



Plastic Bag Report 2012 Update



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Executive Summary

Management of single-use carryout bags has evolved dramatically in the Washington region during the last three years. In 2009, the Metropolitan Washington Council of Governments (COG) produced its first Plastic Bag Report, which surveyed solutions to plastic and paper bag pollution around the world. At that time, the COG region only had recycling programs for bags operated by retailers and local governments, plus initiatives to encourage use of reusable bags. By 2012, the metropolitan area had become the epicenter of East Coast bag management laws and a national laboratory for the application of bag-fee legislation.

On April 8, 2009, the COG Board of Directors adopted Resolution R19-09, which “supports local and regional efforts to eliminate the chronic and widespread problem of plastic bag pollution in the region’s streams and rivers.” In addition, the resolution directed the Chesapeake Bay and Water Resources Committee (CBPC) to work with COG staff and technical committees to compile a report on the state of bag management in the region and around the globe.

In response to R19-09, COG staff compiled the 2009 COG Plastic Bag Report. The report included the following information:

- Local plastic bag pollution data on area waterways
- Current bag programs in place at local stores
- Local Government plastic bag recycling programs in the COG region
- Examination of legislative initiatives introduced in the District of Columbia, Maryland, and Virginia in 2009
- Review of actions taken elsewhere in the United States
- Review of actions taken internationally
- Analysis of available data on the effectiveness of actions taken

The report found a variety of approaches by outside governments ranging from recycling, to bag bans, to bag fees to address bag pollution. Additionally, the treatment of plastic versus paper bags under these laws was inconsistent based on the writers’ intent and the political environment. It concluded that local governments need to decide their desired level of pollution reduction and discern what the political landscape will allow in order to propose appropriate laws for their area.

The COG Board adopted Resolution R57-09 in October 2009 upon presentation of the report. It directed COG staff to do the following:

- Include support in the COG legislative package for legislative initiatives in Maryland and Virginia consistent with the District of Columbia’s bag fee program (not yet implemented) to reduce bag pollution;
- Encourage its members to promote the use of reusable bags and bag recycling; and
- Continue to track bag initiatives around the country and world and report back as appropriate.

Given the recent developments on bag regulation, staff decided to create the 2012 update report.

Local Pollution

COG Staff conducted trash composition surveys of the Anacostia River and select tributaries from 1998-2007. In addition, consultants from the Anacostia Watershed Society conducted a survey from 2007-2008 of select regions of the Anacostia River and its Tributaries within the District of Columbia. Both of the Surveys show that plastic bags are a major component of the trash found in area waterways. COG Staff are planning to begin an additional trash composition study in the coming months and consultants at the Anacostia Watershed Society are currently conducting an audit of the trash found in trash traps in the Anacostia watershed.

Local Bag Laws

The District of Columbia and Montgomery County, Maryland, have passed and enforced five-cent fees for both plastic and paper single-use disposable bags. The two laws vary, in that the D.C. bag law requires bags be 100 percent recyclable and paper bags must have at least a 40 percent post-consumer recycled content. The District of Columbia and Montgomery County are the only two localities in the United States with fees on both paper and plastic bags. Chestertown, Maryland, enacted a ban on plastic bags in 2012, not addressing paper bags.

Other Local Reduction Approaches

Local retailers and governments in the COG region have increased efforts to provide alternatives to single-use bags and encourage reuse and recycling. A number of retail chains, grocery stores, and pharmacies provide on-site recycling designated for single-use bags. Trex Company, Inc., a composite lumber and decking manufacturer, is one of the largest plastic bags recycler in the United States and has partnered with several local grocery stores, retailers, and schools to encourage recycling. COG member jurisdictions also support reduction and recycling efforts through promotional campaigns and public outreach. Prince George's County, the City of Alexandria, and other jurisdictions have extensive recycling and reduction programs that include educational web pages, reusable bag giveaways, and sponsored events.

Legislative Initiatives in the COG Region

Since 2009, bag legislation in the COG region has been limited to just three localities. Prince George's County, Maryland, has pursued legislation similar to the laws passed in the District and Montgomery County; however, the county does not have the authority under the county charter and must seek approval from the Maryland State General Assembly. Bag legislation was introduced in 2012 at the state level in both Maryland and Virginia with little success.

Review of Bag Programs Elsewhere

In 2009, there were 10 localities listed by COG staff that had passed or implemented a ban on plastic bags. Since then, there has been a rapid growth in the acceptance of bag legislation and roughly 70 communities nationwide have adopted a ban on plastic bags. The West Coast, California in particular, has seen the greatest acceptance of bag legislation in the United States. San Francisco was the first city in the United States to pass a ban and has since expanded the original law. Not all the laws that address single-use bags are the same. Many of the laws in California are combination laws that ban plastic bags and require a small fee for paper, which deters customers from substituting one single-use bag type for another. Other laws vary in the

recyclability of bags, the percentage of post-consumer recycled content in the bags, and the amount of the fee.

International Experience

Many countries have successfully implemented bag reduction laws dating back to before the issue was addressed in the United States. Ireland has been one of the most successful countries in reducing plastic bag consumption with a plastic bag levy. Ireland reports an approximate 90% reduction from pre-levy consumption levels.

Observations and Analysis

Internationally, life-cycle assessments and impacts of single-use bags have been published with regularity. The most beneficial reports have come from the program in Ireland. Ireland has been the beacon for many governments looking to implement similar laws due to its reported success and considerable tenure of the bag tax, one of the longest in the world. The popularity and the varying types of bag laws are promising developments, and should lead to some greater clarity in the efficacy of bag laws nationwide, but more data is required for government officials and citizens to draw definitive conclusions.

At the time of the 2009 report, there was minimal data available in the United States on the effectiveness of plastic bag laws given the newness of many efforts. Since 2009, the popularity of bag laws has grown immensely and the first cities to pass bag laws now have three-to-five years worth of experience and data. Unfortunately, the cities that pursued bans on plastic bags have not invested in studies to measure effectiveness. The few cities that have implemented fees, however, are pursuing data reports. Staffs at the Anacostia Watershed Society and the Council of Governments are planning to release data in the near future. In localities that have not pursued bag laws or where authority to pass laws does not exist, voluntary or mandatory recycling programs are the best alternative. Given the difficulties of collecting bags in curbside collection programs, the best approach is retailer-based collection where the material is not mixed with other recyclables.

I. Background

The Washington region has become a national leader in single-use carryout bag management. Concern over bag pollution, particularly for plastic bags, sparked efforts to regulate the bags about five years ago, primarily on the West Coast. During the last three years, two large local jurisdictions have passed bag-fee laws making the area nationally unique in its application of fees to limit use of both paper and plastic bags.

2009 Plastic Bag Report

In 2009, the Metropolitan Washington Council of Governments (COG) released the *Plastic Bag Report* in response to COG Board of Directors Resolution R19-09. The resolution encourages signatories of the Potomac River Trash Treaty to assess the feasibility of implementation measures addressing the issue of bag pollution. In addition, the resolution directed the Chesapeake Bay and Water Resources Committee (CBPC) to work with COG staff and technical committees to:

- Survey the effectiveness of measures that have been considered and implemented elsewhere aimed at reducing the incidence of plastic bags in waterways;
- Compile data demonstrating the extent of the occurrence of plastic bags in waterways in the COG region; and
- Include information on recycling programs in member jurisdictions.

The intent of the resolution was to assist the COG member jurisdictions who were considering, or planning to consider, policy or legislative actions to address bag pollution. Concerns about the impacts of plastic bags on the local ecology motivated the resolution. These concerns include local stream and river pollution, green house gas emissions, resource depletion, and litter aesthetics.

The 2009 report included the following information:

- Local plastic bag pollution data on area waterways
- Current bag programs in place at local stores
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The report found a variety of approaches by outside governments ranging from recycling, to bag bans, to bag fees to address bag pollution. Additionally, the treatment of plastic versus paper bags under these laws was inconsistent based on the writers' intent and the political environment. It concluded that local governments need to decide their desired level of pollution reduction and discern what the political landscape will allow in order to propose laws appropriate for their area.

The COG Board adopted Resolution R57-09 in October 2009 upon presentation of the report. It directed COG staff to do the following:

- Include support in the COG legislative package for legislative initiatives in Maryland and Virginia consistent with the District of Columbia's bag fee program (not yet implemented) to reduce bag pollution;
- Encourage its members to promote the use of reusable bags and bag recycling; and
- Continue to track bag initiatives around the country and world and report back as appropriate.

