

# LEGISLATIVE BUDGET AND FINANCE COMMITTEE

A JOINT COMMITTEE OF THE PENNSYLVANIA GENERAL ASSEMBLY

## A Study in Response to Act 2019-20: Non-Economic Impacts of Single Use Container Bans/Fees

June 2020



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Phone: 717.783.1600 Email: [lbfcinfo@palbfc.us](mailto:lbfcinfo@palbfc.us) Or find us here:

Web: <http://lbfc.legis.state.pa.us/> Facebook: [PA Legislative Budget and Finance Committee](#) Twitter: [@PA\\_lbfc](#)



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# REPORT SUMMARY



## Why we did this study...

- ❖ *Act 2019-20 requires the Legislative Budget and Finance Committee (LBFC) to conduct a broadly defined study on the “environmental impact and any impact” from any regulation of single-use plastics (and other materials) and to report findings to the General Assembly no later than July 1, 2020.*
- ❖ *With such a broad mandate, we focused our study on single-use plastic bags—and specifically the type that are frequently provided free-of-charge to consumers for carrying purchased items from the store to final destination.*
- ❖ *Single-use plastic bags have become a contentious issue as some governments have banned or placed consumer fees on the bags as a way of limiting usage or changing consumer behavior. In Pennsylvania, state law prohibits municipalities from enacting such regulations.*

## Introduction

With the enactment of Act 2019-20, the Legislative Budget and Finance Committee (LBFC) was required to evaluate the “environmental impact and any impact upon residents of this Commonwealth from any regulation impacting single-use plastics, reusable plastics, auxiliary containers, wrappings, or polystyrene containers and submit a full report of its findings to the General Assembly no later than July 1, 2020.” Concurrent with this mandate, the Independent Fiscal Office (IFO), a fellow legislative service agency, was similarly tasked with completing a study of the economic impacts from regulating the above convenience articles.

As directed by Act 2019-20, we faced a broad mandate on an equally expansive subject matter. As a matter of operational practice, when conducting performance audits and program evaluation studies, staff conduct a preliminary survey phase in which we meet with stakeholders, conduct initial research, and gauge where resources can best be deployed to answer a project’s mandate. For this study, we used such a technique, which allowed us to further refine the mandate into answerable objectives, which would then drive the fieldwork phase of the project.

Accordingly, to best meet Act 2019-20’s mandate, and as approved by the Officers of the LBFC, we set the following objectives:

1. To provide appropriate background and context to the issues surrounding the implementation of bans and fees on single-use containers, whether at the state or municipal level.
2. Determine consideration given by Pennsylvania municipalities to impose bans or fees on single-use containers.
3. Review the non-economic and possible unintended consequences of imposing bans or fees on plastic products, which includes bags, containers, straws, or other similar single-use products.

## **Scope Limitation**

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Plastics have become a ubiquitous part of human existence. As we conducted our preliminary survey phase, it quickly became apparent that we faced a never-ending possibility of products that could be examined. For example, as defined by the Act a wide array of possible products and containers could be analyzed, including, but not limited to, bags, straws, wrappings, containers, packaging supplies, bottles, and cartons. Moreover, these products are made from varying materials, but include specifically, organic polymers, recycled plastics, and polystyrene. Furthermore, because the term “environmental impact and any impact” is a non-specific and potentially unlimited descriptor for conducting this study, it was necessary for us to limit the scope of our review.

Accordingly, we limited the scope of this report to single-use plastic bags, and specifically of the type that are commonly used in retail settings. Our decision was driven by the fact that when evaluating the environmental impact of plastics, most attention is directed toward these type of “single-use” containers. This limitation does not imply that other plastic items (e.g., plastic straws) are not a potential issue, but rather in our research leading up to the formation of our objectives, the environmental impact from single-use plastic bag usage had been at the forefront of consideration for most state and local governments.

## **Background Information About Single-Use Plastics**

By definition, plastic is a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be molded into shape while soft and then set into a rigid or slightly elastic form. There are an almost infinite number of applications for plastics, and one would be hard-pressed to find a business sector that is not in some way reliant upon some form of plastic materials.

Since the 1950s, the production of plastic has outpaced that of any other material. Moreover, it was during this time that the polyethylene bag—defined in this study as a “single-use plastic bag”—made its appearance.

During the 1960s and 1970s, there were many key plastic inventions that are still used today, especially in the medical supply and consumer industries. By 1979, production of plastics exceeded that of steel. During these decades an increasing awareness to plastic’s effects on the environment developed.

Criticism of single-use plastic bags began during the 1980s and has until recently intensified. These criticisms often center on issues involving the

production and final disposal of single-use plastic bags. For example, raw materials, such as gas and oil, are used in producing the bags, and there are controversial social and political implications associated with the extraction of these materials. Further, the “disposability” of single-use plastic bags is frequently cited as a criticism, because if not properly disposed or recycled, the bags may contribute to litter, or other environmental threats to wildlife, and possibly humans.

Interestingly, while plastic, generally, is a significant source of litter in marine and land environments, according to recent research most plastic pollution originates from ten river systems, which are located in Asia and Africa, not North America. Moreover, according to recent litter surveys, single-use plastic bags are not a significant source of litter.

Estimates can vary, but worldwide there are approximately five trillion plastic bags used annually, or approximately two million bags used every minute. In the United States, approximately 102 billion plastic bags are used annually. With the expansion of plastic bag use, and ongoing criticism of the products, some countries, states, and municipalities have taken actions to find alternatives for single-use plastic bags, or have enacted plastic bag bans or fees for using these products.

## Contextual Issues Surrounding Single-Use Plastic Bag Bans/Fees

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*In the United States, most regulations on single-use plastic bags are a hybrid approach of bans and fees.*

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Regulations on single-use plastic bags take on varying regulatory schemes. For example, some regulations ban plastic bags outright and require reusable bags of varying composition. Other regulations address the thickness of plastic bags. Still other regulations may allow plastic bags but require a fee or tax for using the bag. Hybrid regulatory structures are becoming more common. These regulatory structures ban plastic bags and charge a fee or tax for using alternative types of bags, such as paper. Based on our research, most regulatory approaches rely on these three methods.

In the United States, most regulations are a hybrid approach of bans and fees. Examples of this regulatory structure can be seen in California. California bans single-use plastic bags and charges a 10-cent fee on paper and reusable bags. In Connecticut, a 10-cent tax is charged for each plastic bag as opposed to a ban. Other approaches might include a recycling requirement (e.g., mandating a recycling receptacle if offering plastic bags to consumers).

In Pennsylvania, only one municipality (Narberth Borough) has enacted a regulation on single-use plastic bags. Narberth enacted its ordinance in

October 2018, prior to the restrictions prompted by Act 2019-20. Narberth's ordinance imposes a 10-cent per bag fee on plastic bags, which businesses retain. According to local government representatives from Narberth, the ordinance has been widely accepted. West Chester Borough in Chester County enacted a plastic bag ban, but that ban was not effective until July 2, 2020. However, as a result of an extension of the prohibition on municipalities regulating these products, that regulation will not be effective, until July 1, 2021, or six months after the Governor's Emergency Declaration related to COVID-19 ceases, whichever is later.<sup>1</sup>

Similarly, Pennsylvania's largest municipality, the City of Philadelphia, signed a plastic bag restriction into law in December 2019, which was to take effect on July 2, 2020. However, in April 2020, the Mayor announced that due to the COVID-19 pandemic, the ban is no longer realistic and delayed implementation until January 2021. By the same token as West Chester's ban, Philadelphia's plastic bag ban implementation will now be delayed until July 1, 2021, at the earliest.

## **Municipal Perspectives on Single-Use Plastic Bans/Fees**

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*Our survey was conducted prior to the effects of the COVID-19 pandemic; consequently, respondents may have different opinions today.*

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Our study's second objective sought to determine Pennsylvania's municipal leaders' perspectives regarding bans/fees on single-use containers. To answer this objective, we surveyed all 2,560 municipalities using an online survey tool.

We collected survey responses from late October 2019, through early January 2020. Overall, the survey generated 1,022 responses, which equated to a 39 percent response rate. It is important to note that our survey was distributed prior to the COVID-19 pandemic, and to this point, undoubtedly respondents may have different perspectives today than before the devastating impacts caused by the pandemic took hold in Pennsylvania.

Nevertheless, our survey had interesting results. When asked if plastic bag bans and fees were an effective way of minimizing harmful environmental impacts, respondents were evenly split—39.1 percent replied "yes" and 39.6 percent said "no."

Equally interesting were the responses we received when we asked if a ban/fee was implemented, should the ban/fee be implemented at the state or local level? We expected respondents to favor local government; however, overwhelmingly respondents (69 percent) believed that

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<sup>1</sup> On June 3, 2020, the Governor's Proclamation of Disaster Emergency was extended by 90 days, until September 4, 2020.



(if enacted) the ban/fee should be implemented at the state level. Only 20 percent believed that if enacted, the ban/fee should be at the local level. The remaining respondents indicated "other" scenarios. The fact that more respondents indicated that the state should take the lead (if enacted) could be an indicator for a desire for more uniformity in how the issue should be addressed.

When asked about the effectiveness of bans and fees as a mechanism for limiting single-use plastic use, respondents favored a ban (26.6 percent). The next most popular response was a fee on suppliers (22.3 percent), followed by a combination of a ban and fee (20.2 percent). The least popular option was a fee on consumers and suppliers (9.9 percent).

Another area where there was uniformity in responses pertained to what to do with the funds collected from a fee on single-use plastics. Among all respondents, most agreed (nearly 46 percent) that the fee should be used to finance local recycling education efforts.

We also asked respondents to rate on a scale from 1 to 5 (1 being not important and 5 being very important) how important implementing either a plastic bag ban, fee, or some hybrid approach was in their municipality. For all three categories, the fewest respondents rated implementing a ban as "very important." In fact, most respondents rated each regulatory mechanism (e.g., ban, fee, ban and fee) as not very important. The average ratings were as follow: Ban (average score 2.5); Fee (average score 2.25); and Ban and Fee (average score 2.31).

## **Unintended Consequences From Single-Use Plastic Bag Bans and Fees**

An unintended consequence is a social science term that generally means that an action that is taken to correct one perceived problem results in outcomes that were unforeseen and possibly undesired. History is ripe with unintended consequences, good and bad. For example, while the recent COVID-19 shutdowns have had severe effects on the economy, employees and employers, a positive unintended consequence is that air pollution levels have generally improved because people are staying at home and not driving automobiles.

The term "unintended consequences" is derived from research conducted by Sociologist Robert Merton, which was published nearly a century ago. In his research titled "The Unanticipated Consequence of Purposive Social Action," there are five possible causes from which unintended consequences may result from purposive action: Ignorance, Error, Immediate Interests, Basic Values, and Self-Defeating Prophecy. Some of these causes are present when considering regulations on single-use plastic

bags. Our report outlines three specific unintended consequences that policymakers should consider, if proposing to regulate single-use plastic bags.

First, there are sanitary concerns if single-use plastic bags are banned. Based on research we reviewed and experts we spoke with, reusable grocery bags (RGBs), which are often used as an alternative to single-use plastic bags, can transmit bacteria and viruses to other shoppers and store employees. To this point, with the recent COVID-19 pandemic, many retailers are now banning customers from bringing RGBs into grocery stores. Further, life-cycle analysis shows that RGBs are not used enough times to offset the associated environmental impacts from those bags. Consequently, at a time when Pennsylvania is dealing with a pandemic and encouraging citizens to exercise social distance protocols and other hygienic practices, a negative public health consequence may result from having residents rely upon RGBs, if single-use plastic bags are banned.

Second, we found that while RGBs and single-use plastic bags do have environmental impacts, those impacts are substantially less than the impacts from alternatives, especially paper bags. We reviewed several peer-reviewed studies, including a detailed life-cycle assessment from Clemson University and found that because of the increased water consumption used in manufacturing paper bags, the overall environmental impacts are actually greater from paper bags than single-use plastic bags. Consequently, an unintended consequence may result if single-use plastic bags are completely banned and consumers erroneously switch to paper bags believing them to be an eco-friendlier alternative. In this scenario, more environmental damage may result through the increased use of paper bags.

We also found that the notion of a plastic bag being just "single-use" for conveyance of purchased items from store-to-home is incorrect. Single-use plastic bags have many other uses including as pet waste receptacles, trash can liners, and for packing wet items. If single-use plastic bags are no longer available, unintended consequences can result by forcing consumers to purchase additional bags for these purposes or using other bags which have greater environmental impacts. For example, a life-cycle assessment of plastic bags found that even the reuse of a single-use plastic bag onetime had significant benefits over other carrier bags, which required multiple reuses. For example, cotton carrier bags needed to be used as many as 7,100 times to reduce its environmental impacts to that of a single-use plastic bag.

Finally, a frequently cited reason for banning single-use plastic bags is that the bags become litter and foul waterways. There is no question that litter is unsightly and presents challenges for the Commonwealth.

Further, litter cleanup is an added expense for local and state governments. However, based on litter surveys conducted of Pennsylvania's roadways and waterways, while plastic is a litter source, single-use plastic bags are not the primary source. Overwhelmingly, cigarette butts are the main source of litter in Pennsylvania. According to a recent litter survey conducted in partnership with the Departments of Environmental Protection and Transportation, single-use plastic bags constituted 0.7 percent of all collected litter in 2019. Consequently, while a goal of reduced litter is important, banning single-use plastic bags may not provide the results that were intended by such a ban.

## Final Thoughts and Considerations

Stated simply, plastic is part of daily life. We rely upon plastic products, not just for carrying items from store to home, but to improve human existence generally. That being said, it is also true that plastic's impact to human existence in terms of environmental impacts, continues to develop.

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*Under more recent amendments to the Fiscal Code, the prohibition on municipalities enacting restrictions on single-use plastics has been extended until at least July 1, 2021, and possibly longer.*

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Our study was required as part of amendments to the Fiscal Code (Act 2019-20), which prohibited municipalities from enacting new regulations on single-use plastics and other similar items, pending our study and that of the Independent Fiscal Office. Under more recent amendments to the Fiscal Code from Act 2020-23, this prohibition has been extended to July 1, 2021, or six months after the Governor's emergency declaration (issued March 6, 2020) and any renewal of the state of disaster emergency, whichever is later. As a result, any new municipal bans or fees on single-use plastic will continue to be prohibited for the next year.

Whether bans and fees on single-use plastic are effective depends upon perspective and desired outcome. If the goal is to change human behavior and use, then bans and fees can be effective. However, in Pennsylvania and elsewhere, these actions are not without cost and possible unintended consequences.

The fact that many states and local governments have decided to suspend single-use plastic bans/fees during the COVID-19 pandemic is testament to the unintended consequences of such regulation. This is not to say that single-use plastic is not a looming issue, but rather the perception of the problem and the impact of suitable and feasible remedies need to be carefully balanced. To this point, Pennsylvania continues to emerge from the effects of the COVID-19 pandemic, and as such the pause of any further restriction on single-use plastic until the state is on more steady footing should result in more informed decision-making that may avoid unintended consequences as have occurred in other jurisdictions.

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# SECTION I OBJECTIVES, SCOPE, AND METHODOLOGY



## **Why we conducted this study...**

- ❖ *Act 2019-20 requires the Legislative Budget and Finance Committee (LBFC) to evaluate the environmental impact and any impact upon residents of this Commonwealth from any regulation impacting single-use plastics, reusable plastics, auxiliary containers, wrappings, or polystyrene containers and submit a full report of its findings to the General Assembly no later than July 1, 2020.*
- ❖ *With such a broad mandate, we used a preliminary survey phase to frame the study's mandate into workable objectives.*
- ❖ *Our study focused on single-use plastic bags, which are typically provided free-of-charge to shoppers in retail locations.*

## **Objectives**

As required by Act 2019-20, the Legislative Budget and Finance Committee (LBFC) was directed to evaluate the “environmental impact and any impact upon residents of this Commonwealth from any regulation impacting single-use plastics, reusable plastics, auxiliary containers, wrappings, or polystyrene containers and submit a full report of its findings to the General Assembly no later than July 1, 2020.”

On July 30, 2019, the LBFC Officers adopted the study outlined in Act 2019-20. Because the mandate outlined in Act 2019-20 was expansive, in unison with the Officer’s adoption of the project, staff also undertook a “preliminary survey” phase on issues surrounding single-use plastics. This step allowed staff to further define the study’s objectives to meet the requirements prescribed in Act 2019-20 (see also the Scope discussion that follows).

From the preliminary phase, an important issue that resonated among policymakers was the impact of bans and/or fees on single-use containers, whether made of plastic, Styrofoam, or other materials. Plastics bans/fees are typically imposed by municipalities on residents or retailers, although some states have also enacted similar bans/fees (see also Section III). More specific to single-use containers and our preliminary research, thin plastic bags, which are typically provided to customers in retail locations, are frequently targeted for these types of bans/fees.

Accordingly, to best meet Act 2019-20’s mandate, the following objectives were set:

1. To provide appropriate background and context to the issues surrounding the implementation of bans and fees on single-use containers, whether at the state or municipal level.
2. Determine consideration given by Pennsylvania municipalities to impose bans or fees on single-use containers.

3. Review the non-economic and possible unintended consequences of imposing bans or fees on plastic products, which includes bags, containers, straws, or other similar single-use products.

## Scope

According to Government Auditing Standards, issued by the Comptroller General of the United States through the Government Accountability Office (GAO), scope refers to the boundary of a study and is directly tied to the audit objectives. Scope defines the subject matter that will be reported on, such as a particular program or aspect of a program, the necessary documents or records, the period of time reviewed, and the locations that will be included.<sup>2</sup>

As outlined by Act 2019-20, we were tasked with conducting a loosely-defined study on a rather expansive subject. For example, under the Act a wide array of possible products and containers could be analyzed, including, but not limited to, bags, straws, wrappings, containers, packaging supplies, bottles, cups, and cartons. Moreover, these products are made from varying materials, but include specifically, organic polymers, recycled plastics, and polystyrene. Furthermore, because the term “environmental impact and any impact” is a non-specific and potentially unlimited descriptor for conducting this study, it was necessary for us to limit the scope of our review.

Accordingly, we limited the scope of this report to single-use plastic bags, and specifically of the type that are commonly used in retail settings. Our decision was driven by the fact that when evaluating the environmental impact of plastics, most attention is directed toward these type of “single-use” containers. This limitation does not imply that other plastic items (e.g., plastic straws) are not a potential issue, but rather in our research leading up to the formation of our objectives, the environmental impact from single-use plastic bag usage had been at the forefront of consideration for most state and local governments.

Further, Act 2019-20 also called for an economic impact study related to the above broadly discussed single-use plastic items. This economic impact study was completed by the Independent Fiscal Office (IFO). Because we were tasked with only the non-economic aspects of single-use plastic bags, we did not attempt to assign any dollar-value or multipliers to the potential environmental impacts of using (or regulating the use of) single-use plastic bags.

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<sup>2</sup> See Comptroller General of the United States, Government Accountability Office, Government Auditing Standards, 2018 revision, paragraph 8.10.

Our timeline primarily covers fiscal years (FY) 2018-19, and 2019-20. However, in certain areas, we did expand our work beyond these periods in order to answer the objectives. These areas are noted in the relevant report sections.

Finally, we must also highlight the unprecedented impact caused by the coronavirus pandemic. In response to orders from the Governor, on March 16, 2020, our offices were closed and we immediately shifted to telework procedures. This change in protocols did not limit our ability to answer the objectives; however, certain technological limitations did present challenges to the timely completion of procedures necessary to answer the objectives. Additionally, access to some interviewees was restricted because those entities were closed or operating under modified business plans.

## **Methodology**

To understand single-use plastics, staff conducted extensive research into how these plastics are made. We obtained historical information on the development, production, and expansion of plastics generally, and single-use plastic bags specifically.

To further develop an understanding of bans on single-use plastic, staff reviewed several studies that have been completed by various organizations, such as The Surfrider Foundation and The United Nations Environment Programme (UNEP). We interviewed a leading environmental advocate for plastic bag bans. We also conducted interviews with environmental-based associations located in Pennsylvania. We also interviewed plastics industry representatives and discussed the environmental impacts from plastics, as well as existing and planned recycling initiatives within Pennsylvania.

We obtained and reviewed Narberth Borough's plastics ordinance and we spoke with municipal representatives about the experiences in that borough. We also interviewed selected retailers within Narberth borough. We also discussed West Chester Borough's proposed ban with the Mayor of West Chester Borough.

We met with representatives from the League of Municipalities to discuss state preemption concerns, as well as to learn more about single-use plastic ordinances. The League of Municipalities also aided us by encouraging its members to complete our survey.

Regarding our survey of municipalities, data collection for the survey occurred from October 25, 2019, through January 7, 2020. We also con-

ducted periodic follow-up with respondents during this timeframe to encourage respondents to begin and complete data entry. We used the online survey tool, SurveyMonkey®, to distribute and collect survey information.

For participant name and contact information, we retrieved the municipal contact report for the 2,560 municipalities listed in the Pennsylvania Department of Community and Economic Development (DCED) municipal database. The point of contact listed for each municipality served as the primary respondent for our survey.

We also conducted a substantial literature review of studies and life cycle assessments on single-use plastic. In particular, we interviewed the lead researcher from Clemson University, who conducted a peer-reviewed environmental impact assessment on single-use plastic bags.

In order to understand types of litter found along Pennsylvania roadways, staff analyzed data from the *Pennsylvania Litter Research Study* that was conducted in 2019. We conducted limited tests of data reliability by reviewing totals among groups. We also contacted the study’s authors and discussed their methodology and analysis techniques.

## **Frequently Used Abbreviations and Definitions**

Throughout this report, we use a number of abbreviations for government-related agencies, terms, and functions. These abbreviations are defined as follow:

<b>Abbreviation</b>	<b>Name</b>	<b>Definition</b>
BPA	Bisphenol A	A chemical that is added to many commercial products, including food containers and hygiene products.
BPM	Bahamas Plastic Movement	A nonprofit environmental organization committed to raising awareness and finding solutions to plastic pollution locally in The Bahamas and globally.
CDC	United States Center For Disease Control	The Centers for Disease Control and Prevention is the leading national public health institute of the United States.
DCED	Pennsylvania Department of Community and Economic Development	A cabinet-level state agency in Pennsylvania. The mission of the department is to enhance investment opportunities for businesses and to improve the quality of life for residents



DEHP	Di(2-Ethylhexyl)Phthalate	A well-known chemical with various toxic effects including the disruption with lipid metabolism.
DEQ	Oregon Department Of Environmental Quality	The Oregon Department of Environmental Quality is the chief regulatory agency of the government of the U.S. state of Oregon responsible for protecting and enhancing the state's natural resources and managing sanitary and toxic waste disposal.
DINP	Di-Isononyl Phthalate	Belongs to a family of chemicals called phthalates, which are added to some plastics to make them flexible.
EPA	Environmental Protection Agency	The Environmental Protection Agency is an independent agency, specifically an independent executive agency, of the United States federal government for environmental protection.
GAO	Government Accountability Office	The Government Accountability Office (GAO) is a U.S. legislative agency that monitors and audits government spending and operations.
HDPE	High Density Polyethylene	A stiff plastic that is used in the production of milk jugs and toys.
LDPE	Low-Density Polyethylene	A plastic considered less toxic than other plastics and relatively safe for use but is not commonly recycled.
MSWLF	Municipal Solid Waste Landfills	A discrete area of land or excavation that receives household waste.
NEPA	National Environment And Planning Agency	A federal environmental law that promotes the enhancement of the environment and established the President's Council on Environmental Quality. The law was enacted on January 1, 1970.
PET	Polyethylene Terephthalate	The most commonly used plastic in consumer products.
PP	Polypropylene	A type of thermoplastic polymer resin. It is a part of both the average household and is in commercial and industrial applications.
PS	Polystyrene	A synthetic resin which is a polymer of styrene, used chiefly as lightweight rigid foams and films.
PVC	Polyvinyl Chloride	Type of plastic used frequently in plumbing and industrial applications
RGB	Reusable Grocery Bags	A type of shopping bag which can be reused many times. It is an alternative to single-use paper or plastic bags.

UNEP	United Nations Environment Programme	An association of the United Nations that coordinates the organization's environmental activities and assists developing countries in implementing environmentally sound policies and practices.
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## Acknowledgements

We would like to thank the numerous industry and retail stakeholders and environmental groups we met with during this project. We would also like to thank the numerous academic and local government officials who shared their experiences with us. Finally, we acknowledge staff from the Independent Fiscal Office (IFO), who held a similar responsibility in analyzing the economic impacts of plastic bag regulation.

## Important Note

This report was developed by the staff of the Legislative Budget and Finance Committee, including project manager, Stephen Fickes and staff analysts, Amy Hockenberry and Joseph Asare. The release of this report should not be construed as an indication that the Committee as a whole, or its individual members, necessarily concur with the report's findings, conclusions or recommendations.

Any questions or comments regarding the contents of this report should be directed to the following:

Patricia A. Berger, Executive Director  
Legislative Budget and Finance Committee  
P.O. Box 8737  
Harrisburg, Pennsylvania 17105-8737  
717-783-1600  
email: [lbfcinfo@palbfc.us](mailto:lbfcinfo@palbfc.us)

## SECTION II BACKGROUND INFORMATION ABOUT SINGLE-USE PLASTICS



### Fast Facts...

- ❖ *Single-use plastics, often referred to as disposable plastics, are commonly used for plastic packaging and include items intended to be used once. Examples include, grocery bags, food packaging, bottles, straws, containers, cups, and cutlery.*
- ❖ *Estimates vary—but worldwide, there are approximately five trillion plastic bags used annually; approximately 102 billion bags are used in the United States; and 3.0 billion are estimated to be used in Pennsylvania.*
- ❖ *Polyethylene plastic is a type of plastic used to make single-use bags. However, these bags cannot be recycled through traditional curb-side recycling efforts. In Pennsylvania, the bags are typically recycled through re-tailer locations.*

### Introduction

In the 1967 classic film, *The Graduate*, the leading character, Benjamin Braddock, laments the uncertainty of his future after graduating from college. In one of the movie's earliest scenes, Benjamin converses with his parents' friends, who all bestow upon him varying advice and guidance for his future. As Benjamin grows more troubled with each suggestion, a business partner of Benjamin's father provides one of the movie's most memorable quotes: "Plastics. There's a great future in plastics!"

While the writers intended for this line to be a "tongue-in-cheek" recommendation for Benjamin's career path, the advice was arguably quite genuine, because plastic has become one of the most ubiquitous products on earth. Throughout this section, we will discuss the development and popularization of plastics, the development and production of single-use plastic bags (a key focus of this report), as well as some of the recycling and environmental concerns with the plastic materials.

### Historical Perspectives

By dictionary definition, plastic is a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be molded into shape while soft and then set into a rigid or slightly elastic form.<sup>3</sup> While synthetic and manufactured plastics are a relatively modern invention, natural polymers are also found in amber, tortoise shells and animal horns. In fact, these natural polymers were often used much in the way manufactured plastics are currently applied. For example, according to historical records, the Aztec, Olmec and Maya of Mesoamerica, shaped primitive plastics made with natural polymers from the sap of gum trees about 3,000 years ago.<sup>4</sup>

In more modern times, manufactured plastic can be attributed to Alexander Parkes, who created the first synthetic plastic by dissolving cellulose

<sup>3</sup> Oxford Dictionary.

<sup>4</sup> See <https://www.nationalgeographic.com/news/2010/6/100628>.

nitrate in alcohol and camphor containing ether. The resulting substance, known as Parkesine, was transparent and easily molded when hot, but retained its shape when cooled. Parkes unveiled the first man-made plastic to the public at the 1862 Great International Exhibition in London, England. In 1866, the Parkesine Company was established with a goal to manufacture plastic items on a large industrial scale; however, because of the high cost in obtaining raw materials to make the product, the business venture was unsuccessful.<sup>5</sup>

Following the closing of the Parkesine Company, curiosity continued with developing a hard, synthetic-molded substance. Interestingly, one of the first needs for plastic was for billiard balls, which had previously been made from ivory. This need led to the development of celluloid,<sup>6</sup> which not only resembled ivory, but had pliable capabilities when heated. It soon became the material of choice for billiard balls and dozens of other products.<sup>7</sup> The discovery was hailed as revolutionary, marking the first-time human manufacturing was able to imitate natural substances.

Building off the success with man-made substances, in 1907, Leo Baekeland invented Bakelite, the first fully synthetic plastic, made entirely of molecules that are not found in nature. Bakelite was an excellent insulator, durable, heat resistant, and, unlike celluloid, ideally suited for mechanical mass production. Marketed as “the material of a thousand uses,” Bakelite could be shaped or molded into almost anything, providing endless possibilities.<sup>8</sup> Due to being heat resistant and not conducting electricity, Bakelite was used in both the automotive and electrical industries. Some other popular uses for Bakelite were jewelry and jewelry boxes, lamps, clocks, telephones, tableware, billiard balls, and poker chips.<sup>9</sup>

In 1933, two scientists, Eric Fawcett and Reginald Gibson, accidentally discovered polyethylene in Norwich, England. Polyethylene is a long chain of carbon atoms, with two hydrogen atoms attached to each carbon atom.<sup>10</sup> Polyethylene is the most popular plastic in the world, and is also used in the production of grocery bags (i.e., single-use plastic bags).

Plastic provided a way to preserve scarce natural resources. World War II provided a need for the expansion of the plastics industry in the United States, so much so that plastic production increased by 300 percent.<sup>11</sup>

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<sup>5</sup> See <http://www.historyofplastic.com/plastic-inventor/alexander-parkes/>

<sup>6</sup> Celluloid is the first synthetic plastic material, developed in the 1860s and 1870s from a homogenous colloidal dispersion of nitrocellulose and camphor.

<sup>7</sup> See <https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/bakelite.html>

<sup>8</sup> See <https://www.sciencehistory.org/the-history-and-future-of-plastics>

<sup>9</sup> See <https://www.plasticsmakeitpossible.com/whats-new-cool/fashion/styles-trends/bakelite-the-plastic-that-made-history/>

<sup>10</sup> See <https://pslc.ws/macrog/pe.htm>

<sup>11</sup> See <https://www.sciencehistory.org/the-history-and-future-of-plastics>

Plastic production nearly quadrupled during the war, from 213 million pounds in 1939 to 818 million pounds in 1945.<sup>12</sup>

With World War II and the Great Depression in the past, plastic production continued to soar. Plastic soon replaced steel in cars, paper and glass in packaging, and wood in furniture.<sup>13</sup>

Since the 1950s, the production of plastic has outpaced that of any other material. It was during this time that the polyethylene bag made its appearance. In 1958, Lego also patented its blocks and in 1959 Barbie was introduced by Mattel.

During the 1960s and 1970s, there were many key plastic inventions that are still used today, especially in the medical supply and consumer industries. By 1979, production of plastics exceeded that of steel.<sup>14</sup> During these decades an increasing awareness to plastic's effects on the environment developed.

While concerns about waste increased during the 1970s and 1980s, the plastics industry offered recycling as a solution. During the 1980s the plastics industry led a recycling drive encouraging municipalities to collect and process recyclable materials as part of their waste-management systems.<sup>15</sup>

In fact, in 1972, Pennsylvania was at the forefront of plastics recycling with the first plastic waste recycling mill in the world located in Conshohocken. This plant marked the beginning of all future recycling plants. As years passed, government programs and eco-friendly communities slowly started to educate people in the habit of recycling and forcing manufacturers to begin producing easier to recycle plastic. These efforts paid off in the 1980s and 1990s with the adoption of polyethylene terephthalate (PET) and high density polyethylene (HDPE) plastic, introduced by the Plastic Bottle Institute of the Society of Plastics Industry.<sup>16</sup>

## **Additional Perspectives Regarding Single-Use Plastic Bags**

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In 1960, a Swedish company developed a method to make bags using thin film polyethylene. In 1979, single-use plastic bags first became available to United States consumers. However, the use of single-use plastic bags did not catch on until 1985, when a speaker at a convention

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<sup>12</sup> See <https://www.scientificamerican.com/article/a-brief-history-of-plastic-world-conquest/>

<sup>13</sup> Susan Freinkel, *Plastics: A Toxic Love Story*.

<sup>14</sup> *Ibid*

<sup>15</sup> See <https://www.sciencehistory.org/the-history-and-future-of-plastics>

<sup>16</sup> See [www.historyofplastics.com/plastic-history/history-of-plastic-recycling/](http://www.historyofplastics.com/plastic-history/history-of-plastic-recycling/)

for the Society of Plastic Engineers spoke about how inexpensive single-use plastic bags were compared to paper bags.<sup>17</sup>

Criticism of single-use plastic bags began during the 1980s and has until recently intensified. The main issue is the materials, gas and oil, that go into making the bags and the controversial social and political implications associated with the extraction of these raw materials. The ongoing environmental concerns of single-use plastic bags is causing consumers to switch to reusable grocery bags often made from recycled or sustainable materials.

Worldwide, there are approximately five trillion plastic bags used annually, or approximately two million every minute. In the United States, approximately 102 billion plastic bags are used annually.<sup>18</sup> According to the Independent Fiscal Office, approximately 3.0 billion single-use plastic bags are used in Pennsylvania each year. The criticism of single-use plastic bags continues to be an ongoing issue, and some countries and states have taken actions to find alternatives for single-use plastic bags, or have enacted plastic bag bans. See discussion in Section III.

## Plastic Types

There are seven main types of plastic. Each plastic has very distinct characteristics and uses, but most plastics have the following general attributes:<sup>19</sup>

- ❖ Resistant to chemicals.
- ❖ Excellent thermal and electrical insulator capacity.
- ❖ Very light in weight, and with varying degrees of strength.
- ❖ Processed in various ways to produce thin fibers or very intricate parts.

