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Effects of Various Carryout Bag Policies

The memo presents a representative sample of the types of studies that have been conducted on the ramifications of different carryout bag policies. This memo is not intended to be an exhaustive list. More research needs to be done in this area to fully compare the impacts of the three main policy approaches and determine the degree of behavior change that each policy option entails.

Overview

There are 3 main types of policies enacted in the U.S. to reduce the use of carryout bags:

- Ban on plastic bags only
- Fee on plastic bags and paper bags
- Ban on plastic bags and a fee on paper bags (hybrid)

There are a few definitive evaluation studies that compare these three types of policies. Most available research and program evaluations focus on the effectiveness of fees to reduce bag use. Most policy experts and advocates seeking to reduce carryout bag use promote either of two policies: a fee on plastic bags and paper bags, or a ban on plastic bags and a fee on paper bags (hybrid). Few groups believe a ban on plastic bags only is the right policy.

Bans effectively address plastic waste. Fees are used to reduce all single-use bags. To change throw away consumer behavior and incentivize the switch to reusable bags, most experts believe a fee component is critical.

The hybrid ban on plastic + fee on paper is widely regarded as the most effective approach to address carryout bags. This type of policy eliminates all plastic bags, reducing their impact on plastic pollution and marine litter, and also reduces the consumption of other single-use bags.

Bag fees change consumer behavior

- *A* 2017 report compiled by the Scientist Action and Advocacy Network, evidence from academic and government commissioned studies, found that the percentage of customers using all types of single-use bags drops in response to both fee-only legislation and hybrid ban on plastic + fee on paper bags. **The study concluded that a ban without a fee is likely to be less effective than a policy with a fee component, and that either a fee on all single-use bags or a ban on plastic bags plus a fee on paper are effective in reducing single-use bag usage**. The Surfrider Foundation, a national advocate to reduce carryout bags, used this study, among others, to support California's 2016 law that bans plastic bags and includes a 10 cent fee on paper bags.

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- A 2013 study conducted by the Equinox Center compares the results from laws banning plastic and placing a minimum 10 cent fee on paper bags in San Jose, Santa Monica, and Los Angeles County, CA. On average, reusable bag use increased from 5% to 45% while the use of no bag at all increased from 17% to 40%. On average, paper bag use increased by only 16%.

- A 2014 article in Tulane Environmental Law Journal recommends, as the most effective policy options, a fee on all carryout bags or a ban on plastic and a fee on all other carryout bags. It reads: "Charging for all types of carryout bags has proven to lead to large reductions in single-use bag consumption while still providing customers with options… Charges have a greater impact on overall reduction in carryout bag use because charges effectively incentivize changes in consumer behavior, because customers are required to make a conscious decision to purchase a bag."

- Citizens Campaign for the Environment surveys conducted one month before, and four months after, a 5-cent fee took effect in Suffolk County, NY (on January 1, 2018), indicate that plastic bag usage dropped from 70% to 30%, while reusable bag use rose from just 5% to 43%. For this reason, the group is currently advocating for a hybrid plastic bag ban and a fee on paper for New York State.

- The City of Cambridge, MA ordinance banning plastic bags and placing a 10 cent fee on other bags took effect on March 31, 2016. In August 2016, the Department of Public Works and the Cambridge Recycling Advisory Committee found 50-80% reduction of single-use bags used at large businesses in the City.

- In Los Angeles County, CA the 10-cent bag fee (introduced in 2010) led to a 94% reduction in the use of single-use bag use, including a 25% decrease in paper bags, by 2012.

- In 2015, the City of Chicago, IL enacted a ban on plastic bags. The ban alone did not achieve the City's waste reduction goals. As a result, the City repealed the ban in favor of a 7-cent fee on both plastic and paper, effective February 2017. A December 2017 report compiled by the Scientist Action and Advocacy Network found that single use bag use declined by 33%.

- San Jose, CA's 2012 law, which bans plastic bags and places a 10 cent fee on other bags, reduced plastic litter by 69% in the storm drain system and 76% in creeks and rivers (by 2016). By 2017, 43% of customers were not using any bag to carry out items, versus 13% pre-ban.