Given the recent developments on bag regulation, staff decided to create an updated report. The 2012 report follows the basic structure of the 2009 document.

II. Local Pollution

Review of Past Data

From 1998 to 2007, COG staff conducted trash surveys of the Anacostia River and its tributaries. The COG survey found extensive volumes of trash, of which plastic bags, plastic bottles, and food packaging were the most abundant items. James and Cynthia Collier, consultants for the Anacostia Watershed Society (AWS), also conducted trash surveys from 2007 to 2008 of the Anacostia and its tributaries within the District of Columbia for the District's Department of the Environment (DDOE). The survey concluded that plastic bags are a major component of the trash found.

Chart 1 shows the percentage of trash items found by number in the District of Columbia **tributaries** of the Anacostia River. The data represents the mean of four separate surveys from the summer of 2007 to the spring of 2008. This chart was used in the 2009 COG report and can also be found in the "Anacostia Watershed Trash Reduction Plan" submitted by DDOE.

Chart 2 shows the percentage of trash items found in the **mainstream** of the Anacostia River. In comparison with its tributaries, plastic bags represented a smaller percentage of trash items in the mainstream, due to the large number of plastic bags retained in the tributaries and the greater tendency for plastic bags to sink in the main river.

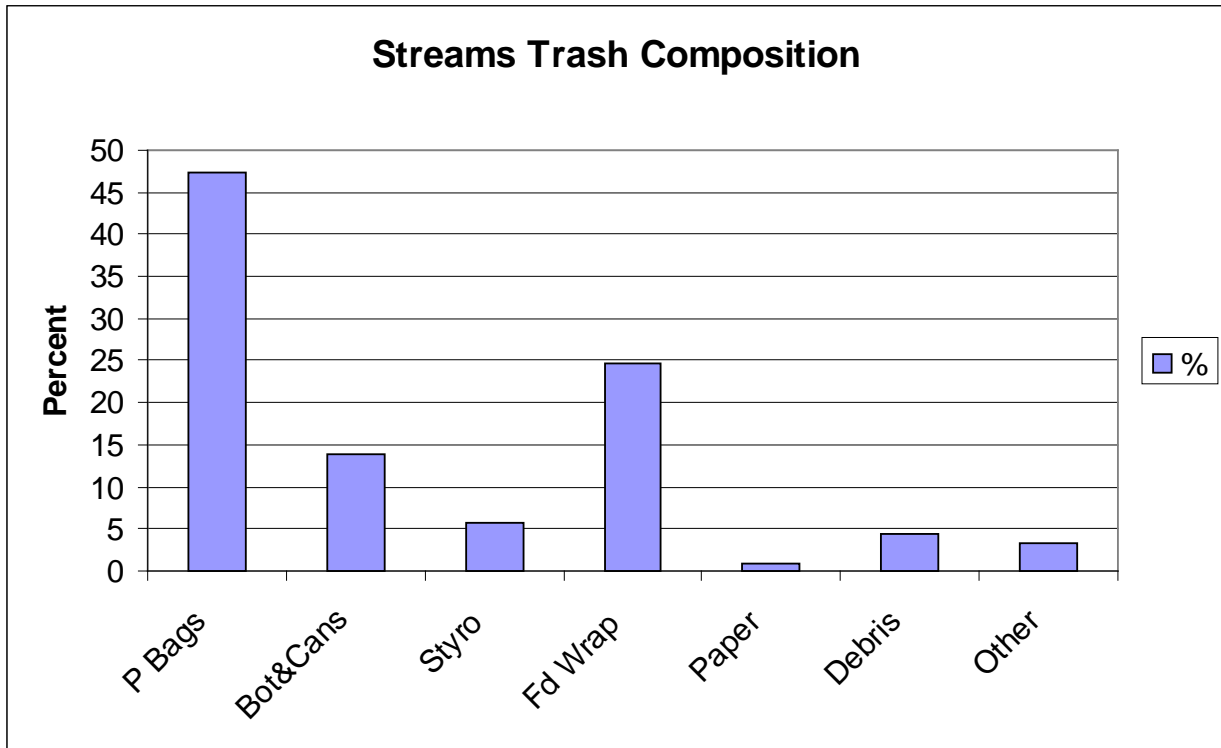
Updated Local Data

No studies have reported local litter composition data since 2008. COG staff plans to conduct another trash survey within the next 3-4 months to measure the effectiveness of the bag fee and other bag reduction programs in the area. The Anacostia Watershed Society has been monitoring and recording data from the Nash Run Trash Trap since February 2009 and trash composition results from that study are pending release.

Updated National/International Data

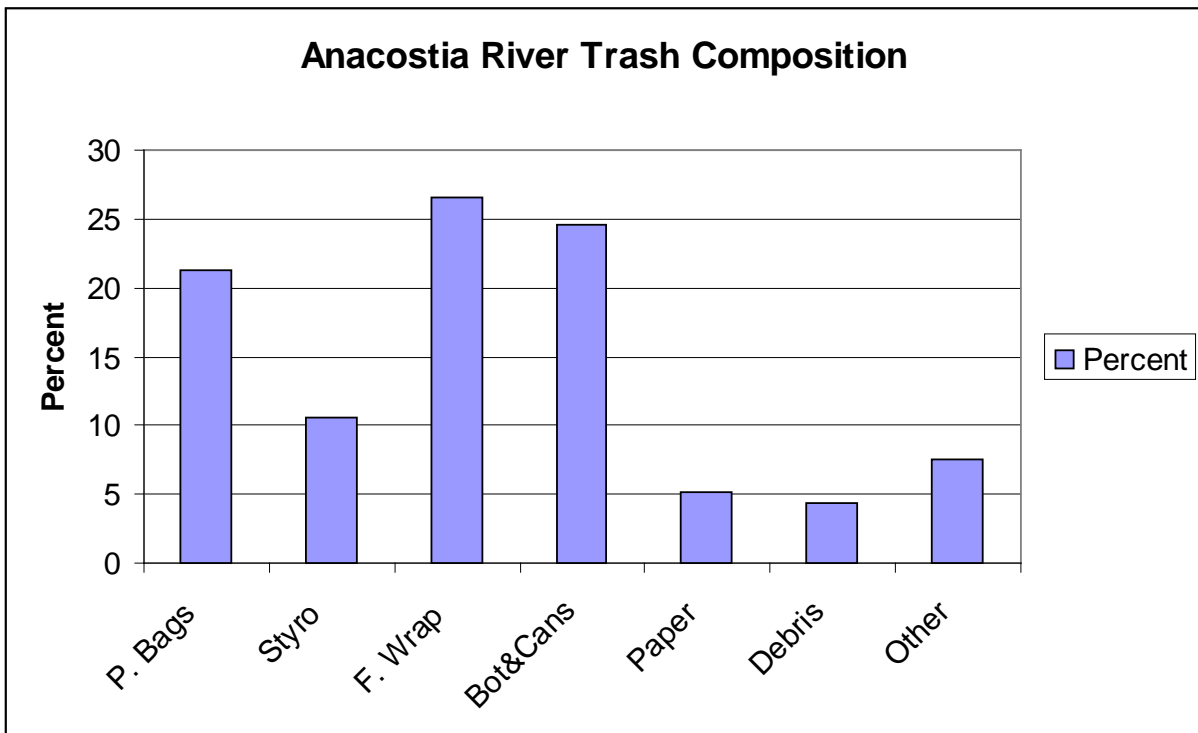
New national data and reports are available, in part, due to the popularity of bag legislation in the state of California. After the first ban was introduced in San Francisco in 2007, other localities pursued similar legislation. In response, those cities and counties were met with

Chart 1: 2007-2008



Source: Anacostia Watershed Society 2008

Chart 2: 2007-2008



Source: Anacostia Watershed Society 2008

considerable opposition from plastic bag interest groups and supporters. Three lawsuits were filed against localities in California under a provision which requires an Environmental Impact Review (EIR) before such a law can be enforced. Under the California Environmental Quality Act (CEQA), an EIR is necessary if a project may have any significant impact on the environment.

The 2009 Plastic Bag Report concluded that the opposition from interest groups and requirements under CEQA may dissuade other localities from pursuing a ban. Nevertheless, 49 localities in California have adopted bag legislation since 2007 (the City of Los Angeles being the largest and most recent) and most have filed appropriate EIR's, which provide important data on the influence of bans and fees.

The County of Los Angeles Environmental Programs Division of the Department of Public Works prepared a full environmental impact report in 2010 regarding a ban on single-use carryout bags. The report estimates the litter from plastic carryout bags accounts for as much as 25 percent of the litter stream. Each year, approximately 6 billion plastic carryout bags are consumed in the county, and public agencies in California spend over \$375 million per year overall for litter prevention, clean up, and disposal.