As shown in Exhibit 1, plastic products are typically labeled with a number surrounded by the recycling symbol. These numbers and labels identify both the type of resin used to make the plastic and the products' recyclability.

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<sup>17</sup> See <https://factorydirectpromos.com/blog/the-history-of-single-use-plastic-bags/>

<sup>18</sup> See <https://ivieinc.com/the-past-present-and-future-of-single-use-plastic-bags/>

<sup>19</sup> See <https://learn.eartheasy.com/articles/plastics-by-the-numbers/worked>

Exhibit 1

Plastic Resin Identification Codes

 PETE	 HDPE	 PVC	 LDPE	 PP	 PS	 OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Common products: soda & water bottles; cups, jars, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts
						

Source: Developed by LBFC staff from review of materials obtained from [www.quora.com](http://www.quora.com).

The first category, *polyethylene terephthalate (PET)* is the most commonly used plastic in consumer products. This type of plastic container is intended for single-use because repeated use increases the risk for bacterial growth. Approximately 25 percent of this category is recycled in the United States.

The second category, *high-density polyethylene (HDPE)* is a stiff plastic that is used in the production of milk jugs and toys. Although this type of plastic is the most frequently recycled type, only 30-35 percent of HDPE plastic is recycled in the United States.

The third plastic category is *polyvinyl chloride (PVC)* and less than one percent is recycled. Although PVC is not typically recycled, it can be re-purposed into other products. PVC is used frequently in plumbing and industrial applications.

Category four includes plastic products made from *low-density polyethylene (LDPE)* which is considered less toxic than other plastics and relatively safe for use but is not commonly recycled.

Within category five are plastic products derived from *polypropylene (PP)*. Only three percent of PP is currently being recycled, but PP is safe for re-use and is reportedly becoming more accepted by recyclers.

Category six includes products made from *polystyrene (PS)*. This category includes popular items like Styrofoam™ products that are used for both food products and insulation on laminate flooring. PS makes up approximately 35 percent of the material in United States landfills, and it has been found to be harmful to human health.

The final category (seven) is a *catch-all category for all other plastics* that do not fit into the first six categories. Plastic products in this category are generally deemed non-reusable and are made from various combinations of plastics or unique plastic formulations.<sup>20</sup> This category of plastics is not normally accepted by municipal recycling; consequently, these products should be disposed in normal household waste.

## Single-Use Plastic Bag Production<sup>21</sup>

Plastics are made from natural materials such as cellulose, coal, natural gas, salt, and crude oil through a polymerization or polycondensation process. For the purposes of this discussion, the focus is on single-use plastic bags, which are manufactured differently than other plastic products.

Single-use plastic bags are made of polyethylene through a blown-film extrusion process. Blown-film extrusion is the most common method to make plastic films, especially for the packaging industry. This process can be broken down more specifically as discussed below, and illustrated further in Exhibit 2:

- ❖ The polymer material starts in pellet form, which is then compacted and melted to form a continuous, viscous liquid.<sup>22</sup> The molten plastic is then forced, or extruded, through an annular die.
- ❖ Air is injected through a hole in the center of the die, and the pressure causes the extruded melt to expand into a bubble. The air entering the bubble replaces air leaving it, so that constant

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<sup>20</sup> See <https://learn.eartheasy.com/articles/plastics-by-the-numbers/>

<sup>21</sup> Material for this section was adopted from the following source: [https://www.appropedia.org/Blown\\_film\\_extrusion](https://www.appropedia.org/Blown_film_extrusion)

<sup>22</sup> Callister, William D. Jr. *Materials Science and Engineering an Introduction*. 6<sup>th</sup>ed., John Wiley & Sons Inc, 2003.



pressure is maintained to ensure uniform thickness within the film.<sup>23</sup>

- ❖ The bubble is pulled continually upwards through the form and a cooling ring blows air onto the film. The film can also be cooled from the inside using internal bubble cooling. This reduces the temperature inside the bubble, while maintaining the bubble diameter.<sup>24</sup>
  
- ❖ After solidification at the frost line,<sup>25</sup> the film moves into a set of nip rollers which collapse the bubble and flatten it into two flat film layers. The puller rolls the film onto windup rollers. The film passes through idler rolls during this process to ensure that there is uniform tension in the film. Between the nip rollers and the windup rollers, the film may pass through a treatment center, depending on the application. During this stage, the film may be slit to form one or two films, or surface treated.<sup>26</sup>

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<sup>23</sup> Chanda, Manas and Salil K. Roy. *Plastics Technology Handbook*, 4<sup>th</sup>ed., CRC Press, 2007.

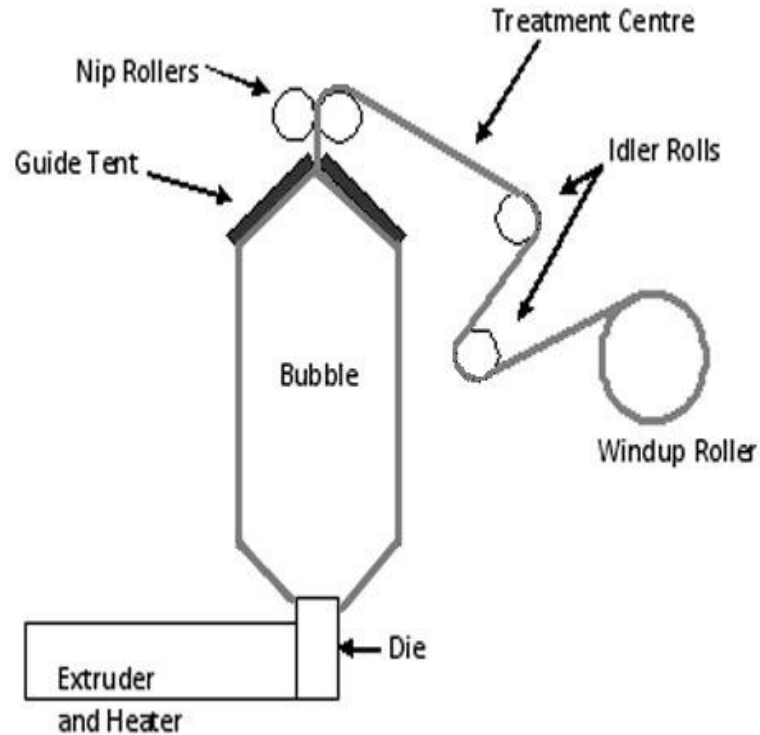
<sup>24</sup> Giles, Harold F. Jr., John R. Wagner Jr., and Eldridge M. Mount III. *Extrusion: The Definitive Processing Guide and Handbook.*, William Andrew Publishing, 2005.

<sup>25</sup> The frost line is a term used in plastic film manufacturing by extrusion. It refers to the point beyond the die where the temperature of the molten plastic falls below the softening point and the diameter of the extruded plastic bubble stabilizes.

<sup>26</sup> Giles, Harold F. Jr., John R. Wagner Jr., and Eldridge M. Mount III. *Extrusion: The Definitive Processing Guide and Handbook.*, William Andrew Publishing, 2005.

Exhibit 2

**Single-Use Plastic Bag - Film Blowing Process**



Source: Developed by LBFC staff from information obtained from [www.appropedia.org/Blown\\_film\\_extrusion](http://www.appropedia.org/Blown_film_extrusion).

**Plastics and Recycling Issues**

According to recent estimates, with respect to plastic recycling, most material is not recycled but is typically disposed as waste. More specifically, according to the United Nations Environment Programme's (UNEP) 2018 study on single-use plastics, the following statistics were noted about plastic:

- ❖ 79 percent ends up as waste in landfills, dumps, or the environment.
- ❖ 12 percent is incinerated.
- ❖ 9 percent is recycled.

It should be noted that these statistics reveal a generally higher recycling rate that has since decreased. For example, in 2014, the plastic recycling rate in the United States peaked at 9.5 percent. As of 2018, recycling rates have declined to 4.4 percent and were estimated to decline even

further in 2019 to 2.96 percent. This decline can be contributed to several factors, including the following:<sup>27</sup>

- ❖ Plastic waste generation is increasing in the United States, but recycling efforts are not keeping pace.
- ❖ Exports counted as recycled have cratered due to China's ban on plastic waste.
- ❖ Costs of recycling are increasing.
- ❖ Plastic production expansion is keeping the prices of new plastics comparatively low.

Recycling plastic is complicated because of the number of steps involved in extracting dyes, fillers, and other additives found in new plastics. Generally, the first step is to sort the plastic by type (i.e., recycling code), and in some cases, by color. Once the plastic is sorted, it is chopped into small pieces and cleaned to remove debris and residue. The pieces are then melted and compressed into pellets. The pellets are transported to plastic plants to be introduced into the manufacturing process as feed stock.

With respect to plastics recycling, even though a container may have a recycling symbol on it, the product may not be entirely recycled. As discussed in the previous section, the number in the middle of the recycling symbol specifies the product's plastic type. Please refer to Exhibit 1 for plastic numbers and types.

The American Beverage Association is working with several companies to produce 100 percent recyclable bottles to reduce plastic's footprint in landfills. The association is also partnering with The Recycling Partnership<sup>28</sup> and Closed Loop Partners<sup>29</sup> to modernize the recycling infrastructure in communities across the United States. The 100 percent recyclable bottles are made from PET, which can easily be remade into new plastic bottles and everyday products, such as shoes, furniture, park benches, and playground equipment, without having to use newly created plastic.<sup>30</sup>

In 1991, Maine became the first state to enact legislation requiring recycling efforts at retail stores. The law prevents a retailer from offering plastic bags unless the retailer also provides a storefront receptacle for consumers to deposit used bags for recycling. Since then, four other

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<sup>27</sup> See [www.waste360.com/plastics/us-plastic-recycling-rate-projected-drop-44-2018](http://www.waste360.com/plastics/us-plastic-recycling-rate-projected-drop-44-2018)

<sup>28</sup> The Recycling Partnership is a Virginia based group on improving recycling and putting private dollars to work in communities. [www.recyclingpartnership.org](http://www.recyclingpartnership.org)

<sup>29</sup> Closed Loop Partners is a New York based investment firm comprised of venture capital, growth equity, private equity, and project finance as well as an innovation center focused on building the circular economy. [www.closedloop-partners.com](http://www.closedloop-partners.com)

<sup>30</sup> See <https://www.innovationnaturally.org/plastic>

states (California, Delaware, New York, and Rhode Island) and Washington D.C. have followed suit.<sup>31</sup>

Historically, the United States has shipped almost half of its plastic and cardboard waste to China, approximately 760 million tons in 2016. In 2018, that number dropped by 95 percent after China tightened their standards on what recycled materials they would accept. This ban has caused issues with recycling programs within the United States, causing some states and municipalities to either cancel or scale back recycling programs.<sup>32</sup>

## Health and Environmental Issues

Plastic and its impact to marine environments are well documented. For example, estimates generally show that in oceans the annual plastic pollution from all types of plastics was four to 14 million tons in the 21st century. However, it should also be noted that most plastic pollution debris originates not from North America, but from ten river systems located in the continents of Asia and Africa as illustrated in Exhibit 3. In fact, recent estimates found that the Yangtze River alone dumps 1.5 million metric tons of plastic into the Yellow Sea annually.<sup>33</sup>

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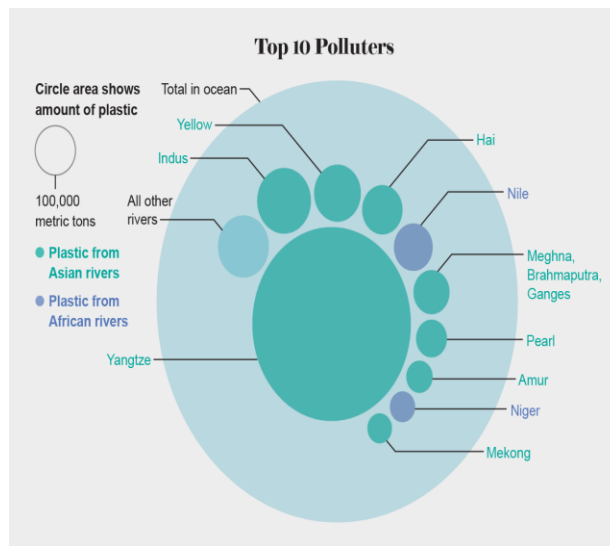
<sup>31</sup> See [www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx](http://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx)

<sup>32</sup> See <https://www.cbsnews.com/news/recycling-after-chinas-plastic-ban-american-cities-face-recycling-crisis/>

<sup>33</sup> See <https://www.scientificamerican.com/article/stemming-the-plastic-tide-10-rivers-contribute-most-of-the-plastic-in-the-oceans/>

Exhibit 3

**Top 10 Polluting Rivers**



Source: Developed by LBFC staff from "Export of Plastic Debris by Rivers into the Sea," *Environmental Science & Technology*, Vol. 51, No. 21; November 7, 2017.

The adverse environmental impacts of plastic bags, including production energy costs, limited lifespan, increasing landfill content, and inability to biodegrade, provide symbolic and practical evidence of a "throw-away" consumer culture, which acts as a significant barrier to sustainable consumption in particular and sustainable development in general.<sup>34</sup>

Another environmental issue related to plastics is solid waste. Municipal solid waste<sup>35</sup> grows each year due to the lack of landfill space. In 2009, according to the Environmental Protection Agency (EPA), the United States had 1,908 municipal solid waste landfills (MSWLF).<sup>36</sup> States oversee landfills to ensure facilities meet federal regulations and any applicable state regulations.

Human health effects from plastics are also a potential issue. A study completed by the University of Newcastle in Australia estimates that Americans consume approximately five grams, roughly the equivalent of

<sup>34</sup> Ritch, Elaine, Carol Brennan, and Calum MacLeod (2009). Plastic bag politics: modifying consumer behavior for sustainable development. *International Journal of Consumer Studies*, Vol. 33, pp 168-174.

<sup>35</sup> Municipal solid waste, commonly known as trash, is a waste type consisting of everyday items that are used and then disposed in household waste.

<sup>36</sup> A municipal solid waste landfill is a discrete area of land or excavation that receives household waste. See [www.epa.gov/landfills/municipal-solid-waste-landfills](http://www.epa.gov/landfills/municipal-solid-waste-landfills).

a credit card, of plastic per week. This consumption, in the form of microplastics,<sup>37</sup> comes from consuming beverages and food products containing plastic particles, especially seafood and sea salt.

Microplastics are also a source of air pollution, occurring in dust and airborne fibrous particles; however, the health effects of inhalation are unknown.<sup>38</sup> Microplastics both absorb and give off chemicals and harmful pollutants, such as bisphenol A (BPA)<sup>39</sup> and phthalates.<sup>40</sup>

According to the Ecology Center, negative human health effects include endocrine disruption, which can lead to cancer, birth defects, immune system suppression and developmental problems in children.<sup>41</sup> Exhibit 4 further illustrates the effects on human health by plastic type.

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<sup>37</sup> Microplastics are small plastic pieces less than five millimeters long that are the result of the breakdown of plastics.

<sup>38</sup> See <https://britannica.com/technology/miroplastic>

<sup>39</sup> Bisphenol A (BPA) is an organic synthetic compound belonging to the group of diphenylmethane derivatives and bisphenols, with two hydroxyphenyl groups.

<sup>40</sup> Phthalates are a group of chemicals used to make plastics more flexible and harder to break and are used in a large variety of products, such as from enteric coatings of pharmaceutical pills and nutritional supplements to viscosity control agents, gelling agents, film formers, stabilizers, dispersants, lubricants, binders, emulsifying agents, and suspending agents.

<sup>41</sup> See [www.ecologycenter.org/factsheets/adverse-health-effects-of-plastics/](http://www.ecologycenter.org/factsheets/adverse-health-effects-of-plastics/)

Exhibit 4

**Plastics Types and Possible Effects on Human Health**

<b>Plastic Type</b>	<b>Common Uses</b>	<b>Adverse Health Effects</b>
<b>Polyvinylchloride (PVC)</b>	Food packaging, cosmetics, floor tiles, pacifiers, shower curtains, water pipes, toys, garden hoses, and inflatable swimming pools.	May cause cancer, birth defects, genetic changes, chronic bronchitis, ulcers, skin diseases, deafness, vision failure, and indigestion.
<b>Phthalates (DEHP, DINP)</b>	Plastic additive. Footwear, printing inks, vinyl flooring, blood bags and tubing, IV containers and components, surgical gloves, breathing tubes, inhalation masks, and many other medical devices (although reportedly becoming less common).	Endocrine disruption, linked to asthma, developmental and reproductive effects. Medical waste with PVC and phthalates is regularly incinerated causing public health effects from the release of dioxins and mercury, including cancer, birth defects, hormonal changes, declining sperm count, infertility, endometriosis, and immune system impairment.
<b>Polycarbonate w/ Bisphenol A (BPA)</b>	Water bottles	Very low doses of BPA have been linked to cancers, impaired immune function, early onset of puberty, obesity, diabetes, and hyperactivity.
<b>Polystyrene</b>	Food containers for meat, fish, cheese, yogurt, foam and clear clamshell containers, foam and rigid plates, clear bakery containers, packaging "peanuts," CD cases, disposable cutlery, building insulation, flotation devices, ice buckets, wall tiles, paints, serving trays, throw-away hot drink cups, and toys.	May irritate eyes, nose and throat, cause dizziness and unconsciousness. Migrates into food and stores in body fat. Elevated rates of lymphatic and hematopoietic cancers.
<b>Polyethylene (#1 PET)</b>	Water and soda bottles, carpet fiber, chewing gum, drinking glasses, coffee stirrers, food containers, plastic bags, squeeze bottles, and kitchenware.	Suspected human carcinogen. <sup>a/</sup>
<b>Polyester</b>	Bedding, clothing, disposable diapers, food packaging, tampons and upholstery.	Can cause eye and respiratory tract irritation and acute skin rashes.
<b>Acrylic</b>	Clothing, blankets, carpets, adhesives, contact lenses, dentures, floor waxes, food prep equipment, disposable diapers, paints, and sanitary napkins	Breathing difficulties, vomiting, diarrhea, nausea, weakness, headache and fatigue.

Note: a/Carcinogens are substances capable of causing cancer in humans or animals.

Source: Developed by LBFC staff from information obtained from [www.ecologycenter.org](http://www.ecologycenter.org).

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## SECTION III CONTEXTUAL ISSUES SURROUNDING SINGLE-USE PLASTIC BAG BANS/FEES



### Fast Facts...

- ❖ *Regulations to control single-use plastic bags can take numerous forms. Bans, fees or hybrid approaches of bans and fees, are the primary regulatory structures.*
- ❖ *More than 120 countries have enacted some form of single-use plastic bag regulations, including countries in Europe, Asia, North America, and Africa.*
- ❖ *Eight states and several municipalities in the United States have enacted single-use plastic regulations. The COVID-19 pandemic has also caused many states to reevaluate or delay implementation of regulations.*

### Overview

As discussed in the background section, single-use plastic bags are a commonly accepted means for transporting products from retail settings. Despite single-use plastic bags' pervasiveness, the post-use handling of these bags has been an ongoing issue for many countries, including several states and municipalities in the United States. As a result of these post-use handling issues, as well as general concerns about plastics' overuse and possible environmental impacts, new forms of regulation have developed which are intended to control the proliferation of single-use plastic bags.

Regulations on single-use plastic bags take on varying regulatory schemes. For example, some regulations ban plastic bags outright and require reusable bags of varying composition. Other regulations address the thickness of plastic bags. Still other regulations may allow plastic bags but require a fee or tax for using the bag. Hybrid regulatory structures are becoming more common. These regulatory structures ban plastic bags and charge a fee or tax for using alternative types of bags, such as paper.

In the United States, most regulations are a hybrid approach of bans and fees or taxes. Examples of this regulatory structure can be seen in California. California bans single-use plastic bags and charges a 10-cent fee on paper bags. In Connecticut, a 10-cent tax is charged for each plastic bag as opposed to a ban.

In Pennsylvania, only one municipality (Narberth Borough) has enacted a regulation on single-use plastic bags. Narberth enacted its ordinance in October 2018, prior to the restrictions prompted by Act 2019-20. Narberth's ordinance places a 10-cent per bag fee on plastic bags, which businesses retain. According to local government representatives from Narberth, the ordinance has been widely accepted.

More recently, the COVID-19 pandemic has created obstacles for single-use plastic bag regulations. Many states are suspending bans and temporarily placing bans on reusable bags. This report section reviews many of the existing regulatory controls on single-use plastic bags, as well as how the recent COVID-19 pandemic has influenced regulations in some states.

## Issue Areas

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### A. Types of Regulations on Single-Use Plastic Bags

Over the past several decades, plastic bag regulations have been adopted by governments both internationally and within the United States. These regulations generally seek to reduce the manufacture, distribution, and use of single-use plastic bags. The regulations vary in complexity.

Our review of the regulatory controls used in other states and countries identified three primary regulatory controls:

- A bag ban.
- A fee on using certain bags.
- A hybrid approach, combining a bag ban and a bag fee or tax.

Bans are the most straight-forward type of regulatory control. Under a ban, consumers and retailers are prohibited from using or distributing single-use plastic bags. Although bag bans can be very straight-forward in terms of eliminating bags, bag bans can also become complex when only certain types of bags are restricted (e.g., by the thickness or type of material used). Complex bans usually take the form of regulating handles, capacity, and the intended uses of bags. The more complex a ban is, the more expensive enforcement will become for government.

Bag fees are another form of regulatory control. Under this structure, a fee is placed on each disposable carryout bag (e.g., single-use plastic bag, paper bag, etc.). Fees typically range from 5-cents to 10-cents per bag as determined by the law. Fees may be classified as a tax, a regulatory fee, or a charge.<sup>42</sup> These concepts are further described as follows:

- Taxes are involuntary fees levied on individuals or corporations and enforced by a government entity—whether local, regional or national—in order to finance government activities.<sup>43</sup> A tax is typically deposited into the government’s general fund or a special fund for a specific purpose.
- A regulatory fee is money collected by the government and is designed to raise money to help defray an agency’s regulatory expense. Whether regulatory fees are allowed is based on a state’s constitution.

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<sup>42</sup> See <https://1bagatatime.com/learn/plastic-bag-bans/>

<sup>43</sup> See <https://www.investopedia.com/terms/t/taxes.asp>.

- A charge is money that retailers are required to assess on consumers. Retailers keep the revenue generated from the charge.

In some cases, bans and fees are combined to create a hybrid plan. The hybrid plan retains a ban on single-use plastic bags and adds a fee for all other carryout bags, such as paper and/or reusable bags. Consumers may use their own reusable bags and not incur a fee. The fees remain with the retailers and are used to help offset the cost of providing alternatives.

According to the Surfrider Foundation, either a fee on all bags or a ban/fee hybrid that covers all types of bags are the most effective methods in reducing overall single-use plastic bag consumption and avoiding the risk of lawsuits.<sup>44</sup>

According to the United Nations Environment Programme's (UNEP)<sup>45</sup> *Single-use Plastics: A Roadmap for Sustainability* study,<sup>46</sup> there are other methods used to reduce plastic usage that do not involve bans or fees, including the promotion of eco-friendly alternatives, social awareness and public pressure, voluntary reduction strategies and agreements, and enhanced recycling measures. These methods are described further in Exhibit 5.

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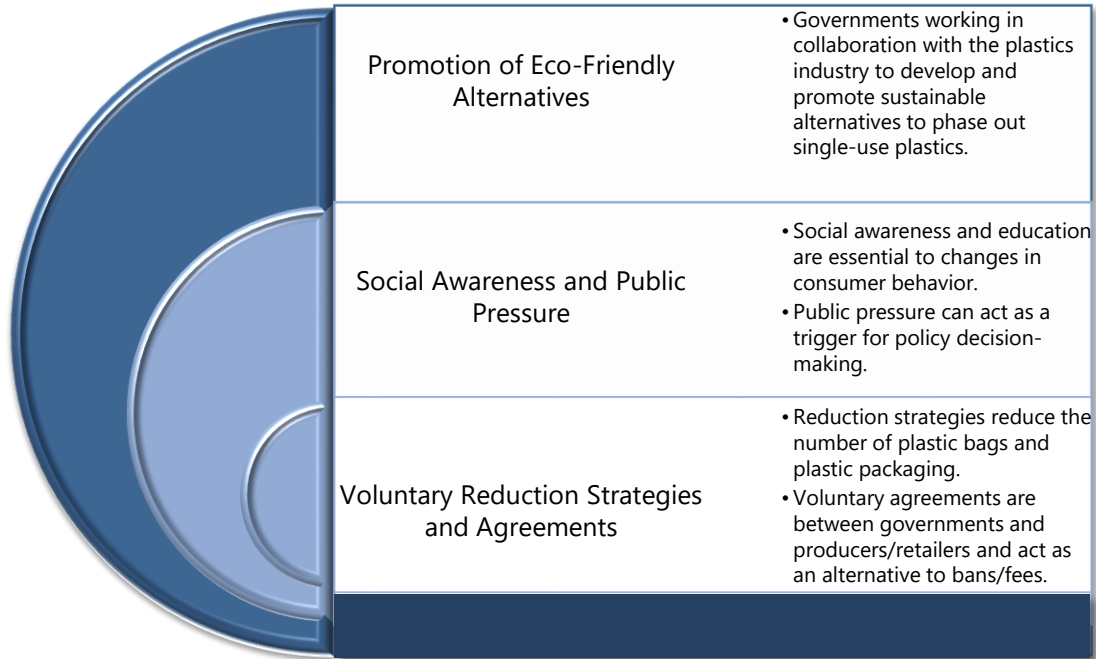
<sup>44</sup> The Surfrider Foundation is an environmental association of science, environmental, and legal experts that works to protect the ocean, waves, and beaches. The group promotes regulations aimed at reducing plastic-related pollution. See [www.surfrider.org](http://www.surfrider.org)

<sup>45</sup> The United Nations Environment Programme (UNEP) is an association of the United Nations that coordinates the organization's environmental activities and assists developing countries in implementing environmentally sound policies and practices. See <https://www.unenvironment.org/>

<sup>46</sup> See <https://www.unenvironment.org/resources/report/single-use-plastics-roadmap-sustainability>

Exhibit 5

**Alternatives to Reducing Plastic Usage  
Without Bans and Fees**



Source: Developed by LBFC staff from United Nations Environment Programme's (UNEP) *Single-use Plastics: A Roadmap for Sustainability*.

Finally, recycling laws generally refer to state laws that require stores to provide recycling collection bins within a public space for consumers to deposit single-use plastic bags for recycling. For example, according to a representative from a large retailer we spoke with, that retailer offers recycling bins in all its stores, regardless of whether there is a single-use plastic bag regulation or not. The collected bags are then sold to other companies that manufacture building materials for decks and other uses.

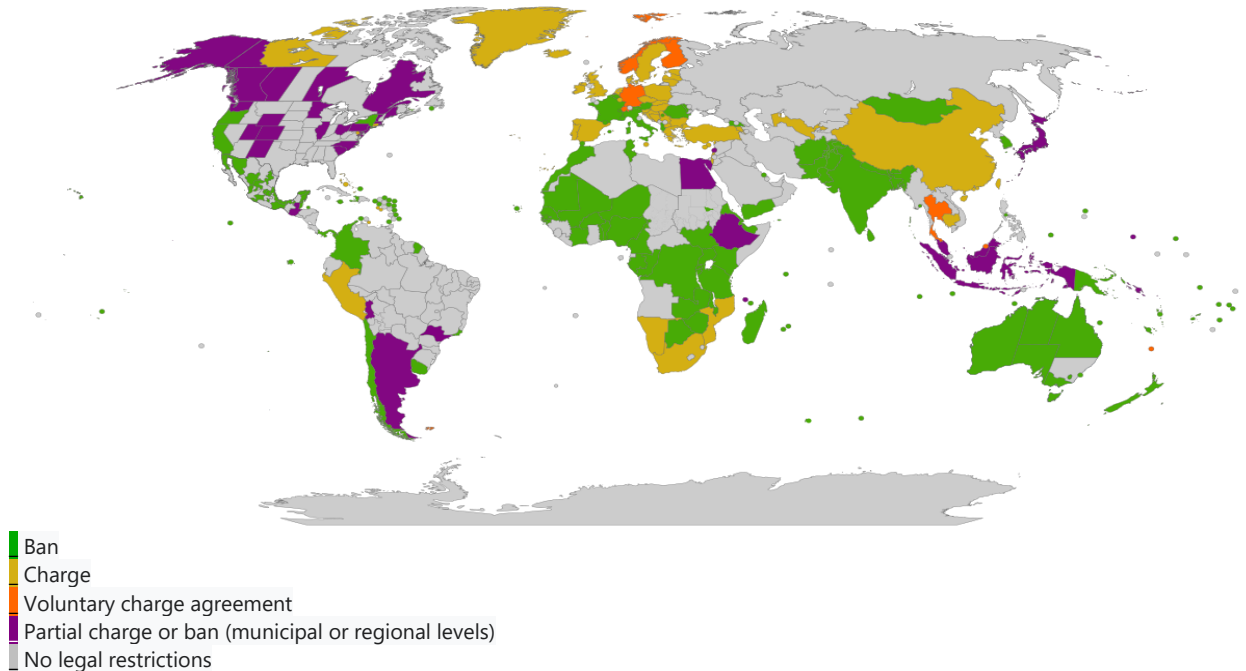
## **B. Global Perspectives**

According to The World Counts, worldwide, five trillion plastic bags are used per year.<sup>47</sup> Exhibit 6 highlights the countries with bag regulations as of March 2020.

<sup>47</sup> <https://www.theworldcounts.com/challenges/planet-earth/waste/plastic-bags-used-per-year>

Exhibit 6

**Countries and States with Plastic Bag Bans  
(as of March 2020)\***



Note:

\*/The highlighted areas represent the countries and states that have enacted lightweight plastic bag regulations.

Source: Developed by LBFC staff from Wikimedia Commons.

As illustrated in Exhibit 6, the African continent has a considerable number of countries that have enacted bag ban restrictions. This is partly because Africa has relatively low waste-collection and recycling rates, which makes the problem of waste plastic more visible.<sup>48</sup>

In 2018, the UNEP conducted a study of 192 countries and found that 127 have adopted some form of plastic bag regulations. According to the study, 89 countries have partial restrictions such as not banning bags but instead placing restrictions on the thickness of the bag. For example, India, Italy, and Madagascar ban or tax plastic bags with a thickness less than 50 microns.<sup>49</sup>

<sup>48</sup> See <https://www.economist.com/graphic-detail/2019/07/24/ever-more-countries-are-banning-plastic-bags>

<sup>49</sup> See <https://www.wri.org/blog/2019/03/127-countries-now-regulate-plastic-bags-why-arent-we-seeing-less-pollution>

The European Parliament<sup>50</sup> voted, 571-53, for a complete ban on a range of single-use plastics across the European Union. The ban came after a surge in public support to help curb pollution in oceans. The measure is expected to become effective in 2021. In response, several countries are already considering proposals to target single-use plastics.<sup>51</sup>

Shown below is additional information on the approach taken by some countries to regulate single-use plastics. Additional information can be found in the UNEP's 2018 study: *Legal Limits on Single-Use Plastic and Microplastics: A Global Review of National Laws and Regulations*.

**Ireland.** In 2002, a 17-cent tax was imposed on plastic shopping bags; however, because that fee did little to discourage plastic bag usage, the tax was increased. The tax is currently 22-cents per bag.<sup>52</sup> In 2019, the Irish government announced that it would ban single-use plastics from government departments and public bodies effective in 2021.

**United Kingdom.** In January 2018, the United Kingdom announced a 25-year plan to eliminate single-use plastic waste. In 2015, a 5-pence (6-cents) tax was placed on plastic bags. Reportedly, the tax was effective in curtailing single-use plastic bags as England's seven major supermarkets reported an 86 percent reduction in plastic bag sales.<sup>53</sup>

**France.** In 2015, France placed a total ban on plastic bags. In 2016, France became the first country to place a total ban on plastic cups, plates, and cutlery.<sup>54</sup>

**Kenya.** The most stringent plastic bag ban is in Kenya. An individual caught using, producing, or selling a plastic bag faces up to four years in jail, or a fine of \$38,000.<sup>55</sup>

**Australia.** The country is divided into eight states or territories, seven of which have plastic bag bans. The only Australian state without a ban is New South Wales. The regulations all ban bags with a thickness of 35 microns or less and apply to all retailers. Some of the bans include degradable, biodegradable, and compostable bags. The South Australia,

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<sup>50</sup> The European Parliament (EP) is the legislative branch of the European Union (EU) and one of its seven institutions. Together with the Council of the European Union, it adopts European legislation, normally on a proposal from the European Commission. The Parliament is composed of 705 members. The members are directly elected by votes in all Member States to represent the people's interests regarding EU law-making and to make sure other EU institutions are working democratically.

