on request.

This certification is subject to our normal terms and conditions of sale.

Signature: June 9, 2014

Beth McGhee - Folsom

Certified By: Beth McGhee-Folsom
Title: Manager of Quality Systems & Regulatory Affairs

Colortech Inc.,5712 Commerce Blvd, Morristown, TN 37814 Tel: (800) 248-2029 Fax: (423) 587-0841

January 17, 2014

Re: Formolene® Linear Low Density Polyethylene Products Approved for Food Contact Applications by the U.S. Food & Drug Administration

Dear Valued Customer:

The following Formolene® products are approved by the U.S. Food & Drug Administration (FDA) for use in food contact applications. Please note that some grades have limitations on the Conditions of Use as described in Table 2 of 21 CFR 176.170(c). These Conditions of Use are for all food types unless otherwise noted.

Linear Low Density Polyethylene - Hexene Copolymer

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
L62009A	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62009H	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62009E2	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62009X	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62022B	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62030B	(a)(3)(i)(a)(2)	(c)(3.1a)	C-H	
L62608PA	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L62608PE	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L63550U/4	(a)(3)(i)(a)(1)	(c)(3.2a)	C-G	The finished food article must have a volume of at least 18.9 liters (5 gallons). Maximum thickness limitation of 0.003 inch in contact with food types V and VII-A.
L63565	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L63565U4	(a)(3)(i)(a)(2)	(c)(3.2a)	C-G	The finished food article must have a volume of at least 18.9 liters (5 gallons). Maximum thickness limitation of 0.003 inch in contact with food types V and VII-A.
L63568	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L63568U	(a)(3)(i)(a)(2)	(c)(3.2a)	C-G	The finished food article must have a volume of at least 18.9 liters (5 gallons). Maximum thickness limitation of 0.003 inch in contact with food types V and VII-A.
L63935U/4	(a)(3)(i)(a)(1)	(c)(3.2a)	C-G	The finished food article must have a volume of at least 18.9 liters (5 gallons). Maximum thickness limitation of 0.003 inch in contact with food types V and VII-A.
L64220U/4	(a)(3)(i)(a)(1)	(c)(3.2a)	C-G	The finished food article must have a volume of at least 18.9 liters (5 gallons)

Linear Low Density Polyethylene - Butene Copolymer

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
L42009A	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009B	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009E2	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009F	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009H	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009M	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42009PE	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42022B	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	
L42022E2	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	

Linear Low Density Polyethylene Injection Molding Grades

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
LH5204	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
LH5206	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
LH5314	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
LH5320	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
LH6008	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Homopolymer
LH6008U	(a)(3)(i)(c)(1)	(c)(3.2a)	B-H	When used with food types III, IV-A, V, VII-A, and IX, finished article must have a volume of at least 18.9 liters (5 gallons)

FORMAX™ High Strength LLDPE – Hexene Copolymer

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
L71709A	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L71709E	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L71709H	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L17109S	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	

FORMAX™ High Performance LLDPE – Hexene Copolymer

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
L91507A	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L91507E2	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L91507E3	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	
L91507H	(a)(3)(i)(a)(2)	(c)(3.2a)	B-H	

In all food applications, we recommend that the packager or manufacturer of the final product conduct appropriate tests to evaluate the possible contribution of the container to the aroma, taste and color of the food product.

As always, *You expect more. And Formosa delivers®*. If you have questions regarding FDA compliance for any Formosa Plastics Corporation product, please contact your Sales Representative.

Kind Regards,

Fred W. Neske, CIH, CSP, CFPS
Manager – Corporate Safety & Industrial Hygiene

IMPORTANT NOTICE:
The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

January 17, 2014

Re: Formolene® High Density Polyethylene Products Approved for Food Contact Applications by the U.S. Food & Drug Administration

Dear Valued Customer:

The following Formolene® products are approved by the U.S. Food & Drug Administration (FDA) for use in food contact applications. Please note that some grades have limitations on the Conditions of Use as described in Table 2 of 21 CFR 176.170(c). These Conditions of Use are for all food types unless otherwise noted.