The County of Los Angeles Department of Public Works also published a staff report, *An Overview of Carryout Bags in Los Angeles County*, in August 2007. The report states that plastic bags have been found to significantly contribute to litter and have negative impacts on marine wildlife and the environment. In addition, paper carryout bags have known adverse effects on the environment. According to a California Environmental Protection Agency Integrated Waste Management Board study in 2004, 117,000 tons of paper carryout bags are disposed of each year, accounting for 1 percent of the total 12 million tons of annual solid waste. However, paper bags have the potential to biodegrade and generally have a higher recycling rate than plastic bags. The U.S. Environmental Protection Agency (EPA) reported the recycling rate for plastic bags, sacks and wraps measured at 9.1 percent compared to 36.8 percent of paper bags.

The City of San Francisco Department of Environment published two litter audits from 2007-2009 which reported a drop in the use of bags in the city. The studies were limited to grocery stores and pharmacies, the only retailers affected by the 2007 ban. A new ban, which applies to all retailers in San Francisco, is planned to go into effect in October 2012. Officials from the San Francisco Zero Waste Program report full compliance among retailers and customers since 2007.

A United Nations Environment Programme (UNEP) report *Marine Litter: A Global Challenge* highlighted some of the environmental effects of plastic bags on marine ecosystems across the globe. On the coasts and beaches of the Baltic Sea, plastic bags constituted 19 to 27 percent of all litter when reported. In the Mediterranean, plastic bags were the fourth most abundant litter behind cigarettes/cigarette filters, cigar tips, and plastic bottles, accounting for 8.5 percent of all litter. In a 2007 International Coastal Cleanup Report by the Ocean Conservancy, plastic bags

were the fourth largest cause of recorded wildlife/marine debris entanglements. Fishing line, fishing nets, and rope were the top three leading causes in that category. Plastic bags are also noted as one of the most common causes of vessel damage, resulting in clogged water intakes and burned out water pumps on recreational boats.

The Business for Social Responsibility (BSR) produced a report commissioned by Gap Inc. and J.C. Penny Corporation, Inc. in an effort to better understand the environmental impacts of retail shopping bags. The report conducted life-cycle assessments of several types of plastic bags, reusable cloth bags, and reusable non-woven plastic bags. Similarly, an article in *The Washington Post* illustrated the life-cycle of paper and plastic bags. Both sources found that paper bags pose a greater impact on the environment in the pre-consumer stages of the life-cycle than plastic or other alternative bags. Plastic bags, on the other hand, have a much greater impact in the post-consumer stages, when customer behaviors dictate how the bags are handled after the initial use.

The studies also concluded that consumption rates between paper and plastic differ greatly. In the United States, 4 out of 5 grocery bags used are plastic, which requires 12 billion barrels of oil each year to produce. Paper bags require four times more energy to produce than plastic and generate 70 percent more air and 50 percent more water pollution during production. These statistics reflect the difference in how these products impact the environment.

III. Local Management

In the Metropolitan Washington area, single-use carryout bag management has dramatically changed during the last three years. The region is now home to the only two localities in the nation with fee laws that apply to both paper and plastic bags. This development makes the area a test case for other local governments looking to impact bag pollution with fees.

New Bag Laws

In the District of Columbia, DC 18-150, sponsored by Councilmember Tommy Wells, passed in June 2009, went into effect January 1, 2010. The law establishes a five-cent fee per paper or plastic bag sold at specified retailers in the District. Revenue created by the fee goes towards the Anacostia River Clean Up and Protection Fund. Retailers may retain up to two cents of the fee. Plastic bags must be 100 percent recyclable and made of high density polyethylene (HDPE) film marked with the Society of Plastics Industry (SPI) resin identification code 2 or low density polyethylene (LDPE) film marked with SPI resin identification code 4. Additionally, bags must display the phrase, "Please Recycle This Bag" or a substantially similar phrase. Disposable carryout bags made of paper must be 100 percent recyclable, contain a minimum of 40% post-consumer recycled content, and display the phrase "Please Recycle This Bag" or a similar phrase.

In Montgomery County, Council Bill No. 8-11 was adopted May 3, 2011 and became effective on January 1, 2012. Similar to D.C.18-150, the Montgomery County bill imposes a five-cent fee on customers per carryout bag that a retail establishment provides. Each retail establishment

must collect the fee when the customer makes any payments. Each retail establishment may retain one cent for every five cents of the fee collected, in order to cover the administrative expenses of collecting and remitting the fee to the county. The number of carryout bags and the amount of the fee must be indicated on the customer's transaction receipt. The retail establishment is only required to remit the taxes to the county if the cumulative amount of the fees collected exceeds \$100.

While similar, there are a couple of important differences between the laws. The Montgomery County legislation applies to all retail establishments while the District law only affects businesses that sell food. The Montgomery County legislators also choose to leave out any requirements for recycled content in the paper and plastic bags sold by stores. District staff has reported that tracking and enforcing compliance with the recycled content provision has been difficult and time consuming.

Measured Effects of New Bag Laws

The 2009 COG Plastic Bag Report presented data collected by the Anacostia Watershed Society, Interstate Commission on the Potomac River Basin, and COG staff on pollution levels in area waterways related to plastic bags. Since 2009, two bills have been passed in the region aimed at reducing single-use disposable bags; however, current studies, which may provide insight into the effectiveness of the laws, have not yet been released.

Data on the use and revenue related to bags is available. Retailers pay approximately 2 cents per plastic bag and five cents per paper bag. Traditionally, the average consumer pays \$37.50 per year in hidden bag costs passed on by retailers. Financial Reports from the District of Columbia's Office of Tax and Revenue estimated bag use for January 2010 dropped to 3 million bags, a significant decrease from an average of 22.5 million bags issued per month in the District before the law took effect.

According to officials in the District Department of Environment, since the bag law went in force on January 1, 2010, the Anacostia River Clean Up and Protection Fund, which benefits from the fees on single-use carryout bags, has collected approximately \$4,330,446.67 or about two million dollars per year. This total is half of the revenue projected by DC when the law was introduced. In Montgomery County, the total amount of the fees collected was reported at \$650,043 after the first four months of application, representing over 16 ¼ million plastic and paper bags distributed to customers by retailers in the county. The county is on track to collect about \$2.1 million from 53.6 million bag in the first year of the program.

The Alice Ferguson Foundation (AFF), the leading organization of the Trash Free Potomac Watershed Initiative, released data from a report on "Public Perceptions and Willingness to Address Litter in the District of Columbia." The AFF worked with OpinionWorks, a social marketing research firm to gather data and opinions from the public and the business community. Key findings in the AFF and OpinionWorks report were gathered through randomly selected telephone opinion polling, one-on-one interviews with 51 different D.C. based business owners, and focus groups of citizens who were admitted litterers.

The survey of residents measured the impact of the fee on bag usage in the District of Columbia. The results showed that 75 percent of the residents polled answered that they have reduced their plastic bag usage since the fee was introduced in January 2010. Twenty-one percent said they have not reduced their plastic bag usage and the rest said they never use plastic bags or were not sure. In the business survey, owners and managers estimated the reduction of bag usage by their customers ranged from a few percent less bag usage to an 80 percent reduction rate.

The study also found that a majority of businesses who offered an estimate said that their consumption of bags is at least 50 percent lower. Twelve percent of businesses reported that the bag fee has affected their businesses negatively, 20 percent said it has affected them positively, and 58 percent said the fee has not affected their business at all. The businesses concluded that their customers have adjusted to the law and there appears to be very little complaining by customers in regards to the fee.

Other Local Reduction Approaches

Local retail efforts to reduce plastic bag litter have increased over the past few years. A number of retail chains, pharmacies, and grocery stores in the COG region provide on-site recycling drop-off areas for customers to recycle plastic and paper bags. In addition, many promote the use of reusable bags, and some offer incentives such as refunds or credit for each reusable bag a customer brings. A few retailers are voluntarily banning plastic bags altogether.