<sup>51</sup> See <https://www.bbc.com/news/world-europe-45965605>

<sup>52</sup> <https://www.irishtimes.com/news/ireland/irish-news/northern-ireland-waives-plastic-bag-tax-for-deliveries-of-groceries-1.4221154>

<sup>53</sup> See <https://www.globalcitizen.org/en/content/plastic-bans-around-the-world/>

<sup>54</sup> See <https://www.globalcitizen.org/en/content/plastic-bans-around-the-world/>

<sup>55</sup> *Ibid*

Northern Territory, and the Australian Capital Territory bans do not include biodegradable bags. The Tasmania ban does not include biodegradable or compostable bags.<sup>56</sup>

**Chile.** In 2014, a bag ban was enacted in Chilean Patagonia. In 2017, the Chilean President proposed a nationwide bag ban that was adopted by its Congress in June 2018. The ban was appealed by the Association of Industrial Plastics on the grounds that it was unconstitutional, however, the constitutional court rejected the appeal, allowing Chile to become the first country in South America with a nationwide bag ban.<sup>57</sup>

**Colombia.** In 2016, single-use plastic bags smaller than 30x30 centimeters (12x12 inches) were banned. The law also requires plastic bags to meet tougher strength standards to reduce the need for double bagging. While Colombia's law did not enact a total ban on all plastic bags, it has the backing of key sectors such as the National Federation of Merchants, the Plastic Producers Guild, and the Ministry of Industry, Commerce, and Tourism.<sup>58</sup>

**Panama.** Single-use plastic bags are banned in Panama, although there are certain exceptions for sanitary needs. The ban calls for retailers to replace plastic bags with more environmentally friendly options like containers made of non-polluting materials or reusable plastic. Failure to comply with the law results in fines being assessed, the money collected from the fines is used to support recycling programs.<sup>59</sup>

**Bahamas.** In 2018, following a youth delegation from Bahamas Plastic Movement (BPM), the Minister of Environment and Housing announced a plan to ban plastic bags in the Bahamas to be imposed by 2020. According to representatives from BPM, if the rate of plastic pollution on beaches continued to increase, it could cause up to \$8.5 million in tourism losses annually.<sup>60</sup> The ban is on the importation, distribution, and manufacture of single-use plastic bags and requires businesses to charge 25-cents per bag for using single-use plastic bags. The Bahamas Ministry of Environment and Housing implemented the ban nationwide on January 1, 2020.<sup>61</sup> The purchase is reflected on a separate receipt as a check-out bag fee and the money collected is retained by the business. Under the regulation, any person who imports, distributes, manufactures, sells, supplies, or uses plastic bags could be fined up to \$2,000 for a first offense, and up to \$500 per day for each offense thereafter.<sup>62</sup>

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<sup>56</sup> See <https://bagban.com.au/#vic>

<sup>57</sup> See <https://www.factorydirectpromos.com/blog/first-south-american-country-ratifies-plastic-bag-ban/>

<sup>58</sup> See <https://thecitypaperbogota.com/news/new-law-bags-small-single-use-plastic-bags-in-colombia/12636>

<sup>59</sup> See <https://www.audubon.org/news/panama-bans-use-plastic-bags>

<sup>60</sup> See <https://www.plasticpollutioncoalition.org/blog/2018/1/22/the-bahamas-to-ban-plastic-bags>

<sup>61</sup> See <https://www.scubadivermag.com/the-bahamas-introduces-the-4bidden-four-single-use-plastics-ban/>

<sup>62</sup> See <https://www.cpcbahamas.org/plastic-bag-levy-warning-for-bahamian-consumers/>

**Jamaica.** Jamaica's ban on the importation, manufacturing, distribution, and use of all single-use plastic bags became effective January 1, 2019. The ban applies to bags with dimensions of 24 x 24 inches or less, and excludes single-use plastic bags used for public health or food safety standards. The ban allows for manufacturers and importers of single-use plastic bags to apply to the Jamaican National Environment and Planning Agency (NEPA) for limited exemptions. Those applications will be reviewed on a case-by-case basis for continued manufacture and importation until January 1, 2021.<sup>63</sup>

**Canada.** In 2019, the Canadian Prime Minister announced that Canada will ban single-use plastics as early as 2021. The Prime Minister said that the European Parliament plan (mentioned above) would serve as a model for which items to ban.<sup>64</sup>

## C. National Perspectives

Regulations in the United States are primarily implemented at the state and municipal level. Currently, there are no federal regulations addressing single-use plastic bags. There are presently eight states<sup>65</sup> that have enacted single-use plastic bag regulations.<sup>66</sup>

**California.** In 2014, with the passage of Proposition 67, California became the first state to enact legislation banning single-use plastic bags at large retail stores. The ban went into effect on November 9, 2016. The ban is a hybrid approach due to the additional requirement of a 10-cent minimum charge for recycled paper bags, reusable plastic bags, and compostable bags. In April 2020, because of the COVID-19 pandemic, the Governor signed an Executive Order to suspend the 2016 bag ban for 60 days.<sup>67</sup>

**Connecticut.** In August 2019, a statewide 10-cent tax per single-use plastic bag went into effect. The retailer must indicate the number of single-use plastics bags provided and the total tax charged on the receipt. Under the legislation, municipalities are permitted to enact or enforce their own ordinances concerning single-use checkout bags made of plastic, provided the ordinance is as restrictive (or more restrictive) than the statewide law. Municipal fees are subject to sales and use taxes. The provisions of the law are effective August 1, 2019, through June 30, 2021,

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<sup>63</sup> See <https://www.caribbeannationalweekly.com/caribbean-breaking-news-featured/jamaica-bans-plastic-straws-and-styrofoam-products/>

<sup>64</sup> See <https://www.theguardian.com/world/2019/jun/10/canada-ban-single-use-plastics-bags-bottles-straws-2021>

<sup>65</sup> California, Connecticut, Delaware, Hawaii, Maine, New York, Oregon, and Vermont

<sup>66</sup> See <https://www.msn.com/en-us/lifestyle/lifestyle-buzz/all-the-states-that-have-plastic-bag-bans/ar-BB10AOiE>

<sup>67</sup> See <https://www.latimes.com/opinion/story/2020-04-27/editorial-the-coronavirus-has-retuned-us-to-plastic-bag-madness-it-has-to-be-temporary>



after which, single-use plastic checkout bags are scheduled to be banned.<sup>68</sup> In April 2020, due to the COVID-19 pandemic, the Governor announced that he would be lifting the 10-cent tax on single-use plastic bags.<sup>69</sup>

**Delaware.** As a result of a 2009 law, large retailers<sup>70</sup> must provide recycling bins for single-use plastic bags in prominent locations. In 2017, amendments to the law further required retailers to annually report the number of single-use plastic bags used.<sup>71</sup> A 2019 law restricts establishments from providing customers with bags that are not made from non-compostable plastic and are not designed and manufactured to be reusable. Businesses are still permitted to provide customers with paper, fabric, or reusable plastic bags. Under this legislation, restaurants are excluded. There are exceptions for allowing the use of plastic bags, such as to hold frozen food, chemicals, or live animals. The bill takes effect on January 1, 2021.<sup>72</sup>

**Hawaii.** This is the only state that has a statewide ban that was not enacted by the state legislature. Hawaii is made up of five counties, all of which have enacted regulations on single-use plastic bags. The Mayor of Hawaii County has suspended the bag ban effective April 1, 2020, due to the COVID-19 pandemic.<sup>73</sup>

**Maine.** In 2019, single-use plastic bags were banned by an act of the legislature beginning April 2020. This is a hybrid ban that allows stores to charge at least 5-cents for recyclable paper or reusable plastic bags. Under the legislation, a plastic bag must be able to withstand 75 repeated uses and be made from heavier plastic in order to be permitted. The fee does not apply to restaurants.<sup>74</sup> Several municipalities in Maine enacted different versions of bans prior to the state-wide ban. Due to the COVID-19 pandemic, the Governor has delayed the state's ban on single-use plastic bags until January 15, 2021.<sup>75</sup>

**New York.** In 2019, the New York legislature passed legislation establishing a bag ban with an effective date of March 2020. The ban prohibits any store that is required to collect state sales tax from handing out single-use plastic bags. The ban gives the municipalities the option to

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<sup>68</sup> See <https://portal.ct.gov/DRS/Legislative-Summaries/2019-Legislative-Updates/Single-Use-Plastic-Bag-Fee>

<sup>69</sup> See <https://www.nbcconnecticut.com/news/local/gov-lamont-lifts-tax-on-plastic-bags-during-coronavirus-crisis/2245825/>

<sup>70</sup> Under Delaware's law, large retailers have at least 7,000 square feet of total space, or at least 3,000 square feet of retail space.

<sup>71</sup> See <https://plasticfreedelaware.org/policy>

<sup>72</sup> See <https://delawarestatenews.net/news/plastic-bag-ban-becomes-law-takes-effect-in-2021/>

<sup>73</sup> See <https://www.hawaiiizerowaste.org/?s=plastic+bags>

<sup>74</sup> See <https://www.pbs.org/newshour/nation/maine-bans-single-use-plastic-grocery-bags-by-earth-day-2020>

<sup>75</sup> See <https://www.usatoday.com/story/money/2020/04/08/plastic-bag-bans-reversed-coronavirus-reusable-bags-covid-19/2967950001/>

charge a 5-cent fee for paper bags. The legislation also requires those businesses that are required to collect plastic bags for recycling to continue to do so even after March 2020.<sup>76</sup>

Enforcement of the ban was set to begin on April 1, 2020; however, a lawsuit filed by 14,000 business owners has changed that date. The lawsuit alleges the state did not reach out to largely minority-owned businesses when discussing the ban.<sup>77</sup> The lawsuit has been delayed due to the COVID-19 pandemic causing enforcement to be pushed back until June 15, 2020. The lawsuit does not affect the local laws in New York City, Suffolk County and Tompkins County that require the 5-cent fee be charged for paper bags.<sup>78</sup>

**Oregon.** Beginning in January 2020, retail stores and restaurants are prohibited from providing customers with single-use plastic bags. Retailers must charge a minimum of 5-cents per paper bag, reusable plastic bag,<sup>79</sup> and reusable fabric bag. Under the legislation, paper bags must be made with 40 percent or more post-consumer recycled content and the reusable bags must be four mils thick. Restaurants will be able to provide paper bags at no cost. Retailers are not required to charge a fee for reusable fabric bags, if offered as a promotion.

The legislation requires the Oregon Department of Environmental Quality (DEQ) to prepare a legislative report by 2025 that details customers' usage of bags at grocery stores.<sup>80</sup>

In response to the COVID-19 pandemic, Oregon has not taken statewide action to alter its bag ban. However, the state is encouraging local governments to not penalize stores for using plastic bags. The state is also encouraging the public to continue using their reusable bags, but to take extra precaution to clean the bags.<sup>81</sup>

**Vermont.** Enacted in 2019, Vermont's legislation not only prohibits restaurants and retailers from providing customers with single-use plastic bags, but also prohibits the use of plastic stirrers, straws and polystyrene containers. The legislation does allow for straws to be given upon request and for people with medical conditions. The ban takes effect in July 2020.

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<sup>76</sup> See <https://www.syracuse.com/state/2020/01/new-york-plastic-bag-ban-when-it-starts-whos-affected-bags-you-can-still-get.html>

<sup>77</sup> Some of the businesses included in the filing are the Bodega & Small Business Association, Poly-Pak (a Long Island plastic bag company), and Green Earth Grocery. See [www.grubstreet.com/2020/02/nyc-bodega-owners-fight-the-plastic-bag-ban.html](http://www.grubstreet.com/2020/02/nyc-bodega-owners-fight-the-plastic-bag-ban.html)

<sup>78</sup> See <https://nypost.com/2020/05/02/new-york-delays-enforcement-of-plastic-bag-ban-until-june-15/>

<sup>79</sup> See [www.oregon.gov/deq/mm/production/Pages/Bags.aspx](http://www.oregon.gov/deq/mm/production/Pages/Bags.aspx).

<sup>80</sup> See <https://www.oregon.gov/deq/mm/production/Pages/Bags.aspx>

<sup>81</sup> Ibid.

**Washington D.C.** In 2010, the Anacostia River Clean Up and Protection Act of 2009 took effect. Under the legislation, all businesses that sell food or alcohol must charge a 5-cent bag fee and remit a portion of the fees, monthly, to the Office of Tax and Revenue. The business retains one or two cents, depending on whether it offers a rebate when customers bring their own bags, and the remaining three or four cents go to the Anacostia River Clean Up and Protection Fund.<sup>82</sup>

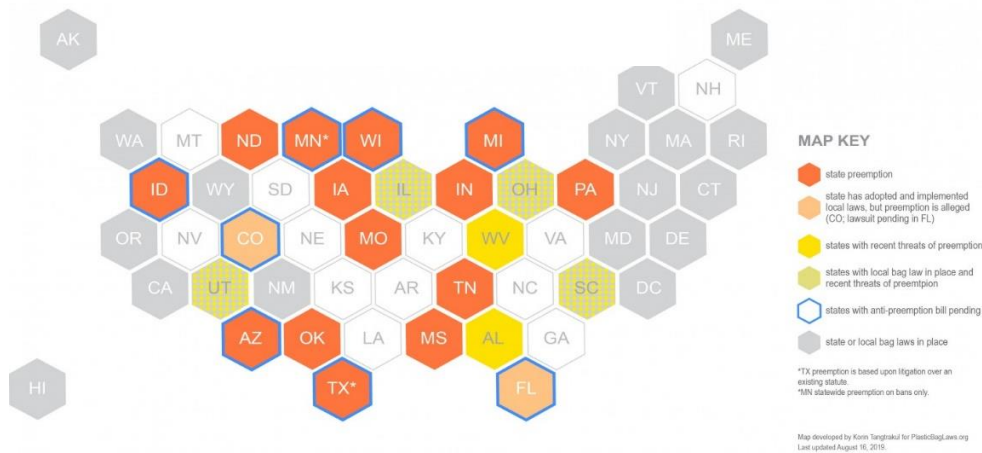
Nationwide, municipalities enacted regulations where the governing state has no state-wide regulations. Appendix D provides further examples of these municipalities.

## State Preemption

In the United States, preemption laws prohibit municipalities from adopting local ordinances that further regulate a product, namely bans or fees on carryout plastic bags.<sup>83</sup> States with preemptions on single-use plastics bans/fees are illustrated in Exhibit 7.

Exhibit 7

### States with Preemptions Prohibiting Municipal Regulations on Single-Use Plastics



Source: Developed by LBFC staff from [www.plasticbaglaws.org](http://www.plasticbaglaws.org)

<sup>82</sup> See <https://doee.dc.gov/service/skip-bag-save-river>

<sup>83</sup> See <https://www.plasticbaglaws.org/preemption>

## D. Pennsylvania Perspectives

Currently, there are no statewide plastics regulations in Pennsylvania. In 2017, the General Assembly passed House Bill 1071, which would have prevented Pennsylvania municipalities from banning or taxing single-use plastic bags. Governor Wolf vetoed the legislation saying it would have violated the Environmental Rights Amendment of the Pennsylvania Constitution and raised a significant preemption issue relating to the rights of political subdivisions.

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*Under Act 2020-23, the prohibition described within Act 2019-20 has been extended to July 1, 2021, or six months after the Governor's emergency declaration (and any renewals), whichever is later.*

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As discussed previously, in June 2019, as part of the Fiscal Code (Act 2019-20), municipalities are temporarily prohibited from enacting new regulations on single-use plastics and other similar items.<sup>84</sup> Appendix B lists all pending legislation pertaining to single-use plastic as of June 5, 2020.

Prior to the passage of Act 2019-20, there was only one municipality that enacted plastic use-related regulations. As discussed further below, two other local governments plan to enact ordinances after July 1, 2020.

**Narberth Borough, Montgomery County.**<sup>85</sup> In October 2018, Narberth Borough became the first municipality in the state to restrict plastic usage. The ordinance requires a 10-cent fee to be charged for each single-use plastic bag, which businesses retain. The ordinance also places a ban on single-use plastic straws with an exception that straws can be provided to accommodate a disability.<sup>86</sup>

The ordinance took effect in April 2019 and gave businesses six months to prepare. In February 2020, we met with two borough council members who stated that all businesses located within the borough were in agreement with the ordinance prior to its passing and have been in compliance with no violations reported. Borough Council indicated that they plan to expand the ordinance in the future to include other single-use plastic products, such as plastic cups and polyethylene containers.

We also spoke with managers of both a pharmacy and the Fine Wine and Good Spirits store located in the borough regarding the bag ban. Both stated that they immediately implemented the ban, however, the pharmacy had difficulty getting paper bags. The manager at the pharmacy also indicated that at first customers refused to pay the 10-cent fee for a

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<sup>84</sup> Under amendments to the Fiscal Code from Act 2020-23, this prohibition has been extended to July 1, 2021, or six months after the Governor's emergency declaration (issued March 6, 2020) and any renewal of the state of disaster emergency, whichever is later. On June 3, 2020, the Governor extended the emergency declaration for 90 days, until September 4, 2020.

<sup>85</sup> Narberth Borough is a suburb of Philadelphia and is approximately 0.50 square miles with a population of approximately 4,400 residents.

<sup>86</sup> See <https://patch.com/pennsylvania/balacynwyd/narberth-passes-pas-first-ordinance-restricting-plastics>

bag instead taking shopping carts out to their vehicles and then leaving the carts in the parking lots. Employees would need to gather the carts. He also stated that the use of paper bags has resulted in a loss of money for the pharmacy because of the cost of paper bags. The manager of the Fine Wine and Good Spirits store indicated that he offers customers a free box if customers do not want to pay the fee.<sup>87</sup>

**West Chester Borough, Chester County.**<sup>88</sup> In 2019, borough council passed an ordinance that prohibits businesses within the borough from providing single-use plastic bags. Businesses may provide a compliant bag<sup>89</sup> for a 10-cent fee, which must be displayed on the sales receipt. According to the Mayor of West Chester, the fee is to be retained by the retailer and used to cover the added cost of the recycled paper bag products and to encourage consumers to bring their own bags. The ordinance goes into effect on July 2, 2020.

**City of Philadelphia, Philadelphia County.** In December 2019, Mayor Kenney signed plastic bag ban legislation into law to take effect on July 2, 2020; however, in April 2020, the Mayor announced that due to the COVID-19 pandemic, the ban is no longer realistic and delayed implementation until January 2021, with enforcement beginning in April 2021.<sup>90</sup>

This legislation bans single-use plastic bags at retail establishments in the city. Retailers can still provide paper and other reusable bags. The legislation did not include a fee for the alternative bags, due to concerns that the fee would be a hardship to lower income populations.

**Ferguson Township, Centre County.**<sup>91</sup> In November 2018, the Ferguson Township Board of Supervisors held a public hearing after receiving a petition signed by more than 50 community members asking the Board to consider a ban on single-use plastic bags. After the hearing, the Board agreed to further research the idea and to study the Narberth ordinance.<sup>92</sup>

The township enlisted the help of the Pennsylvania State University Sustainability Institute to solicit stakeholder input and identify any potential

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<sup>87</sup> Under Narberth's ordinance, the Fine Wine and Good Spirits store is exempted from complying with the ban.

<sup>88</sup> West Chester Borough is located east of Philadelphia and is approximately 1.8 square miles with a population of approximately 20,000 residents.

<sup>89</sup> The ordinance defines a compliant bag as certain paper carry-out bags and reusable bags. The paper bags must contain a minimum of 40 percent postconsumer recycled material, display the words recyclable and/or reusable on the outside of the bag, and must be compostable. Reusable bags are made of cloth, fabric, or other materials that are designed and manufactured for reuse. If the reusable bag is plastic, it must be 4.0 mils thick.

<sup>90</sup> See <https://www.inquirer.com/news/plastic-bag-ban-philadelphia-date-delay-kenney-coronavirus-20200422.html>

<sup>91</sup> Ferguson Township is part of the State College area and is approximately 47 square miles with a population of approximately 19,000 residents.

<sup>92</sup> See <http://www.statecollege.com/news/local-news/ferguson-township-considers-regulating-plastic-bags,1478631/>

legal obstacles to implementing a plastic bag ban or impact fee. Students from Penn State Law completed an analysis which was then presented at a board meeting in May 2019.

In June 2019, township supervisors agreed to draft an ordinance that would impose an impact fee on single-use plastic bags.<sup>93</sup> In a July 2019 meeting of the Board of Supervisors, further action on the ordinance was postponed due to the passage of Act 2019-20.<sup>94</sup>

**City of Bethlehem, Lehigh and Northampton Counties.**<sup>95</sup> In the spring of 2019, prior to the legislature passing the moratorium on municipal bag bans, Bethlehem's Environment Advisory Council recommended prohibiting businesses from providing single-use plastic bags to customers and requiring businesses to charge a 10-cent fee on paper bags. The proposed ordinance was not developed. In October 2019, Bethlehem City Council passed a resolution urging state legislators to pass legislation that would lessen environmental impacts stemming from single-use plastic bag use statewide, and/or lift the moratorium.<sup>96</sup>

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<sup>93</sup> See <http://www.statecollege.com/news/local-news/ferguson-township-to-draft-ordinance-for-potential-impact-fee-on-plastic-bags,1480261/>

<sup>94</sup> See [www.twp.ferguson.pa.us/sites/fergusonpa/files/minutes/board\\_of\\_supervisors\\_minutes\\_07-01-19.pdf](http://www.twp.ferguson.pa.us/sites/fergusonpa/files/minutes/board_of_supervisors_minutes_07-01-19.pdf)

<sup>95</sup> The City of Bethlehem is in the Lehigh Valley and is approximately 19.46 square miles with a population of approximately 75,000 residents. Parts of the city encompass both Lehigh and Northampton counties.

<sup>96</sup> See <https://www.mcall.com/news/local/bethlehem/mc-nws-bethlehem-plastic-bag-ban-20191017-lailxwhvjb57dp2xkcs6rw5nq-story.html>

## SECTION IV MUNICIPAL PERSPECTIVES ON SINGLE-USE PLASTIC BANS/FEES



### Fast Facts...

- ❖ *We surveyed all 2,560 municipalities listed in the Department of Community and Economic Development's municipal database. We had a 39 percent response rate.*
- ❖ *Respondents were evenly split—39.1% “yes” and 39.6% “no”—on whether plastic bans/fees were an effective way of minimizing environmental impacts. A high percentage (21.2%) had “no opinion.”*
- ❖ *A high percentage of respondents (69.0%) also indicated that a ban or a fee should be implemented at the state level, if enacted.*

### Overview

Our study's second objective sought to determine the consideration given by Pennsylvania's municipal leaders to bans or fees on single-use containers. To answer this objective, we conducted a survey of Pennsylvania's municipal leaders.

We surveyed all 2,560 municipalities listed on the Pennsylvania Department of Community and Economic Development's (DCED) municipal database. We distributed our survey using an online survey tool and conducted several tests to verify the accuracy of our survey database. We also sought assistance from the Pennsylvania League of Municipalities in encouraging its members to respond to the survey.

We collected survey responses from late October 2019 through early January 2020. Overall, the survey generated 1,022 responses, with 93 percent of those respondents fully completing the survey. Our survey had a 39 percent response rate. One potential limitation to the survey is that it reflects municipal leaders' thoughts and opinions in a pre- COVID-19 timeframe. Whether respondents would have these same opinions today is unknown. Time limitations prohibited us from conducting a second survey.

The survey revealed that municipal leaders lack consensus on whether bans and/or fees on single-use plastics were an effective way of minimizing harmful environmental impacts. According to our results, 39.1 percent of municipal leaders believe that bans/fees on single-use plastics are an effective way of minimizing harmful environmental impacts, and 39.6 percent believe that bans/fees are not effective.

Interestingly, 69 percent of those surveyed felt it should be the state government's responsibility to impose any mechanism(s) to reduce the use of single-use plastics. Respondents also indicated that the most effective way to limit the use of single-use plastic is by placing an outright ban (27 percent) as opposed to placing a fee on consumers (7 percent). Additionally, 22 percent of municipal leaders who responded to our survey reported that an imposition of a fee on suppliers is also an effective way to limit single-use plastic.

## Issue Areas

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### A. Survey Tool and Data Collection

Our study's second objective sought to determine the consideration that Pennsylvania's municipal leaders have given to bans or fees on single-use containers. To answer this objective, we surveyed Pennsylvania municipal leaders for their views on single-use plastics. The specific goals of the survey were:

- To identify environmental concerns and attitudes municipal leaders may possess pertaining to single-use plastics.
- To gauge municipal leaders' interest in and support for any initiatives and/or mechanisms that are set up to limit single-use plastics.
- To identify barriers and concerns municipal leaders may have surrounding banning and/or implementing a fee on single-use plastics.

As discussed further in Section I, the focus of our study and this survey was on single-use plastics bags. We used the online software tool SurveyMonkey® to develop and distribute the survey. Data collection for the survey occurred from October 25, 2019, through January 7, 2020. We also conducted periodic follow-ups with respondents during this timeframe to encourage respondents to begin and complete data entry.

For participant name and contact information, we retrieved the municipal contact report for the 2,560 municipalities listed in the Pennsylvania Department of Community and Economic Development (DCED) municipal database. The point of contact listed for each municipality served as the primary respondent for our survey.

On October 23, 2019, prior to the release of the survey, we distributed an electronic memo to all survey recipients. The memo explained the LBFC's role with respect to Act 2019-20 and the purpose of the survey. The memo detailed that all individual responses would be kept confidential.

Additionally, the Pennsylvania League of Municipalities (League) published the survey in a newsletter to its members. The League is a non-profit, nonpartisan organization established in 1900 as an advocate for Pennsylvania's third class cities. Today, the League represents participating Pennsylvania cities, boroughs, townships, home rule communities and towns that all share the League's municipal policy interests.



The survey, which contained both open-ended and closed-ended questions, had a total of eight questions. On average, the typical time spent on the survey by each respondent was three minutes and 24 seconds. Overall, the survey generated 1,022 responses, with 93 percent of those respondents fully completing the survey. Our survey had a 39 percent response rate, which is considered a very good response rate. Exhibit 8 displays the survey process prior to and during the data collection.

## Exhibit 8

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### LBFC Survey Process

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#### **Prior to Data Collection**

- \* Determined objective.
- \* Determined recipients and their point of contact.
- \* Obtained municipal contact data from DCED.
- \* Distributed electronic memo to all Pennsylvania municipal leaders.



#### **During Data Collection**

- \* Resolved all technical and survey related questions by e-mail and phone.
- \* Sent periodic reminders to recipients who did not begin and/or complete data entry.
- \* Pennsylvania League of Municipalities published a survey notification in its newsletter.

Source: Developed by LBFC staff.

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## **B. Survey Responses**

In the section that follows, we present the responses to our survey of municipal leaders. As noted above, the survey contained a combination of closed-ended questions and open-ended prompts. For purposes of this presentation, we have summarized the results by these two categories.

## Closed-Ended Questions

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**Question: Do you believe that bans/fees on single use items (e.g., plastic bags) are an effective way of minimizing harmful environmental impacts?**

- Yes
- No
- No Opinion

Responses	Respondents	Percentage
Yes	400	39.1
No	405	39.6
No Opinion	217	21.2
<b>Total</b>	<b>1,022</b>	<b>100.0</b>

**Analysis.** As shown above, there was no consensus on whether respondents believed that bans and/or fees are an effective way of minimizing harmful environmental impacts. According to survey results, 39.6 percent of the respondents believed that bans and/or fees are an effective way to minimize harmful environmental impacts, while 39.1 percent of respondents do not believe that bans and/or fees are an effective way of minimizing harmful environmental impact. The difference between those who selected "Yes" versus those who selected "No" was just five respondents.

Nearly a quarter of the respondents selected "No Opinion" for the question (*Do you believe that bans/fees on single use items (e.g., plastic bags) are an effective way of minimizing harmful environmental impacts.*) When we asked this group (i.e., respondents who selected "No Opinion") to further share their concerns, the responses centered on the following themes: the bans/fees are ineffective; are an unwanted additional cost/fees; or are an added enforcement issue. Exhibit 9 further highlights these responses.

Exhibit 9

**Additional Concerns Cited By Respondents  
Who Had “No Opinion” About Plastic Bans/Fees**

**Concerns Regarding Additional Fees**

- *A fee does not get rid of the plastic, many will pay the fee and continue using them.*
- *Concerns with implementation and collection costs outweighing collection benefits.*
- *Fees will simply be passed to consumers. Cost effective methods of alternative packaging / refilling need to be explored and offered.*

**Concerns Regarding Enforcement**

- *Enforcing any ban or fee at the local level requires a lot of money and resources that most smaller local governments do not have. While there is justified concern for the environment, creating more unfunded mandates is not good for our residents or our local economy, and I can't speak to what the National impact would be to ban them all together.*
- *Another government mandate - how will it be controlled monitored and enforce?*
- *I am concerned about any expectation on municipalities to enforce a ban mandated by the state, county-level, etc. What would that entail? Unlikely we have the capacity to take on any enforcement when code enforcement, etc. can already be a resource struggle. I am concerned as a public professional about single-use plastics but can't recommend to our governing body that we pass regulations that we can't reliably enforce. I would be open to hearing more about regulations that could be adopted by higher government authorities.*

**Concerns Regarding a Ban and/or Fee**

- *As a former employee of an environmental company, more recycling of single-use plastics needs to be made available to the public. It will cut down on the plastic waste in garbage. Some areas only recycle paper, glass and aluminum/metal items, we as residents should also be able to recycle plastics. A ban/fee implemented on customers would not be reasonable to do most company's don't give you the option of not using single-use plastics.*
- *We need to get back to returnable container products, glass, etc. days. A ban is the only way that a change in this direction can be made.*
- *Not enough details on which plastics would be banned. If trash bags are included in the ban how would trash be disposed? There would be more garbage on highways, roads, streets, in neighborhoods and waterways if there is a total ban.*

Source: Developed by LBFC staff. Comments are as presented in the survey.

Later in this section, we further analyze respondents by their response to the first question (1. *Do you believe that bans/fees on single use items (e.g., plastic bags) are an effective way of minimizing harmful environmental impacts?*). The analysis will draw conclusions on whether there are any correlations, or if views differ when it comes to the rest of the survey.

**Question: If enacted, in your opinion, should single-use plastic bans/fees be implemented at the state or local level?**

- State
- Local
- Other (please specify)

Responses	Respondents	Percentage
State	705	69.0
Local	204	20.0
Other	113	10.9
<b>Total</b>	<b>1,022</b>	<b>100.0</b>

**Analysis.** Somewhat surprisingly, for question 2, the majority of respondents believed that if enacted, single-use plastic bans should be implemented at the state level (69 percent). We found this to be a curious result given that the respondents were local government officials; however, only 20 percent of respondents believed that a plastic ban/fee should be implemented at the local level.

An additional 10.9 percent of respondents selected "Other." For respondents that selected "Other" they were prompted to specify their reasoning. The responses included implementing a ban on the federal level. Additionally, the majority of the respondents that selected "Other" stated that it should not be up to the state or local governments, because they believed a ban and or fee should not be implemented at all.

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**Question: In your opinion, which of the following mechanisms would be most effective in limiting the use of single-use plastic?**

- Ban
- Fee – on suppliers
- Fee – on consumers
- Fee - on consumers and suppliers
- Combination of ban & fee
- Other (please specify)

Responses	Respondents	Percentage
Ban	272	26.6
Fee – on suppliers	228	22.3
Fee – on consumers	75	7.3
Fee - on consumers and suppliers	101	9.9
Combination of ban and fee	206	20.2
Other (please specify)	140	13.7
<b>Total</b>	<b>1,022</b>	<b>100.0</b>

**Analysis.** As discussed in Section III, state and local governments have adopted varying approaches to regulating single-use plastic bags. These methods include generally three types:

- Bag fee – a fee mandated for all single-use plastic bags.
- Ban – ban on single-use plastics.
- Ban/fee hybrid - a ban on thin plastic bags with a fee for all other carryout bags (paper, reusable, compostable).

For question three, based on the above considerations, we presented respondents with options to consider if a plastic ban/fee was to be enacted. Of those responding, 27 percent believed that a ban is the best mechanism for limiting the use of single-use plastics. With respect to single-use plastic bags, specifically, a straight ban generally means that thin plastic bags are banned, but paper and reusable bags are still available. The ban mechanism, while very simple, comes with issues of its own. For example, a recent straight plastic bag ban implemented in Chicago resulted in many stores simply switching the thickness of the plastic bags to cross the threshold from “single-use” plastic to “reusable” plastic bags without a significant decrease in the total number of bags used.<sup>97</sup>

Twenty-two percent of respondents selected that a fee on suppliers is the most effective mechanism for limiting single-use plastic. Twenty percent of respondents stated that a combination of a ban and a fee was the best way to limit single-use plastic. The top three mechanism(s) selected by respondents garnered close to 70 percent of support.

The options of a “fee on consumers and suppliers” and a “fee on consumers,” had the least amount of support from respondents. Throughout the survey, respondents noted their displeasure in regards to additional taxes and/or fees, and fewer respondents supported the implementation of a fee.

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<sup>97</sup> See [http://publicfiles.surfrider.org/Plastics/Plastic\\_Bag\\_Law\\_Activist\\_Toolkit\\_2019.pdf](http://publicfiles.surfrider.org/Plastics/Plastic_Bag_Law_Activist_Toolkit_2019.pdf)

For question three, 13.5 percent of respondents selected "Other." The explanations for this selection can be categorized as the following: "no opinion/none," "no fees," and "no ban and fees."