Resin	FDA Clearance 21 CFR 177.1520	Specifications 21 CFR 177.1520	Conditions of Use 21 CFR 176.170(c)	Comments
HB6007	(a)(2)(i)	(c)(2.2)	A-H	Homopolymer
HB4903	(a)(3)(i)(a)(1)	(c)(3.2a)	B-H	Hexene Copolymer
HB5202B	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HB5202B2	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HB5502B	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HB5502B4	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HB5502F	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HB5502S1	(a)(3)(i)(a)(1)	(c)(3.2a)	B-H	Hexene Copolymer
HB5502Z	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HF3728	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HL3812	(a)(3)(i)(a)(1)	(c)(3.2a)	C-G	Finished articles must have a volume of at least 18.9 liters (5 gallons).
HF4728	(a)(3)(i)(a)(1)	(c)(3.2a)	A-H	Hexene Copolymer
HL5010	(a)(3)(i)(a)(1)	(c)(3.2a)	B-H	Hexene Copolymer
E790T1	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E791T1	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E922	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E924	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E924F	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E924H	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E924ND	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E925	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E927	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer
E927ND	(a)(3)(i)(c)(1)	(c)(3.2a)	A-H	Butene Copolymer

In all food applications, we recommend that the packager or manufacturer of the final product conduct appropriate tests to evaluate the possible contribution of the container to the aroma, taste and color of the food product.

As always, *You expect more. And Formosa delivers*®. If you have questions regarding FDA compliance for any Formosa Plastics Corporation product, please contact your Sales Representative.

Kind Regards,

Fred W. Neske, CIH, CSP, CFPS
Manager – Corporate Safety & Industrial Hygiene
Formosa Plastics Corporation, U.S.A.

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2011 IOWA STATEWIDE WASTE CHARACTERIZATION STUDY

Prepared for:

IOWA DEPARTMENT OF NATURAL RESOURCES

Final Report

September 14, 2011

MSWCONSULTANTS

MID ATLANTIC SOLID WASTE CONSULTANTS
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in conjunction with

CASCADIA CONSULTING GROUP

Foth

Foth Infrastructure & Environment

ACKNOWLEDGEMENTS

The Project Team of MidAtlantic Solid Waste Consultants (MSW Consultants), Cascadia Consulting Group, and Foth Infrastructure & Environment, LLC (Foth) would like to thank the management and operations staff of the following landfills and transfer stations that participated in this project by supplying detailed data about their incoming waste streams, and subsequently hosting sampling and sorting activities at their disposal facilities:

- Des Moines County Regional Solid Waste Commission,
- Ottumwa-Wapello Solid Waste Commission,
- South Central Iowa Solid Waste Agency,
- Poweshiek Transfer Station,
- Metro Waste Authority,
- Carroll County Solid Waste Management Commission,
- Crawford County Area Solid Waste Agency,
- Shelby County Solid Waste Agency,
- Northwest Iowa Area Solid Waste Agency,
- Dubuque Metropolitan Area Solid Waste Agency,
- Iowa City Landfill & Recycling Center, and
- Waste Commission of Scott County.

so-called Mixed Waste results were provided as if Mixed Waste was a separate generator sector. A number of steps were taken in this study update to reduce reliance on loads of Mixed Waste, and also to obtain grab samples from Mixed loads that could be identified as Residential or ICI. Details are provided in the body of the report.

ES 2. OVERVIEW OF RESULTS

Figure ES-1 shows the breakdown of major material groups for the aggregate Iowa statewide MSW stream (top pie chart); the Residential and ICI waste stream pie charts are directly underneath so that readers can quickly compare the contribution of various material groups. Results are shown in estimated percent composition disposed.