The large majority of plastic bags collected for recycling in the region go to the Trex Company in Winchester, Virginia. Trex manufactures plastic/wood composite decking, fencing, and railing. It is one of the largest plastic bag recyclers in the United States. As a former division of Mobil Corporation, the company has a number of partnerships and initiatives with regional and national grocery chains (Harris Teeter, Giant, Food Lion, Weis Markets, Safeway, and Whole Foods Market) to collect and reclaim wood and polyethylene film. From 2003-2007, Trex reclaimed 6.5 billion polyethylene bags nationwide, representing a procurement of 50% of all available recyclable grocery bags in the nation. To put it into measurable terms, a 2 inch by 6 inch composite decking board that is 16 ft. long contains approximately 2,250 recycled plastic bags. Retail plastic bag comprise about 15-20% of the recycled plastic mix used by the company. In addition to their retail partnerships, Trex sponsors the Plastic Bag Challenge within the local Virginia School System. Student classrooms compete against one another to collect the most plastic bags. The winning school receives a bench made of Trex composite decking material and a pizza party.

Table 1: Grocery Store Recycling Programs

Store Name	Sells Reusable Bags	Incentives Provided to Customers for Using Reusable Bags	Provides Plastic Bag Recycling Opportunities for Customers	Plastic Bag Recycling Processor/ Vendor Used
Bottom Dollar	Yes (Cloth bags sold for \$0.98)	Yes, Customers are charged five cents (\$0.05) for each plastic bag; Paper bags not available.	Yes	Trex Co.
Food Lion (Formerly Bloom)	Yes	None	Bags collected at store and sent to warehouse.	Trex Co.
Giant	Yes	Five cents (\$0.05) refunded for each reusable bag used.	Yes	Trex Co.
Harris Teeter	Yes	Charge five cents (\$0.05) for paper and plastic bags; five cents (\$0.05) refunded for every reusable bag used.	Yes	Trex Co.
Magruder's	Yes	Yes, customers are credited five cents (\$0.05) for each reusable bag used, charged nothing if they bring their own plastic bags, and charged five cents (\$0.05) for each plastic or paper bag they receive from the store.	Yes	Trex Co.
My Organic Market	Yes	Yes; Five cents off for paper bags/ten cents for tote bags.	Yes	FPC Distribution in Elkridge
Safeway	Yes	None	Yes	Trex Co.
Shoppers Food Warehouse	Yes	None	Yes	N/A
Trader Joe's	Yes	None	No	None
Weis Markets	Yes	Yes; three cents off per reusable bag used	Yes	Trex Co.
Whole Foods Market	Yes	Yes; five cent discount per reusable bag used. No longer use plastic.	Yes	Trex Co.

Sources: Montgomery County Dept. of Environmental Protection and Trex Co.

COG member jurisdictions have also support programs to reduce single-use bag waste and litter. All grocery stores in the City of Falls Church are members of some type of bag recycling program and offer bag drop-offs. Also, Prince George's County in Maryland has an extensive recycling program which aggressively promotes the use of reusable bags through reduction efforts and public outreach initiatives. Resolution CR-83-2008 supports the reduction of the use of plastic shopping bags by encouraging recycling and the availability and use of reusable bags by businesses and citizens of Prince George's County.

The City of Alexandria has started a Plastic Bag Recycling Initiative which includes a Web page devoted to the recycling and reduction of plastic bag use. Recently, the initiative has stopped the encouragement of plastic bag recycling through the curbside collection services provided. Plastic bags are notorious for causing problems in the processing facilities by jamming machinery. In response, Alexandria officials are asking residents to return bags to stores that offer source separated plastic bag recycling.

In the District of Columbia, the Department of the Environment (DDOE) provides reusable bags to District residents, focusing on elderly and low-income populations. The agency provides the reusable bags upon request for special events as well as for any citizen that calls and requests a bag. DDOE distributes bags at environmental events focusing on waste reduction and has distributed 1,980 reusable bags since January 12, 2012 and 4,720 for the current fiscal year. Since the effective date of the D.C. bag law (DC 18-150), DDOE has distributed a total of 42,000 reusable bags.

Frederick County, Maryland, and Prince William's County, Virginia, report that reusable bags are standard giveaways at publicly held events and are recommended as a reuse and waste reduction plan option.

IV. Local Legislation

Local Government

In Maryland, legislative efforts to impose a ban or fee on plastic single-use bags were largely unsuccessful until 2011. In Annapolis, a ban on plastic checkout bags was proposed by Alderman Sam Shropshire, D-Ward 7. The bill would have required Annapolis retailers and restaurants to use recycled paper bags or reusable bags and sanctioned a \$500 penalty for using plastic bags. The bill failed due to resistance from local business officials. In 2008, the Baltimore City Council proposed a 25-cent fee on all plastic bags, but the bill was rejected when the city suggested a voluntary recycling program instead.

The Town Council of Chestertown, Maryland, adopted ordinance No. 01- 2011 on April 4, 2011, banning the distribution of plastic checkout bags less than 2.40 mils thick. The ordinance applies to grocery stores, liquor stores, pharmacies, "mini-marts", retail stores, and vendors selling clothing, food, and personal items. The operative date of the ban was January 19, 2012, 9 months after the law became effective, to allow retailers time to dispose of existing inventory of plastic bags and to convert to alternatives. The ordinance did not address paper bags.

Prince George's County delegates proposed a bill (HB 895/SB721) in 2012 to the Maryland General Assembly seeking authorization of a law imposing a customer fee at stores that distribute disposable bags. Localities in Maryland, other than Montgomery County and Baltimore City, need approval from the Maryland General Assembly to enact a new fee. The proposed 5-cent fee was initially voted on by the Prince George's County Council and passed 8-0 with one abstention; a similar effort failed in 2011. In the 2012 session, the bill managed to pass the Prince George's County House Delegation, but eventually failed in March 2012 by one vote

when the House Environmental Matters Committee questioned the cost of the fee. All retail establishments in Prince George's County would have been affected. The county and other Maryland localities could enact a bag ban without permission from the state legislature because the law would not involve a fee.

Virginia local governments have a legislative restriction similar to Prince George's County, which was established by the court ruling of Chief Justice John Forest Dillon, whereby local governments have no inherent powers, and they may only exercise powers granted to them by their state government. As a consequence, local governments in Virginia may not take actions, pass laws or ordinances, or levy taxes if they have not been specifically granted permission by the state's government or constitution.

State Government

Two bills were introduced in the Maryland state legislation in 2012. Maryland House Bill (HB) 1247/ Senate Bill (SB) 511 sponsored by State Senator Frosh and House Delegate Washington proposed a five cent fee on disposable plastic and paper bags distributed by all retail establishments in the state of Maryland, excluding farmers' markets and roadside stands. Fifty percent of the revenue from the fee would be designated for the Chesapeake Bay Trust; the other portion of the fee would be split among retailers and counties. The bill was introduced February 10, 2012, but failed to pass in the State Senate with an unfavorable report by the Economic Matters Committee.

Maryland HB 229/SB 164 sponsored by Delegate Lafferty and State Senator Conway were introduced in January 2012, prohibiting the sale or distribution of plastic carryout bags unless the name of the manufacturer is printed or displayed on the bag in a manner readily identifiable to the customer. The bill also requires all bag manufacturers to send the Maryland Department of the Environment a completed registration form and \$250 fee at the time of initial registration and every two years thereafter, including a plan developed by the manufacturer to implement the collection and recycling of plastic carryout bags. The law was passed on March 9, 2012.

In Virginia, two bag bills were introduced between 2011 and 2012. Virginia HB No. 2047 sponsored by Delegate Ebbin in 2011 proposed imposing a fee of five cents on paper and plastic bags distributed by grocery stores, pharmacies, and drug stores in Virginia. Retailers would be allowed to retain one cent of the five cents collected to cover administrative costs or two cents if the retailer has a customer bag credit program. Revenue from the fee would benefit the Virginia Water Quality Improvement Fund. The bill was left in the House Finance Committee on February 8, 2011 and failed to pass.