While there are conflicting viewpoints on which regulatory mechanism is best (see Section III), studies of mechanisms that have already been implemented reveal varying effectiveness. Exhibit 10 details some of these outcomes.<sup>98</sup>

### Exhibit 10

#### Effectiveness of Selected Plastic Bag Regulations in the United States

Location	Summary	Type	Fee	Study and Year Published
<b>San Jose, CA</b>	In under one year in San Jose, CA, a ban on thin plastic bags, coupled with a 10-cent fee on paper reduced bag litter in rivers to less than a third of the pre-ordinance levels. Neighborhood plastic bag litter from plastic bags dropped by more than half. The prevalence of reusable bags increased from 4% to 62% post-ordinance and the prevalence of customers not using a bag increased from 19% to 43% post-ordinance. The major recycling collection company in San Jose cut the time spent untangling plastic bags from their machines nearly in half.	Hybrid	\$0.10	City of San Jose – 2012
<b>Westport, CT</b>	In Westport, CT, a check-out survey showed that in areas affected by the ban-only ordinance, over 50% of customers used "reusable" bags (including thicker plastic bags), roughly 45% of customers used paper bags, and only 2% of customers carried out with no bag. Compared to similar stores in areas unaffected by the ordinance, the ban-only ordinance increased paper bag usage drastically (from virtually no usage to a prevalence of about 45%).	Ban	N/A	David Brown, Sc. D. Adjunct Faculty, Fairfield Univ. – 2010

<sup>98</sup> See <https://www.plasticbaglaws.org/effectiveness>

Exhibit 10 Continued

Location	Summary	Type	Fee	Study and Year Published
<b>Chicago, IL</b>	After the implementation of a 7-cent fee in Chicago, IL, the number of plastic bags used at grocery stores was cut in half, according to a joint University of Chicago-New York University study. The study also found that after the implementation of the fee, the number of people bringing reusable bags increased by 2.5 times, and that the number of people who did not use a bag nearly tripled.	Fee	\$0.07	City of Chicago (commissioned) New York University and University of Chicago – 2017
<b>Inter-store comparison from Maine to New Jersey</b>	The retailer Ocean State Job Lot operates stores in several states and counties with plastic bag fees and bans. In stores where thin plastic bags were banned, 70% of customers used thicker plastic bags provided by the store. In contrast, in stores where there was a fee for thin plastic, there were nearly half as many customers using the thicker plastic, while 63% of customers used a reusable bag or no bag at all.	Hybrid	\$0.05	Ocean State Job Lot – 2018
<b>Washington, DC</b>	The Alice Ferguson Foundation surveyed how common plastic bags were during Washington DC’s annual clean-up before and after the implementation of a 5-cent fee on both plastic and paper. They found that the number of plastic bags found at their annual clean-up dropped to nearly a quarter of their prior levels.	Fee	\$0.05	Alice Ferguson Foundation – 2015

Source: Developed by LBFC staff from review of studies on plastic bag bans/fees.

**Question: In your opinion, if a fee was to be instituted on single-use plastics, the revenues from that fee should:**

- Be retained by businesses.

- Be split between businesses and some governmental authority (state or local).
- Finance local recycling education efforts.
- Other (please specify).

Responses	Respondents	Percentage
Be retained by businesses	129	12.6
Be split between businesses and some governmental authority (state or local)	135	13.2
Finance local recycling education efforts	469	45.9
Retained solely by governmental authority (state or local)	137	13.4
Other (please specify)	152	14.9
<b>Total</b>	<b>1,022</b>	<b>100.0</b>

**Analysis.** If a fee is imposed as a regulatory mechanism, the obvious question is how the fee should be used. While we provided a few options for respondents to select, overall there are three main ways that the money paid for a carryout bag can be classified. As discussed in Section III, these methods include a tax, regulatory fee, or charge.

Overall 46 percent of respondents believed that fees should finance local recycling education efforts. The other options for the question, which included the following: “be retained by businesses” (12.6 percent); “be split between business and some government authority” (13.2); and “retained solely by governmental authority” (13.4 percent); did not draw as much support. In fact, there were more respondents that selected “Other” (14.9 percent) than each of the other options provided. As might be expected, the majority of respondents that selected “Other” were against imposing any form of fee.



**Question: Has a ban, fee and/or combination of both been considered by your jurisdiction in the past?**

- No
- Yes

Responses	Respondents	Percentage
Yes	24	2.3
No	998	97.7
<b>Total</b>	<b>1,022</b>	<b>100.0</b>

**Analysis.** For question five, nearly 98 percent of respondents selected “No.” The high number of respondents selecting “No” comes as no surprise due to Act 2019-20 and the existing preemption on municipalities taking action on single-use plastics.

We also asked municipalities to elaborate on the result of the discussion regarding a ban or fee (i.e., was it adopted and then repealed, or why did it fail to be adopted.) The majority of the responses were either that the topic surrounding single-use plastic is in discussion or it is on hold due to the current prohibitions from Act 2019-20. Exhibit 11 provides detail on the responses we received.

Exhibit 11

**Has a ban, fee and/or combination of both been considered  
by your jurisdiction in the past?**

County	Municipality and Result
Adams	<b>Gettysburg Borough</b> Resolution.
Allegheny	<b>South Fayette Township</b> No action just contemplated.
Bucks	<b>Doylestown Township</b> Just starting the discussion on banning the use of plastic bags.
Centre	<b>State College Borough</b> 2018-2019. The Issue Consideration Has Now Been Delayed Due To The Act 20. Currently, The Issue Is Being Considered With A Deferred Implementation Date Until July, 2020
Chester	<b>East Goshen Township</b> Not Formally Considered. Merely Discussed.
	<b>Kennett Township</b> We Elected To Take No Action Due To The Study Being Conducted By The Legislature.
	<b>Schuylkill Township</b> A Single-Use plastic fee was being discussed by the township supervisors, but the discussion was put on hold as a result of the state's prohibition until 2020.
	<b>West Chester Borough</b> Adopted 2019 effective July 2020.
Delaware	<b>Millbourne Borough</b> Council did not follow up.
	<b>Swarthmore Borough</b> Did not progress due to temporary state ban.
Luzerne	<b>Newport Township</b> Rejected.
Monroe	<b>East Stroudsburg Borough</b> No, enforcement is too Difficult.
	<b>Stroudsburg Borough</b> The proposed ban did not move forward as it is presently not authorized by the Commonwealth of Pennsylvania.
Montgomery	<b>Ambler Borough</b> In progress via a survey.
Northampton	<b>Forks Township</b> Discussion only.
Potter	<b>West Branch Township</b> County level acceptable recycling items adopted.
Warren	<b>Warren City</b> Failed to be adopted.

Source: Developed By LBFC staff.

**Question: On a scale of 1 to 5 (1 being Not Important and 5 being Extremely Important) how important is it to implement a ban/fee regarding single-use plastics in your community?**

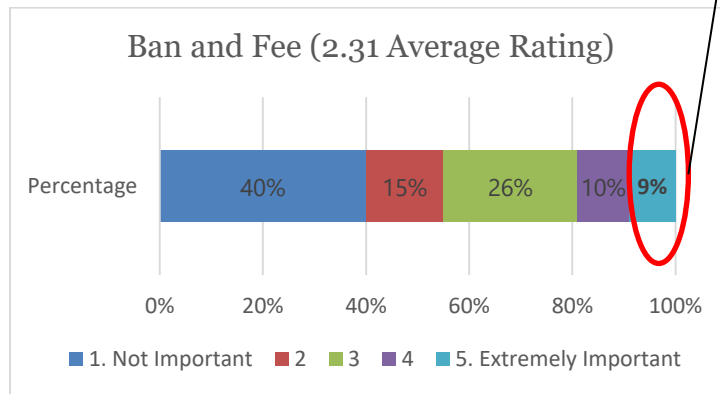
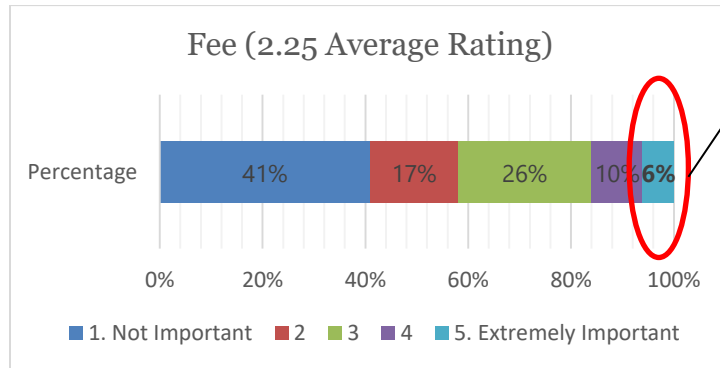
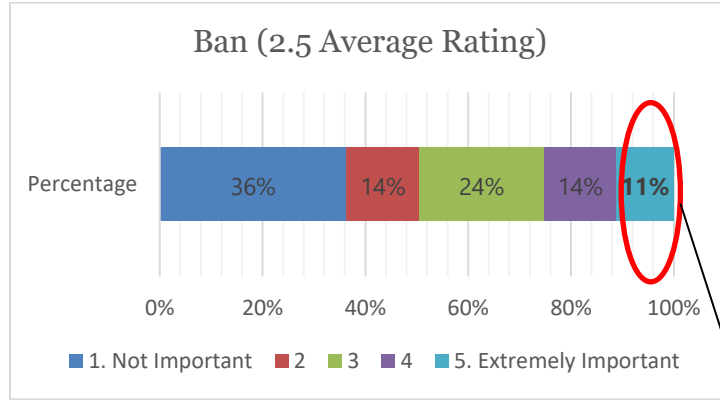
Mechanism		Rating Scale					Weighted Score
		Not Important 1	2	3	4	Extremely Important 5	
<b>BAN</b>	Percent	36	14	24	14	11	2.5
	Number	308	122	207	119	95	
<b>FEE</b>	Percent	41	17	26	10	6	2.25
	Number	324	131	206	82	51	
<b>BAN and FEE</b>	Percent	40	15	26	10	9	2.31
	Number	346	132	219	83	75	
Total		<b>978</b>	<b>385</b>	<b>632</b>	<b>284</b>	<b>221</b>	

**Analysis.** For question six, based on the rating (Likert) scale responses from one to five with one being “Not Important” and five being “Extremely Important,” respondents indicated that implementing a ban and/or fee is not that important. All three mechanisms (ban, fee, and ban and fee) had the majority of respondents leaning towards “Not Important.” As discussed in Section V that follows, it is important to highlight that these responses were provided several months before the COVID-19 pandemic. As a result, it is reasonable to assume that opinions on the importance of the ban/fee on single-use plastics have changed. Furthermore, it is likely that opinions have significantly changed with the issue being of less significance as local businesses have been forced to close and many residents have been under stay-at-home orders.

As shown on Exhibit 12, the smallest percentage of municipal responses for each mechanism (ban, fee, and ban and fee) reported the issue as being “Very Important.”

Exhibit 12

**On a scale of 1 to 5 (1 being Not Important and 5 being Extremely Important) how important is it to implement a ban/fee regarding single-use plastics in your community?**



The fewest respondents rated implementing either a Ban, Fee, or Ban and Fee as being "Extremely Important."

Source: Developed by LBFC staff.

## Open-ended Prompts

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Responses to our survey's open-ended prompts provided differing thoughts, opinions, and attitudes about regulating single-use plastics. The prompts also allowed respondents to provide greater detail about how they believed citizens in their communities felt about single-use plastic regulations.

Overall, regardless of the respondent's view on whether bans and fees are an effective way of minimizing harmful environmental impacts, respondents shared similar views in regard to the mechanisms that would be most effective in limiting single-use plastic, the level of government that should implement a ban and/or fee, and lastly, who should retain the revenues and how they should be used.

As discussed further below, respondents indicated that revenues from any sort of fee should support financing local recycling efforts. This implies that revenues collected from a fee will go towards supporting environmental projects or boost local recycling with funds, create jobs in the plastic recycling sector, etc.

**Prompt: In a few words, please state the perceptions you believe residents and local businesses may have with regard to the environmental impacts and/or any impacts from single-use plastics.**

**Analysis.** From our review of survey responses, a popular response to our prompt was that improved efforts towards recycling are needed within their communities. In particular, the lack of infrastructure for proper recycling was frequently mentioned. Some examples of this point include the following:

- *I believe it should start with total recycling. If cans and bottles and plastics can be recycled, then we should make it unlawful to throw away recyclable items.*
- *We have many of our residents who already do the drop off at the store and use their own bags or reuse the plastic bags. Our residents are very environmentally conscious and we are making a concerted effort to educate those that are not reusing their bags or not recycling them. I think more effort should be put into glass recycling.*
- *MOST of the community uses them for purchases and for dog clean up. I have seen some use cloth bags. A recycling bin is in the community, used by many for metal, glass and plastics and it gets so full that it is emptied twice in a community of 356. Therefore, recycling is important here but it just has not been as big of an issue with plastic bags yet.*

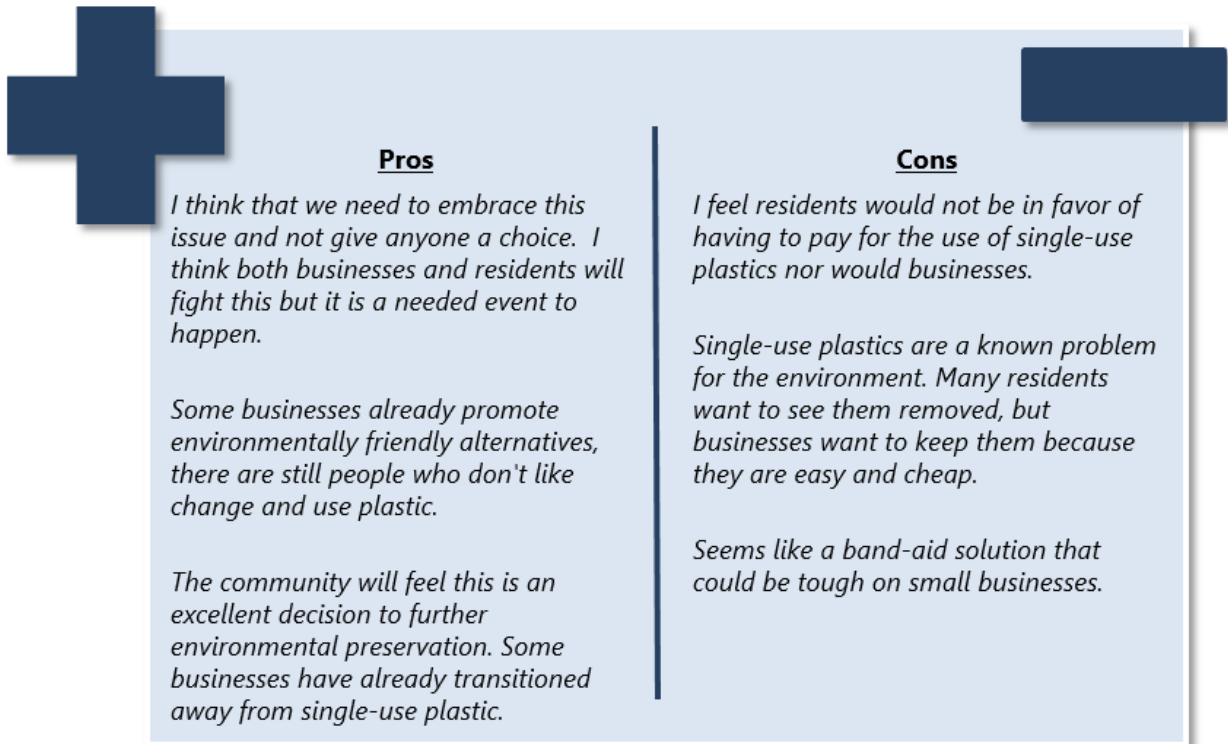
- *It depends on who you ask, a typical business owner probably wouldn't care about the environmental impacts. I do not think banning these single-use products is the answer, I think finding an effective recycling option that doesn't rely on foreign countries as off-takers of our products is the answer.*

Recycling is one of the most important actions currently available that reduces environmental impacts; however, as mentioned by respondents, the resources to do so may not always be available. Additionally, recycling single-use plastic bags can be complicated, time intensive, and costly, as the bags often require different processes from those locally available.

Beyond the respondents' perceptions about recycling, responses to this open-ended question were categorized as either "Pro" or "Con." Overall the pros highlighted the impact(s) that implementing a ban and/or fee on single-use plastics may have on the environment. The cons highlighted the cost of implementing a ban and/or fee on single-use plastic. Exhibit 13 presents a sample of the responses we received.

### Exhibit 13

## Sample of Municipal Responses about the Perceptions of Environmental Impacts from Single-Use Plastics



<u>Pros</u>	<u>Cons</u>
<i>I think that we need to embrace this issue and not give anyone a choice. I think both businesses and residents will fight this but it is a needed event to happen.</i>	<i>I feel residents would not be in favor of having to pay for the use of single-use plastics nor would businesses.</i>
<i>Some businesses already promote environmentally friendly alternatives, there are still people who don't like change and use plastic.</i>	<i>Single-use plastics are a known problem for the environment. Many residents want to see them removed, but businesses want to keep them because they are easy and cheap.</i>
<i>The community will feel this is an excellent decision to further environmental preservation. Some businesses have already transitioned away from single-use plastic.</i>	<i>Seems like a band-aid solution that could be tough on small businesses.</i>

Source: Developed by LBFC staff.







- *I don't think that everyone will be on board with a ban/fee, but it can only help our environment.*
- *We can protect the environment in other ways.*
- *To eliminate plastic waste and reduce environmental impacts, I believe a fee and/or ban is the way to go. But allow this to be a local option.*
- *There are folks that have no clue what it is your questioning. They go to the store to get what they need and go home with their bags. Why punish them. Go to a product that is environmentally neutral.*

## **C. Supplementary Survey Analysis**

As we highlighted earlier, there was no clear distinction as to whether respondents believed that bans/fees were an effective way of minimizing harmful environmental impacts (Question 1). Knowing that respondents were evenly split on this issue (e.g., 39 percent yes, 39 percent no), we further analyzed each response cohort (i.e., those replying yes, and those replying no).

## **Combined Survey Responses**

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As depicted on Exhibit 16, we grouped respondents by their response to our first question: Do you believe that bans/fees on single-use items (e.g., plastic bags) are an effective way of minimizing harmful environmental impacts? We then tracked those respondents by other survey questions to examine if there were differences in how each of these cohorts responded.

Exhibit 16

**Cohort Analysis on Whether Respondents Replied “Yes” or “No” to Bans/Fees as an Effective Way of Minimizing Harmful Impacts**

**Question #1: Do you believe that bans/fees on single-use items (e.g., plastic bags) are an effective way of minimizing harmful environmental impacts?**

YES and NO



<b>Question #2: If enacted, in your opinion, should single-use plastic bans/fees be implemented at the state or local level?</b>					
Responses	Number	Percent	Responses	Number	Percent
State	342	85.5 ★	State	215	53.1 ★
Local	43	10.8	Local	111	27.4

<b>Question #3: In your opinion, which of the following mechanisms would be most effective in limiting the use of single-use plastic?</b>					
Responses	Number	Percent	Responses	Number	Percent
BAN	139	34.8 ★	BAN	82	20.2
FEE – Suppliers	50	12.5	FEE – Suppliers	111	27.4 ★
FEE – Consumers	33	8.3	FEE – Consumers	27	6.7
FEE – Consumers and Suppliers	46	11.5	FEE – Consumers and Suppliers	36	8.9
COMBINATION – Ban and Fee	123	30.8	COMBINATION – Ban and Fee	44	10.9

<b>Question #4: If a fee was instituted on single-use plastics, the revenues from that should...</b>					
Responses	Number	Percent	Responses	Number	Percent
Be Retained by Businesses	30	7.5	Be Retained by Businesses	61	15.1
Finance Local Recycling Educ. Efforts	219	54.8 ★	Finance Local Recycling Educ. Efforts	161	39.8 ★
Split Between Business/Gov't	52	13.0	Split Between Business/Gov't	47	11.6
Retained by Gov't Authority	54	13.5	Retained by Gov't Authority	57	14.1

Source: Developed by LBFC staff.

As shown above, while the cohorts may not agree on whether bans and/or fees are an effective way in minimizing harmful environmental impacts, both cohorts agreed that:

- If enacted, bans and/or fees on single-use plastics should be enacted on a state level. The “yes” group were more in favor of bans and/or fees at the state level with 85.5 percent of the group selecting “state.” In comparison, 53.1 percent of the “no” group selected “state.”
- If a fee was to be instituted on single-use plastics, the revenues should finance local recycling efforts. The “yes” group were more in favor of revenues financing local recycling efforts with 54.8 percent of the respondents in that group in agreement. For the “no” group, 39.8 percent of respondents agreed.
- For the mechanism that would be most effective in limiting single-use plastics, a fee on consumers received the least amount of support from both groups. For the “yes” group, 8.3 percent of respondents selected fee on consumers while 6.7 percent of the “no” group respondents selected this mechanism.

Where the “yes” and “no” cohort disagreed was with question three, which asked what the most effective mechanism was for limiting single-use plastics.

- For the “yes” group, 34.8 percent of the respondents selected that a ban is the most effective mechanism in limiting the environmental impacts of single-use plastics. In comparison, the “no” group selected a fee on suppliers as the best mechanism in limiting environmental impacts. Surprisingly, the “no” group believed that the second best mechanism in limiting environmental impacts is a “ban” with 20.2 percent of respondents supporting that approach. This response indicated some contradiction, because the respondents initially stated that a ban/fee was not an effective way of minimizing harmful environmental impacts.

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## **Population Analysis**

To provide further perspective about the respondents to our survey, we researched the population of the municipalities. We found that the responding municipalities had populations that ranged from less than 100 to 57,825 residents. West Keating Township in Clinton County and Green Hills Borough in Washington County were the least populated municipalities, each with only 29 residents. Lower Merion Township in Montgomery County was the most populous municipality with 57,825 residents.

Overall, the average population was 3,984 residents with the median population equaling 1,856 residents. Exhibit 17 shows a breakout of respondents by population.

Exhibit 17

**Breakout of Respondents by Municipal Population**

Population	Number of Respondents	Percentage of Total
< 100	13	1.3
100-5,099	776	76.2
5,100-10,099	137	13.4
10,100-15,099	40	3.9
15,100-20,099	27	2.7
20,100-25,099	8	0.8
25,100-30,099	9	0.9
30,100-35,099	1	0.1
35,100-40,099	1	0.1
40,100-45,099	3	0.3
45,100-50,099	1	0.1
50,100-55,099	1	0.1
55,100-60,099	<u>2</u>	<u>0.2</u>
<b>Total</b>	<b>1,019*</b>	<b>100.0</b>

Note: \*This total differs from earlier totals, because three respondents provided responses without using our electronic survey tool and without providing identifying information about their municipalities.

Source: Developed by LBFC staff.

As noted above, most of the respondents were located in a municipality where the population ranged from 100-5,099 people. These respondents comprised over 76 percent of the survey.

## SECTION V UNINTENDED CONSEQUENCES FROM SINGLE-USE PLASTIC BAG BANS AND FEES



### Fast Facts...

- ❖ *An unintended consequence is a social science term used to describe results from purposive social action.*
- ❖ *Banning single-use plastic bags can result in unintended negative consequences. For example, reusable grocery bags (RGBs), which are often used as an alternative to single-use bags, can transmit viruses and bacteria if not thoroughly cleaned. Research shows few people use RGBs appropriately or enough times to offset the associated environmental impacts.*
- ❖ *Another unintended consequence may result by switching to other bag choices. For example, paper bags have greater environmental impacts. Consequently, if single-use plastic bags are banned, unintended consequences may occur through greater environmental damage.*

### Overview

Throughout the other sections of this report, we have presented information on the nature and scope of initiatives to limit consumer use of plastic bags, whether by placing additional fees for using the bags, outright bans on plastic bags, or hybrid approaches that combine fees and bans. We have also discussed the results of our survey of municipal leaders regarding the imposition of these bans. Within this section of the report, we present our conclusions regarding the “unintended consequences” that may develop from single-use plastic bag bans and fees.

An unintended consequence is a social science term that generally means that an action that is taken to correct one perceived problem results in outcomes that were unforeseen and possibly undesired. History is ripe with unintended consequences, good and bad. For example, while the recent COVID-19 shutdowns have had severe effects to the economy and employers, a positive unintended consequence is that air pollution levels have generally improved because people are staying at home and not driving automobiles.

Sociologist Robert Merton studied the phenomenon of unintended consequence nearly a century ago in research he called the “The Unanticipated Consequence of Purposive Social Action.” Merton outlined five possible ways in which unintended consequences may result from purposive action: Ignorance, Error, Immediate Interests, Basic Values, and Self-Defeating Prophecy. Some of these causes are present when considering regulations on single-use plastic bags.

This report is not a sociological analysis of single-use plastic bag regulations; however, we do present at least three possible unintended consequences that may result. First, there are sanitary concerns if single-use plastic bags are banned. Based on research we reviewed and experts we spoke with, reusable grocery bags (RGBs), which are often used as an alternative to single-use plastic bags, can be a transmission pathway for bacteria and viruses to other shoppers and store employees. To this point, with the recent COVID-19 pandemic, many retailers are now banning customers from bringing RGBs into grocery stores. Further, research shows that RGBs are not used enough times to offset the associated environmental impacts. Consequently, at a time when Pennsylvania is dealing with a pandemic and encouraging citizens to exercise social distance

protocols and other hygienic practices, a negative public health consequence may result from having residents rely upon RGBs, if single-use plastic bags are banned.

Second, we found that while RGBs and single-use plastic bags have environmental impacts, those impacts are substantially less than the impacts from alternatives like paper bags. We reviewed several peer-reviewed studies, including a detailed life-cycle assessment from Clemson University and found that because of the increased water consumption used in manufacturing paper bags, the overall environmental impacts are actually greater from paper bags than single-use plastic bags. Consequently, an unintended consequence may result if single-use plastic bags are completely banned and consumers erroneously switch to paper bags believing it to be an eco-friendlier alternative. In this scenario, more environmental damage may result through the increased use of paper bags.

We also found that the notion of a plastic bag being just "single-use" for conveyance of purchased items from store-to-home is incorrect. Single-use plastic bags have many other uses including as pet waste receptacles, trash can liners, and for packing wet items. If single-use plastic bags are no longer available, unintended consequences can result by forcing consumers to purchase additional bags for these purposes or using other bags which have greater environmental impacts. A life-cycle assessment of plastic bags found that even the reuse of a single-use plastic bag one-time had significant benefits over other carrier bags, which required multiple reuses. For example, cotton carrier bags needed to be used as many as 7,100 times to reduce its environmental impacts to that of a single-use plastic bag.

Finally, a frequently cited reason for banning single-use plastic bags is that the bags become litter and foul waterways. There is no question that litter is unsightly and presents challenges for the Commonwealth. Litter cleanup is an added expense for local and state governments. However, based on litter surveys conducted of Pennsylvania's roadways and waterways, while plastic is a significant litter source, single-use plastic bags are not the primary source. Overwhelmingly, cigarette butts are the main source of litter in Pennsylvania. According to a recent litter survey conducted in partnership with the Departments of Environmental Protection and Transportation, single-use plastic bags constituted 0.7 percent of all collected litter in 2019. Consequently, while a goal of reduced litter is important, banning single-use plastic bags may not provide the results that were intended by such a ban.

## Issue Areas

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### A. Unintended Consequences Explained

Our third objective was to review the non-economic and possible unintended consequences of imposing bans or fees on plastic products, which includes bags, containers, straws, or other similar single-use products. Before discussing the results of our analysis in this area, it is important to discuss the concept of an unintended consequence and how it relates to our conclusions.

An unintended consequence can result from trying to “fix” one problem, only to have the solution then create another ancillary issue or worsen the present condition. Sociologist Robert Merton is often credited with popularizing the term through his research titled, “The Unanticipated Consequence of Purposive Social Action.”<sup>99</sup> In his research, Merton sought to apply a means of studying deliberate acts intended to cause social change.<sup>100</sup>

### Five Causes of Unintended Consequences

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Although Merton’s research is nearly 100 years old, the points are relevant today. According to Merton, there are five reasons that lead to “unanticipated consequences.” These five factors also contribute to our discussion of unintended consequences and single-use plastic bag regulation.

1. **Ignorance.** According to Merton, the most obvious limitation to a correct anticipation of consequence of action is provided by the existing state of knowledge.<sup>101</sup> Stated differently, it is impossible to anticipate all events and conditions; therefore, invariably any prospective analysis will be incomplete. We acknowledge that ignorance plays into our analysis. For example, as we undertook this study, it was impossible to have factored the significance of the recent COVID-19 pandemic on state and municipal government. Undoubtedly, our survey responses would have generated different responses today, than it did in late 2019, when we distributed the survey. Similarly, as single-use plastic bag regulations are considered, it is impossible to factor future conditions which may alter the perceptions of the current condition.

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<sup>99</sup> Merton, Robert K., *American Sociological Review*, December 1936.

<sup>100</sup> *Ibid.*

<sup>101</sup> *Ibid.*

2. **Error.** Under Merton's theory, error is as pervasive as ignorance. According to Merton, error takes place in how a problem is perceived, and in applying habits that may have worked in the past but will not work in the future. As discussed later in this section, error similarly is a factor in single-use plastic bag regulation, because problems are perceived differently among stakeholders, the general public, and what has worked in the past to change behaviors and attitudes can be overturned by pressing new events, such as the COVID-19 pandemic.
  
3. **Immediate interests overriding long-term interests.** Merton's theory also outlined that there is an "imperious immediacy of interest" that leads to unintended consequence. This concept refers to "instances where the actor's paramount concern with the foreseen immediate consequences excludes the consideration of further or other consequences of the same act." This is a complicated notion to unravel and while Merton discusses its impact in terms of personal choices, which are physiological, economical, and trade-offs between short-term and long-term effects, the overriding principal is simply that it is easier to think about the immediate short-term gains without factoring long term implications. With respect to single-use plastic bag bans and fees, the issue is equally complex. For example, many perceive that there is a need to "fix" an "issue" with single-use plastic bags; yet, that urgency to fix the issue can thwart longer term and more effective solutions. This is not to say that plastic is not a long-term issue. Clearly, with plastics' long permanency and resilience it requires special post-use handling, which needs to be factored in decisions regarding its present-use handling.
  
4. **Basic Values.** No less complex is Merton's discussion of basic values and its influence on unintended consequences. He stated the following:<sup>102</sup>

[Basic values]...refers to instances where there is no consideration of further consequences because of the felt necessity of certain action enjoined by certain fundamental value...The empirical observation is incontestable: activities oriented toward certain values release processes which so react as to change the very scale of values which precipitated them. This process may in part be due to the fact that when a system of basic values enjoins certain specific actions, adherents are not concerned with the objective consequences of these actions but only with the subjective satisfaction of duty well performed.

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<sup>102</sup> Merton, Robert K., *American Sociological Review*, December 1936.



Experts have debated this intricate definition for decades, and while Merton likely spoke of personal values in decision making, the definition can be applied to group decision making. According to one expert, Merton's statement that "...adherents are not concerned with the objective consequences of these actions..." means that people pushing their own basic values do not consider or try to avoid second order effects that may arise from their actions. They act out of what they believe is the right thing to do, regardless of the outcome (e.g., the operation was a success, but the patient died).<sup>103</sup> If we apply this understanding to single-use plastic bag regulation, we can see parallels. For example, almost everyone can agree that plastic does not belong in the environment and seeking to reduce litter through recycling is an ideal pursuit. To this end, individuals willingly comply with recycling initiatives and place their recyclables for collection on the curbside. However, if they "recycle" improperly labeled items, or worse, place recycled items in an open container which then blows away in a windstorm, then the effort has only compounded the litter problem. Single-use plastic bags can be recycled, but require special handling from more traditional curb-side collection. When single-use plastic bags are disposed in curb-side recycling programs, the purposeful plastic, glass, and metal recycling effort is compromised because the bags foul collection machinery.

5. **Self-Defeating Prophecy.** Merton's discussion of self-defeating prophecy is particularly applicable to single-use plastic bag regulation. Under his theory, self-defeating prophecy does not necessarily lead to perverse outcomes, but rather outcomes which aid the intended result though awareness. Stated differently, self-defeating predictions come from the belief that in the future "X" will happen, which in reality leads to the opposite of "X" happening—which is aided through awareness of the original "X."<sup>104</sup> The Y2K issue is a classic example of this concept. Through much of the mid and late 1990s, a considerable amount of attention was given to the perceived problem that after midnight on January 1, 2000, banks would collapse, nuclear reactors would melt down, traffic lights would stop, medical equipment would fail, and general disarray would ensue. Of course, none of these events happened—but there were also considerable investments made in technologies and new business practices prior to the event—that likely contributed to diffusing the issue.

Similarly, single-use plastic bag bans which seek to eliminate the use of plastics can be a self-defeating prophecy. Society's desire to reduce and recycle plastic leads to innovation. However, if plastic is banned, then it thwarts the impetus for that innovation. As we documented previously, there is a significant need to develop improved

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<sup>103</sup> Dr. Paul Porlando, see [https://unintendedconsequenc.es/basic values/](https://unintendedconsequenc.es/basic%20values/)

<sup>104</sup> Ibid, see [https://unintendedconsequence.es/self-defeating prophecy/](https://unintendedconsequence.es/self-defeating%20prophecy/)

recycling chains for plastic that is not typically placed in curbside collection. Although the focus of this study is not on impacts to the economy, technological advancements in how these products are recycled offers the opportunity for new investments in the economy, which has the added benefit of improving how society handles plastics generally, and single-use plastic bags specifically.

## **B. Possible Unintended Consequences From Single-Use Plastic Bag Regulations**

The discussion that follows is not an exhaustive review of every possible unintended consequence from regulating single-use plastic bags.<sup>105</sup> For example, because our objectives limited our review to only non-economic impacts from plastic bag regulation, we did not factor impacts to Pennsylvania's economy or other impacts that might be quantified. Our focus is solely on awareness of potential non-economic and other unintended consequences from single-use plastic regulation.

Merton's theory puts forth discussion for how unintended consequences may result from well-intended actions. While our report makes no formal recommendations regarding the regulation of single-use plastic bags, listed below are additional factors that need to be considered, especially in light of the extraordinary circumstances caused by the COVID-19 pandemic.

### **Sanitary Concerns**

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As discussed elsewhere in this report, during the first several months of 2020, the United States, and many other countries, battled a pandemic caused by a novel coronavirus. The resulting disease caused by this virus, COVID-19, has devastated many communities and caused fundamental shifts in social practices. Pennsylvania was not immune from these effects. On March 23, 2020, the Governor mandated a state-wide "stay-at-home" order. Non-life sustaining businesses and schools were ordered to close.

Obviously, grocery stores are a life sustaining business and remained open during the pandemic. While grocery stores remained open, new customer shopping practices were implemented by many larger grocery retailers.<sup>106</sup> One specific practice that was frequently mandated was a restriction on customers using their own reusable grocery bags (RGB) for

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<sup>105</sup> Some of the unintended consequences are economical in nature and are thus outside the scope of this study.