Figure ES-1 2011 Iowa Statewide MSW Composition

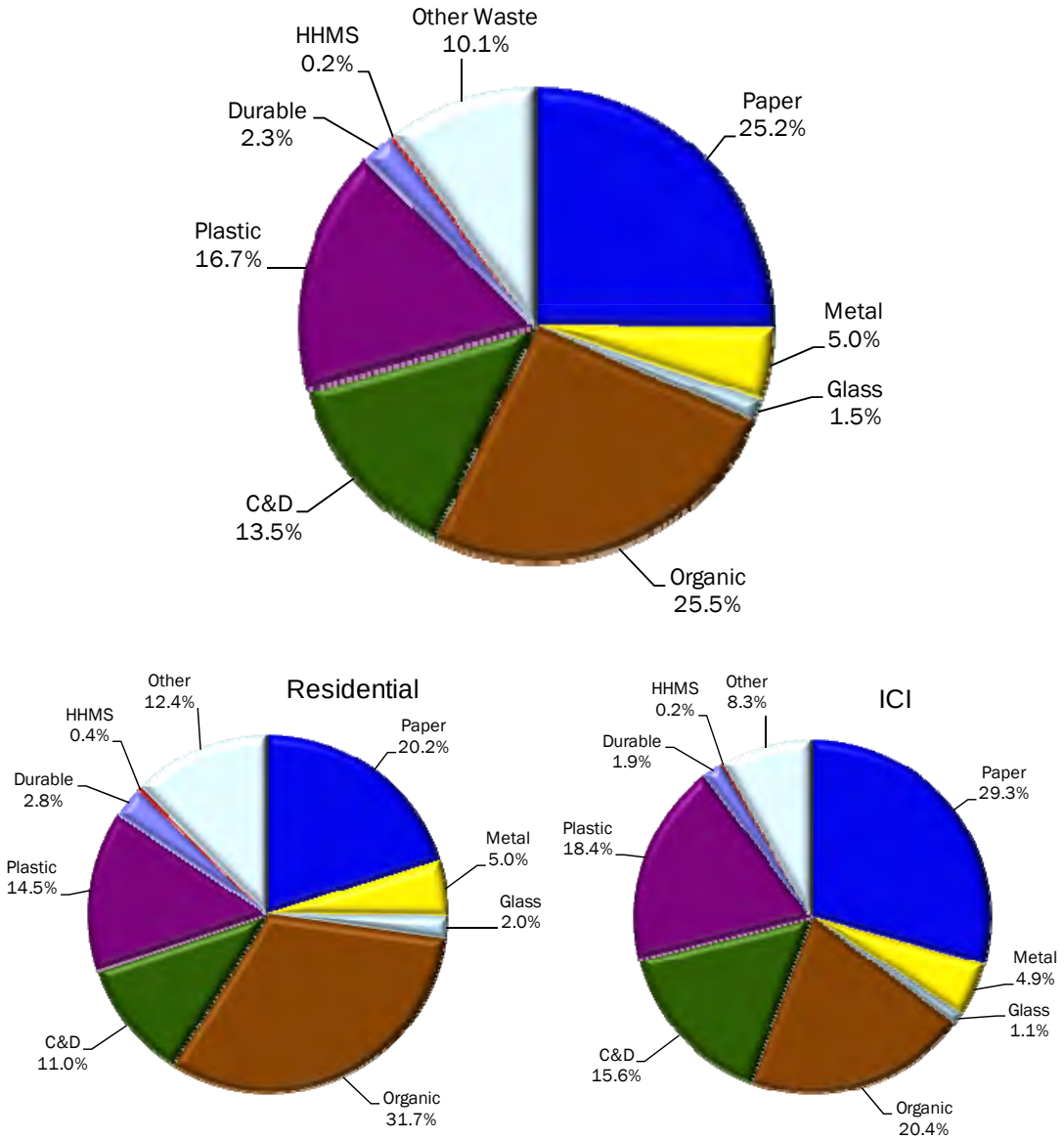


Table ES-1 shows the five most prevalent individual material categories disposed by Statewide Aggregate, Residential, and ICI generating sectors. The percent composition is shown in the table.