Table 2: Local Bag Legislation

Bill	Bag Type	Action	Applies To	Recycled Content Required	Result
DC 18-150 (Wells, 2009)	Plastic & Paper	Five-cent fee (\$0.05) per bag; Revenue to Anacostia River Cleanup & Protection Fund	Grocery Stores, Convenience Stores, Drug Stores, Liquor Stores, Restaurants, Food Vendors.	Yes	Passed 6/16/09; Effective 1/1/10
MD HB 1247 (Washington) SB 511 (Frosh) (2012)	Paper & Plastic	Five-cent fee (\$0.05) fee on disposable plastic and paper bags, 50% of revenue to The Chesapeake Bay Trust.	All retail establishments; roadside stands and farmers' markets not included.	No	Hearing 2/8/2012; No action taken by House; did not pass.
MD HB 229 (Lafferty) SB 164 (Conway) (2012)	Plastic	Requires bag manufacturers print name on the bag and register with MDEP for a fee of \$250	Manufacturers of plastic bags.	No	Introduced 1/19/12; Passed 3/9/2012
MD HB 895 (Prince George's County Delegation, 2012) SB 721 (Pinsky, 2011)	Plastic & Paper	Authorizes the county to impose, by law, a fee on a store for the use of disposable bags as a part of the retail sale of products	All retail establishments in Prince George's County that provides disposable bags to its customers.	No	Failed to gain constitutional majority; Bill is in the House- Unfavorable as of 3/24/12
Montgomery County Council Bill No. 8-11 (2011)	Paper & Plastic	Imposes a five cent fee (\$0.05) on each customer for each carryout bag that a retail establishment provides to the customer.	Any supermarkets, convenience stores, shops, service stations, restaurants, or any other sales outlet.	No	Introduced 3/15/11; Adopted 5/3/11; Effective 1/1/12
Chestertown, MD Ordinance NO. 01-2011 (2011)	Plastic	Bans distribution of plastic checkout bags less than 2.40 mils thick.	Grocery stores, pharmacies, liquor stores, "mini-marts", and retail stores and vendors selling clothing, food, and personal items.	No	Introduced 3/7/11; Adopted 4/4/2011; Effective 4/19/11

Table 2: Local Bag Legislation (continued)

Bill	Bag Type	Action	Applies To	Recycled Content Required	Result
VA HB NO. 124 (Morrissey, 2012) Also introduced as HB 2031 in 2011	Plastic	Imposes a fee of 20 cents (\$0.20) on plastic bags. Retailers may retain five cents (\$0.05) of the 20 cent fee or seven cents (\$0.07) if the retailer has a customer bag credit program.	Grocery Stores, convenience stores, or drug stores.	No	Left in House Finance Committee 2/14/12. Did not pass.
VA HB NO. 2047 (Ebbin, 2011)	Paper & Plastic	Imposes a fee of five cents (\$0.05) on paper and plastic bags. Retailers allowed to retain one cent (\$0.01) of the five cents or two cents (\$0.02) if the retailer has a customer bag credit program. Revenue to Virginia Water Quality Improvement Fund.	Grocery Stores, convenience stores, or drug stores.	No	Left in House Finance Committee 2/8/11. Did not pass.

Source: COG Staff research 2012

In 2012, Delegate Morrissey backed Virginia HB 124 which proposed a 20-cent fee on plastic bags in grocery stores, convenience stores, and drug stores. Retailers would be allowed to retain five cents of the 20-cent fee to cover administrative costs or seven cents if the retailer has a customer bag credit program. HB 124 was also left in the House Finance Committee on February 14, 2012 and failed to pass.

V. Bag Programs Elsewhere

United States

Bag Bans

In COG's 2009 Plastic Bag Report, there were ten reported localities across the United States that had passed and/or implemented a ban on plastic bags. San Francisco was the first city in the United States to ban plastic bags distributed by grocery stores and pharmacies in 2007.

There were no communities that had attempted to ban both plastic and paper carryout bags or implement a combination of a ban and fee on single-use carryout bags.

Table 3: United States Bag Bans

Locality	Legislation	Action	Applies To	Enforcement Date
Bethel, AK	Ban	Bans plastic carry-out bags; encourages use of reusable bags	Retail establishments, food vendors, and non-profit vendors, as well as City facilities and events	7/14/2009
Alameda County, CA	Ban/Fee	Bans single-use carry out bags as of 1/1/2013; requires minimum fee of \$0.10 for a recyclable paper or reusable bag as of 1/1/2015	Drug stores, pharmacies, Super markets, grocery store, convenience food store, food mart, or other entity engaged retail sale of food goods; Store of at least 10,000 sq. ft.; Store with annual gross sales of two million dollars that sells dry grocery, canned goods or nonfood items	1/1/2013; 1/1/2015
Carpinteria, CA	Ban/Fee	Bans single-use bags (paper and plastic)	Large commercial establishments (annual gross retail sales volume over \$5 million or is bigger than 3,000 sq. ft.)	7/11/2012
City of Los Angeles	Ban/Fee	Phases out plastic bags over 16 months. Allows a 6-month phase out for large retailers and a year for small stores. A ten cent (\$0.10) fee for paper bags charged one year after law is effective.	Large retailers 6-months after phase out period. Small retail stores one year after law become effective.	Passed 5/23/2012; Ordinance pending after environmental review

Source: COG Staff research 2012

Table 3: United States Bag Bans (continued)

Locality	Legislation	Action	Applies To	Enforcement Date
Los Angeles County, CA	Ban/Fee	Bans plastic carry-out bags; applies \$0.10 fee for recyclable paper carry-out bags	(Within unincorporated areas of county) Any retail store of at least 10,000 sq. ft.; Store with annual gross sales of two million dollars that sells dry grocery, canned goods or nonfood items	7/1/2011; 1/1/2012
Malibu, CA	Ban	Bans plastic bags and compostable plastic bags.	Grocery Stores, food vendors, restaurants, pharmacies, and city facilities six months after effective date of ordinance; all remaining retail establishments, vendors, and non-profit vendors 1 year after effective date.	12/27/2008; 6/27/2009
Marin County, CA	Ban/Fee	Bans single-use carry-out bags; After 1/1/2012 a store may provide recycled paper bags upon request for a reasonable cost, but not less than \$0.05	(Within unincorporated areas of Marin county) Drug stores, pharmacies, Super markets, grocery store, convenience food store, food mart, or other entity engaged retail sale of food goods; Store of at least 10,000 sq. ft.; Store with annual gross sales of two million dollars that sells dry grocery, canned goods or nonfood items	1/1/2012
San Francisco, CA	Ban/Fee	Ban on plastic bags after 12/1/07; Customers charged at least \$0.10 per recyclable paper bag and/or reusable bag at point of sale after 10/1/2012; Customers charged at least \$0.10 per compostable plastic bag after 10/1/2013	All retail and food establishments located within the geographical limits of the city and county of San Francisco.	12/1/2007; 10/1/2012

Source: COG Staff research 2012

Table 3: United States Bag Bans (continued)

Locality	Legislation	Action	Applies To	Enforcement Date
Aspen, CO	Ban/Fee	Bans the distribution of a "Disposable Plastic Bag" to customers at point of sale. Grocers must collect a \$0.20 fee for each disposable paper bag provided to the customer.	Grocer-any retail establishment that is a full-time, self-service market which sells a line of staple foodstuffs, meats, produce, household supplies, or dairy products or other perishable items	10/2011
Westport, CT	Ban	Any person engaged in retail sales shall provide only reusable and/or recyclable paper bags.	All retail stores except non-profit organizations.	3/19/2009
Honolulu, HI	Ban	Businesses prohibited from providing non-biodegradable plastic and non-recyclable paper bags to customers.	Any commercial enterprise or establishment operating in the city and county of Honolulu.	Passed 5/10/2012; Effective 7/1/2015
Kauai County, HI	Ban	Only recyclable paper bags, biodegradable bags, and/or reusable bags shall be provided as checkout bags to customers.	All grocery stores, pharmacies, liquor stores, "mini-marts", and retail stores and vendors selling clothing, food and personal items.	7/22/2009
Maui County, HI	Ban	Prohibits businesses from providing plastic bags to their customers for transporting groceries or other goods.	Any commercial enterprise or establishment including non-profit organizations.	1/11/2011
Rye, NY	Ban	Any person engaged in retail sales shall provide only reusable and/or recyclable paper bags.	Retail Stores, sidewalk sales, farmers' markets, flea markets, and restaurants.	5/7/2012

Source: COG Staff research 2012

Currently, there are nearly 50 localities in California alone, approximately 70 communities nationwide, with some form of bag legislation and several cities and counties have adopted combination laws that ban plastic bags and impose fees on paper bags. In addition, Carpinteria, California, became the first city to adopt a law prohibiting retailers from providing plastic or paper single-use carryout bags to customers, effective July 11, 2012. The City of Los Angeles has been the most recent and largest city to pass a bag ban. Since 2009, bag legislation has

increased exponentially, yet there is still limited data on the overall effectiveness of the bans once they have been adopted.