<sup>106</sup> See <https://www.pennlive.com/coronavirus/2020/03/grocery-stores-in-central-pa-continue-to-operate-with-adjusted-hours-limits-on-some-products.html>

purchases, and instead requiring customers to use single-use plastic bags provided by the store.<sup>107</sup> The reason for this restriction was due to fear that RGBs might serve as a transmission pathway for the coronavirus.

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*Recently, many retailers have restricted customers from using reusable grocery bags or have required customers to pack their own bags, if using such containers.*

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Retailers had a reasonable basis for placing restrictions on RGBs. According to research that was published in the Journal of Environmental Health, while the grocery store is an important public access to a wide variety of food that is vital for healthy families, it is also a location where food, the public, and pathogens can meet.<sup>108</sup> To examine this perception further, researchers from the Loma Linda University School of Public Health conducted a test to determine if a hypothesized norovirus<sup>109</sup> transmission pathway could be established through RGBs.

Obviously testing grocery store shoppers by exposing them to a real norovirus was neither plausible nor ethical, so the researchers used a similar surrogate viral structure known as a MS2 bacteriophage surrogate (MS2). The MS2 allowed the researchers to model the survival, morphology, and transport characteristics of norovirus exposure without the infection risk or the necessary mammalian cell culture facilities.<sup>110</sup>

The research methodology, while complex in its structure, represented a likely case scenario for most shoppers who use RGBs. Researchers first selected several grocery stores and with the permission of the store's management tested various control surfaces within the store. Researchers then recruited volunteers to participate in the study as they showed up to conduct their routine grocery shopping. The volunteers were instructed to shop for their typical items, but then were also given a standard list of items to collect. The standard list of items ensured uniformity in the items selected and travel throughout the store. Before shoppers entered the store to purchase items, they were instructed to use an RGB that had been previously purchased by the researchers, sterilized, and then sprayed with the MS2 surrogate.

The results were stunning. Transmission pathways were categorized into two categories, as presented in Exhibit 18.

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<sup>107</sup> Other retailers permitted patrons to use RGBs but required the patron to pack their own RGBs and discouraged employees from handling the bags.

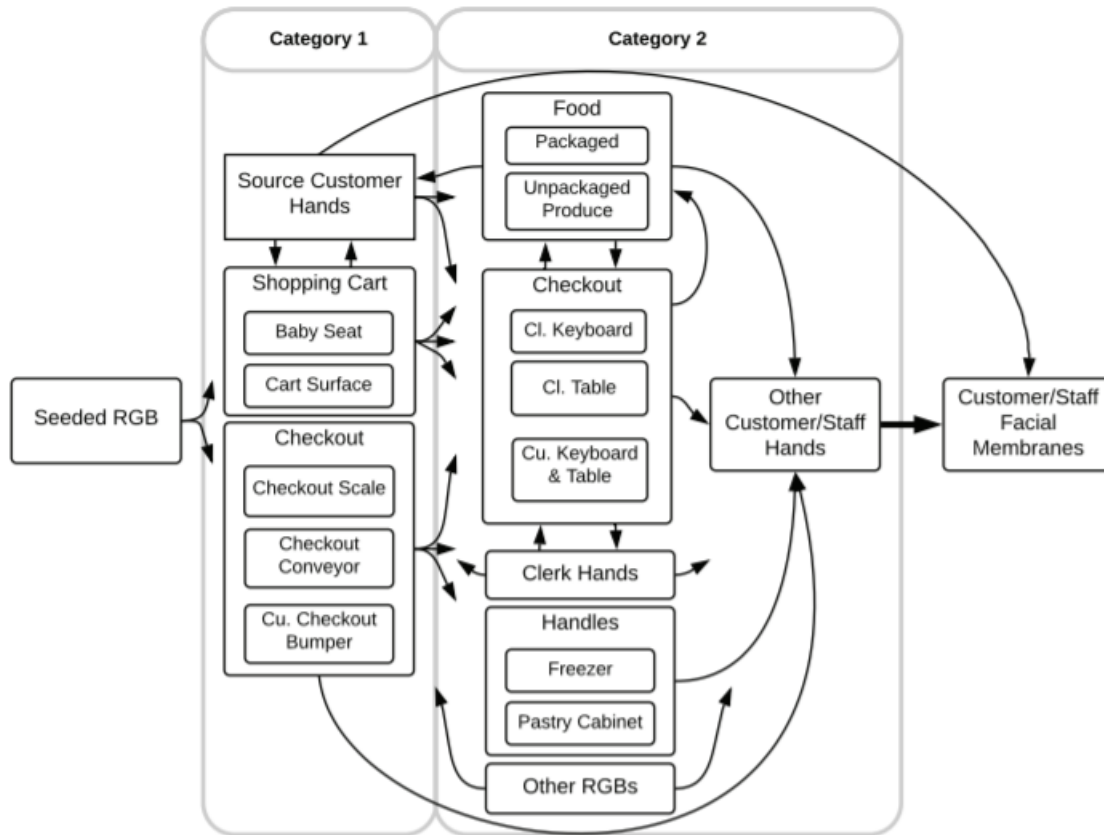
<sup>108</sup> Sinclair, Ryan. "The Spread of a Norovirus Surrogate via Reusable Grocery Bags in a Grocery Supermarket," Journal of Environmental Health, June 2018.

<sup>109</sup> Noroviruses are a group of related viruses that are highly contagious. Norovirus infections occurs from an infected person, contaminated food, or water, or by touching contaminated surfaces. Infection with these viruses affects the stomach and intestines and causes an illness called gastroenteritis (inflammation of the stomach and intestines). See National Foundation for Infection Diseases at [www.nfid.org/infectious-diseases](http://www.nfid.org/infectious-diseases).

<sup>110</sup> Sinclair, Ryan. "The Spread of a Norovirus Surrogate via Reusable Grocery Bags in a Grocery Supermarket," Journal of Environmental Health, June 2018.

Exhibit 18

**Surrogate Virus Contamination from Reusable Grocery Bags**



Note: CL = clerk; Cu = customer; RGB = reusable grocery bag

Source: Developed by LBFC staff from the Journal of Environmental Health, *The Spread of a Norovirus Surrogate via Reusable Grocery Bags in a Supermarket*, June 2018.

As shown in the above exhibit, transmission of the surrogate virus was widespread from the RGB and throughout the store. The transmission began with the seeded RGB, which once touched by the shopper's hands was then transferred through various surfaces and products in the grocery store. As other customers and staff touched the infected surfaces/products, the contamination ultimately ended up in the facial membranes of customers and/or staff.<sup>111</sup> In the case of COVID-19, researchers indicate that this pathway is an infection possibility; however,

<sup>111</sup> This study did not consider possible mitigation efforts. For example, if a customer used hand sanitizer while in the store.

according to the United States Center for Disease Control (CDC) the primary means of infection is through respiratory droplets from person-to-person.<sup>112</sup>

While this study documented the transmission possibilities of the surrogate virus, it also documented the potential viral load, or the amount of contamination that was spread from the RGB to various surfaces and products. According to the researchers, the lowest mean concentration of virus detected on a surface was sufficient to “represent a virus transmission risk for most individuals encountering any of the surfaces touched by the RGB directly or indirectly through at least one other contact.”<sup>113</sup>

Obviously, there are some caveats that need to be drawn from this study and the current pandemic confronting Pennsylvania. First, the researchers were studying a surrogate norovirus and not a coronavirus. The distinction between these two viruses is lengthy and more appropriate for a microbiology/virology discussion. According to the National Foundation for Infectious Diseases, coronaviruses are:<sup>114</sup>

...a large group of viruses that cause diseases in animals and humans. They often circulate among camels, cats, and bats, and can sometimes evolve and infect people. In animals, coronaviruses can cause diarrhea in cows and pigs, and upper respiratory disease in chickens. In humans, the viruses can cause mild respiratory infections, like the common cold, but can lead to serious illnesses, like pneumonia. Coronaviruses are named for the crown-like spikes on their surface. Human coronaviruses were first identified in the mid-1960s. Most people get infected with human strains of coronaviruses at some point in their lives. These illnesses usually last for a short amount of time, and symptoms may include fever, cough, headache, runny nose, and sore throat. Human coronaviruses can cause other more serious illnesses, such as pneumonia or bronchitis. This is more common in individuals with heart and lung disease, those with weakened immune systems, infants, and older adults.

Consequently, a coronavirus is not a norovirus, and the surrogate virus used by the researchers, while genetically similar to a norovirus is not one that causes illness in humans. Moreover, even within the category of coronavirus, the virus which causes COVID-19 is novel, meaning it is a newly evolved virus, which has not been previously seen. Researchers are

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<sup>112</sup> See <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html>

<sup>113</sup> Sinclair, Ryan. “The Spread of a Norovirus Surrogate via Reusable Grocery Bags in a Grocery Supermarket,” *Journal of Environmental Health*, June 2018.

<sup>114</sup> See <https://www.nfid.org/infectious-diseases/coronaviruses/>

actively researching the transmission of this novel virus, but much remains to be learned, and what is known, is evolving.

Another factor to consider is that the study assumes the RGB is already contaminated with the virus, which may (or may not) be the case. For example, wiping the RGB with a disinfecting wipe or washing the bag may eliminate some of the contamination. Similarly, a shopper who uses a hand sanitizer while in the store would also reduce the potential transmission. A clerk who wipes their station periodically with disinfectant would also limit transmission. These are all common-sense strategies that should be used by all shoppers using RGBs.

***Most consumers do not use RGBs in a safe manner.***

As was discussed in the previous section, RGBs have been shown to be a possible transmission pathway for viruses and bacteria. This conclusion is a significant fact because as documented by research that was published in *Food Protection Trends* in August 2011, properly washing RGBs and separating meats and vegetables from other foods is imperative in protecting against food borne illnesses. To that end, researchers from the University of Arizona and Loma Linda University conducted interviews of shoppers in San Francisco, California, Los Angeles, California, and Tucson, Arizona about their use of RGBs, and researchers took swabs of the interior of the bags to test for bacterial contamination.<sup>115</sup>

With respect to proper RGB handling, the researchers found that only 25 percent of the respondents separated meats and vegetables from other food products in their RGBs. Failure to separate these products is significant for two reasons. First, raw meat can be easily contaminated with several potentially harmful bacteria. These bacteria are usually killed when the meat is cooked rendering it less of an issue. However, when raw meat is stored with fresh fruits and vegetables there is a significant risk of cross-contamination, and because fruits and vegetables are typically eaten uncooked, there is a greater chance of illness. Secondly, not separating meat and then not cleaning the RGB, will essentially turn the RGB into a “petri dish” for bacteria—especially if the RGB is left in a warm, dark environment like the trunk of a car.

To test this latter aspect, or the extent to which shoppers with RGBs washed their RGB, the researchers asked shoppers entering the store if they had washed the bag. Ninety-seven percent of respondents indicated that they had not washed the bag. The researchers also took swab samples from the bags and found that 99 percent of the RGBs tested had bacteria. Fifty-one percent had coliform bacteria, and eight percent had *E.coli* bacteria, which is typically found in fecal contamination. Finally, the

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<sup>115</sup> Williams, David, et al., “Assessment of the Potential for Cross-contamination of Food Products by Reusable Shopping Bags,” *Food Protection Trends*, August 2011.

researchers tested the single-use plastic bags and the new cloth RGBs which were in the stores—neither had detectable levels of bacteria.

## Environmental Impacts

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Plastic bag regulation may also result in unintended consequences that have environmental impacts. Arguably, this aspect is a grey area because environmental impacts are varied and are perceived differently by various stakeholders. For example, as we discussed previously, plastic litter is almost universally agreed to as being undesirable. To that end, it is easy to make a connection that the reduction of single-use plastic bag usage will then result in less litter. To some extent this is true and can be seen in similar examples. For example, during the coronavirus pandemic, many cities reported improved air quality because residents were staying at home and not driving their vehicles.

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*Paper bags require a substantial amount of water and processing to manufacture. Research has shown that because of this fact, paper bags have greater environmental impacts than single-use plastic bags or reusable grocery bags.*

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However, demand is still present for plastic bags; consequently, if plastic bags are removed as a possibility, what then is the alternative? In several other states or cities where bans have been imposed, the solution is typically RGBs or paper bags. The sanitary issues with RGBs were discussed in the previous section, but are there unintended consequences with paper bags?

### ***Paper Bags Have A Greater Environmental Impact.***

Many individuals believe that because paper bags are made from a potentially renewable (or a recycled) source that paper bags are more environmentally friendly. Further, unlike single-use plastic bags, paper bags more quickly decompose.

In 2014, researchers from Clemson University, conducted a life-cycle assessment of grocery bags.<sup>116</sup> The study analyzed grocery carrier bags, of varying types and design, on a cumulative basis across twelve environmental impact categories. These categories included such things as (but not limited to) global warming potential, impacts to water and ground surfaces, water depletion, and human toxicity. With respect to paper bags, researchers evaluated two varieties: 40 percent recycled content and 100 percent recycled content.

The study's results showed that paper bags were more damaging to the environment than plastic bags in part because of the substantial amount of water that is used in manufacturing paper bags. As stated by the authors, "our results show that paper bags, even with 100 percent recycled

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<sup>116</sup> Kimmel, Sc.D, Robert M. "Life Cycle Assessment of Grocery Bags in Common Use in the United States," *Environmental Studies*, 2014.

content, have significantly higher impacts on the environment than either [single-use] plastic bags or reusable [grocery] bags.”<sup>117</sup>

The researchers further reviewed the behavior patterns of consumers using single-use plastic bags, RGBs, and paper bags. As noted by the research team:<sup>118</sup>

Many of the regulations now in place or being considered in the United States encourage consumers to use reusable bags through banning [single-use] plastic bags and imposing a fee on the use of paper bags. A number of grocery [store] chains in non-legislated areas provide paper bags and sell various reusable bags. Our results in this study show that these regulations and policies may result in negative impact on the environment rather than positive. Even though paper bags come from renewable sources and are easily recycled, it is likely that they are not the best environmental choice. Reusable [grocery] bags should only be preferred if consumers are educated to use them safely and consistently and reuse them enough times to lower their relative environmental impacts compared to [single use] plastic bag alternatives.

Interestingly, these results were also reported by researchers from Scotland who evaluated the environmental impacts of a proposed plastic bag regulation. According to their research, which also compared the life-cycle impacts of single-use plastic bags and paper bags:

...the environmental benefits of reduced plastic bag usage are negated for some indicators by the impacts of increased paper bag usage. This is because a paper bag has more adverse impact than a plastic bag for most of the environmental issues considered. Areas where paper bags score particularly badly include water consumption, atmospheric acidification (which can have effects on human health, sensitive ecosystems, forest decline and acidification of lakes) and eutrophication of water bodies, which can lead to growth of algae and depletion of oxygen).

When comparing RGBs, the researchers also reported similar comparisons as the Clemson study. Specifically, the authors noted the bags offer the potential for reduced environmental impacts, if used enough times. The authors noted, “Heavyweight, reusable plastic bags are more sustainable than all types of lightweight plastic carrier bags, if used four times or

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<sup>117</sup> Ibid, page 150.

<sup>118</sup> Ibid.



more. They give the greatest environmental benefits over the full life cycle.”<sup>119</sup>

Consequently, even though outwardly it may appear that paper bags are the most eco-friendly alternative, research has shown that when looking at the totality of environmental impacts, paper bags are not the best option. Further, while RGBs are a better option than paper, research has shown that most consumers do not use the bags consistently or enough times to reduce the environmental impacts that may occur from single-use plastic bags. Lastly, given the potential sanitary risks discussed in the previous section, consumers need to be especially cautious in using these bags. Given that research has consistently indicated that few consumers comply with adequate sanitary practices when using RGBs, more consumer education is warranted.

***Single-Use Plastic Bags Have Multiple Uses.*** At the beginning of this section, we discussed the applicability of Merton’s theory of “unanticipated consequence of purposive social action” or more simply, how do unintended consequences happen from trying to correct an issue? In that brief introduction, we discussed the notion of “error” and how it can lead to incorrectly perceiving an issue. Building on this concept, there are also definitional errors—and with respect to single-use plastic bags—the error is perhaps seen in how the issue is defined and assumed.

As we (and others) have defined single-use plastic bags, the product is a thin, plastic carrier bag, typically provided free-of-charge at retail establishments for the purpose of conveyance of purchased items. By this definition, the bag is used only once, i.e., solely from the retail store to the consumer’s final destination (e.g., home). However, research has shown that bags of this type are not just “single use.” There are in fact several additional uses for these bags. Two of the most popular uses are as waste can liners and for the disposal of pet waste. As a result, assuming that the “single-use bag” is used once and then thrown away discounts the utility and secondary beneficial effects of these bags.

In 2018, researchers from the Danish Environmental Protection Agency, sought to evaluate the life-cycle impacts of grocery store carrier bags. The researchers evaluated the secondary reuse of bags of all types, including, the typical single-use plastic described above, RGBs of varying source material (e.g., plastics, cotton, biomaterials), and paper bags. The study reported that “in general, reusing the carrier bag as a waste bin bag is better than simply throwing away the bag in the residual waste

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<sup>119</sup> Scottish Executive Environment Group, *Proposed Plastic Bag Levy – Extended Impact Assessment*, 2005.

and it is better than recycling.”<sup>120</sup> Interestingly, the researchers found that even the reuse of a single-use plastic bag one time had significant benefits over other carrier bags, which required multiple reuses. For example, cotton carrier bags needed to be used as many as 7,100 times to reduce its environmental impacts to those of a single-use plastic bag.

There are, of course, caveats to this type of analysis and its applicability to Pennsylvania. First, in Denmark retail bags are not distributed for free to customers. As a result, the fee may provide an influence on consumer behavior and practices that is not present in Pennsylvania. Secondly, certain assumptions about how single-use plastic bags are created and recycled differ between Denmark and Pennsylvania. These assumptions could be significant. For example, raw materials necessary to produce single-use plastic bags are not as readily available in Denmark as such resources are in Pennsylvania. Further manufacturing processes and regulatory requirements may differ from a European-center model to a Pennsylvania-based model and cannot be easily measured.

Additionally, recycling and incineration of single-use plastics likely differs between Denmark and Pennsylvania. Recycling is a particularly important aspect, as during this study we were informed of several new technological advancements with how plastics (to include single-use plastic bags) are being recycled for new feedstocks, resins, waxes, and low-sulfur transportation fuels. Finally, the Denmark study also did not factor the impacts of single-use plastic bags as litter in its environmental assessment. As discussed in the next section, although single-use plastic bags can present post-user handling challenges, litter research studies indicate that while plastic litter as a whole is a concern, single-use plastic bags specifically are not as prevalent in litter assessments.

## **Litter Impacts**

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Litter is improperly managed waste whether paper, plastic, metal, or natural substances.<sup>121</sup> It includes waste that is intentionally improperly disposed (e.g., thrown from a vehicle window) and waste that is unintentionally disposed, such as overflowing trash containers, improperly secured loads, and vehicle debris. Litter affects everyone and presents environmental impacts, challenges and threats.

Because single-use plastics bags are made from resilient and lightweight materials, the bags can become entangled in trees, waterways, or in

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<sup>120</sup> Similar results as the Danish study were also noted in Ireland when that country instituted a ban on single-use plastic bags in 2002. Consumption of bags did not decrease, because Irish shoppers started to purchase thicker plastic bags for refuse, which added more waste to landfills.

<sup>121</sup> Burns and McDonnell, *Pennsylvania Litter Research Study*, January 2020.

drainage systems, if not properly disposed. As such, single-use plastic bags are often perceived to be one of the primary sources for litter.

Overwhelmingly, Pennsylvania citizens think litter is a problem. A recent public attitude survey found that over 90 percent of the survey respondents reported that litter is a problem in the Commonwealth. Moreover, of the survey respondents, 16 percent believed that plastic bags “such as grocery and garbage bags” were the main types of litter they observed.<sup>122</sup>

Interestingly, while survey research has found that there is universal agreement that litter is a problem and that single-use plastic bags are a major source of litter, analysis of litter on Pennsylvania roadways reveals different results.

***Pennsylvania Litter Analysis.*** In partnership with the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Transportation and the state affiliate of Keep America Beautiful, Keep Pennsylvania Beautiful, a research study was conducted to document the quantity, composition and sources of litter on Pennsylvania roadways.<sup>123</sup> The analysis covered a mix of urban and rural roadways in six selected areas of the state. As part of the litter analysis, the researchers identified six material groups that were then divided into 85 material categories as shown in Exhibit 19.

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<sup>122</sup> The survey was conducted as part of the Burns and McDonnell study referenced above. The survey was conducted of 3,849 residents, with 502 residents completing the survey (13 percent response rate with a margin of error +/- of 4.3 percent). With respect to the main types of litter, 42 percent indicated that fast food packaging, such as cups, wrappers, and bags were the primary source of litter.

<sup>123</sup> Burns and McDonnell, *Pennsylvania Litter Research Study*, January 2020. Burns and McDonnell was the lead contractor. Other partners included Cascadia Consulting Group and the Docking Institute of Public Affairs. In addition to the litter analysis and public survey, the project team conducted a litter summit as the foundation to the study.

Exhibit 19

**Pennsylvania Litter Research Study**

(Emphasis Added)

Material Group	Categories
Paper	Fast food paper bags; Office paper/mail; Fast food paper cups; Newspaper/inserts; Other paper fast food service items; Magazines; Cardboard Books; Kraft bags Aseptic/gable top containers; Receipts; Beverage carriers/cartons; Political signs; Paper home food packaging; Other advertising signs; Other paper
Plastic	Soda; Other beverage packaging; Single serve wine & liquor; Plastic trash bags; Other wine & liquor; <b>Other plastic bags</b> ; Sports and health drinks; Food packaging film; Juice; Other film; Tea and coffee Plastic food service items; Water bottle; Expanded polystyrene food service items; Other plastic beverage bottles or containers; Other expanded polystyrene; Fast food plastic cups; Other plastic food packaging; Plastic straws; Other plastic
Glass	Beer; Tea and coffee; Soda; Water; Single serve wine & liquor; Other glass beverage bottles or containers; Other wine and liquor; Broken glass or ceramic; Sports and health drinks; Other glass; Juice
Metal	Beer; Other metal beverage bottles or containers; Soda; Other beverage packaging; Sports and health drinks; Metal food packaging; Juice; Other metal; Tea and coffee
Organics	Pet waste; Other food waste; Human waste; Other organics; Confection
Other	Medical waste; Other tobacco-related products and packaging; Hazardous waste; Toiletries/ personal hygiene products; Vehicle debris; Entertainment items; Tires; Flat-screen televisions and computer monitors; Tire tread; CRT televisions and computer monitors; Construction and demolition debris; Portable electronics; Textiles/ small rugs; Electronic cords; Bulky items; Other electronics; Cigarette butts; Other items; Electronic cigarettes

Source: Developed by LBFC staff from information obtained from the Pennsylvania Litter Research Study.

For purposes of our discussion, single-use plastic bags fall within the main material group of “plastics” and the category of “other plastic bags,” and the researchers identified this category as the following:

Plastic grocery and other merchandise shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase (including dry cleaning bags). Bags will not be opened for the study. Surveyor to record whether full or empty.

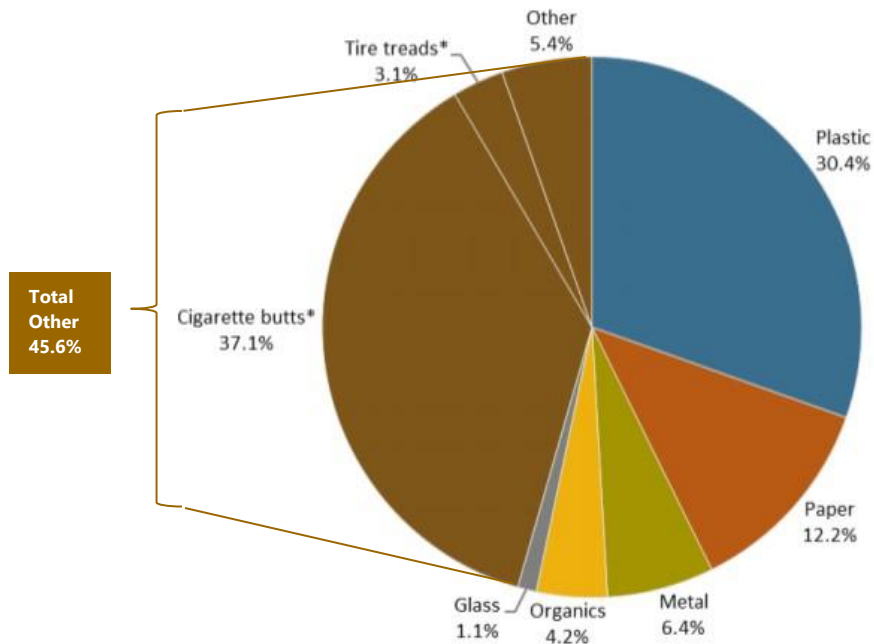
With these definitions/categories in place, surveyors then collected and analyzed litter at a total of 180 sample site locations. Surveyors also further analyzed the litter by size and placed it into one of two categories: 1) Four-inches or less; and 2) Over Four-inch litter.

**Single-use Plastic Bags are a Small Percentage of Total Litter.** The methodological discussions of how the researchers collected and analyzed litter are significant because as we documented earlier, plastic is used in an almost infinite number of ways. Accordingly, when considering the specific prevalence of single-use plastic bags as litter, it is important to place the category in an appropriate contextual reference.

As shown in Exhibit 20, among the six material groups of litter on Pennsylvania roadways, "other" litter is the largest material category. Litter classified as "other" accounted for 45.6 percent of all litter collected. Further, cigarette butts, which fall within the other material group, accounted for 37.1 percent of all the litter collected during the survey and was the single largest source of litter (see Appendix A for a listing of all results).

Exhibit 20

**Percentage of Litter Collected by Material Group  
Total Counts (Four inch less and Four inch plus)**



Note: \*/Cigarette butts and tire treads were the largest category within the "other" material group; therefore, these two categories were separated from the total other material group.

Source: Developed by LBFC staff from Burns and McDonnell, Summary of Key Findings, 2019 Pennsylvania Litter Research Study.

Looking at just the plastics material group reveals even more surprising results. As shown in Exhibit 21, the largest contributing source of plastic

litter is not single-use plastic bags, but “other plastic,” which is defined as plastic that cannot be defined in any of the other categories. The second most prevalent type of plastic litter is food packaging film, which is defined as “wrappings or bags used to package candy, gum, chips or other food items.” Collectively, these two categories account for more than half of all plastic litter collected.

Exhibit 21

**Plastic Litter**  
**Total Counts (Four inch less and Four inch plus)**

Categories of Plastic	Total	Percent of Plastics Total	Percent of Total Litter
Other Plastic	41,687,265	27.3	8.3
Food Packaging Film	39,050,435	25.5	7.8
Other Film	10,641,994	7.0	2.1
Other Expanded Polystyrene	9,774,711	6.4	1.9
Expanded Poly Food Service	8,057,531	5.3	1.6
Other Plastic Beverage	5,954,247	3.9	1.2
Plastic Food Service	5,819,791	3.8	1.2
Water Bottle	4,124,810	2.7	0.8
Plastic Straws	3,838,393	2.5	0.8
Plastic Trash Bag - Empty	3,634,713	2.4	0.7
Fast Food Plastic Cups	3,629,030	2.4	0.7
Other Plastic Food Packaging	3,614,015	2.4	0.7
Other Beverage Packaging	2,852,788	1.9	0.6
Soda	2,217,253	1.5	0.4
Sports and Health Drinks	1,715,342	1.1	0.3
Other Wine and Liquor	1,619,549	1.1	0.3
Tea and Coffee	567,292	0.4	0.11
Juice	238,986	0.2	0.05
Single Serve Wine & liquor	237,177	0.2	0.05
Plastic Trash Bags - Full	113,127	0.1	0.02
Other Plastic Bags - Empty	3,310,495	2.2	0.7
Other Plastic Bags - Full	170,890	0.1	0.03
<i>Subtotal Other Plastic Bags</i>	<i>3,481,385</i>	<i>2.3</i>	<i>0.7</i>
<b>Total Plastic Items</b>	<b>152,869,834</b>	<b>100.0</b>	<b>45.6</b>
<b>Total All Items</b>	<b>502,467,774</b>		

Single-use  
Plastic Bags

Source: Developed by LBFC staff from Burns and McDonnell, 2019 Pennsylvania Litter Research Study.

Perhaps even more surprising is that single-use plastic bags (defined as “other” plastic bags) is not even in the top ten of plastic litter that is collected. Single-use bags (empty or full) are 2.3 percent of all plastic collected, and just 0.7 percent of all litter that is collected.

These results are not unique to Pennsylvania or even certain areas of Pennsylvania. For example, according to a professor we spoke with from Clemson University, and who is an expert witness in materials engineering, litter surveys consistently show that single-use plastic bags are not a significant portion of roadway litter. Citing his research on plastic bag life-cycle assessments, he reiterated the following:

A compilation of all of the statistically-based, scientific studies of litter in the United States and Canada over an 18-year period shows consistently that “plastic bags” (which includes trash bags, grocery bags, retail bags, and dry cleaning bags) make up a very small component (usually less than one percent) of litter found in storm drains and around retail areas.

While these results are focused on roadway litter, similar results are also reported for litter cleanups in Pennsylvania waterways. For example, every year as part of the International Coastal Cleanup, thousands of volunteers converge on Pennsylvania’s waterways across the state and cleanup litter.<sup>124</sup> A three-year search of the results from these cleanups found that cigarette butts, food wrappers, and plastic bottles were by far the largest number of items collected. Single-use plastic bags were not mentioned in any of the survey highlights.

In summary, the above discussion is not to minimize the impact of litter on Pennsylvania communities. As survey results have shown, a remarkably high percentage of respondents agree that litter is an eye-sore and detracts from a community’s wellbeing. Similarly, single-use plastic bags can be a source of litter; however, when placed within the overall context of litter sources it is important to remember that these bags are a small percentage of a larger litter problem in Pennsylvania.

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<sup>124</sup> The International Coastal Cleanup is also part of the Keep America Beautiful initiative and is the world’s largest volunteer effort to improve the health of the world’s oceans and local waterways.

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## Appendix A – Aggregate Composition of Litter by Material Category

Groups	Categories	4-inch plus	4-inch less	Total Count	Percent of Total
<b>Paper</b>					
	Other food packaging paper	433,866	14,553,345	14,987,211	3.0
	Other paper fast food service items	1,226,113	5,452,944	6,679,057	1.3
	Paper home food packaging	350,720	1,509,480	1,860,200	0.4
	Fast food paper cups	936,785	826,680	1,763,465	0.4
	Office paper/mail	587,328	918,814	1,506,142	0.3
	Newspaper/inserts	399,916	712,907	1,112,823	0.2
	Cardboard	494,982	601,441	1,096,423	0.2
	Receipts	312,788	669,102	981,890	0.2
	Beverage carriers/cartons	36,378	776,881	813,259	0.2
	Fast food paper bags – empty	162,503	0	162,503	<0.0
	Aseptic/gable top containers	135,999	0	135,999	<0.0
	Other advertising signs	115,271	0	115,271	<0.0
	Political signs	89,065	0	89,065	<0.0
	Magazines	38,844	0	38,844	<0.0
	Fast food paper bags – full	38,090	0	38,090	<0.0
	Kraft bags (brown paper bags)	21,012	0	21,012	<0.0
	Books	0	0	0	<0.0
	Other paper	3,078,695	27,066,705	30,145,400	6.0
	<b>Subtotal Paper</b>	<b>8,458,355</b>	<b>53,088,299</b>	<b>61,546,654</b>	<b>12.2</b>
<b>Plastic</b>					
	Food packaging film	5,849,242	33,201,193	39,050,435	7.8
	Other film	3,585,321	7,056,673	10,641,994	2.1
	Other expanded polystyrene	682,685	9,092,026	9,774,711	1.9
	Expanded polystyrene food service items	1,236,963	6,820,568	8,057,531	1.6
	Other plastic beverage bottles or containers	1,024,543	4,929,704	5,954,247	1.2
	Plastic food service items	1,802,159	4,017,632	5,819,791	1.2
	Water bottle	3,669,078	455,732	4,124,810	0.8
	Plastic straws	1,275,175	2,563,218	3,838,393	0.8
	Plastic trash bags – empty	178,935	3,455,778	3,634,713	0.7
	Fast food plastic cups	2,306,685	1,322,345	3,629,030	0.7
	Other plastic food packaging	1,062,208	2,551,807	3,614,015	0.7
	Other plastic bags – empty	1,944,042	1,366,453	3,310,495	0.7
	Other beverage packaging	230,245	2,622,543	2,852,788	0.6
	Soda	2,105,786	111,467	2,217,253	0.4
	Sports and health drinks	992,569	722,773	1,715,342	0.3
	Other wine and liquor	6,067	1,613,482	1,619,549	0.3

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Tea and coffee	287,473	279,819	567,292	0.1
Juice	238,986	0	238,986	<0.0
Single server wine and liquor	125,710	111,467	237,177	<0.0
Other plastic bags – full	170,890	0	170,890	<0.0
Plastic trash bags – full	113,127	0	113,127	<0.0
Other plastic	3,841,673	37,845,592	41,687,265	8.3
<b>Subtotal Plastic</b>	<b>32,729,562</b>	<b>120,140,272</b>	<b>152,869,834</b>	<b>30.4</b>
<b>Glass</b>				
Broken glass or ceramic	216,275	2,035,054	2,251,329	0.4
Beer bottle	1,319,888	0	1,319,888	0.3
Tea and coffee	115,044	0	115,044	<0.0
Other glass beverage bottles or containers	111,639	0	111,639	<0.0
Juice	71,454	0	71,454	<0.0
Other wine and liquor	59,834	0	59,834	<0.0
Soda bottle	56,419	0	56,419	<0.0
Water	39,874	0	39,874	<0.0
Single serve wine and liquor	0	0	0	<0.0
Sports and health drinks	0	0	0	<0.0
Other glass	89,092	1,513,605	1,602,697	0.3
<b>Subtotal Glass</b>	<b>2,079,519</b>	<b>2,035,054</b>	<b>5,628,178</b>	<b>1.1</b>
<b>Metal</b>				
Metal food packaging	1,013,228	9,144,993	10,158,221	2.0
Beer can	4,559,648	1,295,453	5,855,101	1.2
Soda can	1,550,377	2,365,667	3,916,044	0.8
Sports and health drinks	752,415	0	752,415	0.1
Other metal beverage bottles or containers	19,564	168,353	187,917	<0.0
Tea and coffee	144,503	0	144,503	<0.0
Juice	10,908	0	10,908	<0.0
Other metal	757,392	10,399,746	11,157,138	2.2
<b>Subtotal Metal</b>	<b>8,808,035</b>	<b>23,374,212</b>	<b>32,182,247</b>	<b>6.4</b>
<b>Organics</b>				
Other food waste	619,020	4,140,540	4,759,560	0.9
Confection	24,499	1,196,032	1,220,531	0.2
Pet waste	298,906	0	298,906	0.1
Human waste	42,025	0	42,025	<0.0
Other organics	3,739,528	11,259,878	14,999,406	3.0
<b>Subtotal Organics</b>	<b>4,723,978</b>	<b>16,596,450</b>	<b>21,320,428</b>	<b>4.2</b>
<b>Other</b>				
Cigarette butts	0	186,220,908	186,220,908	37.1
Tire tread	6,702,502	8,823,629	15,526,131	3.1
Vehicle waste	3,487,557	4,680,250	8,167,807	1.6
Other tobacco-related products and packaging	1,598,509	5,147,390	6,745,899	1.3
Construction and demolition	1,650,369	3,018,712	4,669,081	0.9
Textiles/small rugs	1,163,793	2,695,647	3,859,440	0.8
Toiletries/personal hygiene products	241,678	984,073	1,225,751	0.2
Medical waste	16,835	505,058	521,893	0.1
Electronic cords	92,887	168,353	261,240	0.1

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Bulky items	173,652	0	173,652	<0.0
Entertainment items	125,689	0	125,689	<0.0
Tires	81,889	0	81,889	<0.0
Hazardous waste	45,050	0	45,050	<0.0
Portable electronics	26,586	0	26,586	<0.0
Other electronics	5,573	0	5,573	<0.0
Electronic cigarettes	0	0	0	<0.0
Flat screen televisions	0	0	0	<0.0
CRT televisions and computer monitors	0	0	0	<0.0
Other items	442,449	821,397	1,263,846	0.3
<b>Subtotal Other</b>	<b>15,855,018</b>	<b>213,065,417</b>	<b>228,920,435</b>	<b>45.6</b>
<b>TOTAL</b>	<b>72,654,467</b>	<b>429,813,309</b>	<b>502,467,776</b>	<b>100.0</b>

Source: 2019 Pennsylvania Litter Research Study. Conducted by Burns and McDonnell, as authorized by the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Transportation, and Keep Pennsylvania Beautiful.