Table ES-1 Top 5 Most Prevalent Material Categories

Rank	Statewide MSW	Residential Waste	ICI Waste
1	Food Waste - 13.3%	Food Waste - 13.6%	OCC and Kraft Paper - 13.2%
2	OCC and Kraft Paper - 9.0%	Yard Waste - 7.8%	Food Waste - 13.1%
3	Other Film Plastic - 6.6%	Textiles and Leather - 5.9%	Other Plastic Products - 8.0%
4	Compostable Paper - 6.1%	Other Film Plastic - 5.8%	Wood – Untreated - 7.9%
5	Untreated Wood - 5.4%	Other Plastic Products - 5.2%	Other Film Plastic - 7.3%
Total	40.4%	38.3%	49.5%

Table ES-2 shown on the following page provides a detailed snapshot of the statewide MSW stream. Full results for statewide aggregate MSW, as well as for individual generator sectors and for Solid Waste, are contained in the full report.

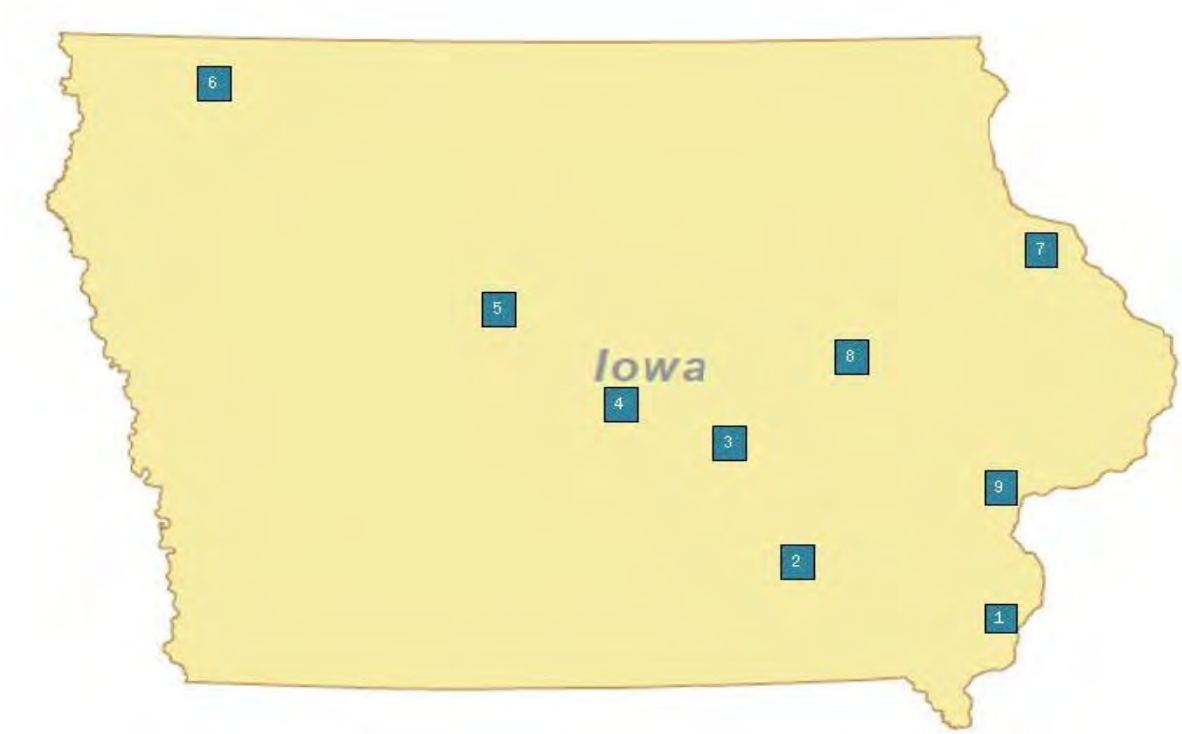
Table ES-2 Statewide MSW Detailed Composition Results