Table 3: United States Bag Bans (continued)

Locality	Legislation	Action	Applies To	Enforcement Date
Southampton Village, NY	Ban	Any person engaged in retail sales shall provide only reusable and/or recyclable paper bags.	Retail Stores, sidewalk sales, farmers' markets, flea markets, and restaurants.	11/6/2011
North Carolina	Ban	Bans plastic bags unless the bag is a reusable bag or used to package meat, fish, or poultry.	Retailers in a county which includes a barrier island or barrier peninsula. (Outer Banks, NC)	6/24/2009
Portland, OR	Ban	Stores shall only provide recycled paper bags, compostable plastic bags, or reusable bags.	Any full-line self service retail store with gross annual sales of \$2 million or more and which sells a line of dry grocery, canned goods, or non-food items and some perishable items	10/15/2011
Austin, TX	Ban	Single-use carryout bags are prohibited and business establishments must display signage advising	All business establishments, City facilities, City-sponsored events, or any event held	3/12/2012; 3/1/2013
Edmonds, WA	Ban	Bans distribution of single-use plastic bags to customers.	All retail establishments	8/27/2009
Seattle, WA	Ban	Bans distribution of single-use carryout bags to customers. All establishments shall collect a pass-through charge of not less than \$0.05 per recyclable paper carryout bag provided.	All retail establishments	7/1/2012

Source: COG Staff research 2012

*Bans Not included: Fairfax, CA; Long Beach, CA; Manhattan Beach, CA; Palo Alto, CA; San Jose, CA; Santa Clara County, CA; Santa Monica, CA; Solana Beach, CA; Sunnyvale, CA; and Brownsville, TX; Corvallis, OR.

Los Angeles County just recently marked the one-year anniversary of its plastic bag ban and paper bag fee in large retail stores (stores that are 10,000 sq. ft. and/or record annual gross sales of \$2 million). The ordinance has resulted in a 95 percent reduction in overall single-use bag usage (paper and plastic) in the unincorporated areas of the county. The 95 percent reduction is a result of the complete elimination of plastic bags and a 30 percent reduction in paper bag usage, as seen in charts 3 and 4.

Los Angeles County Quarterly Report Results

Chart 3: Paper Bag Usage

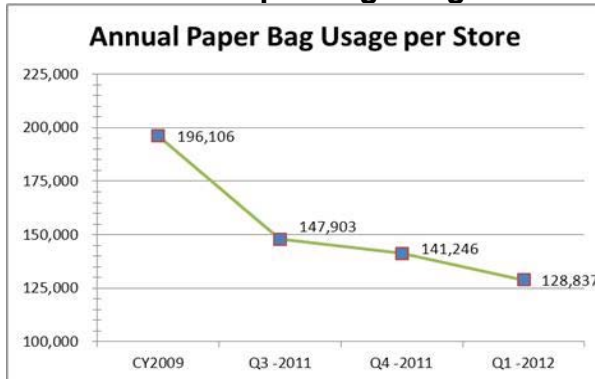
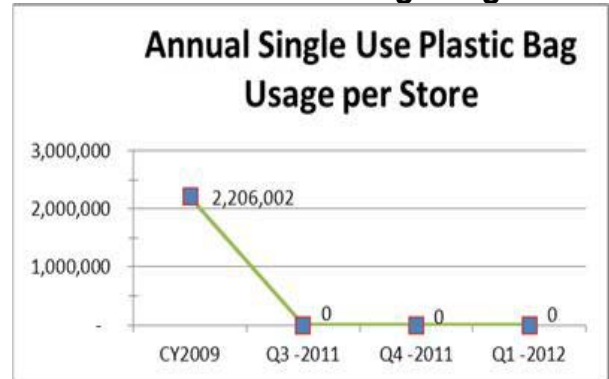


Chart 4: Plastic Bag Usage



Note: Reduction of single use bags was determined by comparing extrapolated Quarterly Report data with reported plastic bag usage in 2009 and estimated paper bag usage based on Bag Usage Survey conducted for the County Bag EIR

Source: County of Los Angeles Department of Public Works, Environmental Programs Division 2012

Bag Fees

Bag legislation varies considerably across the United States. Since there have been few national and state-wide laws aimed at single-use carryout bags, most action is carried out on a local level. Forty-nine localities in California have adopted some form of bag legislation and the ordinances and codes are variable; in fact, there are approximately 22 different versions of bag laws in the California. Laws vary from all out bans of both plastic and paper single-use bags to bans on just plastic bags. Other laws specify the thickness or chemical composition, ability to recycle, and the percentage of recycled content.

The majority of legislation in California both bans plastic bags and imposes a fee on paper bags, a fee which stores retain to cover any expenses related to the legislation. No percentage of the imposed fee can be collected by the local governments under California State law. Only a few localities outside of California have successfully imposed fees without a ban. The District of Columbia and Montgomery County are the only two U.S. localities to have successfully implemented five-cent fees on both plastic and paper bags. The City of Toronto had implemented a five-cent fee on plastic bags in June of 2009, but recently opted for a ban on plastic bags at all retail stores, beginning in 2013.

Overtured Laws

In 2009, COG staff cited four overturned bag laws in the United States. Since 2009, Oakland has been the only city on that list to not have later passed a ban or fee in plastic bags.

In August 2009, Seattle, Washington, implemented a 20-cent bag fee which was overturned by a referendum vote of 58 percent to 42 percent. City leaders had passed the ordinance; however, strong lobbying emerged from the plastics industry, outspending opponents 15 to 1. In December 2011, Seattle passed a combination bill which included a ban on single-use plastic bags and a five cent fee for paper bags.

Table 4: United States Bag Laws Overturned

Locality	Bag Type	Law	Background	Result
Fairbanks, AK	Plastic	Scheduled to take effect 1/1/2010, all retail sellers would charge and collect a 5 cent fee for each plastic bag provided.	Fairbanks North Star Borough Assembly approved ordinance 9/10/09.	Assembly members voted to rescind their previous vote and the ordinance 10/08/09 after input from the Recycling Task Force and others in recycling community
Oakland, CA	Plastic	Ban on non-compostable plastic bags scheduled to take effect 1/2008 for retail establishments that gross \$1 million or more in annual sales	Sued by Coalition to Support Plastic Bag Recycling in April 2008. The Alameda County judge granted an injunction against the ban ruling that the city failed to conduct an Environmental Impact Report required by state law.	Law overturned in court 4/2008
Basalt, CO	Plastic & Paper	Bans grocers from distributing plastic bags and charges \$0.20 per paper bag.	In a vote of 401-363, voters in Basalt, with population of 3,300, turned down the ballot measure.	Voted down 4/2012

Source: COG Staff research 2012

The American Progressive Bag Alliance, Coalition to Support Plastic Bag Recycling, and representatives in the plastics industry had relative success in lawsuits against bag ordinances on the West Coast. There were two obstacles that faced officials and citizens that proposed bag legislation. Under California state law, local governments may not impose any form of a tax on its residents. This law prevents localities from collecting a fee subject to state sales tax or to fund government led environmental efforts. Instead, any fees enforced by local ordinances must be fully retained by retailers.

In addition, California state law and the California Environmental Quality Act (CEQA) require an Environmental Impact Report (EIR) before implementation of any bag legislation. Palo Alto, one of the localities sued by Save the Plastic Bag Coalition, reached an out of court agreement to conduct an environmental impact study before banning bags at establishments other than grocery stores. Similarly, a court ruled on February 20, 2009 that an environmental impact report was required for Manhattan Beach before a ban could be implemented. City officials successfully appealed the ruling which was later overturned in July 2011. Currently, Oakland, California; Fairbanks, Alaska; and Basalt, Colorado are the three current localities whose bag laws have remained overturned.

Laws Encouraging Recycling

Many state and local governments have passed legislation that encourages or mandates the use of reusable bags or recycling of single-use carryout bags. The laws generally require retailers to provide facilities or options for recycling or to encourage voluntary recycling. California, Delaware, New York, and Rhode Island each have some form of a mandatory recycling law. Several cities such as Tucson, Arizona; Chicago, Illinois; and Madison, Wisconsin have implemented their own mandatory recycling programs as well.

Maine, Illinois, and Massachusetts have statewide voluntary recycling laws encouraging residents to recycle. Massachusetts also set goals to reduce distribution of paper and plastic bags 33 percent by 2014. The Massachusetts Department of Environmental Protection reported in 2011 that this goal had been met.

Illinois passed the *Plastic Bag Recycling Act*, effective January 1, 2008. The Act created the Plastic Bag Recycling Task Force which would collaborate with the Illinois Environmental Protection Agency on a report of the voluntary recycling pilot program in Lake County to be submitted to the Governor and General Assembly of Illinois. The participating retailers were required to implement a plastic bag collection program, provide a clearly marked receptacle, and arrange for the pick-up, transport, and recycling of the bags.

