



---

**DATE:** September 11, 2014

**TO:** Waste Management Authority and Recycling Boards

**FROM:** Gary Wolff, Executive Director

**BY:** Meri Soll, Senior Program Manager

**SUBJECT:** Reusable Bag Ordinance – Update and Change in Bag Price Recommendation

---

## **BACKGROUND**

The Reusable Bag Ordinance (ACWMA 2012-02) (RBO) was adopted by the Authority Board on January 25<sup>th</sup>, 2012. The purpose of the ordinance is to reduce the use of single use carryout bags and promote the use of reusable bags at point of purchase.

Written in Section 4 (c ) of ACWMA Ordinance 2012-2 is language that would require affected stores starting January 1, 2015 to make available for sale to a customer a reusable bag or recycled paper bag for a minimum price of 25 cents *unless* the Authority Board finds that the ordinance has substantially reduced the environmental impacts of single use bags. IF the Authority makes this finding after January 1, 2014, then the minimum 10 cent price required by the ordinance will remain unchanged.

The memo includes five sections:

1. Overview of Ordinance
2. Enforcement Activities
3. Ordinance Effectiveness Analysis
4. Pending State Legislation
5. Change in Bag Price

## **DISCUSSION**

### ***1. Ordinance Overview***

The goal of the ordinance is to reduce environmental and litter impacts associated with the use of single use bags – using a minimum 10 cent price on both reusable and recycled content paper bags as an incentive for shoppers to bring their own bags. The ordinance currently affects 1288 stores that primarily sell packaged food and/or alcoholic beverages. The RBO prohibits affected stores from distributing single use carry out bags at point of sale and requires affected stores to:

- Offer only compliant reusable (including recycled content paper) bags at checkout;
- Charge a minimum 10 cent price for each compliant bag voluntarily purchased by customers;
- Itemize the price on customers' receipts.

## **2. Enforcement Results**

All affected stores were inspected by end of FY 13-14; 84% of inspected stores were found compliant with ordinance requirements. We are seeking to achieve 100% compliance. A more detailed account of enforcement activities relating to the RBO can be found in the Ordinance Enforcement Update memo which is part of this Board packet. Brian Mathews, Enforcement Officer, will provide an enforcement update at the combined Board meeting.

## **3. Ordinance Effectiveness Analysis**

**To measure the impact of the ordinance on litter reduction**, we partnered with the Alameda Countywide Clean Water Program to conduct an Alameda Countywide Storm Drain Trash Monitoring and Characterization Study (see Attachment A). The Authority's main goal of the study was to assess the effectiveness of the RBO by evaluating the rate at which plastic bags were observed in storm drains fitted with storm drain capture devices prior to, and after the ordinance. According to the study, the number of single use plastic bags observed in Alameda County storm drains appears to be decreasing over time. The number of bags observed during this study (conducted in 2014) was significantly less than the number observed in a similar 2011 study conducted for the Bay Area Stormwater Management Agencies Association (BASMAA). Plastic bags found in storm drains decreased by roughly 44%. This decrease coincides with the adoption and implementation of our RBO.

**To assess consumer behavior change**, staff conducted visual observations of customers at affected retail stores before and after the ordinance went into effect. Staff observed shoppers leaving retail stores for one hour and counted the number and type of bags, or lack of a bag, that customers used to carry their purchases. Observations were made at 17 stores that included a variety of store types such as grocery, pharmacy, convenience and big box stores throughout Alameda County. Data analysis of the observations at these stores showed a 69% decrease in paper and plastic bags. In addition, the number of shoppers bringing reusable bags and opting for no bag to carry items out of the store more than doubled. The number of bags (both plastic and paper) decreased from 1.8 bags per customer to .5 bags per customer, showing that the ordinance has created behavior change. Comprehensive study results are presented in Attachment B.