Material	Estimated Percent	Lower Bound	Upper Bound	Material	Estimated Percent	Lower Bound	Upper Bound
Paper	**25.2%**	**23.5% -**	**26.9%**	**Plastic**	**16.7%**	**15.0% -**	**18.3%**
Compostable Paper	6.1%	5.4% -	6.8%	#1 PET IA Deposit Beverage Containers	0.1%	0.1% -	0.2%
High Grade Office Paper	0.9%	0.6% -	1.2%	#1 PET Beverage Containers	0.5%	0.4% -	0.5%
Magazines/Catalogs	1.2%	1.0% -	1.4%	#2 HDPE Containers Natural	0.3%	0.2% -	0.3%
Mixed Recyclable Paper	3.7%	3.4% -	4.0%	#2 HDPE Containers Colored	0.4%	0.3% -	0.4%
Newsprint	1.6%	1.4% -	1.9%	Retail Shopping Bags	0.3%	0.2% -	0.3%
Non-Recyclable Paper	2.4%	1.8% -	2.9%	Other Film Plastic	6.4%	5.6% -	7.1%
OCC and Kraft Paper	9.0%	7.5% -	10.5%	Other #1 PET Containers	0.3%	0.2% -	0.3%
Aseptic/Gable Top Containers	0.2%	0.2% -	0.3%	Plastic Containers #3-#7	0.7%	0.6% -	0.7%
				Other plastic Containers	1.1%	0.1% -	2.0%
Metal	**5.0%**	**3.7% -**	**6.2%**	Expanded Polystyrene	1.5%	0.3% -	2.7%
Aluminum Beverage Containers	0.0%	0.0% -	0.1%	Other Plastic Products	5.3%	4.3% -	6.3%
Aluminum IA Deposit Beverage Containers	0.2%	0.2% -	0.2%				
Ferrous Food and Beverage Containers	0.7%	0.5% -	0.9%	**Durable**	**2.3%**	**1.5% -**	**3.1%**
Other Aluminum Containers	0.3%	0.2% -	0.4%	Cell Phones and Chargers	0.0%	0.0% -	0.0%
Other Ferrous Scrap Metals	2.2%	1.7% -	2.6%	Central Processing Units/Peripherals	0.4%	0.1% -	0.6%
Other Non-Ferrous Scrap Metals	1.6%	0.4% -	2.7%	Computer Monitors/T.V.s	0.3%	0.1% -	0.5%
				Electrical and Household Appliances	1.6%	0.9% -	2.3%
Glass	**1.5%**	**1.3% -**	**1.7%**				
Blue Glass	0.0%	0.0% -	0.0%	**HHMS**	**0.2%**	**0.2% -**	**0.3%**
Brown Glass	0.1%	0.1% -	0.2%	Automotive Products	0.1%	0.0% -	0.2%
Clear Glass	0.5%	0.5% -	0.6%	Household Cleaners	0.0%	0.0% -	0.0%
Glass Deposit Containers	0.2%	0.2% -	0.3%	Lead Acid Batteries	0.0%	0.0% -	0.0%
Green Glass	0.1%	0.0% -	0.1%	Mercury Container Products	0.0%	0.0% -	0.0%
Other Mixed Cullet	0.6%	0.4% -	0.7%	Other Batteries	0.1%	0.0% -	0.1%
				Paints and Solvents	0.0%	0.0% -	0.1%
Organic	**25.5%**	**23.8% -**	**27.1%**	Pesticides, Herbicides, Fungicides	0.0%	0.0% -	0.0%
Yard Waste	4.6%	3.9% -	5.2%	Sharps	0.0%	0.0% -	0.0%
Food Waste	13.3%	11.9% -	14.8%	Prescription Medications	0.0%	0.0% -	0.0%
Textiles and Leather	4.1%	3.5% -	4.7%				
Diapers	2.5%	2.1% -	2.8%	**Other**	**10.1%**	**9.2% -**	**11.1%**
Rubber	1.0%	0.6% -	1.5%	Other Organics	3.2%	2.7% -	3.7%
				Other Inorganics	0.3%	0.1% -	0.4%
C&D	**13.5%**	**11.3% -**	**15.7%**	Other C&D	1.1%	0.8% -	1.4%
Wood – Untreated	5.4%	3.7% -	7.1%	Other Durables	2.1%	1.4% -	2.8%
Wood – Treated	3.8%	3.1% -	4.5%	Other HHM	0.0%	0.0% -	0.1%
Asphalt Pavement, Brick, Rock, and Concrete	0.7%	0.5% -	0.9%	Fines	3.1%	2.6% -	3.5%
Asphalt Roofing	0.8%	0.0% -	1.6%	Other	0.5%	0.1% -	0.8%
Drywall/Gypsum Board	1.0%	0.5% -	1.5%				
Carpet and Carpet Padding	1.8%	1.2% -	2.5%	**Totals**	**100.0%**		
				Sample Count	**460**	**Conf.**	**90%**