In the 2010 report to the General Assembly, the Task Force estimated 500,000 tons of plastic bags and film are dumped in landfills each year in Illinois, representing a potential market value of over \$100 million. During the pilot program, which ran from May through December of 2009, the Task Force reported collecting 259,183 pounds of plastic film with a market value of \$26,000.

In 2007, the Arizona Food Marketing Alliance in collaboration with the City of Phoenix launched Bag Central Station, a campaign that promotes the recycling of plastic bags. Officials recognized that while plastic bags are recyclable, they cannot be accepted by curbside collection. They must be collected separate from other recycled materials in order to prevent damaging processing equipment. The program expanded to other cities in Arizona, including Tempe and Tucson. In Tucson, the Bag Central Station program was codified in 2009 and required retail establishments over 10,000 square feet to provide recycling bins for plastic bags.

Table 5: United States Recycling Laws

Locality	Bag Type	Action	Applies To	Action Type	Enforcement Date
Arizona	Plastic	Collaboration between: City of Phoenix, Phoenix Arizona Food Marketing Alliance, and participating stores to create the "Bag Central Station" program.	Participating Stores and Cities	Mandatory in Tucson; Voluntary in other participating cities.	Phoenix:7/07 Tempe: 3/09 Tucson:9/10
California	Plastic	At-Store Recycling Law requires large grocery stores and drug stores to collect plastic bags for recycling.	Large Grocery Stores and Drug Stores	Mandatory	7/2007
Solana, CA	Plastic	Voluntary recycling program for plastic bags; utilizing three collection bins in public buildings and sends clean plastic bags directly to Trex Co. Inc.	Voluntary	Voluntary	08/2009
Delaware	Plastic	HB 15-2009 requires large retailers and chain stores offering plastic bags to offer plastic bag recycling bins, print message encouraging reuse or recycling of plastic carryout bags, and make reusable bags available for purchase.	Retail establishments of at least 7,000 sq. ft. or has 3 or more stores or retail locations in the state.	Mandatory	12/2009
Illinois	Plastic	Plastic Bag Recycling Act which created a Task Force charged with developing and implementing a pilot program in Lake County. The program included 76 volunteer retailers and produced a report for the Illinois General Assembly in May 2010	Voluntary	Voluntary	1/1/2008

Source: COG Staff research 2012

Table 5: United States Recycling Laws (continued)

Locality	Bag Type	Action	Applies To	Action Type	Enforcement Date
Chicago, Illinois	Plastic	Plastic bag recycling initiative requiring an in-store recycling program and requires manufacturers of plastic carryout bags to make arrangements for collection, transport, and recycling of carryout plastic bags upon request of the retail store.	Stores that provide plastic carryout bags and the manufacturers	Mandatory	2008
Maine	Plastic	Stores must provide a receptacle for collecting any plastic bags and ensure that the plastic bags collected are recycled or delivered to a person engaged in recycling plastics.	Retail Establishments that distribute plastic bags.	Voluntary	2010
Massachusetts	Plastic & Paper	Mass. Dept. of Environmental Protection signed a MOU with the Massachusetts Food Association. Sets goal to reduce distribution of paper and plastic bags 33% by 2013. MDEP announced in Dec. 2011 that goal had been met.	All member stores of the Massachusetts Food Association.	Voluntary	3/12/2009
New York	Plastic	Establishes an at-store recycling program for customers to return clean plastic carryout bags.	Operators of retail establishments over 10,000 sq. ft. or a chain of 5 or more stores	Mandatory	1/1/2009

Source: COG Staff research 2012

Table 5: United States Recycling Laws (continued)

Locality	Bag Type	Action	Applies To	Action Type	Enforcement Date
New York, NY	Plastic	Establishes an in-store recycling program; every carryout plastic bag provided by the store requires a message encouraging recycling or reuse of plastic bags.	Retail or wholesale establishments , other than a food service establishment, that has over 5,000 sq. ft. or is one of a chain of stores.	Mandatory	1/23/2008
Philadelphia, PA	Plastic	Resolution #090861 urges implementation of plastic bag recycling in their stores to reduce littering and plastic bag waste.	All Philadelphia retail stores	Voluntary	11/19/2009
Rhode Island	Plastic	Statewide voluntary plastic bag recycling program. In 2008, expanded to all large retailers requiring reporting and expanding the products accepted for recycling.	Voluntary statewide; Mandatory for all large retail stores	Mandatory for all large retail stores	2004; Amended 2008
Austin, TX	Plastic	Participating retailers and government work to reduce plastic bag disposal by 50% in 18 months	Voluntary	Voluntary	4/2/2008
Isle of Wight, VA	Plastic	3 collection bins at county disposal sites. Education campaign. \$16,000 toward a plastic bag baler.	Residents of Isle of Wight	Voluntary	8/5/2009
Madison, WI	Plastic	Requires plastic bags to be recycled at one of thirteen city run collection sites or at businesses that already recycle plastic bags.	Residents of Madison	Mandatory	6/8/2009

Source: COG Staff research 2012

International Programs

Ireland

Countries from nearly every continent of the world have adopted or implemented legislation to curb the use of single-use disposable bags. Ireland, leading the way in international legislation, levied a 15 euro cent tax per plastic bag sold nation-wide, known as the PlasTax. The tax was implemented in 2002, and has since increased to 22 euro cents in 2007. There are plans to

further increase the tax to 44 euro cents. The program was reported to have major success in its early months and served as a model for others pushing for similar legislation. Revenue from the tax is paid into an environmental fund, which is administered by the Department of Environment, Community and Local Government, to support a wide range of environmental programs. Since introduction of the levy, €166 million has been collected.

Table 6: International Bag Laws

Locality	Law	Implemented
Bulgaria	Impose a tax of 0.15 Bulgarian leva (\$0.10 US) to increase annually to 0.55 Bulgarian leva (about \$0.35 US) per bag.	10/1/2011
Ireland	PlasTax introduced in 2002. Levied a tax of 15 euro cents per bag. Increased to 22 euro cents in 2007. Plan to increase the tax again to 44 euro cents .	3/2002
Italy	Bans plastic bags.	1/1/2011
Rwanda	Nationwide ban on single-use disposable plastic bags.	09/2008
Uganda	Manufacture, import and use of plastic bags thinner than 30 microns will be banned. All other polythene will be subject to 120% tax.	7/1/2007
Somalia	Bans plastic bags.	2005
South Africa	Banning plastic bags thinner than 30 microns.	5/2003
Eritrea	Nationwide ban on plastic bags.	2005
Kenya	Ban on "thin" plastic bags.	2008
Ethiopia	Bans the manufacture and import of plastic bags less than 0.33 mm in thickness.	2008
Taiwan	Bans free light-weight plastic bags.	3/2003
China	All supermarkets, department stores and shops will be prohibited from giving out free plastic bags.	6/2008
Dhaka, Bangladesh	Bans plastic bags.	1/2002
South Australia	Prohibits HDPE plastic bags less than 35 microns thick. Part of the South Australian Government's "Zero Waste" policy.	5/4/2009
Northern Territory, Australia	Prohibits stores from giving or selling single-use, non-biodegradable plastic bags.	2/24/11
Toronto, Canada	Prohibits retail stores from offering single-use plastic carryout bags.	1/1/2013
Mexico City, Mexico	Ban on non-biodegradable plastic bags.	8/19/2009

Source: COG Staff research 2012

Pre-Waste consortium is composed of representatives from European Union (EU) member states and stakeholders that deal with waste prevention and management. Pre-Waste published a report in November of 2011 showing 90 percent of consumers use reusable/lifelong bags, six percent use cardboard boxes, four percent use plastic bags, and one percent uses other

means. Prior to the PlasTax, consumption of plastic bags was recorded at 328 bags per inhabitant per year. Immediately following the initial 15-euro cent tax, there was a 90 percent reduction in plastic bag consumption, resulting in a consumption rate of just 21 bags per inhabitant per year. In 2007, five years after the law had been enacted, there was a slight increase in consumption to 33 bags per inhabitant per year which prompted officials to increase the fee to 22 euro cents. In response to the 7-cent increase, consumption decreased to 18 bags per inhabitant per year for 2010.

Toronto

Toronto, Canada implemented a five cent tax on plastic bags in June of 2009. The city does not obtain or retain retail sales figures on the number of plastic retail bags distributed from stores in Toronto; however, they have received feedback from major retailers describing the reduction in plastic bag use. Three of those retailers reported reductions in plastic bag distribution ranging from 70 to 75 percent. In June 2012, the city council passed an outright ban of plastic bags in Toronto in response to a last minute motion.