**To measure change in bag purchasing activities by affected stores**, staff used data from five different types of large and small "chain" stores with a presence in Alameda County. Specifically, we used bag purchasing data for the years 2012 (pre-ordinance) and 2013 (post-ordinance). Chain stores were comprised of a variety of store types - pharmacy, grocery, gas station markets, and big box stores; purchasing data for a total of 69 stores across the five chain stores was compiled. The purchasing data shows that these stores decreased their bag purchasing by 85% – translating to a decrease of almost 40 million bags in just one year. Of note is the fact that in 2013, no plastic bags were purchased by these stores and yet the number of paper bags purchased decreased by 36%. This shows that customers are not switching from plastic bags to paper bags but rather bringing their own bags or hand carrying their purchases. This data set shows that the demand for bags at

point of purchase has decreased dramatically as a result of the ordinance. Detailed Purchasing Data is presented in Attachment C.

**To measure the impact of the ordinance on Greenhouse Gas (GHG) emissions,** staff used both bag purchasing and observational data to assess GHG emissions as a result of Ordinance 2012-2. Using GHG emissions data from the Environmental Impact Report (EIR) conducted for the Reusable Bag and Mandatory Recycling Ordinances, it is estimated that 539 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>E) was reduced due to the change in bag purchasing activities for 69 Alameda County stores. According to the EPA, 539 MTCO<sub>2</sub>E is equivalent to the GHG emissions generated from 113 passenger cars over a one year period. If this GHG reduction data was extrapolated to all 1288 stores affected under the ordinance, the GHG reductions would be significantly higher.

A GHG analysis on the observational data of 17 stores shows a decrease of 54lbs of GHG emissions based on 2,115 fewer plastic bags observed in 2013 and a slight increase in GHG emissions of 5 lbs based on 103 more paper bags observed in 2013 compared to 2012. The net result is an overall net decrease of 49 lbs. CO<sub>2</sub> emissions due to change in consumer behavior.

DATA SOURCE	GHG Emissions Plastic Bags	GHG Emissions Paper Bags	Total GHG Emissions Results
Purchasing Data (69 Alameda County Stores)	DECREASE 430 MTCO <sub>2</sub> E	DECREASE 109 MTCO <sub>2</sub> E	<b>DECREASE 539 MTCO<sub>2</sub>E</b>
Observational Data <sup>1</sup> (17 Alameda County Stores)	DECREASE 54 LBS CO <sub>2</sub>	INCREASE 5 LBS CO <sub>2</sub>	<b>DECREASE 49 LBS OF CO<sub>2</sub></b>

<sup>1</sup> – Due to the smaller data set, emission reductions reported in lbs of CO<sub>2</sub> not MTCO<sub>2</sub>E

The EIR for this project includes research conducted for the Australian government that *shows that all types of reusable bags have a lower GHG impact*, as long as they are used anywhere from 1.65 times for a woven HDPE bag to 9.1 times for a cotton bag. The EIR states that "the results of the analysis show that over the course of a year, virtually any type of reusable bag is environmentally superior to single-use bags. Although reusable bags may result in greater impacts than single-use bags in a bag to bag comparison, once they are reused a sufficient amount of times they become the superior option for every environmental indicator analyzed."

## **SUMMARY OF METRICS**

Metric	Pre-Ordinance	Post-Ordinance
Stormwater Trash Analysis <i>(40 storm drains throughout Alameda County fitted with capture devices monitored pre and post ordinance)</i>	Number of bags found (2011) 42  Average annual # of single use bags at 40 sites: 1.15	Number of bags found (2014) 24 <sup>1</sup>  Average annual # of single use bags at 40 sites: .64 <sup>1</sup>
Visual Store Audits	Bags counted in 1 hour: • 2898 paper and plastic bags	Bags counted in 1 hour: • 886 paper and plastic bags