2.3. HOST FACILITIES AND DISPOSAL QUANTITIES

The 1998 Study included five landfills and the 2005 Study included six landfills for hosting waste characterization analysis. The 2011 update has expanded the total to nine host solid waste commissions/agencies. Figure 2-1 below shows relative locations of the nine organizations that hosted sampling and sorting activities.

Figure 2-1 Location of Host Landfills, 2011 Study



1	Des Moines County Regional Solid Waste Commission	2	Ottumwa-Wapello County Solid Waste Commission	3	South Central Iowa Solid Waste Agency
4	Metro Waste Authority	5	Carroll County Solid Waste Management Commission	6	Northwest Iowa Area Solid Waste Agency
7	Dubuque Metropolitan Area Solid Waste Agency	8	Iowa City Landfill	9	Waste Commission of Scott County

Table 2-2 shows the tonnage and percentage of Municipal Solid Waste (MSW) disposed in the targeted landfills and total state-wide for the 2010 fiscal year. This table also shows which of the host organizations in this year's study hosted sampling and sorting events in prior studies. As shown, the nine targeted organizations dispose a little over 42 percent of the State's disposed MSW.

Table 4-1 (Continued) Comparison with Prior Studies – MSW

Comparison of Statewide Overall MSW Composition										
Materials	2011 Results			2005 Results			1998 Results			Likely Statistically Significant
	Mean	Lower Bound	Upper Bound	Mean	Lower Bound	Upper Bound	Mean	Lower Bound	Upper Bound	
Organic	**25.5%**	**23.8%**	**27.1%**	**20.1%**			**19.7%**			
Pumpkins	NA	NA	NA	0.3%	0.2%	0.4%	0.4%	0.3%	0.5%	
Yard Waste	4.6%	3.9%	5.2%	1.4%	1.0%	1.9%	1.3%	1.1%	1.5%	x
Food Waste	13.3%	11.9%	14.8%	10.6%	9.3%	12.2%	10.7%	9.6%	11.8%	
Textiles and Leather	4.1%	3.5%	4.7%	4.9%	4.0%	6.1%	4.2%	3.7%	4.7%	
Diapers	2.5%	2.1%	2.8%	2.4%	2.0%	2.8%	2.3%	2.0%	2.7%	
Rubber	1.0%	0.6%	1.5%	0.5%	0.3%	0.6%	0.8%	0.7%	0.9%	x
C&D	**13.5%**	**11.3%**	**15.7%**	**13.5%**			**11.2%**			
Wood – Untreated	5.4%	3.7%	7.1%	3.4%	2.7%	4.4%	2.8%	2.3%	3.2%	
Wood – Treated	3.8%	3.1%	4.5%	4.6%	3.6%	6.0%	3.6%	3.0%	4.2%	
Asphalt Pavement, Brick, Rock, and Concrete [1]	0.7%	0.5%	0.9%	5.5%	4.1%	7.6%	4.8%	4.0%	5.7%	
Asphalt Roofing [1]	0.8%	0.0%	1.6%							
Drywall/Gypsum Board [1]	1.0%	0.5%	1.5%							
Carpet and Carpet Padding [1]	1.8%	1.2%	2.5%							
Plastic	**16.7%**	**15.0%**	**18.3%**	**14.9%**	**13.4%**	**16.6%**	**14.4%**	**13.3%**	**15.6%**	
#1 PET IA Deposit Beverage Containers	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	x
#1 PET Beverage Containers	0.5%	0.4%	0.5%	0.4%	0.4%	0.5%	0.2%	0.2%	0.3%	
#2 HDPE Containers Natural [2]	0.3%	0.2%	0.3%	1.0%	0.9%	1.2%	1.0%	0.9%	1.1%	
#2 HDPE Containers Colored [2]	0.4%	0.3%	0.4%							
Plastic Retail Shopping Bags [3]	0.3%	0.2%	0.3%	6.6%	5.7%	7.5%	4.8%	4.3%	5.2%	