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## Appendix B – Pennsylvania Proposed Legislation Pertaining to Plastics (2019-2020 Session)

**House Bill 627:** Amends Title 27 (Environmental Resources) of the Pennsylvania Consolidated Statutes to add the Polystyrene Food Container Prohibition. The bill prohibits food establishments from using polystyrene food service containers with exceptions being meat trays, egg cartons, and packing materials. Under this legislation, civil penalties for violations will be \$500 for first violations, \$1,000 for second violations, and \$2,000 for third violations. Penalties from violations are paid to the Department of Environmental Protection (DEP). This legislation preempts any ordinance or resolution passed or adopted by municipalities if they conflict or are inconsistent with the provisions of this law. (*House Environmental Resources and Energy*)

**House Bill 1176:** Establishes the Single-Use Plastic Straw Prohibition. The bill prohibits the sale, giving, or providing of single-use plastic straws except at the request of the customer. DEP is charged with promulgating rules and regulations necessary to implement this legislation. Violations will result in fines of \$500 for the first violation, \$1,000 for the second violation and \$2,000 for the third and each subsequent violation paid to DEP. The legislation preempts any ordinance or resolution passed or adopted by municipalities if they conflict or are inconsistent with the provisions of this law. (*House Commerce Committee*)

**House Bill 1198:** Amends the Municipal Waste Planning, Recycling, and Waste Reduction Act. The bill increases the recycling fee that landfill operators pay from \$2 per ton to \$5 per ton. (*House Local Government Committee*)

**House Bill 1322:** Establishes the Returnable Beverage Container Act. The legislation creates a redemption rate of five cents on returnable containers and a handling fee of two cents per container for retailers and redemption centers to help cover their costs associated with the handling and storage of returnable containers. The fee will not apply to returnable containers exported for sale outside of the Commonwealth. The fee may only be charged once on the same returnable container. Implementation of the act falls under DEP. The legislation also establishes the Returnable Beverage Container Fund in the State Treasury. The money in the fund will be used to pay valid returnable deposit claims submitted by returnable beverage distributors and redemption centers, and 75 percent of the money will be transferred to the Hazardous Sites Cleanup Fund on a monthly basis. (*House Finance Committee*)

**House Bill 1610:** Amends the Municipal Waste Planning, Recycling, and Waste Reduction Act by adding a section prohibiting the sale of food or beverages in non-recyclable and non-compostable containers in any State-owned building. The Department of General Services (DGS) will work with the Commonwealth agencies to implement this prohibition. (*House Environmental Resources and Energy Committee*)

**House Bill 1611:** Creates the Plastic Pollution Task Force. The task force will be comprised of the DEP secretary, Secretary of Health, three members of the public appointed by the Governor (one member of the Commonwealth's business community with an expertise in plastic recycling and disposal; one member of the Commonwealth's academic community with expertise in environmental protection, ecology or plastic pollution mitigation; and one member from a national or Statewide environmental organization with expertise in environmental protection, ecology, or plastic pollution mitigation). The members are not paid but will be reimbursed for expenses incurred. The task force will study the most efficient means of reducing plastic pollution in the Commonwealth and its waters. They will also develop uniform policies for State and local governments to address plastic pollution. The task force will hold public hearings and

then issue a final report of its findings within one year to the Governor, Senate, and House of Representatives. The report shall include recommendations for reducing the amount of plastic entering the waste stream; reducing and removing existing plastic pollution; addressing microplastic pollution in the waterways of the Commonwealth; restoring ecosystems; estimating resources necessary for implementation of suggested policies; specific legislative recommendations and regulatory action and model ordinances; and establish State and local programs to mitigate plastic pollution, provide financial and market tools and educational programs that may be employed to help reduce plastic pollution and develop other tools or resources to combat plastic pollution. The report will be approved at a public meeting and be a public record under the Right-to-Know Law. The task force will expire 30 days after the final report is issued. *(House Environmental Resources and Energy Committee)*

**House Bill 1629:** Amends Title 27 (Environmental Resources) of the Pennsylvania Consolidated Statutes. The legislation requires municipal waste landfill operators to pay a fee of \$8 per ton for the disposal of solid waste at their landfills. Revenues will continue to be deposited in the Environmental Stewardship Fund, which provides financial support for the greenways, trails, community parks, and wildlife habitat preservation, along with various other programs administered by the Department of Conservation and Natural Resources (DCNR) and DEP. *(House Environmental Resources and Energy Committee)*

**House Bill 1797:** Amends the Municipal Waste Planning, Recycling, and Waste Reduction Act. The bill adds a section allowing counties to impose a recycling and waste management fee on municipal solid waste generated and disposed at a resource recovery facility or municipal waste landfill designated in the county's municipal waste management plan. The fee may be passed through to the generator. The fee may not initially exceed \$4 per ton and may be increased every five years to account for inflation. The fee is collected by the operator and paid to the county on a quarterly basis and will be deposited in a dedicated account or fund to be used for recycling and waste management activities, and staff or plan implementation. *(House Local Government Committee)*

**House Bill 1808:** Amends the Solid Waste Management Act. Ensures that advanced recycling and recovery technologies that can convert post-use plastics into valuable raw materials (process called gasification) are regulated as manufacturers, and that the post-use plastics they recycle are not misclassified as solid waste. *(House Environmental Resources and Energy Committee)*

**House Bill 2137:** Creates the Single Use Plastic Bottle Prevention Act. Prohibits lodging establishments from providing customers with personal products in small plastic bottles. Under this bill, a lodging establishment may provide personal care products in small plastic bottles to a person upon request at no cost at a place other than a sleeping room accommodation or a bathroom shared by guests or the public. Violations of the Act would result in a civil penalty of \$500 for the first violation and \$2,000 for each subsequent violation. The legislation allows for municipalities to enact their own ordinances however they must be as stringent as the Act and do not conflict with the Act. The Act takes effect on January 1, 2024 for lodging establishments with more than 50 sleeping rooms and January 1, 2025 for lodging establishments with 50 or less sleeping rooms. *(House Commerce Committee)*

**House Bill 2368:** Amends the Municipal Waste Planning, Recycling, and Waste Reduction Act. Amends the definitions of "municipal recycling program" and "municipal waste" allowing for municipal waste management systems to partner with manufacturers utilizing advanced recycling and recovery technologies to convert post-use plastics into valuable raw materials. *(House Environmental Resources and Energy Committee)*

**Senate Bill 795:** Creates the Returnable Beverage Container Act. This bill is identical to House Bill 1322. (*Senate Environmental Resources and Energy Committee*)

**Senate Bill 803:** Amends Title 27 (Environmental Resources) of the Pennsylvania Consolidated Statutes to add the Polystyrene Food Container Prohibition. This bill is identical to House Bill 627. (*Senate Environmental Resources and Energy Committee*)

Source: Developed by LBFC staff from pending legislation as of June 5, 2020.

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## Appendix C – Municipal Comments (by county) Regarding Bans/Fees on Single-Use Plastics

Note: These comments are presented as received. Comments which did not contain text or were not applicable to the prompt were not included.

### ADAMS

- Alternate products, i.e., Biodegradable plastic bags, need to be made available GLASS recycling needs to resume - understood that it also needs to be made cost-efficient
- Consumers pay enough and should not be charged a fee for single use plastics
- Could put certain businesses at a disadvantage
- Fine the manufacturer for creating single use plastics
- For municipalities less than a 1,000 people - high cost if their supposed to govern and receive fees
- I believe it is a very big undertaking, but worth the effort
- I feel the local businesses should provide an alternative product instead of plastics. Change of any kind is a learning curve; but once change happens its accepted and most times glad change happened
- I really cannot give an opinion
- I support this 100%
- I think we should ban all plastic bags
- No Comment
- None
- None
- None
- Stupid
- This should be a state thing and not put on local municipalities to control and handle

### ALLEGHENY

- A ban would be best at it would not then be up to the local municipalities to figure out enforcement or pay for another unfunded mandate.
- Bans don't work.
- Devil is in the details.
- Disagree with the idea.
- Encourage the reusable bags as opposed to always charging someone not to use a product
- Facetious retaliation. A black market for "blue bags" will begin. There may even be a skit on SNL about it
- Feel more strongly about a ban as long as the replacement would be a recyclable bag.
- I am concerned about any expectation on municipalities to enforce a ban mandated by the state, county-level, etc. What would that entail? Unlikely we have the capacity to take on any enforcement when code enforcement, etc. Can already be a resource struggle I am concerned as a public professional about single-use plastics but can't recommend to our governing body that we pass regulations that we can't reliably enforce I would be open to hearing more about regulations that could be adopted by higher govt authorities.
- I believe anything is good to help the environment.
- I don't have a problem with a ban on plastic bags.
- I fear that a fee will only drive up prices for low income consumers and that a ban is unenforceable
- I hope we can figure out how to stop the use single use plastics to save our planet
- I think a ban on single use plastics would be more beneficial than a fee As the ban would get implemented, stores should hand out reusable bags for shoppers to use I also think it would be a good idea to have a plastic collector bin at every store or shopping center, where the plastic that gets put into these bins can be melted down and reused to make more bags or a more structural plastic bag.
- I think a ban/fee combo would work statewide, but I don't think a small community would be able to enforce it very well.
- I would need to know what these banned items would be replaced with.
- If the plastic bags aren't there we'll use something else - as we should.

- I'm from a State in which plastic is being weened out. At first, it was awkward as sometimes paper bags were just too big for the item you purchased. Stores/business owners researched and found bags that were made by vegetables that give a plastic like bag feel. As of now, I feel this is working.
- Imposing a fee is not eliminating the problem
- Instead of worrying about silly plastic bags, there's several more pressing issues that are harmful to humans that are being promoted, stop chemtrails, flouride in water, harmful chemicals in our food, harmful contents in vaccinations, etc.
- I've answered and made my thoughts available in the above questions.
- Lower income residents will be harmed by a consumer-fee.
- More important issues are out there that need attention, time & money.
- N/a
- Neither a fee or ban will work. You have to retrain how people think about plastic. People like plastic because they can reuse it over and over again You forced people into plastic bags 20 years ago and out of paper and now you want to go back to paper.
- No Comment
- No concerns
- No opinion
- None
- None
- Paper worked fine for years
- The biggest fear is government over reach
- The effort and discussion is worthwhile If the result is an unfunded mandate, the program will work only in wealthy communities. Local level services are not equal in PA.
- There are some grocery stores that do not provide bags - they sell reusable bags or provide the packing boxes for use Additional fees on the consumers is like adding another tax - it will be a luxury to use a bag that we throw away. We already waste so much.
- There will be resistance from all especially if a fee is imposed.
- This can't be something that is imposed on local government to enforce. We are already stretched to the limit on funding, personnel, etc. And this would be nearly impossible for local government to handle
- Use of fee for education on environment.
- We already tax people a lot I don't think they will be receptive to a new tax
- While I believe the State should enact a ban, if they are not prepared to do so, they should NOT get in the way of municipalities enacting local bans.
- Who will enforce the ban and collect the fees?
- Would it be better to find a way to recycle ?
- Yes

#### **ARMSTRONG**

- Concerned that it will increase costs for residents
- Fees would pose a problem to those on a budget, an alternative without a fee would be needed
- I think it would be not easily accepted
- Make them reuseable
- N/a
- Na
- No Comment
- None
- None at this time
- Taxes payers will not be happy with another fee

#### **BEAVER**

- Another unfunded mandate will weigh us down!
- Ban plastic bags & go back to paper or reuse own bags
- Either ban them or not; leave fees out of the equation
- Have no comment
- I do not like plastic bags they are cheap and mess up our environment
- No Comment

- No concerns
- No fee for the general public
- No opinion
- None
- Single use plastics have become an a part of our culture from bags , water bottles and daily household packaging Many people use the bags for other household purposes and to ban or assess fees may be perceived as providing another alternative for packaging and other costs to be increased on normal household products. Any alternative should be extended to the local level (municipality) to support or subsidize the cost of recycling at the door to door level
- The sooner the better
- We need to do a better job educating people on the negative effects of certain types of products, and not just have them get complacent in doing the normal and easiest method in using single use plasti. Provide options with various levels for the consumer to make their decisions
- What is the substitute?
- You can't ban if you don't have a replacement and a fee would be passed on to the consumer

#### **BEDFORD**

- As far as a single use plastic bag, its only single use to the company. Patrons use those bags over in their homes putting a ban or fee on those items will just irritated and upset customers at the stores who allow it to take place
- Ban would be ignored
- Before a ban can be implemented, there needs to be an cost efficient alternative in place
- I have no statement to make
- I think it would start with businesses, no more plastic grocery bags; at least paper is biodegradable
- Might be hard to implement fairly
- No Comment
- No concerns
- None
- Only worry is that too much paperwork or implementation is not confusing or overwhelming
- The fee needs to be minimal, people can't afford more costs
- They will find a way around it or ignore it difficulty in banning something they have used for years not going to like or accept fees

#### **BERKS**

- Banning would have a greater impact on helping environmental matters
- Before instituting a ban and/or fee, an attempt should be made to provide an educational effort on the impact of the use of single-use plastics
- Consumers should be provided with a reasonable alternative to plastic
- Education is the key
- Fee based would create a burden on consumers and businesses A ban would eliminate that burden
- I am a Volunteer for trash pick up in my community. I know single use items are a problem, however, I do not know enough to implement a ban/fee
- I do not believe the benefits of this ban on the environment will outweigh the negatives of the imposed fee on those that must pay It is micromanaging at its finest
- I think it's a great idea I try to always carry my own reusable bags. On the rare occasions that I don't, I hate using plastic bags, and always recycle them. However, I doubt that my opinion is shared by most of the township residents
- IF a ban or Fee should occur then a larger reminder should be there for residents to use reusable bags, like a sign at the front door of the business to grab a reusable bag we don't carry plastic
- If a fee was enacted, I would hope stores would stop providing single use bags
- Impact of costs to commerce and community
- It may be difficult to enforce!
- More education on this issue is needed
- N//a
- N/a
- No Comment

- No concerns
- No fees, residents always have to pay Government does not help
- None
- The ban should not be placed on the consumer
- We believe that a ban will be more successful than a fee as a fee would just be passed on to the consumer
- Yes we should have it

#### **BLAIR**

- Do not have a feeling either way
- Education for residents on the issue should come before bans and fees are considered
- Grocery stores in this county collect and recycle plastic bags. Reusable bags are expensive, about \$10+ each Low-income families can buy a gallon of milk, dozen eggs, and bread for less. The ban/fee on the plastic bags will recreate a hardship on residents. Food banks and other charitable organizations will have an increase in families requesting help. A ban/fee charged to businesses will be filtered to customers. Fixing a problem in one area will create a big problem in another
- Like everything else, the recycling organizations will not be compensated but the state will put a lot of restrictions on them
- N/a
- No Answer
- No comment
- None
- The American people are already being taxed/overcharged and have to pay enough money out for other people. Enough is enough with the fees and taxes and over priced insurance
- This would help mandated recycling communities
- Worry about other issues like funding recycling and stormwater projects

#### **BRADFORD**

- A ban is the best way to eliminate the issue
- As long as they are being made & used by businesses, they'll continue to be around Paper bags should be substituted - perhaps a credit to encourage use of these could be used?
- Do you have an alternative that consumers and suppliers will be able to use? If not, find this first Fining and banning plastic is not the answer unless you have an alternative If you don't have an alternative, in my opinion, some one is out to make money on the fines
- Hard on consumers, cost will be passed to consumers and any money to government will be wasted!
- I think there are bigger issues to address!
- I was working in retail when brown paper bags were done away with because they used too many trees Which is worse, plastic or having no trees?
- Inconvenience. Public Opinion would be that the fee is a hardship on "fixed income" households. More money would be spent on public education than savings realized Fee would not be filtered down to local recycling programs
- Na
- No Comment
- No concerns
- None
- Pennsylvtuckinas will have a fit over it. Regardless it is something that needs to be done to stop plastic trash from filling the landscape
- Someone up the chain of command needs to get serious
- That the money from fees doesn't go to serve the recycling efforts
- We need to do something NOW, and should have a long, long time ago
- What are people going to use Fees are the same as taxes
- What will replace plastic bags? Paper?
- Why are you worrying about plastic bags when this is the most throw away everything, buy new , fill up landfills and then care about the environment people today Look at all the plastic trash they leave after a protest! Make them pick it up and take it home with them! Pack it in, pack it out!

**BUCKS**

- Fees make people think about the impact and possibly make alternative choices
- It will be onerous to implement and regulate
- May work for groceries, but few people will take bags into drug stores, etc May also cause a problem with shoplifting
- Need to educate the public on the importance
- No ban!
- None
- Nothing
- People will need to retrain themselves on using paper, or bringing a reusable bag to a store
- Plastics not only affect the environment, but put a financial burden on the land fills. The China Sword has made recycling plastics unprofitable, shipments have decreased only to be placed into the landfills. Plus waste from other states, that do not follow Penna Laws cause additional problems. 60% of the waste that comes into Waste Management Landfill, Fairless Hills, PA comes from New York, and New Jersey Using bags, and the old way of five cent refund on bottles like other states (ie: CT, DE, NY, IA). This would save the environment, and create jobs at the same time. Sometimes past practices worked and need to be looked at, like paper bags
- Thank you!
- SHOULD NOT BE ENACTED

**BUTLER**

- As much as I feel that this is important, the majority of people don't care or ignore the environment and the problems created with single use plastics. There will be a backlash to this as no one wants to pay more for anything They are more concerned about themselves than the future
- Fees are concerning because the fee will be totally put upon the consumer. There needs to be additional recycling programs to help the consumer dispose of single use plastics responsibly
- Fees are difficult to enforce. Banning - eliminated the bag's existence - is probably the best solution Bring back paper bags
- Fees just line governments pockets. Does not solve any issue
- I have little concerns about a ban because it would be a good thing for us in the end
- I think it would be helpful to require more use of reusable bags. It helps with the plastic and is less wasteful
- I would recommend that prior to enacting a ban that businesses/producers/consumers are given the opportunity to institute the removal of single use plastics and certainly be a part of entire process to determine the best route to resolve recycle and decrease of the plastics in trash dump sites. Public education is also a required component
- Inability of the State to equally distribute any monies collected from fees to the Local Municipalities
- It will be good for the environment
- IT WOULD BE DIFFICULT TO ENFORCE IN RURAL AREAS
- Just another way for the government to collect more fees for themselves
- Local governments will need help getting the word out should a ban be placed and directions to give people who want to comply of where to take things they already have
- N/a
- No
- No comment
- No opinion
- None
- There are negative effects of bans in the proliferation of reusable bags and etc. However enough countries and locales have researched the alternatives and informed people know that something must be done if we are being responsible for ourselves, so something should be done and wholesale change of this type is probably the best thing. A ban would at the very least reduce single use plastics and cause innovation on a personal and business scale
- Would hope it would not be a burden to some people

#### CAMBRIA

- Bags are needed at retail locations to carry purchases. Why can't they be recycled?????
- Ban/fee needs to be a workable solution replaced with degradable paper products which can either be burned or recycled
- Bring back glass containers, even if broken they do not harm the environment and end up in our oceanic life in which humans eat
- Don't like bans
- I don't think people will be affected by this. At first they will complain if there were a fee but as with everything else, they get used to it and it's forgotten. If there's a ban on plastics because they fill the garbage landfills and take so long to disintegrate, then go back to paper or provide sturdy enough bags people are responsible for taking them to the stores with them when they shop
- May be difficult implementing any fee/ban
- More costs will be imposed on the consumer when they have to pay a fee to get a bag or bring their own bags to shop
- N/a
- Need of extra money
- No Comment
- No Opinion
- No opinion
- No opinion
- Putting a ban or fee on these plastics may make someone wake up and be aware of not using plastic products. Sometimes when you have to hit a person in the pocketbook to make them aware that there is a problem!!!
- Small municipalities do not have the funding or resources to implement a ban. This needs to be handled at the state level.

#### CAMERON

- Again, a low priority
- Need examples of what might take its place
- Some of the money from fees should be used for education and cleanup efforts

#### CARBON

- Enforcement issues
- Fees would be an additional cost to consumers that most cannot already afford the cost of the goods themselves
- I believe that a fee should be imposed on the suppliers/manufacturers who produce the single use plastic products
- Making people buy their own bags
- N/a
- No Comment
- No comments
- No concerns
- None
- Should not charge fees or bans
- Stop allowing business to use and we won't buy them
- The consumer cannot afford another fee, school taxes and the rising cost of living is a real concern in our twp

#### CENTRE

- Hard to enforce
- It is a concern, however there are much more things that we should be concentrating our efforts on at this time i.e. Fire protection and lack of fire fighters to name one
- It will be inconvenient to carry them all the time and I repurpose the plastic bags. I feel repurposing is more the solution than recycling at the consumer level
- No concerns. I see this as a good way to help recycling in the state and to help the environment in general
- Nothing
- Nothing to share

- Should be a year of education and research prior to instituting a ban
- The expense should not pass to the consumer
- This is an important issue that other states and local jurisdictions have addressed. The state should be a leader, but it is unacceptable for the legislature to continuously pre-empt local government from acting in the best interest of local communities. The plastic bag pre-emption is just one more example of this unacceptable practice. Local elected officials are much closer to the residents of their communities and have a significantly better understanding of the opinions and needs of their communities than do state representatives. It is past time to stop this practice of pre-emption.

#### CHESTER

- A fee for use will not go far enough and will only serve to increase the price of goods with no positive environmental impact
- A total ban would work best with a fine if caught littering. Also the companies that collect trash must find a way to keep the light-weight items from blowing out of the back of the trucks!
- Ban is mandatory for single-use plastics
- Change the supply; changing behavior is too difficult and costly
- Cost versus benefit of ban or fee "Reusable" bags may be used more than a single-use plastic bag but what type of impact will they have when they are no longer useful? Many of them are cheaply made of synthetic fibers which do not last long and will also be thrown out. How much will it cost to enact, oversee and enforce a ban/fee; who will enforce; how would fee/fines be handled and appropriately distributed?
- Education is always the concern. Misunderstanding and misinterpretation are typical issues with any change
- Fees apparently have been more effective in other countries at changing habits than bans
- Having a complete ban would likely be much easier to enforce however all single use plastics are not created equal. Some products like beverages could just disappear from the marketplace or be sold at a premium to cover the fee
- I think a ban would not be received as well as a fee, (look at Aldis grocer) They charge for bags and it encourages consumers to bring their own bags. A ban may make people rebel instead of being given a choice with a fee
- I think the ban is the best way for people to get into the habit of using a reusable bag. If you just charge them, they won't change their ways very quickly
- I think the state really needs to take the lead on this issue as it is too comprehensive for small municipalities to tackle on their own
- I think, in the end, the consumer will pay more one way or another, whether these plastic bags are banned, or a surcharge placed on the vendor and consumer
- If a fee is implemented, the costs should be applied to educating all by establishing a local committee or funds given to the recycling authority that each municipality uses to teach residents on the proper way to recycle
- If a small fee would be implemented, there is a chance that businesses will pay and provide the plastic bags to the consumer as before. That would be a scenario you don't want. Make sure, that the use of plastic bags are so expensive that nobody wants them anymore
- It will be challenging to implement education and enforcement. It will be difficult for the public to change their ways
- It's going to be hard to replace the plastic bags
- Na
- NO BAN! NO FEE!
- None
- Not sure how it will be enforced
- Shopper would complain
- Short term some disgruntled individuals but long term a vast majority is in favor of banning non-biodegradable products.
- Stop the problem at the source. Done!
- There should be an exemption for single use plastics utilized in agriculture coupled with an emphasis on developing biodegradable alternatives such as feed storage plastic made from hemp or corn
- Useless. There are more important things to work on
- West Chester's could be a model

- Will need plenty of ads / public notification before any action occurs to get consumer buy-in That's easier to do on a statewide basis than locally

#### CLARION

- Either recycle or go back to paper
- Enforcement
- Good luck
- Having local recycling centers for all types of recyclables of importance
- Instead of finding ways to take more money out of people's pockets and businesses, why don't you take time to find a better solution?
- Most garbage collection agencies, not request or supply bins to its subscribers to recycle plastics, Usually the plastics such as water bottles get burned
- Needs to be put in motion asap
- None
- The state should learn to recycle like New York does. Have recycling stations in the stores. People would use them more
- Use any and all funds collected to establish recycling facilities in local areas accessible to all rural communities so that real, positive change can happen and more jobs provided

#### CLEARFIELD

- A ban eliminates the use of the plastics, a fee doesn't solve the problem but may lessen it
- As a former employee of an Environmental Company, more recycling of single-use plastics needs to be made available to the public It will cut down on the plastic waste in garbage Some areas only recycle paper, glass and aluminum/metal items, we as residents should also be able to recycle plastics A ban/fee implemented on customers would not be reasonable to do most companies don't give you the option of not using single-use plastics
- BAD IDEA
- Fees are just another way for the state to have extra funds to misappropriate. A complete ban would ensure the products will stop being made
- I don't think that most people will go along with the ban and or fee
- I think consumers will not like additional regulations from the state or local municipality
- If a fee, making sure the monies helps local recycling centers
- No concerns
- No opinion
- None
- Our citizens will not support a fee, it will only discourage them from environmental issues The only fee that should be implemented would be fines for manufacturers of single use items who do not comply
- Residents cannot afford any additional fees
- The fee option will increase costs to the consumer not only to purchase the bag but will require extra handling on the business, not to mention REPORTING on such
- The free market should set policy not liberal feel good laws
- There should be no fee

#### CLINTON

- Bans require additional expense and resources from small communities such as ours Limited budget-small, rural areas would end up not participating
- I believe if you ban them it should be on the State level and no fees should be imposed because that eventually will be passed on to consumers There are recycling bins everywhere but some landfill only accept certain items It would be more useful if we came up with solutions for the recycling
- I don't know that single use plastics makes a difference in the environment when we have adult and children pull ups being used, but I guess that is a necessary evil
- I'd ban it and implement fines rather than fees. Cuz no matter where you place the fees, the consumer will be the ones to pay it. Not the distributor
- Make paper and or cloth more available
- More emphasis and availability of recycling centers
- N/a
- No Comment



- None
- Not concerned a fee will not help keep the environment any safer or cleaner
- Something should be done in the near future
- The enactment of bans & fees and how those fees are used should be up to the local municipal government
- The need to educate the public on the effects of single-use plastics on the environment
- Unfortunately most people resent being told what they can or cannot use

#### **COLUMBIA**

- Before any ban/fee can be instituted, there needs to be some resolution to the recycling difficulties being experienced today Our small Township recently discontinued our recycling program due to the fee from our hauler more than tripling
- I feel it won't be passed due to pressure from businesses
- I feel that if the state implements a fee, the cost will be passed on to the consumer and smaller communities will not benefit
- I think a ban would be hard to implement
- If a ban, fee or combination of both are implemented, the revenues should go towards the cost to local governments recycling fees
- If there is a fee to consume there needs to be a payout if recycle the item
- I'm not sure how this would be implemented
- Keep it at state level
- N/a
- None
- People are being restricted from recycling due to the increase in recycling fees and the lack of options available. Focus needs to be more in this area. Residents will get angry if we ban/fee the single use yet offer them no viable options for recycling in general. Local Government needs better options from the State and Federal Govt

#### **CRAWFORD**

- Banning plastic is one thing Taxing the consumer and business is another We are already taxed enough this state Small business in this state is already struggling to survive
- Concern of fee on low income individuals or families
- I do not feel this would work around the area I live in due to the fact that we are such a small community and live on fix income I believe a lot of people would be very upset if there would be a fee to use plastic bags
- I still think that there is a need for single use food storage bags
- I take my bags to store and clerks say I don't want to touch your bags. it is not like they are dirty they don't want the hassle
- IF YOU STOP THE PRODUCTION OF SOME ITEMS THAT USE RECYCLED MATERIALS IN THE MANUFACTURING OF THE PRODUCT RESULTS IN LOSS OF JOBS & INCREASES WASTE PRODUCTS. DEVELOP A PRODUCT THAT WOULD ENCOURAGE MORE ENVIRONMENTALLY SAFE PRODUCTS WITH LESS HARMFUL EFFECTS AND SHORTER TIME FOR MATERIAL TO BREAKDOWN IN THE ENVIRONMENT
- Is the state going to give us an unfunded mandate, once again, or is this just another way to get a fee that will be used for general expenses?
- N/a
- No taxes
- None
- One replaces another- so what's next ? Plastic vs Paper, etc
- Public awareness and participation would need to be stressed prior to inception Facts should be made known
- Public need to actually care before any real change can be made
- Recycle
- There are so many more important issues that need addressed then this one
- This is coming from greedy stupid people
- This is poor idea
- Why not go back to glass which was recycled back in the 50's and 60's You returned your pop, beer & milk bottles Also, paper bags were used a lot more

- Won't be enforced
- You cannot find any recycling in our area anymore which in turn equals more dumping along our roadways, streams, and wooded areas Bring back recycling. Stop trying to gain money off garbage

#### CUMBERLAND

- Accessibility to those with disabilities who require some single use plastics
- Any fee on retailers would be passed on to the consumers anyway
- If either a ban or fee is implemented an incentive for enviro-friendly substitutes needs to be considered
- If there would be a fee imposed on the local municipalities, it would/could potentially cause a hardship for those municipalities
- Just stop making the product, why should good law abiding, tax paying residents be slammed with another unlawful fee?
- N/a
- None
- Since single use bags (grocery, retailer) can be taken to be recycled, the ban and/or fee would do little to impact waste
- The government should not regulate this issue at all
- This is ridiculous!