Internationally, Wal-Mart has led the way with a global bag reduction initiative, partnering with the Environmental Defense Fund in 2008. Wal-Mart has been working to reduce the weight of plastic bag waste across their global operations by an average of 33% per store. Wal-Mart Brazil has led efforts by committing to reductions of 50% by 2013 through the sale of 2.5 million reusable bags. Their most successful initiative has been an incentive program providing customers with discounts for not using plastic bags. Since 2008 when the initiative began, the program has awarded more than \$1.1 million in customer rebates. Other Wal-Mart global programs have seen success in Chile, Mexico, Argentina, and China.

VI. Observations and Analysis

An increasing number of governments around the world are proposing and implementing varied forms of bag legislation in an effort to reduce bag pollution. These various laws include:

- banning specified bags
- fees charged for specified bags
- mandatory recycling laws
- voluntary or promotional campaigns that encourage recycling, reuse, and reduction

In the 2009 COG Plastic Bag Report, many of the laws that had been passed in the United States were new and there was a lack of data to analyze. Nevertheless, with the rise of bag legislation in the United States, it is evident that city officials and citizens see the benefits in strategies that influence consumer behavior and reduce the impact of single use bags on the environment.

Before the 2009 COG report was released, no community had tried to implement a ban on both paper and plastic bags. Carpinteria, California, became the first community in 2011 to adopt

such legislation which, initially, will ban both paper and plastic bags at large retail establishments and then affect smaller retailers 6 months later. In July 2012, the city council approved to revise the law to exempt small retailers. Overall, it is reasonable to assume that acceptance of bag bans and reduction programs has increased since 2009. As for the effectiveness of the Carpinteria law and others, results are pending.

One of the concerns of the 2009 COG report was that a ban or fee on plastic bags would increase paper bag consumption as customers try to substitute one disposable bag for another. The Los Angeles County data, as seen in Charts 3 and 4, gives a little insight into the effectiveness of a combination law which bans plastic and charges a fee for paper. Plastic bag consumption was eliminated and paper bag use is in a steady decline. The results in Los Angeles County indicate that addressing both plastic and paper bags can be successful.

Fees programs have seen success as well, though success of the Montgomery County and the District of Columbia fees is only supported by anecdotal and survey evidence. Ireland's PlasTax has caused a significant reduction in consumption. The tax required a fee increase in response to an increase in consumption, but has since subsided below the initial post-levy levels. Montgomery County and the District could see similar results from their five-cent fee in the future. In localities that have not pursued bag laws or where authority to pass laws does not exist, voluntary or mandatory recycling programs are the best alternative. Given the difficulties of collecting bags in curbside collection programs, the best approach is retailer-based collection where the material is not mixed with other recyclables.

Internationally, life-cycle assessment studies and pollution reports have been published and released with some regularity. However, in the United States, few localities have pursued such studies to track the progress of bag legislation. Revenue reports, when available, are useful in providing the number of bags distributed and the level of funding for environmental causes, yet, those reports only apply to the few localities which impose fees and do not necessarily reflect the behaviors of consumers or explain how bag pollution is being affected. California requires EIR's before bag legislation can become effective. The data from these reviews are often estimates and concentrate on how implementation of the law would negatively affect the environment. The Anacostia Watershed Society and staff members at COG are currently collecting data which may finally galvanize conclusions from other studies.

The District of Columbia and Montgomery County have become a national testing ground for bag legislation, and any successes or failures seen in this region will most likely influence decision makers in other localities. Future data provided by COG staff and the Anacostia Watershed Society may prove to be crucial evidence of bag-fee program effectiveness; however one of the difficulties in deciphering the data is recognizing the source. The Anacostia River's watershed lies within the District of Columbia, Montgomery County, and Prince George's County. The downfall is that a majority of the watershed's tributaries are located within Prince George's County, where there are no laws addressing single-use bags. As a result, staff cannot determine whether the pollution has been carried downstream from Montgomery County or Prince George's County tributaries by the time it reaches the mainstream of the Anacostia in the

District of Columbia. It will also be important to understand the methodologies used in these studies as the quantity counts vs. weight counts, wet weight vs. dry weight, and visible floating debris vs. submerged litter factors can all dramatically influence the interpretation of results.

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Appendix A: COG Resolution R19-09

Resolution R19-09
April 8, 2009

**METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
777 N. Capitol St., N.E.
Washington, DC 20002**

RESOLUTION SUPPORTING CONSIDERATION OF MEASURES TO GREATLY REDUCE THE OCCURRENCE OF PLASTIC BAGS IN THE REGION'S RIVERS AND STREAMS

WHEREAS, the Potomac and Anacostia Rivers and their many tributaries are a vital recreational resource for the region and a key contributor to the region's quality of life; and

WHEREAS, this resource is severely degraded by the many forms of trash that float on the surface and collect on the shorelines of these rivers and streams; and

WHEREAS, available data indicate that plastic carryout bags are the largest single source of trash in the Anacostia River tributaries, and one of the largest sources in the Potomac and Anacostia rivers; and

WHEREAS, plastic carryout bags create significant litter problems in the Metropolitan Washington region's streets, sewer systems, streams, and the environment; and

WHEREAS, other jurisdictions worldwide have seen a dramatic decrease in disposable bag use when small fees have been implemented that encourage consumers to choose reusable shopping bags; and

WHEREAS, more than 100 political leaders in the Potomac Watershed have signed the Potomac Watershed Trash Treaty committed to a "Trash-Free Potomac by 2013"; and

WHEREAS, through Resolutions R77-07, R15-06 and R40-05, the Metropolitan Washington Council of Governments (COG) has affirmed its support for meeting the goal of a Trash Free Potomac by 2013.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS THAT:

1. COG supports local and regional efforts to eliminate the widespread and chronic problem of plastic bags that pollute the region's streams and rivers.
2. The COG encourages each of the signatories of the Potomac River Trash Treaty to assess the feasibility of implementing measures, both regulatory and incentive-based initiatives, to address this problem.
3. The COG directs the Chesapeake Bay and Water Resources Policy Committee to work with appropriate COG technical committees to: survey the effectiveness of measures that have been considered and implemented elsewhere aimed at reducing the incidence of plastic bags in waterways; and compile data demonstrating the extent of the occurrence of plastic bags in waterways in the COG region. The findings of these analyses should be presented to the Council within three months of the date of this resolution.

Appendix B: COG Resolution R57-09

Resolution R57-09
October 14, 2009

**METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
777 North Capitol Street, NE
Washington, DC 20002**

RESOLUTION SUPPORTING MEASURES TO REDUCE THE OCCURRENCE OF PLASTIC BAGS IN THE REGION'S RIVERS AND STREAMS

WHEREAS, the Potomac and Anacostia Rivers and their many tributaries are a vital recreational resource for the region and a key contributor to the region's quality of life; and

WHEREAS, this resource is degraded by the many forms of trash that float on the surface and collect on the shorelines of these rivers and streams and surveys indicate that disposable plastic bags are a significant component of such pollution; and

WHEREAS, through Resolutions R77-07, R15-06 and R43-05, the Metropolitan Washington Council of Governments (COG) has affirmed its support for meeting the goal of a Trash Free Potomac by 2013; and

WHEREAS, the District of Columbia has taken action to impose a fee on major sources of such bags and will use the fees collected to defray the cost of reusable bags and to support water restoration activities in the Anacostia River watershed; and

WHEREAS, a number of other initiatives aimed at curtailing plastic bag pollution have been launched in other cities and regions in recent years; and

WHEREAS, the COG Board passed Resolution R19-09, directing the Chesapeake Bay and Water Resources Policy Committee (Committee) to survey the effectiveness of measures taken elsewhere to reduce the incidence of such pollution, to review data on the incidence of such pollution locally and to analyze the effectiveness of existing local recycling programs that address this issue; and

WHEREAS, the Committee has reviewed a report by COG staff addressing these issues and recommends that a regionally consistent approach for reducing plastic bag pollution be implemented.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS THAT:

1. COG will include in its state legislative package support for initiatives in Maryland and Virginia designed to reduce the incidence of plastic bag pollution that are consistent with legislation enacted in the District of Columbia.
2. COG encourages its membership to include the issue of plastic bag pollution in citizen outreach efforts, focused on use of reusable bags and recycling of plastic bags. COG's Recycling Committee is directed to facilitate exchange of best practices among the COG membership.
3. COG directs the Chesapeake Bay and Water Resources Policy Committee to continue to track the effectiveness of plastic bag initiatives in the United States as well as internationally, and to report back to the Board as appropriate.