Other Film Plastic [3]	6.4%	5.6%	7.1%							
Other #1 PET Containers	0.3%	0.2%	0.3%	0.3%	0.2%	0.3%	NA	NA	NA	
#3-#7 Plastic Containers	0.7%	0.6%	0.7%	NA	NA	NA	NA	NA	NA	
Other Plastic Containers	1.1%	0.1%	2.0%	0.4%	0.3%	0.5%	0.8%	0.7%	0.9%	
Expanded Polystyrene	1.5%	0.3%	2.7%	NA	NA	NA	NA	NA	NA	
Other Plastic Products	5.3%	4.3%	6.3%	6.0%	5.3%	6.9%	7.5%	6.7%	8.4%	

Citizens Group Pushes City Council to Repeal Disposable Shopping Bag Fee

October 23, 2014

On 21 October 2014, the Fort Collins, Colorado City Council repealed the disposable bag ordinance which would have imposed a 5-cent fee for each disposable paper or plastic bag distributed by retailers in the city beginning on April 1, 2015. (Gordon, 2014)

The ordinance was originally passed by the council on a 5-2 vote on August, 19, 2014. The ordinance would have required all retailers to impose a fee of 5-cents for each disposable paper or plastic shopping bag issued at the point of sale to customers. Exempt from the fee are plastic or paper bags used to package bulk food items and bags used to contain frozen food or meat and prevent contamination of reusable bags. Also exempt from the fee are newspaper bags, dry-cleaning bags, and bags sold in bulk packages to consumers such as trash bags. The purpose of the fee was to discourage use of disposable bags and encourage the use of reusable bags. (City of Fort Collins, 2014)

The ordinance met with swift opposition and the group Citizens For Recycling Choices filed a protest with the City Clerk's Office on August 26, 2014. (Udell, Fighters of plastic bag fee out gathering signatures, 2014) The group needed to collect 2,604 signatures and managed to collect more than 4,000 signatures. (Udell, Bag fee opponents collect more than 4K signatures, 2014) The group used social media and word of mouth to publicize the signature gathering effort. (Udell, Fighters of plastic bag fee out gathering signatures, 2014)

Mike Pruznick, an opponent of the bag fee and who helped to start the 200-memberCitizens for Recycling Choices group, said that the bag fee does not protect the environment, because shoppers will avoid the fee and stop getting plastic bags at grocery stores and instead of having these plastic bags on hand to reuse, such as for taking out the trash, will start using larger bags that contain more plastic. He stated that there is a use for both bags in our society. (CBS Denver, 2014)

The group had great support from residents to overturn the disposable bag fee. Some shoppers indicated that they would shop in neighboring communities if the bag fee was not overturned.

After the council repealed the ordinance, they also directed the City Manager not to pursue bag fees/bans as part of the Zero Waste program.