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- After enacting a plastic bag fee of 5 cents in 2010, Washington, D.C.'s overall bag usage dropped by 60% by 2014, according to surveys conducted by the Department of Energy & environment

- The 2018 New York State Plastic Bag Task Force Report states that "on an international level, bag fees have resulted in a reduction in single-use plastic bag use ranging from 50-90%. The reported 90% decreases occurred in South Africa with a 50-cent bag fee, Ireland with a 21-cent bag fee and in the Channel Islands with an 8-cent bag fee. Ireland now has established a maximum fee of 70 cents per bag."

- A 2018 study published in Elsevier Press *Science of the Total Environment* found that plastic bags were the only litter category with a statistically significant downward trend in both the inshore and offshore regions, based on 25 years of seafloor litter monitoring. The study attributes the decline to bag fees in England, Ireland and other European countries.

Bag fees do not harm businesses or low income communities.

- Plastic bags cost about 1 to 3 cents each. Paper bags cost about 5-12 cents each, depending on qualities like thickness and whether the bag has handles. Laws that ban plastic and don't mandate a charge on paper bags cause little to no reduction in consumers' use of bags overall, and often result in stores absorbing the costs of providing paper bags for free. In addition to reducing the number of bags used, fees also allow stores to recover the cost of paper bags.

- A Triple Bottom Line Evaluation of Plastic Bag Policy Options conducted in 2012 for Fort Collins, Colorado by the Brendle Group report warns that if a policy "discourages plastic bags in favor of paper…costs (for retailers) could increase because paper bags are more expensive than plastic bags."

- When Chicago decided to ban plastic bags in 2014, the Illinois Retailer Merchants Association lobbied the City to include a 5 or 10 cent fee on paper bags to change consumer habits and relieve the burden on business.

- In Washington, D.C., 85 percent of stores reported a neutral or positive impact from the City's 2010 fee.

- Two follow-up studies of bag fees in California concluded that the economic impact on consumers and businesses was negligible. What impact there was stemmed from the higher cost of paper, not from a loss of customers over the fees.

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- In 2011, a Los Angeles County ban on plastic bags with a ten cent fee on paper bags took effect. In 2012, Los Angeles County estimated the economic impact of its ordinance at less than $4.00 per resident per year, which combines the effects of fewer paper bags used and no sales tax being charged on paper bags. This calculation does not account for the added value to residents, in the form of reduced taxes for litter abatement, increased property values, and the value of other environmental benefits associated with the law.

- An Equinox Center study (2013) estimated a per household cost of $7.70 in the first year after the City of San Diego passed a plastic bag ban with a 10 cent fee on paper bags, "to purchase reusable bags to account for any fees associated with paper bag usage. Recurring costs should decrease over time due to the long lifespan of reusable bags." The study reported a "short-term increase in baggage costs due to increased paper bag usage. These costs should be mitigated over time as consumer's transition to reusable bags."

- San Mateo County, California, imposed a 10 cent fee on disposable bags in 2013. The number of people bringing their own bags rose by 162 percent and orders for bags from retailers dropped by 84 percent. In 2015, San Mateo raised the fee for bags to 25 cents. Shoppers were uniformly supportive of the increase.

Negative economic and environmental impacts of paper bags

- The 2012 Triple Bottom Line Evaluation of Plastic Bag Policy Options conducted for Fort Collins, Colorado by the Brendle Group cautioned that the lifecycle impacts of single-use bags made from paper are "equal to or larger than that of single-use plastic bags… plastic bag policy with the intent of reducing life-cycle impacts should be designed so that consumers are not encouraged to use paper bags instead."

- The 2018 New York State Plastic Bag Task Force Report found that "…paper bags require a significant quantity of water to produce and take up more space than single-use plastic bags during shipping. Due to the increased energy required for both the production and transportation of paper bags, they have been found to have a greater carbon footprint than single-use plastic bags. Many municipalities report an increase in paper bag use after plastic bag bans go into effect. This is important to consider due to the amount of water required to produce paper bags."

- According to the 2010 study, *Master Environmental Assessment on Single-Use and Reusable Bags*, conducted for Green Cities California by ICF International, "Over its

life time, a single-use paper bag has significantly larger greenhouse gas (GHG) emissions and results in greater atmospheric acidification, water consumption, and ozone production than plastic bags."