<p><i>(1 hour visits at 17 stores to observe the number and types of bags customers used to carry out purchases)</i></p>	<ul style="list-style-type: none"> <li>• 343 reusable bags</li> <li>• 281 shoppers opted not to take a bag</li> </ul> <p>Average number of bags per shopper (by bag type):</p> <ul style="list-style-type: none"> <li>• .4 paper bags</li> <li>• 1.4 plastic bags</li> <li>• .2 reusable bags</li> <li>• .2 No bags/hand carry</li> </ul>	<ul style="list-style-type: none"> <li>• 862 reusable bags</li> <li>• 722 shoppers opted not to take a bag</li> </ul> <p>Average number of bags per shopper (by bag type):</p> <ul style="list-style-type: none"> <li>• .4 paper bags</li> <li>• .1 plastic bags</li> <li>• .5 reusable bags</li> <li>• .4 No bags/hand carry</li> </ul>
<p><i>Store Purchasing Survey (Data compiled from 5 Chains totaling 69 stores in Alameda County)</i></p>	<p>Purchasing Data:</p> <ul style="list-style-type: none"> <li>• Over 36 million plastic bags</li> <li>• Over 13 million paper bags</li> </ul>	<p>Purchasing Data</p> <ul style="list-style-type: none"> <li>• 0 plastic bags</li> <li>• Over 8 million paper bags</li> </ul>
<p><i>GHG emissions (Calculations derived from EIR GHG data using store purchasing data from 69 stores)</i></p>	<p>N/A</p>	<p>Reduction of 539 MTCO<sub>2</sub>E</p>

<sup>1</sup> In 2014 study, 6 bags were found at 40 storm drains with capture devices over a 3 month period; data normalized using 24 bags for a one year period for analysis.

#### **4. Pending State Legislation**

The proposed bill SB 270 is similar to our Ordinance 2012-2 in that it affects the same set of stores (mostly food stores, liquor stores and pharmacies), and requires stores that sell reusable bags and recycled paper bags to charge a price of at least \$0.10 per bag. There are some nuances, however, that make it different: including a requirement for recycled content plastic bags and allowance of compostable bags only in jurisdictions where residents have access to composting.

After a second attempt, SB 270 passed through the Assembly on August 28, 2014. September 30<sup>th</sup> is the deadline for the Governor to sign or veto bills. If passed, the law would go into effect January 1, 2015. Municipal Bag Ordinances in place before September 1, 2014 are not preempted. However, there is language in the bill that limits the changes that can be made to ordinances already in place; the only ordinance changes that would be allowed if SB 270 passes would be to 1) increase the minimum charge for bags and 2) expand the set of stores affected by ordinance. Summary of proposed legislation can be found in Attachment D.

#### **5. Changes to Ordinance**

As a result of the ordinance, people are bringing their own bags in larger quantities than expected. The data collected (anecdotal, quantitative and qualitative) has shown that the ordinance not only has had a positive impact on litter reduction but on waste prevention as well. There is an impressive decrease in the number of paper and plastic bags going home with consumers which translates into saving more resources than originally anticipated.

The data compiled by staff demonstrates that the ordinance has been effective and met the intended goals of:

- Significant reduction in the use of single use bags,
- Considerable increase in the use of reusable bags,
- Positive environmental impacts including:
  - Greenhouse Gas reduction,
  - Waste reduction, and
  - Resource conservation.

As a result, staff concludes that the minimum ten cent price is sufficient to substantially change behavior without any adverse consequences (e.g., an increase in paper bag use that leads to an increase in greenhouse gas emissions), and therefore should not increase to twenty-five cents on January 1, 2015.

When our ordinance was adopted, the WMA Board decided to consider possible expansion or modifications of the ordinance at around the same time as the minimum price decision. At the October committee meetings, staff will discuss the possibility of expanding the types of affected stores. We've separated this status report and minimum price finding memo from the larger discussion about possible changes to the ordinance because SB270 will be adopted or not by the end of September, and that decision by the State will affect what changes the WMA Board can even consider. Attachment E includes articles regarding pending SB 270 and by Save the Bay encouraging the expansion of our ordinance to all retail stores.

## **RECOMMENDATION**

Staff recommends that Authority Board make a finding that the ordinance has substantially reduced the environmental impacts of single use bags. Under the terms of the ordinance, making this finding means that the minimum price per compliant bag will not increase from 10 cents to 25 cents.

Attachments: (links)

- A: [Stormwater Study](#)
- B: [Visual Observation Study](#)
- C: [Bag Purchasing Data](#)
- D: [Proposed Legislation](#) (summary)
- E: Articles ([Save the Bay Blog](#) and [SB 270 recent article](#))