The City Council reiterated the City's commitment to reuse and recycling by acceleratingzero-waste goals in a new Zero Waste Resolution.

"We heard our citizens and responded – the disposable bags ordinance is not the way to go," said Bruce Hendee, Chief Sustainability Officer. "However, our community has old us that they want us to continue to find innovative ways to increase recycling and

environmental sustainability, especially with the Larimer County Landfill filling up. Tonight, we accelerated that road to zero waste by suggesting staff explore some key techniques." (Gordon, 2014)

The resolution adopted Tuesday directs staff to take a number of specific, short-term steps:

- Expand community-wide awareness of measures to prevent waste from being created
- Construct a new Community Recycling Center in 2015, subject to funding approval, for a one-stop recycling facility that also accepts a variety of hard-to-recycle materials such as electronic waste and certain household hazardous wastes
- Explore a universal recycling ordinance that would improve access to curbside recycling and organics collection for residents and businesses

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REUSABLE BAG BAN REPORT (DRAFT)

Implementation Progress

BACKGROUND

The City of Santa Fe passed Ordinance 2013-29 eliminating the single-use plastic bags from most retail stores and requiring a ten cent fee for single-use paper bags over a specific size. Subsequently it was discovered that the fee, as written in the ordinance, was beyond the City's authority to require and was eliminated through Ordinance 2014-08.

The ordinance, as amended, went into effect on February 27, 2014. The Environmental Services Division was charged with collecting data regarding the financial impact to stores and the Sustainable Santa Fe Commission was charged with reporting on the progress and effectiveness of the ordinance one year from its passage on August 27, 2013. This is that report.

INTENT

Reducing the impacts of solid waste involves reducing the volumes of waste, reusing waste materials several times, and recycling the remainder, in that order. The greatest reduction in impacts comes from the hierarchy of these actions. Reusing shopping bags therefore has a greater reduction in impacts than recycling single-use bags. This ordinance is intended to promote the use of reusable bags as much as possible.

GOAL:

Reduce single-use bag usage in Santa Fe by eliminating single-use plastic bags and encouraging people to avoid using paper bags

SUMMARY OF FINDINGS

Implementation of the ordinance has not resulted in significant public complaint, however, for the most part, people have exchanged using single-use plastic bags for single-use paper bags with little increase in reusable bags. Therefore, in order to meet the goal of reducing single-use bag usage, additional steps would need to be taken to discourage use of paper bags.

RECOMMENDATIONS

The Sustainable Santa Fe Commission recommends that the City adopt a disincentive for paper bag use that also generates revenue for the City and the stores to help cover administrative costs and facilitate the implementation of additional green initiatives. The rules governing cities authority differs from state to state. Here in New Mexico Santa Fe does not have the authority to require a third party (retail stores) to collect a fee for bags. The City Attorney is exploring all available options within the authority of Santa Fe as a Home Rule NM City. To that end she has submitted a request for interpretation to the New Mexico Attorney General as well as information from the New Mexico Municipal League.

METHODOLOGY

There is no existing data, and no easy way to collect data, regarding the number of single-use bags used in Santa Fe. The Environmental Services Division developed the methodology described below for collecting qualitative data from retail stores to assess the impacts of the ordinance. All stores contacting provided data during two separate interview times.

Data Sampling

The City was divided into three geographical areas: downtown and surrounding area, mid-town, and southside. 10 to 11 stores were selected to be surveyed in each of these three areas at two times. Surveys were conducted about 2 months after implementation and again about 4 months after implementation. Additionally, 12 retail stores that are large users of single-use bags were surveyed from across the City, some with multiple locations. These stores were surveyed about 4 months after implementation. The survey questions from the first survey focused on the financial impacts and perceptions of the public's feelings towards the bill. The same questions were asked during the second survey plus some additional questions were added to understand how the bill was being implemented internally at the business and to get any data available regarding actual reductions in single bag use.