#### DAUPHIN

- Ban
- Don't need a ban
- I believe recycling is difficult when bins are always full and people do not have extra time when they work I also feel containers in front of a property for recycling looks very messy and creates items blowing around making streets look a mess It is a no win situation
- I feel that this would be another way for the government to control an issue that the individuals should I recycle and know a lot of individuals also recycle
- Make sure that those larger stores that offer plastic bags have a means of recycling those bags
- Most fast food use bio-degradable. I don't think a government ban or fee will solve the problem. Littering is a big part of the problem
- Na
- No concerns so long as it is applied equitably
- No immediate concerns
- No opinion
- None
- Not sure how this would be implemented or enforced
- The only concern I have is the misconception of using paper products The public may be dismayed that forests are being destroyed but the timbering/forestry industry state it is critical to harvest the forests to keep them sustainable
- We can protect the environment in other ways

#### DELAWARE

- A fee would probably be the most effective way to control this, given the options, but it's still short sighted. Lawmakers need to look at the bigger recycling picture and focus their efforts there, instead of just banning/taxing single-use products
- Complicated to enforce
- Concerns with implementation and collection costs outweighing collection benefits
- Cost to admin will be more than fees obtained for small towns
- Even though I think it should be handled at the local level I think it will be hard to get wide spread implementation I think the advantage of banning plastic bags might be best recognized on the state level for most businesses For those that have multiple location within the state to have each local area dictate the ban might cause confusion and frustration
- I don't think there should be a fee on the consumer because many suppliers won't give alternative options, if it helps their bottom line Banning the supply would be more efficient
- I think it would be a good idea It would come from a higher authority and people would get used to it
- I think the fee cannot be set to a high enough level to change use patterns and therefore the ban is supported

- Majority of people will be annoyed unless they are "bombarded" with the importance of lessening their dependence on these products
- Mandate fee to state
- None
- Push back from local businesses
- Same Opinion
- There are hundreds of bags in the container each week when I go to the market, I can't even imagine how much there is out there
- There would be some resistance at first but people would get used to it
- Washington, DC's government estimates that its 5-cent bag tax has led to a 60 percent reduction in the number of these bags being used
- We need to go back to restaurants using non-disposable cups/dinnerware, and if people want to take out, bring their own containers/coffee cups, etc It will actually save restaurants money as they will not have to purchase disposable items so I believe it's a win for everyone
- With a ban, there will be less litter or at least the litter may be biodegradable We will run out of landfills with plastic product that do not decompose

#### ELK

- I think you're barking up the wrong tree here
- Inconvenience, but something needs to be done and not just with single use plastic bags, but anything that is contribution to global warming and damage to our environment
- No concerns

#### ERIE

- A "fee" is just another name for "tax", laws are in place to punish and fine the violators and make them pay
- A ban is the only way to eliminate use
- Are we going back to paper?
- Ban at a state level, then give local government money to offer other options, DO NOT make the local government ban items, make the state do it We local government have enough to do already
- I do not think this is the solution
- I personally feel everyone should do what they can for the environment But so many others just hate to be inconvenienced in ANY way
- I think people will not recycle and it will be a headache
- It is not the business of Government on any level to ban anything Governments job is safety and infrastructure, and that is where government intrusion ends
- No concerns
- None
- Rather than a ban or fee, it would be most helpful if single-use plastics were recyclable in curb side pick up
- Ridiculous that this is an important objective of the Legislative body. With everything going on in the world, worrying about plastic bags seems silly. Unless you are going to fund Healthcare with the fees from the plastic bags. Wait, that's what legalizing pot is going to do right?
- This is NOT that big of an issue. The media and a few activist are presenting that it is Government needs to stay out of it and keep the prohibition in place
- We have to no longer offer recycling pick up Regulations are difficult for some to follow plus there is too much contamination happening (inadvertently)

#### FAYETTE

- A fee does not get rid of the plastic, many will pay the fee and continue using them
- Any time residents are told there is going to be an increase of any kind they are not happy
- Costs to consumers
- Fees should be used for recycling not education Set up recycling centers to take the products to
- Fees will simply be passed to consumers Cost effective methods of alternative packaging / refilling need to be explored and offered
- Hate to see fee placed on buyer Everything is getting so unaffordable and adding a fee may be burdensome to consumer
- I am a little afraid of placing more financial limitations on the elderly
- I have no comment at this time

- N/a
- Na
- No Comment
- No opinion
- No Opinion
- None
- Not necessary
- Single use will just encourage people to discard containers along roadways and open areas
- Will help environment for future generations
- Would be hard to collect fees

#### FOREST

- I don't really care for the word "ban", having visited communist countries in the past I don't want to feel that in my own county. I think more readily available recycling centers and education would go further in helping this problem
- No Comment
- One more fee/tax for taxpayers to bear. Recycling would be a more feasible option

#### FRANKLIN

- A fee on consumers would allow the market to define the future demands for such a product
- A fee would be an effective reminder for consumers to bring their own bags and would start a new habit
- Ban may be viewed as more government intrusion into our daily lives!
- If there is a fee, it should be given to the local municipality and should be unrestricted in the use of the money
- Na
- We should include cans and bottles in this discussion
- While there may be a growing awareness of the negative impacts from such items, the alternatives appear to have their own set of impacts In regards to plastic bags, I have seen an increasing number of reuseable shoppings bags being utilized in the stores Unfortunately, cost and convenience are the driving factors Until the general public is willing to bear the cost of a ban or fees to eliminate the products or higher-priced alternatives, or forego the convenience they offer, it will be an uphill battle Regardless, I will continue doing my part

#### FULTON

- If plastics aren't available, people won't use it Eliminate the source if you really want change
- None
- This would create a hardship for most if not all businesses as these bags are used by everyone
- Who polices
- Will just give people another reason to complaint about government regulations and taxes ie fees

#### GREENE

- Give people a reason to use non-plastic - don't hurt the ones who can't afford it or have to access to recycling
- Greta Thunberg, go to school
- I am a firm believer that you can encourage people to use different products, but putting a ban or fee on these items is absolutely ridiculous! Paper bags were taken away because they killed the trees, plastic bags are now an environmental hazard. What's next? We need to encourage recycling of these products, not impose bans and fees
- None
- We must protect our earth & resources

#### HUNTINGDON

- All you will do is create an angry public
- Cost on low income consumers
- Does not work
- For fee to work there must be a reward for the payee other than convenience; perhaps a refund when recycling?
- I don't feel the public should pay anything should be supplier as I feel they can make them biodegradable
- I have no concerns to this

- It's a good idea
- More concerned with the disposal/recycling of electronic waste
- N/a
- Need to make single use items recyclable and there is no environmental impact
- None
- Residents would not like to see more fees
- Should be a personal choice
- THE DOWNSIDE OF A BAN/FEE IS THAT IT IS ULTIMATELY "TRICKLED-DOWN" TO THE CONSUMER
- Why not go back to paper bags which were more reusable

#### **INDIANA**

- Consumers would not be happy A discount at a business for bringing your own bags would go over better
- If single use plastics are banned but still manufactured the fee should be given to the company making the product To implement a fine on individuals is going to be hard to do and most won't even know that purchasing single use plastics is banned if they are still being sold
- It is hard for people to go backwards The plastic product bans need to be addressed by the businesses that produce them more so than the buyer
- Loss of jobs in plastic industry. What proactive step is being considered to replace jobs list?
- Na
- No concerns
- Non-compliance
- None
- Plastic bags are thrown out along all the roads Main road and back roads
- The success in enforcing the bans and/or fees
- We don't feel there should be a tax
- We would need to know more about implementation and how the fees would be spent

#### **JEFFERSON**

- How?
- I think most people are tired of seeing them along the road
- MORE TRIVIAL INTERFERENCE BY BIG GOVT IN LOCAL AFFAIRS
- Most do not perceive the impacts
- Most people and businesses do not want to inconvenience themselves for the general good
- N/a
- None at this time
- Positive if explained the need to protect the harm to environment
- Some understanding
- The senior CITIZENS IN THE COMMUNITY MAY NOT BE ABLE TO AFFORD THESE BANS AND FEES
- Unknown
- Would not effect anything in the state of PA

#### **JUNIATA**

- I think the people have enough restrictions on things and we are considerate of our environment. We need to worry more about taking care of our children who are in need of clothes and food then worrying about putting fees on the people who have nothing as it is
- Just one more way to "get" our residents
- No
- None
- Plastic single use bags have become a way of life for some, banning just makes people mad, instead of trying to compromise something for all

#### **LACKAWANNA**

- A ban would be the only way to go
- Any proposals should start slowly to get all used to any ban, fee or combination
- Bans do not give access where needed Fee is a better option
- I don't have any concerns
- I have no concerns with a ban or fee on single use plastics
- I think it will be difficult but important to do something

- I would love to see a ban but can't imagine as most could what would be used in plastic's stead
- No concerns
- Not for it
- Product Manufacturer should bear the cost of recycling/ban/fee
- Production should be controlled not the disposal
- The only way for a ban to work is for it to encompass the entire state (or country) It has to be all or nothing or else it will not have the impact needed/required
- There must be a way to use this recycled plastic
- We are rural and have no commercial businesses that use plastic in our community
- What is the alternative? Going back to paper bags?

#### **LANCASTER**

- As far as state priorities this should fall somewhere with keeping alligators out of our state parks
- Concerns with the cost
- Either a ban or fee would have to be implemented in conjunction with an advisory group study so that it wasn't perceived as government overreach
- I feel that the environmental impact as people choose to use trash grade plastic bags in place of the single use bags may cause more long term detriment to the environment than the single use plastic bag. What will be they use to provide water to areas where there was a natural disaster? Are the alternatives going to create more of an issue than what we currently use?
- I really think before we start applying a fee, that we should ban the use of the plastic bags If people don't follow the ban then a fee should be implemented First we need to eliminate the bags and come up with another item to replace them Such as a type of cloth bag
- Is it effective
- It is extremely important that the ban be regulated at the state level which would avoid confusion by resident on which municipality they are currently doing business in. Also any fee revenues received should be strictly used for the advancement of recycling efforts and not buried in the states general funds
- More public education about the issue needs to happen before bans, fees, etc are considered
- My concerns would be the time and work involved in implementing the fee or ban
- Na
- No opinion
- No opinion at this time
- None
- Penalties should be on those who ignore a statewide ban Monies should go to state General Fund to help keep property taxes low - too many "Fees" already !
- Require replacing single-use plastics with products that decompose
- Ridiculous idea!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
- Thank you
- Who polices it? Local government don't have the resources to do it and the State won't and try to push it down
- Why does the state and federal government feel it is necessary to put mandates and items that fall back on the local people and then we have to find ways to cover costs

#### **LAWRENCE**

- Ban would eliminate the issue
- Go for it
- I believe that single use plastics need to be phased out at the local and state level
- Implementation will be tedious
- None
- None at this time
- Residents in this township will not support fees. They see the outreach of governmental fees as far reaching already. A statewide ban would be the only option that would carry weight and force compliance
- Should not ban, should be using paper bags
- The ban will be hard to enforce, unless the businesses are required to come up with another method to bag items
- The fees on low income families

- Who came up with this idea, why should people be pressed to pay for fees

#### LEBANON

- N/a
- No Comment
- No comments at this time
- No concerns
- None
- The only way to stop the production of these single-use plastic bags is on a state-wide ban, so alternatives are researched
- This is not necessary and a waste of tax payer dollars
- Unfortunately, bans and fees are the only way to get people to stop using plastic single use items
- We need to get back to returnable container products, glass, etc. days. A ban is the only way that a change in this direction can be made
- You ask for a municipal response but do not allow me to look at the complete text of the survey until I have completed the first five questions. Seems to me that requires 2 municipal meetings and a lot more than 4 to 5 minutes to complete the survey

#### LEHIGH

- Ban. Single-use plastics don't make any sense
- Get rid of plastic bags The bags I get from the local grocery store are so flimsy, that the bags cannot be re-used for another purpose anyway
- More education to the public and partnerships with the businesses
- My only concern would be the cost of implementing and enforcing such a program
- Na
- None

#### LUZERNE

- Funds must be used to meet the growing challenges in the Recycling market
- Good citizens will and probably comply without common sense recycling Others will not Fee, ban, or whatever
- I believe our residents would like the choice to use plastic
- I believe the fee would prevent too much use of the bags, but residents and businesses would be against it
- I feel a ban and fee would be an effect way to stop the use of plastics that are a major concern
- I have no concerns
- I think if you impose a fee and/or ban and pass it onto the consumer they will think twice about how they are disposing of these items
- If you are going to ban them - ban them How can you ban them, but yet put a fee on the use of single-use plastics? That makes no sense
- More research needs to be done on how to recycle and if it were banned we still have to be concerned about the amount in the oceans and landfills
- My only concern is that whatever is decided they will not understand and upheld
- N/a
- No concerns at this time
- No opinion
- None
- Residents might be inconvenienced
- There is so many other issues that need attention more that this topic The homeless in the world for one

#### LYCOMING

- A ban or fee will make the consumer pay a higher cost when purchasing the product
- Don't think public will support a ban
- Don't think we need another fee
- I don't feel that either a ban or fee would have much impact on single use plastics People are going to use whatever they feel would benefit themselves
- In our area this would likely need to be a phased approach—maybe a few and then a ban It's not really on the radar now, so the educational component is very important, as well as providing/highlighting feasible alternatives

- In rural areas like this one if there was a fee to dispose of plastic people would start burning them again in the outside burn barrels and we have people in this township that used to burn all their plastic before we had a recycling bin and the fumes for the burning barrels were unfavorable
- N/a
- No ban just recycle
- No concerns
- No concerns, great idea
- No new taxes/fees
- None
- People are already overtaxed on everything in existence PAPER bags should be brought back and NO FEES added at all
- Recycle!!!
- Single-use plastics should be banned Plastic bags are over used, and dangerous for animals and the ocean
- Stated above
- There should be no ban - what next ban on popsicle sticks?
- We don't need additional regulations Government is already too big

#### **MCKEAN**

- Community disapproval
- Eventually this will have to be done, but the public will need to know the reasoning for it, through educational meetings
- It needs to be on more than just plastics
- No concerns
- No concerns
- None

#### **MERCER**

- A fee would raise the price of a consumer product. summer stuff can be done in paper or cardboard that's recyclable. it just got too easy to use one use time plastic simple as that and it's cheaper than paper or cardboard at this point. but why should the consumer be forced to pay a higher price for said item because the government will not work on recycling plastics. cuz it was all shipped to China and that was okay but now that it's really hit the United States we're not ready for it and sad part about it the trash industry should have been set up and ready to go for that. they knew it was coming and it wasn't going to last in China forever. no matter what anybody says China was getting tired to take it all the garbage. so in my opinion there should be no fee on plastic because the consumer will pay for it and people on low to moderate incomes will get screwed by it. it's unfortunate that in my Township in Mercer County we had a mandatory recycling now but then again it doesn't cover all the plastics or glass. there has to be something done. out the recycling plants to take that stuff. California takes glass and some upper States above Pennsylvania takes glass. why can't we and the plastics? it all can be recycled but it does cost money to recycle
- All the recycling places closed Many consumers used these to recycle items Now they are just thrown away
- Fees on consumers will not make them happy
- Include recycling of single use plastic bags curbside
- Increased consumer costs, business will fail to have available
- Initial push-back from consumers
- Leave alone
- No opinion
- None
- Nothing
- The answer is not to further tax the consumer but to develop alternates to the single use problem
- The ban makes sense but I do not agree with a fee
- This may help but will not stop the useage of these items

#### **MIFFLIN**

- A ban would be very good Not so sure about a fee
- None
- This seems like a costly program, that would have little impact on the environment
- We are not interested, our residents re-cycle



- Would give business incentive to have customer's bring their own bags, cut down on cost

#### **MONROE**

- Enforcement is our biggest concern The paper straws are not very user friendly
- I am unaware of any public concerns regarding a ban on single-use plastics
- I think there needs to be more education and a ban of single use plastics
- If State gets the money, it'll be squandered
- If there is a fee, consumers should be able to bring one use bags somewhere like bottles in NY Consumers can earn \$005/bottle

#### **MONTGOMERY**

- Another government mandate - how will it be controlled monitored and enforce?
- Any ban or fee should not have any unfunded mandate on local governments to implement and/or enforce
- Bam could hurt local business
- Change is difficult however once people begin this new practice they will be better able to see that it is not the innocence they predicted
- Collection and remittance process for a fee would need to be clear and easy to administer
- Consumers making money by selling plastic bags, doing that does not help the environment
- Cost to consumers
- Cost will be born by consumer, regardless of a ban or imposed fee
- If implemented the State could use it to fund some DEP programming
- More importantly things to concentrate on Glass being the biggest priority
- N/a
- Need to understand if the alternative to plastic bags would be more harmful to the environment, before en-acting such legislation
- No concerns
- No opinion
- None
- None noted
- See above
- Stupid government over-reach
- There will be some push back from residents not wanting the state government to tell them what they can or cannot do

#### **MONTOUR**

- I don't think that "enforcing banning is or will be as immediately effective as simply charging for each indi-vidual use (ie bags) product that the consumer "chooses" to use
- I wouldn't want to see it implemented as an unfunded mandate on local government
- No Comment
- None

#### **NORTHAMPTON**

- A ban on plastic will necessitate using more paper, which will cause more trees to be cut down An alternative method of less packaging overall is required
- Businesses should be required to return to paper bags, period; they are recyclable; ban the plastic bags, pe-riod
- Fees should be for recycling and local governments only, the state should not take it Statewide electronic recycling efforts are failing, while municipalities have to deal with the unfunded mandate
- Further study is required
- I don't think a fee should be imposed
- If bans and/or fees were to be instituted, it should be done at a state level so that there is no confusion for the residents, businesses, and municipalities
- If the state legislature is so concerned about recycling, why isn't recycling mandated state-wide for all mu-nicipalities?
- Implementation and resulting economic impacts are a major concern This could result in industries needing to adapt and other industries to disappear altogether Both these are very costly to residents and businesses
- My concern is with governmental corruption when fee are involved
- N/a

- Nn
- No opinion
- None
- Something must be done but unsure of what the best course of action might be
- There are folks that have no clue what it is your questioning They go to the store to get what they need and go home with their bags Why punish them Go to a product that is environmentally neutral
- To eliminate plastic waste and reduce environmental impacts, I believe a fee and/or ban is the way to go But allow this to be a local option
- Whatever is done it will result in additional costs and produce nothing

#### **NORTHUMBERLAND**

- A ban punishes the people that properly dispose of these items
- Enforcement will be difficult
- Find alternatives to plastics, ban them Don't agree with fees unless your going to use it to recycle or use for environmental clean up
- I feel as though people have been taught/trained that recycling is best and that they are recycling single use items not understanding that they are "single use" People assume that all plastics can be recycled and converted back into something useful Banning things like plastic bags and straws may seem trivial to people in a small municipality like this
- Let's get environmentally friendly!
- None
- Single use plastics are everywhere so I think we need to concentrate more on recycling programs in our country Including things to do with plastics, not just banning them or placing fees on them so once again the consumers are paying another tax/fee to the state
- We are becoming over regulated

#### **PERRY**

- Fees will only raise prices on products, but not fix the problem
- Going back to the "deposits" on bottles might help with the problem
- I do not feel that people in our community will appreciate a ban nor a fee, and will perceive the effort as an overreach of government. The environment is an important and worthy cause but a ban or a fee may be perceived poorly
- I live in a rural town without convenient access to recycling. I feel there should be more incentives for biodegradable products
- I think burning plastic should be used to eliminate it going to the land fill By burning Use it to fuel the creation of electricity Incinerators , not land fills
- It would be hard to enforce
- My concern is what will it be replaced with, and what effect it will have on both business and consumers
- None
- Something should be done because too many people do not recycle
- There is a need to limit the use and I think consumers should pay extra if they want them. However, an alternative must be offered. In my opinion paper is not the answer in order to conserve the natural elements, ie: trees, pollution, etc

#### **PIKE**

- Food bills are high already Charging for a bag will increase food bills Make consumers supply their own bags or carry it out like we do in big bulk stores
- No Comment
- Should have a phase in period

#### **POTTER**

- Before a fee is implemented it needs to be decided exactly where those revenues are going Any fee that strictly goes to the "government"'s bottomless pit is going to be an extremely hard sell to the public It needs to go somewhere that will help environmental causes, but not be restricted to only recycling
- Eliminating plastics eliminates pollution from manufacturing, distribution, and disposal If the one dollar price for a reusable bag is prohibitive, food stamps should be able to be used to cover this
- Go back to paper

- I don't believe there is a need for banning single use plastics. This whole thing is getting way out of hand. Most people use them for more than one thing anyways
- I have no concerns
- If it helps environment I believe a ban is in order
- If the particular single use plastics do not fall within the acceptable item list, the consumer has to pay per pound
- It is so much plastic and needs to be taken care of
- N/a
- Na
- No Comment
- None
- Would like to see better ways of disposal or reuse for all plastics

#### SCHUYLKILL

- Because it will cost money, most people will be against it
- Fee should be passed onto the generator of single use bags
- Give people the option to purchase the reusable bags at a low cost prior to putting any ban/fee in place If they didn't cost \$10 a bag more people would probably use them
- How will it effectively be regulated? What choices will be given to the consumer in place of the single-use plastics? Why can't these plastics be recycled in some way?
- I feel a ban should not be necessary. Consumers need to become responsible in their use of plastics by reuse and recycling
- I have none
- I think the government should be putting more funding into recycling methods
- More mail order!
- N/a
- No concern It would be good for the environment
- None
- People should bring their own reusable cloths bags
- Should not be placed on the municipality which is the taxpayer
- We don't need more govt regulation

#### SNYDER

- Enforcement would be difficult
- I think this sounds like another way that the state could push off another unfunded mandate onto municipalities You need to look into more ways to recycle single-use plastics
- It's a lot of scare about nothing What's next?
- N/a
- No Comment
- None
- None at this time
- Recycling fees to municipalities for other products

#### SOMERSET

- A ban is an infringement on our rights and a fee is nothing more than a government waste that never fixes the problem
- A fee is not enough to monitor/enforce single-use plastics
- Another hardship on our residents
- Any additional fees to implement said ban will be taken negatively
- I think this is a ridiculous thing to put a ban on Many people use plastic bags for more than one use Ex: as a trash bag for bathroom trash, to return items that belong to others, ect
- N/a
- No Comment
- None
- Plastic is part of life
- Put a extra, extra fee on those single-use items
-

#### SULLIVAN

- Go for a ban!
- Impact on the economy, charging more (fee) for product and services
- It is so important that we decrease the use of plastic
- None

#### SUSQUEHANNA

- Again the fee will not make the litter from the single use containers go away
- Another governmental grab for money to be wasted
- Give people a credit for returning items for recycling
- I am not sure where this would go I understand the perception , not sure the public would as well
- I didn't realize this was a question People need education and notice prior to a ban being put into effect
- I do not believe a fee or a ban will do anything but hurt consumers
- I don't believe a ban would have an impact A fee at the stores for bags would encourage users to bring their own
- If a ban is instituted, it could be controlled by reducing the amount of materials that businesses are able to put out into the market Any fee on residents is just another burden that would fall on local municipalities to enforce The people benefiting most will be paper-pushers and politicians I see this as job security for state workers At the local level, people are tired of government interference, fees and control Why don't you do something about finding a way for people to get rid of old televisions Other states seem to be doing a better job on that
- It is not a good idea to place a ban or a fee on single-use plastics
- It is one more expense put on residents who don't need that Allow people to make decisions
- No opinion
- Not everyone can afford another expense
- Please see response to #7
- Residents would be totally against a ban/fee proposal
- Some stores have already changed to bio-degradable bags - they work great Get rid of the plastic that does not decay and use the bio-degradable bags
- Stated in 7
- To charge a fee is just a money grab It doesn't help the situation
- Too much government intervention
- Would not like ban or fee

#### TIOGA

- A majority of our community live on limited income Again, a lot of our residents re-use these bags for trash can liners or sorting their recycling
- All money should go to municipality's not the state
- Banning plastic shopping bags would be a possible step, but you still have all the plastic packaging and people putting all their garbage in plastic garbage bags
- Consumers and businesses already pay to many fees
- If the concern is so great, you should be discontinuing the manufacturing of the product not limiting or charging for it's use. Get rid of it at the source
- If you are going to do anything it should be a ban
- It may get people to think about it more if they can get a nickel back on cans/bottles
- Na
- None
- Some places are already banning the use of single use plastics Mainly in NY, which is close to us
- We are in a very rural area with no easy means of recycling. If we had more availability to recycle these items, we wouldn't be having this survey

#### UNION

- Enforcing any ban or fee at the local level requires a lot of money and resources that most smaller local governments do not have. While there is justified concern for the environment, creating more unfunded mandates is not good for our residents or our local economy. And I can't speak to what the National impact would be to ban them all together
- I don't think that everyone will be on board with a ban/fee, but it can only help our environment

- I think to lower the amount of waste and garbage in landfills would be a good thing since our landfills are becoming overloaded. Recycling has helped but not enough Government needs to supply more answers to the problem
- There has to be an alternative
- We are doing our best to recycle plastics & other recycling items We don't need any more regulations

#### VENANGO

- A ban on plastic bags or a fee would not go over well with our residents. It is highly unlikely that the local officials would ever pass anything banning plastic bags or charging fees because they would most likely be voted out of office. Furthermore, if the state forces the local officials to pass such legislation (similar to stormwater management), it will not go over well with the local officials because the expense of enforcement will get pushed to the local level
- A ban would be more effective in my opinion
- Ban won't work, set up recycling
- I find it interesting how you want to push this on small areas where there isn't the abuse to help pay for large municipalities. It should be up to the refuse companies as to what they want to do
- It is hard to force someone to pay for something they have used a very long time
- No concerns
- No opinion
- None
- Small municipalities do not have budget for fees
- The transition will be difficult
- They won't like change

#### WARREN

- Ban them from being manufactured
- Far more problems than worry about plastic
- I am not sure what would be considered a "single use" plastic; grocery bags are recycled and so, too I believe are soda bottles; or at least I thought that they were
- I have no concerns
- No concerns
- None at this time
- The government needs to stay out of this issue

#### WASHINGTON

- Businesses will resist
- I hate to see a fee charged - everything is already expensive
- I really don't think either would work
- I think a fee could allow for research into creating a product that dissolves back to the environment or is edible (flatware)
- It would help reduce the garbage along roadways
- MANDATORY RECYCLING REGARDLESS OF TWP SIZE, STATE AND LOCAL AND BAN PLASTIC BAGS THE PLASTIC INDUSTRY IS HUGE AND PLASTIC BAGS IS NOT EVEN THE BIGGEST CULPRIT
- N/a
- Na
- No Comment
- No comments
- No concerns as it is necessary to abide by the rules
- None
- People think it would be too much government oversight
- THE PUBLIC WILL NOT EMBRACE THIS IDEA
- This may not be the silver bullet, to cure all our environmental problems but please keep plugging away with the end goal being taking care of planet Earth. There is no plan B!
- Unnecessary Other more pressing problems to address

#### WAYNE

- Additional cost to residents
- Additional costs should be on the business

- Enforcement
- Enforcement??
- How much this could cost
- I do not have any other concerns
- Most people in our area could not afford a fee
- N/a
- Not enough details on which plastics would be banned. If trash bags are included in the ban how would trash be disposed? There would be more garbage on highways, roads, streets, in neighborhoods and waterways if there is a total ban

#### **WESTMORELAND**

- A ban may be necessary but not before a public campaign to educate the public
- Another fee begets another layer of bureaucracy
- Both the public and businesses would be hesitant to stop using single use plastics or pay a fee This would probably be perceived as a form of taxation. As we all know, any raise in taxes or cost to the public or businesses is frowned upon
- It appears to be another revenue tax to support massive pension deficits and not provide tax relief to taxpayers
- No comment
- No Comment
- No comment. You are going to do what you want any how
- No concerns
- None
- Not sure
- The cost to consumers
- This should be up to the local store owners
- Use more eco friendly items
- Won't work as will lead to continued use due to rules not being followed everywhere and use of back channels

#### **WYOMING**

- Another way to create more wasted space in the higher levels
- I feel that the cost should not affect the price of the product in which the single use plastic contains. If fees are implemented then it should go to recycling education and efforts
- Its a good idea
- N/a
- No
- No comment
- The ban might end up costing consumers more by having to purchase other method of plastics
- This is just another way to tax the people. Where will this tax money go?
- We do not support fees for this
- Will not get done

#### **YORK**

- A ban is ok, fees are WRONG in many ways
- Any effort(s) to reduce the use of single use plastics should focus on consumer awareness, not on governmental dictates
- Applying a fee is not helping people with lower income
- Constituents already have a difficult time keeping up with bills and taxes, why should we add yet another tax Whatever word you choose it is still a tax. How about we educate rather than tax?
- Earth/Environment education should be taught in schools - such as recycling, anti-liter, keeping our waterways clean, etc. In the 70's this was very effective. Children today are not taught by their parents about how liter effects the environment. Banning bags will not help the issue. We need to educate
- Education necessary before ban
- Encourage stores to give a discount if you bring your own bag: cloth, plastic, etc
- If they are banned, there is less of a risk for them ending up where they should not be
- Increased costs to consumer

- It is a concern for some people and not for others. Single use products might have valuable purposes and yet seem wasteful
- Multiple use bags are becoming more and more popular. Maybe a nudge is needed to push that effort forward
- N/a
- No Comment
- No concerns
- None
- Residents would not be happy with a ban or a fee but I believe it will become a necessity
- Should be a ban/fee that would provide fees to increase recycling education and sponsor litter cleanup
- The ban would be most feasible; the plastic bags tear, are heavy when filled, and blow all over the place.
- The Township has had problems with getting rid of regular recyclables and this would make it harder
- Unsure
- We have to date relied on single use bottled water as our sole source of drinking water. We are now switching over to a water cooler with the large, recycled water bottles provided by a local water service. We are doing this is an attempt to mitigate the negative impacts to the environment
- We need to ban plastics
- With a fee, you may collect some money; but, it is not likely to make any difference as long as retailers are allowed to offer plastic

Source: Developed by LBFC staff from review of comments to our survey of municipal leaders, October 2019 through January 2020.

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## Appendix D – Index of Bans/Fees on Single-Use Plastic Bags by State

State/Municipality	Ban	Fee/Tax	Effective Date
<b>Alaska</b>			
<b>Anchorage</b>	Plastic bags	10-50 cent tax on paper bags	9/15/2019
<b>Bethel</b>	Plastic bags		9/1/2010
<b>Cordova</b>	Plastic bags		10/1/2016
<b>Haines</b>	Non-compostable plastic bags		1/1/2020
<b>Homer</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Hooper Bay</b>	Plastic bags		9/1/2010
<b>Kodiak</b>	Plastic bags less than 4mm		4/22/2018
<b>Palmer</b>	Plastic bags		1/1/2019
<b>Soldotna</b>	Plastic bags less than 2.25 mils		11/1/2018
<b>Unalaska</b>	Plastic bags		1/1/2019
<b>Wasilla</b>	Plastic bags		7/1/2018
<b>California</b>			
	<i>Statewide ban on single-use plastics</i>	<i>10-cent tax on paper/reusable bags</i>	<i>11/9/2016</i>
<b>Alameda County</b>	Plastic bags	10-cent fee on paper/reusable bags in all stores	5/1/2017
		10-cent fee on paper/reusable bags in restaurants	11/1/2017
<b>Albany</b>	Plastic bags	10-cent fee on paper/reusable bags	1/1/2013
<b>American Canyon</b>	Plastic bags		1/1/2016
<b>Arcata</b>	Plastic bags	10-cent tax on paper bags	12/1/2014
<b>Arroyo Grande</b>	Plastic bags	10-cent fee on paper bags	10/1/2012
<b>Atascadero</b>	Plastic bags	10-cent fee on paper bags	10/1/2012
<b>Belmont</b>	Plastic bags	25-cent fee on paper bags	4/22/2013
<b>Belvedere</b>	Plastic bags	10-cent fee on reusable bags	12/9/2014
<b>Berkley County</b>	Plastic bags		1/1/2013
<b>Brisbane</b>	Plastic bags	10-cent fee on paper bags	3/18/2013
<b>Burlingame</b>	Plastic bags	10-cent fee on paper bags	3/18/2013
<b>Calabasas</b>	Plastic bags	10-cent fee on paper bags	7/1/2011
<b>Calistoga</b>	Plastic bags		1/1/2015
<b>Campbell</b>	Plastic bags	Small fee on paper/reusable bags	1/27/2014
<b>Capitola</b>	Plastic bags	25-cent tax on paper bags	4/1/2013
<b>Carmel by the Sea</b>	Plastic bags		2/3/2013
<b>Carpinteria</b>	Plastic and paper bags		4/11/2013
<b>Cathedral City</b>	Plastic bags	10-cent fee on paper bags	2/1/2016
<b>Chico</b>	Plastic bags	10-cent fee on paper bags	1/1/2015
<b>Cloverdale</b>	Plastic bags	10-cent fee on paper bags	9/1/2014
<b>Colma</b>	Plastic bags	10-cent fee on paper bags	4/22/2013
<b>Corvallis</b>	Plastic bags	5-cent fee on paper bags	1/1/2013
<b>Cotati</b>	Plastic bags	10-cent fee on paper bags	9/1/2014
<b>Culver City</b>	Plastic bags	10-cent fee on paper bags	12/28/2013
<b>Cupertino</b>	Plastic bags	10-cent fee on paper bags	10/1/2013
<b>Daly City</b>	Plastic bags	10-cent fee on paper bags	4/22/2013
<b>Dana Point</b>	Plastic bags		4/1/2013
<b>Danville</b>	Plastic bags		7/1/2016
<b>Davis City</b>	Plastic bags		7/1/2014
<b>Del Mar</b>	Plastic bags	10-cent fee on paper/reusable bags	6/15/2017
<b>Dublin</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013

**LEGISLATIVE BUDGET AND FINANCE COMMITTEE**  
*A Study in Response to Act 2019-20: Non-Economic Impacts of Single-Use*

<b>East Palo Alto</b>	Plastic bags	10-cent fee on paper bags	10/2/2013
<b>El Cerrito</b>	Plastic bags		1/1/2014
<b>Emeryville</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013
<b>Encinitas</b>	Plastic bags	10-cent fee on paper bags	
<b>Fairfax</b>	Plastic bags	10-cent fee on paper bags	5/4/2015
<b>Fort Bragg</b>	Plastic bags	10-cent fee on paper bags	12/10/2012
<b>Foster City</b>	Plastic bags	10-cent tax on paper bags	4/22/2013
<b>Fremont</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013
<b>Glendale</b>	Plastic bags	10-cent fee on paper bags	1/1/2013
<b>Grass Valley</b>	Plastic bags		1/1/2015
<b>Grover Beach</b>	Plastic bags	10-cent tax on paper bags	10/1/2012
<b>Half Moon Bay</b>	Plastic bags	10-cent fee on paper bags	5/22/2013
<b>Hayward</b>	Plastic bags	10-cent tax on paper bags	1/1/2013
<b>Healdsburg</b>	Plastic bags	10-cent fee on paper bags	8/31/2014
<b>Hercules</b>	Plastic bags	10-cent fee on recycled/reusable paper bags	3/8/2015
<b>Hermosa Beach</b>	Plastic bags	10-cent fee on paper bags	1/31/2016
<b>Indio</b>	Plastic bags		12/31/2014
<b>King City</b>	Plastic bags	10-cent fee on paper/reusable bags	1/1/2015
<b>Lafayette</b>	Plastic bags	10-cent fee on paper bags	7/1/2015
<b>Laguna Beach</b>	Plastic bags	10-cent fee on paper bags	12/31/2012
<b>Livermore</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013
<b>Long Beach</b>	Plastic bags	10-cent fee on paper bags	7/31/2011
<b>Los Alamos</b>	Plastic bags		10/14/2014
<b>Los Altos</b>	Plastic bags	25-cent fee on paper bags	7/3/2013
<b>Los Angeles City</b>	Plastic bags	10-cent fee on paper bags	6/30/2014
<b>Los Angeles County</b>	Plastic bags	10-cent fee on paper bags	12/31/2011
<b>Los Gatos</b>	Plastic bags		2/2/2014
<b>Malibu</b>	Plastic bags		5/1/2009
<b>Manhattan Beach</b>	Plastic bags		5/12/2015
<b>Marin County</b>	Plastic bags		1/1/2012
<b>Marina</b>	Plastic bags	10-cent fee on paper bags	3/19/2015
<b>Martinez</b>	Plastic bags		1/1/2015
<b>Mendocino County</b>	Plastic bags	10-cent tax on paper bags	1/7/2013
<b>Menlo Park</b>	Plastic bags		4/22/2013
<b>Mill Valley</b>	Plastic bags		11/3/2013
<b>Millbrae</b>	Plastic bags	10-cent tax on paper bags	9/1/2012
<b>Milpitas</b>	Plastic bags	10-cent fee on paper bags	1/1/2016
<b>Monrovia</b>	Plastic bags		1/1/2015
<b>Monterey</b>	Plastic bags	25-cent fee on paper bags	1/1/2013
<b>Monterey County</b>	Plastic bags	10-cent fee on paper/reusable bags	9/26/2014
<b>Morgan Hill City</b>	Plastic bags	10-cent fee on paper bags	4/22/2013
<b>Morro Bay</b>	Plastic bags	10-cent tax on paper bags	10/1/2012
<b>Mountain View</b>	Plastic bags	10-cent fee on paper bags	1/1/2015
<b>Nevada City</b>	Plastic bags	10-cent fee on paper bags	1/1/2015
<b>Newark</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013
<b>Novato</b>	Plastic bags	10-cent fee on paper bags	9/11/2014
<b>Oakland</b>	Plastic bags	10-cent fee on paper/reusable bags	1/1/2013
<b>Oceanside</b>	Plastic bags	10-cent fee on paper bags	1/1/2017
<b>Ojai</b>	Plastic bags	10-cent fee on paper bags	7/1/2012
<b>Orcutt</b>	Plastic bags	Paper bag tax	5/14/2014
<b>Pacific Grove</b>	Plastic bags	10-cent fee allowable carryout bags	3/1/2015
<b>Pacifica</b>	Plastic bags	10-cent fee on paper bags	4/1/2015
<b>Palm Springs</b>	Plastic bags	10-cent tax on paper bags	11/1/2014
<b>Palo Alto</b>	Plastic bags	10-cent tax on paper bags	7/1/2013
<b>Pasadena</b>	Plastic bags	10-cent tax on paper bags	7/1/2012
<b>Paso Robles</b>	Plastic bags	10-cent fee on paper bags	
<b>Petaluma</b>	Plastic bags	10-cent tax on paper bags	9/2/2014

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<b>Piedmont</b>	Plastic bags	10-cent fee on paper bags	1/1/2013
<b>Pismo Beach</b>	Plastic bags	10-cent tax on paper bags	10/1/2012
<b>Pittsburg</b>	Plastic bags	Tax on paper bags	1/15/2014
<b>Pleasant Hills</b>	Plastic bags	10-cent fee on paper bags	2/1/2015
<b>Pleasanton</b>	Plastic bags	10-cent tax on paper/reusable bags	1/1/2013
<b>Portola Valley</b>	Plastic bags		
<b>Redwood City (San Mateo County)</b>	Plastic bags		10/1/2013
<b>Richmond</b>	Plastic bags	5-cent tax on paper bags	1/1/2014
<b>Rohnert Park</b>	Plastic bags	10-cent tax on paper bags	9/1/2014
<b>Sacramento</b>	Plastic bags	10-cent fee on paper bags	3/31/2015
<b>Sacramento County</b>	Plastic bags	10-cent fee on paper bags	7/1/2016
<b>Salinas</b>	Plastic bags	10-cent fee on paper bags	9/1/2014
<b>San Bruno</b>	Plastic bags	10-cent tax on paper bags	4/22/2013
<b>San Carlos</b>	Plastic bags	5-cent fee on paper bags	7/1/2013
<b>San Diego</b>	Plastic bags	10-cent fee on paper bags	9/1/2016
<b>San Francisco</b>	Plastic bags		2/1/2012
<b>San Jose</b>	Plastic bags	10-cent fee on paper bags	11/8/2013
<b>San Leandro</b>	Plastic bags	10-cent tax on paper/reusable bags	12/31/2012
<b>San Luis Obispo</b>	Plastic bags	10-cent fee on paper bags	4/19/2012
<b>San Luis Obispo County</b>	Plastic bags	10-cent tax on paper bags	10/1/2012
<b>San Mateo City</b>	Plastic bags	10-cent tax on paper bags	4/21/2013
<b>San Mateo County</b>	Plastic bags		4/21/2013
<b>San Pablo</b>	Plastic bags	5-cent tax on plastic/reusable bags	12/31/2013
<b>San Rafael</b>	Plastic bags	10-cent fee on paper bags	9/14/2014
<b>Santa Barbara</b>	Plastic bags	10-cent tax on paper bags	10/14/2014
<b>Santa Barbara County</b>	Plastic bags	10-cent fee on paper bags	3/22/2016
<b>Santa Clara County</b>	Plastic bags	15-cent fee on paper bags	12/31/2011
<b>Santa Cruz</b>	Plastic bags	10-cent tax on paper bags	4/9/2013
<b>Santa Monica</b>	Plastic bags	10-cent fee on paper bags	8/31/2011
<b>Santa Rosa</b>	Plastic bags		9/1/2014
<b>Sausalito</b>	Plastic bags	10-cent fee on paper bags	8/31/2014
<b>Seaside</b>	Plastic bags	10-cent fee on paper/reusable bags	9/19/2015
<b>Sebastopol</b>	Plastic bags	10-cent fee on paper bags	8/31/2014
<b>Solana Beach</b>	Plastic bags	10-cent fee on paper bags	8/9/2012
<b>Sonoma City</b>	Plastic bags	10-cent fee on paper bags	8/31/2014
<b>Sonoma County</b>	Plastic bags		8/31/2014
<b>South Lake Tahoe</b>	Plastic bags	5-cent fee on paper bags	10/14/2014
<b>South Pasadena</b>	Plastic bags		12/5/2014
<b>South San Francisco</b>	Plastic bags	10-cent fee on paper bags	4/21/2013
<b>St. Helena</b>	Plastic bags	10-cent fee on paper bags	1/21/2017
<b>Sunnyvale</b>	Plastic bags	10-cent fee on paper/reusable bags	2/28/2013
<b>Truckee</b>	Plastic bags		5/31/2014
<b>Ukiah County</b>	Plastic bags	10-cent tax on paper bags	1/6/2013
<b>Union City</b>	Plastic bags	10-cent tax on paper/reusable bags	12/31/2012
<b>Walnut Creek</b>	Plastic bags	10-cent fee on paper bags	12/17/2014
<b>Watsonville</b>	Plastic bags	10-25-cent fee on paper bags	9/6/2012
<b>West Hollywood</b>	Plastic bags	10-cent tax on paper bags	2/19/2013
<b>Windsor</b>	Plastic bags	10-cent fee on paper bags	8/31/2014
<b>Woodside</b>	Plastic bags	10-cent fee on paper bags	4/21/2013
<b>Yountville</b>	Plastic bags	10-cent fee on paper bags	4/1/2016
<b>Colorado</b>			
<b>Aspen</b>	Plastic bags		4/30/2012
<b>Avon</b>	Plastic bags	10-cent tax on paper bags	5/1/2018
<b>Boulder</b>		10-cent fee on plastic bags	6/30/2013
<b>Breckenridge</b>		10-cent tax on plastic bags	9/30/2013
<b>Carbondale</b>	Plastic bags	20-cent tax on paper bags	4/30/2012

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<b>Crested Butte</b>	Plastic bags		9/1/2018
<b>Denver</b>		10-cent tax on paper/plastic bags	7/1/2020
<b>Frisco</b>		25-cent tax on paper/plastic bags	1/1/2020
<b>Nederland</b>		10-cent fee on paper/plastic bags	6/1/2015
<b>Ridgway</b>	Plastic bags less than 2.25 mils		3/1/2019
<b>Telluride</b>	Plastic bags	10-cent tax on paper bags	2/28/2011
<b>Connecticut</b>			
		<i>Statewide 10-cent tax on plastic bags</i>	<i>8/1/2019</i>
<b>Branford</b>	Polyethylene bags	10-cent tax on paper bags	12/12/2019
<b>Darien</b>	Plastic bags less than 12 mils	10-cent tax on paper bags	1/1/2020
<b>Fairfield</b>	Plastic bags less than 12 mils		7/1/2020
<b>Glastonbury</b>	Plastic bags less than 6 mils		1/1/2020
<b>Greenwich</b>	Plastic bags (3-year sunset)		9/12/2018
<b>Groton</b>	Plastic bags less than 4 mils		3/7/2020
<b>Guilford</b>	Plastic bags less than 12 mils		1/1/2020
<b>Hamden</b>	Plastic bags any thickness		8/20/2019
<b>Madison</b>	Polyethylene bags	10-cent tax on paper bags	1/6/2020
<b>Mansfield</b>	Plastic bags		8/11/2019
<b>Middletown</b>	Plastic bags	10-cent tax on paper bags	10/1/2019
<b>New Britain</b>	Plastic bags less than 4 mils	10-cent tax on paper/reusable bags	8/25/2019
<b>New Canaan</b>	Plastic bags less than 6 mils	10-cent tax on paper bags	8/27/2019
<b>Newtown</b>	Plastic bags less than 12 mils	10-cent tax on paper bags	10/28/2019
<b>Norwalk</b>	Plastic bags less than 12 mils	10-cent fee on paper bags	7/8/2019
<b>Westport</b>	Plastic bags		3/1/2009
<b>Windham</b>	Plastic bags less than 12 mils	Minimum 10-cent fee on paper bags	10/16/2019
<b>Delaware</b>			
	<i>Statewide ban on plastic bags</i>		<i>1/1/2021</i>
<b>Florida</b>			
<b>Alachua County</b>	Plastic bags 2.25 mils or less		1/1/2020
<b>Bal Harbor</b>	Plastic bags		11/1/2019
<b>Coral Gables</b>	Plastic bags		5/9/2018
<b>Gainesville</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>North Bay Village</b>	Plastic bags		1/1/2020
<b>Palm Beach</b>	Plastic bags		12/12/2019
<b>St. Augustine Beach</b>	Plastic bags		1/1/2020
<b>Surfside</b>	Plastic bags		3/1/2020
<b>Hawaii</b>			
	<i>Countywide ban on plastic bags</i>		<i>1/16/2014</i>
<b>Honolulu</b>	Plastic bags		1/16/2014
<b>Kauai County</b>	Plastic bags		10/11/2009
<b>Maui County</b>	Plastic bags		1/10/2011
<b>Oahu</b>	Plastic bags		7/1/2015
	Plastic bags (all plastic bags by 2020)	15-cent tax on reusable plastic bags	7/24/2018
<b>Illinois</b>			
<b>Chicago</b>		7-cent tax on paper/plastic bags	2/1/2017
<b>Edwardsville</b>		10-cent tax on paper/plastic bags	4/1/2020
<b>Evanston</b>	Plastic bags less than 2.25 mils		8/1/2015
<b>Oak Park</b>		10-cent tax for retailers over 5,000 square feet	1/1/2018
<b>Woodstock</b>		10-cent tax on plastic bags	1/1/2020
<b>Maine</b>			
	<i>Statewide ban on plastic bags</i>		<i>4/22/2020</i>
<b>Bar Harbor</b>	Plastic bags		2/15/2019
<b>Bath</b>	Plastic bags	5-cent tax on paper bags	4/22/2018
<b>Belfast</b>	Plastic bags		1/1/2018

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<b>Biddeford</b>	Plastic bags less than 4 mils	Charge for paper/reusable bags optional	7/15/2019
<b>Blue Hill</b>	Plastic bags		6/10/2018
<b>Brunswick</b>	Plastic bags		9/1/2017
<b>Camden</b>	Plastic bags		4/30/2019
<b>Cape Elizabeth</b>		5-cent tax on plastic bags	12/6/2017
<b>Falmouth</b>		5-cent fee on paper/plastic bags	4/1/2016
<b>Freeport</b>	Plastic bags	5-cent fee on paper bags	9/12/2016
<b>Kennebunk</b>	Plastic bags		6/14/2016
<b>Manchester</b>	Plastic bags		7/1/2018
<b>Mount Desert</b>	Plastic bags less than 3 mils		5/8/2019
<b>Portland</b>		5-cent fee on paper/plastic bags	4/15/2015
<b>Rockland</b>	Plastic bags	5-cent tax on paper bags	1/1/2019
<b>Saco</b>	Plastic bags		5/4/2017
<b>South Portland</b>		5-cent fee on paper/plastic bags	9/9/2015
<b>Southwest Harbor</b>	Plastic bags less than 4 mils		2/22/2019
<b>Topsham</b>		5-cent fee on plastic bags	5/7/2017
<b>Waterville</b>	Plastic bags		4/22/2019
<b>York</b>	Plastic bags		2/3/2016
<b>Massachusetts</b>			
<b>Abington</b>	Plastic bags less than 4 mils		4/1/2020
<b>Acton</b>	Plastic bags		1/1/2020
<b>Adams</b>	Plastic bags		3/30/2017
<b>Amesbury</b>	Plastic bags less than 3 mils		9/12/2019
<b>Amherst</b>	Plastic bags		1/1/2017
<b>Andover</b>	Plastic bags		1/2/2019
<b>Aquinnah</b>	Plastic bags		1/1/2017
<b>Arlington</b>	Plastic bags		3/1/2018
<b>Ashland</b>	Plastic bags		7/1/2018
<b>Athol</b>	Plastic bags		1/1/2018
<b>Attleboro</b>	Plastic bags less than 4 mils		10/1/2019
<b>Auburn</b>	Plastic bags less than 4 mils		3/1/2020
<b>Barnstable</b>	Plastic bags less than 3 mils		10/3/2016
<b>Becket</b>	Plastic bags less than 4 mils		1/1/2020
<b>Bedford</b>	Plastic bags		10/1/2017
<b>Belmont</b>	Plastic bags		11/1/2018
<b>Berlin</b>	Plastic bags less than 2.5 mils		1/1/2020
<b>Beverly</b>	Plastic bags less than 4 mils		1/1/2019
<b>Billerica</b>	Plastic bags less than 3 mils		1/1/2020
<b>Boston</b>	Plastic bags	5-cent tax on paper/reusable/compostable bags	12/14/2018
<b>Brewster</b>	Plastic bags		6/1/2020
<b>Bridgewater</b>	Plastic bags		3/4/2016
<b>Bourne</b>	Plastic bags		1/1/2018
<b>Brookline</b>	Plastic bags		11/8/2013
<b>Buckland</b>	Plastic bags	25-cent tax on paper/reusable bags	1/1/2020
<b>Burlington</b>	Plastic bags		5/28/2019
<b>Cambridge</b>	Plastic bags	10-cent fee on paper/composed plastic bags	4/1/2016
<b>Canton</b>	Plastic bags		3/11/2020
<b>Chatham</b>	Single-use plastic bags		1/1/2016
<b>Chelmsford</b>	Plastic bags less than 4 mils		7/1/2020
<b>Chelsea</b>	Plastic bags less than 3 mils		12/17/2019
<b>Chilmark</b>	Plastic bags	Fee on paper/reusable bags	1/1/2017
<b>Cohasset</b>	Plastic bags		11/1/2018
<b>Concord</b>	Plastic bags		1/1/2016
<b>Dalton</b>	Plastic bags less than 4 mils		6/27/2018

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<b>Danvers</b>	Plastic bags		6/1/2019
<b>Dartmouth</b>	Plastic bags		6/5/2019
<b>Dennis</b>	Plastic bags		10/18/2017
<b>Dover</b>	Plastic bags less than 2.5 mils		1/1/2020
<b>Duxbury</b>	Plastic bags less than 3 mils		1/1/2018
<b>Eastham</b>	Plastic bags less than 4 mils		11/1/2020
<b>Easton</b>	Polyethylene bags		6/1/2020
<b>Edgartown</b>	Plastic bags	Fee on paper/reusable bags	1/1/2018
<b>Essex</b>	Plastic bags less than 4 mils		1/1/2021
<b>Falmouth</b>	Plastic bags	10-cent fee on paper bags	8/6/2016
<b>Framingham</b>	Plastic bags	10-cent tax on paper bags	1/1/2018
<b>Franklin</b>	Polyethylene bags		7/1/2020
<b>Georgetown</b>	Plastic bags		9/1/2019
<b>Gloucester</b>	Plastic bags		1/1/2019
<b>Grafton</b>	Plastic bags		7/1/2018
<b>Great Barrington</b>	Plastic bags		2/28/2014
<b>Groton</b>	Plastic bags		7/1/2020
<b>Hamilton</b>	Plastic bags		7/27/2016
<b>Hanson</b>	Plastic bags		7/1/2020
<b>Harwich</b>	Plastic bags		6/15/2016
<b>Haverhill</b>	Plastic bags		2/7/2019
<b>Hingham</b>	Plastic bags		11/1/2019
<b>Hopkinton</b>	Plastic bags		1/1/2019
<b>Hudson</b>	Polyethylene bags		6/1/2020
<b>Hull</b>	Plastic bags		1/1/2020
<b>Ipswich</b>	Plastic bags	Fee on paper bags	11/15/2017
<b>Lee</b>	Plastic bags	Tax on paper bags	5/13/2017
<b>Lenox</b>	Plastic bags		6/9/2017
<b>Lexington</b>	Plastic bags less than 2.25 mils		1/1/2019
<b>Lincoln</b>	Plastic bags	Tax on paper bags (amount not specified)	1/1/2019
<b>Long Meadow</b>	Plastic bags		4/16/2019
<b>Lowell</b>	Plastic bags		1/1/2019
<b>Lynn</b>	Plastic bags		9/1/2019
<b>Malden</b>	Polyethylene bags		1/1/2020
<b>Manchester</b>	Plastic bags		12/31/2013
<b>Mansfield</b>	Plastic bags		11/1/2018
<b>Marblehead</b>	Plastic bags		5/4/2015
<b>Marshfield</b>	Plastic bags		10/23/2018
<b>Mashpee</b>	Plastic bags less than 1.5 mils		3/20/2018
<b>Medfield</b>	Plastic bags		11/1/2019
<b>Medford</b>	Plastic bags less than 4 mils		7/16/2019
<b>Medway</b>	Polyethylene bags		7/1/2020
<b>Melrose</b>	Plastic bags		7/1/2018
<b>Millis</b>	Plastic bags		7/1/2020
<b>Milton</b>	Plastic bags		9/14/2019
<b>Natick</b>	Plastic bags		8/1/2017
<b>Newburyport</b>	Plastic bags		3/29/2015
<b>Newton</b>	Plastic bags	10-cent tax on paper bags	1/2020
<b>North Reading</b>	Plastic bags less than 2.5 mils		1/1/2020
<b>Northampton</b>	Plastic bags		1/1/2016
<b>Northborough</b>	Plastic bags		1/1/2020
<b>Norwell</b>	Plastic bags		11/6/2019
<b>Oak Bluffs</b>	Plastic bags		1/1/2018
<b>Orleans</b>	Plastic bags less than 3.5 mils		8/31/2018
<b>Peabody</b>	Polyethylene bags		7/1/2020
<b>Pepperell</b>	Plastic bags		1/1/2020
<b>Pittsfield</b>	Plastic bags		1/1/2020

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<b>Plainville</b>	Polyethylene bags		1/1/2020
<b>Provincetown</b>	Plastic bags		4/15/2015
<b>Plymouth</b>	Plastic bags		8/21/2017
<b>Quincy</b>	Plastic bags		3/1/2020
<b>Randolph</b>	Plastic bags less than 2.5 mils		1/1/2021
<b>Reading</b>	Plastic bags less than 3 mils		9/10/2018
<b>Revere</b>	Plastic bags less than 4 mils		7/1/2019
<b>Rockport</b>	Plastic bags		3/1/2019
<b>Salem</b>	Plastic bags		11/21/2016
<b>Sandwich</b>	Plastic bags		11/28/2017
<b>Saugus</b>	Plastic bags less than 4 mils		3/12/2020
<b>Scituate</b>	Plastic bags		9/15/2019
<b>Seekonk</b>	Plastic bags less than 4 mils		1/1/2020
<b>Sharon</b>	Plastic bags		11/6/2019
<b>Shrewsbury</b>	Plastic bags less than 4 mils		6/30/2017
<b>Somerville</b>	Plastic bags		9/1/2016
<b>South Hadley</b>	Plastic bags		7/1/2018
<b>Southbridge</b>	Plastic bags less than 2.5 mils		11/1/2019
<b>Springfield</b>	Plastic bags		6/1/2020
<b>Steamboat Springs</b>	Plastic bags less than 2.25 mils	20-cent tax on paper bags	10/1/2019
<b>Stockbridge</b>	Plastic bags		1/2/2018
<b>Stoneham</b>	Plastic bags less than 2.25 mils		5/1/2020
<b>Sudbury</b>	Plastic bags		6/30/2018
<b>Swampscott</b>	Plastic bags		9/1/2018
<b>Tewksbury</b>	Plastic bags		4/1/2019
<b>Tisbury</b>	Plastic bags	Fee on paper/reusable bags	1/1/2017
<b>Topsfield</b>	Plastic bags		7/1/2018
<b>Townsend</b>	Plastic bags 2.5 mils or less		8/1/2019
<b>Truro</b>	Plastic bags		3/31/2016
<b>Tyngsborough</b>	Plastic bags		5/1/2019
<b>Wakefield</b>	Plastic bags		7/1/2018
<b>Watertown</b>	Plastic bags		7/1/2017
<b>Wayland</b>	Plastic bags		7/1/2018
<b>Wellesly</b>	Plastic bags		11/1/2016
<b>Wellfleet</b>	Plastic bags		1/1/2016
<b>West Tisbury</b>	Plastic bags	Fee on paper/reusable bags	1/1/2017
<b>Westborough</b>	Plastic bags		9/17/2018
<b>Westford</b>	Plastic bags		1/1/2019
<b>Weston</b>	Plastic bags		1/1/2018
<b>Williamstown</b>	Plastic bags		11/19/2015
<b>Wilmington</b>	Plastic bags		5/5/2019
<b>Winchester</b>	Plastic bags		11/1/2018
<b>Worcester</b>	Plastic bags less than 3 mils		4/1/2020
<b>Wrentham</b>	Polyethylene bags		1/2/2020
<b>Yarmouth</b>	Plastic bags		5/6/2018
<b>Maryland</b>			
<b>Aberdeen</b>	Plastic yard waste bags		4/1/2017
<b>Baltimore</b>	Plastic bags less than 4 mils	5-cent tax on paper bags	1/31/2021
<b>Chestertown</b>	Plastic bags for all retailers		3/1/2011
<b>Harford</b>	Plastic yard waste bags		9/1/2017
<b>Howard County</b>		5-cent tax on plastic bags	7/1/2020
<b>Montgomery County</b>		5-cent charge on paper/plastic carryout bags	1/1/2012
<b>Takoma Park</b>	Plastic bags		12/1/2016
<b>Westminster</b>	Plastic bags		1/1/2020
<b>Michigan</b>			

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<b>Washtenaw County</b>	Plastic bags	10-cent fee on reusable bags	4/22/2017
<b>Minnesota</b>			
<b>Duluth</b>		5-cent tax on plastic bags	4/1/2020
<b>Minneapolis</b>		5-cent tax on paper/plastic bags	1/1/2020
<b>New Jersey</b>			
<b>Ashbury Park</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Atlantic County</b>	Plastic bags within parks		7/17/2018
<b>Atlantic Highlands</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Avalon</b>	Plastic bags		6/1/2019
<b>Bayonne</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Beach Haven</b>	Plastic bags		6/12/2019
<b>Belmar</b>	Plastic bags		5/1/2019
<b>Berkeley Heights</b>	Polyethylene bags	10-cent tax on paper bags	12/1/2020
<b>Bradley Beach</b>	Plastic bags		10/1/2018
<b>Brigantine Beach</b>	Plastic bags		1/1/2019
<b>Cape May</b>	Polyethylene bags		2/18/2020
<b>Chatham Borough</b>	Plastic bags	10-cent tax on paper bags	3/1/2020
<b>Chatham Township</b>	Plastic bags		3/1/2020
<b>Collingswood</b>	Plastic bags less than 2.25 mils	10-cent tax paper & reusable bags	4/15/2020
<b>Cranford</b>	Plastic bags		1/1/2021
<b>Fair Haven</b>	Plastic bags		2/1/2020
<b>Garfield</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Glen Rock</b>	Plastic bags		1/1/2020
<b>Harvey Cedars</b>	Plastic bags less than 2.25 mils		6/1/2018
<b>Haworth</b>	Plastic bags	10-cent tax on paper bags	3/24/2020
<b>Highland Park</b>	Plastic bags	10-cent tax on paper bags	11/1/2019
<b>Hoboken</b>	Plastic bags	Fee (up to 25-cents) on paper & reusable bags – low-income exempt	1/22/2019
<b>Hopewell Borough</b>	Plastic bags		11/1/2018
<b>Jersey City</b>	Plastic bags		6/27/2019
<b>Kearny</b>	Plastic bags less than 2.25 mils	10-cent fee on reusable bags	4/22/2021
<b>Little Silver</b>	Plastic bags less than 2.25 mils		10/21/2019
<b>Long Beach</b>	Plastic bags		5/8/2018
<b>Long Branch</b>	Polyethylene bags		1/1/2021
<b>Longport</b>		10-cent fee on paper & plastic bags	12/21/2015
<b>Madison</b>	Plastic bags	10-cent tax on paper bags	3/1/2020
<b>Maplewood</b>	Plastic bags	5-cent fee on paper bags	7/1/2019
<b>Millburn</b>	Plastic bags	5-cent tax on paper bags & 10-cent tax on reusable bags	6/3/2020
<b>Monmouth Beach</b>	Plastic bags		6/1/2018
<b>Montclair</b>	Plastic bags at large stores	10-cent tax on paper bags	12//82019
<b>Morris Township</b>	Plastic bags	10-cent tax on paper bags	7/1/2020
<b>Ocean Gate</b>	Plastic bags less than 2.25 mils		9/13/2019
<b>Paramus</b>	Plastic bags		1/1/2020
<b>Parsippany</b>	Plastic bags	10-25 cent tax on paper & reusable bags	12/1/2019
<b>Point Pleasant Beach</b>	Plastic bags		5/15/2018
<b>Red Bank</b>	Plastic bags less than 2.25 mils		9/1/2020
<b>Ridgewood</b>	Plastic bags		7/1/2020
<b>Saddle Brook</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Sea Bright</b>	Plastic bags less than 2.25 mils	10-cent tax on paper & reusable bags	1/1/2020
<b>Secaucus</b>	Plastic bags	10-cent tax on paper bags	2/2/2020
<b>Somers Point</b>		5-cent tax on plastic bags	1/1/2019
	Plastic bags less than 2.25 mils		1/16/2020
<b>South Orange</b>	Plastic bags	5-cent tax on paper bags	1/1/2020



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<b>Stafford Township</b>	Plastic bags		7/17/2018
<b>Stone Harbor</b>	Plastic bags		6/1/2019
<b>Summit</b>	Polyethylene bags		5/1/2020
<b>Teaneck</b>		5-cent tax on plastic bags	7/6/2018
<b>Trenton</b>	Polyethylene bags	10-cent tax on paper bags	12/31/2020
<b>Ventnor</b>		5-cent tax on paper and plastic bags less than 2.25 mils	10/1/2018
<b>Woodland Park</b>	Plastic bags	10-cent tax on paper and reusable bags	4/1/2020
<b><i>New Mexico</i></b>			
<b>Albuquerque</b>	Plastic bags	Optional 10-cent fee on paper/reusable plastic bags	1/1/2020
<b>Bernalillo County</b>	Plastic bags		1/1/2020
<b>Santa Fe</b>	Plastic bags	10-cent tax on paper bags	2/27/2014
<b>Silver City</b>	Plastic bags		1/1/2015
<b><i>New York</i></b>			
	<i>Statewide ban on plastic bags</i>		<i>6/15/2020</i>
<b>Bedford</b>		10-cent fee on paper/plastic bags	4/1/2019
<b>Dutchess County</b>	Plastic bags		1/1/2020
<b>East Hampton</b>	Plastic bags		2/8/2012
<b>Hastings on Hudson</b>	Plastic bags		12/1/2014
<b>Larchmont</b>	Plastic bags		10/1/2013
<b>Lewisboro</b>	Plastic bags	15-cent fee on plastic bags	1/1/2019
<b>Long Beach</b>		5-cent fee on plastic bags	4/22/2017
<b>Mamaroneck</b>	Plastic bags		4/1/2013
<b>New Castle</b>	Plastic bags	10-cent fee on paper bags	1/1/2017
<b>New Platz Village</b>	Plastic bags		4/1/2015
<b>New York City</b>		5-cent fee on plastic bags	10/1/2016
<b>Patchogue Village</b>	Plastic bags		9/1/2016
<b>Rockland County</b>	Plastic bags less than 2.25 mils		5/13/2020
<b>Rye</b>	Plastic bags		5/1/2012
<b>Sag Harbor</b>	Plastic bags		4/22/2015
<b>Sea Cliff</b>		Minimum 5-cent tax on plastic bags	4/22/2018
<b>Southampton</b>	Plastic bags		4/22/2015
<b>Suffolk County</b>		5-cent fee on paper/plastic bags	1/1/2018
<b>Ulster County</b>	Plastic bags		6/1/2019
<b><i>North Carolina</i></b>			
<b>Hyde County</b>	Plastic bags		10/1/2010
<b><i>Ohio</i></b>			
<b>Bexley</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Cuyahoga County</b>	Film plastic bags		10/1/2019
<b>Orange</b>	Plastic bags less than 2.5 mils		4/1/2019
<b><i>Oregon</i></b>			
	<i>Statewide ban on plastic bags</i>	5-cent tax on paper/plastic bags	<i>1/1/2020</i>
<b>Ashland</b>	Plastic bags	10-cent fee on paper bags	11/6/2014
<b>Bend</b>	Plastic bags		7/1/2019
<b>Corvallis</b>	Plastic bags	5-cent fee on paper bags	1/1/2013
<b>Eugene</b>	Plastic bags	5-cent fee on paper bags	5/1/2013
<b>Forest Grove</b>	Plastic bags		7/15/2016
<b>Hillsboro</b>	Plastic bags		7/1/2019
<b>Hood River</b>	Plastic bags		2/8/2017
<b>Lake Oswego</b>	Plastic bags	10-cent tax on paper bags	7/1/2019
<b>Manzanita</b>	Plastic bags		11/5/2017
<b>McMinnville</b>	Plastic bags		3/16/2017
<b>Milwaukie</b>	Plastic bags		3/1/2019

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<b>Newport</b>	Plastic bags	Minimum 5-cent tax on paper bags	7/1/2019
<b>Portland</b>	Plastic bags		10/15/2011
<b>Salem</b>	Plastic bags	At least 5-cent tax on paper bags	4/1/2019
<b>Pennsylvania (State Preemption Extended until at least 7/1/2021 – See Section III)</b>			
<b>Narberth</b>	Plastic bags	10-cent tax on plastic bags	10/18/2018
<b>Philadelphia</b>	Polyethylene bags		1/1/2021
<b>West Chester</b>	Plastic bags less than 4 mils	10-cent fee on plastic bags	7/2/2020
<b>Rhode Island</b>			
<b>Barrington</b>	Plastic bags		1/1/2013
<b>Central Falls</b>	Polyethylene bags		4/22/2020
<b>East Greenwich</b>	Polyethylene bags		10/2019
<b>East Providence</b>	Plastic bags		11/7/2019
<b>Jamestown</b>	Plastic bags		4/22/2018
<b>Middletown</b>	Plastic bags		11/1/2017
<b>Newport</b>	Plastic bags		11/1/2017
<b>North Kingstown</b>	Plastic bags		1/1/2019
<b>North Shoreham</b>	Plastic bags		1/1/2018
<b>Portsmouth</b>	Plastic bags		9/1/2018
<b>Providence</b>	Plastic bags	10-cent tax on paper and reusable bags	3/15/2019
<b>Westerly</b>	Plastic bags less than 4 mils		12/31/2019
<b>South Carolina</b>			
<b>Arcadia Lakes</b>	Plastic bags		3/1/2020
<b>Beaufort County</b>	Plastic bags		11/1/2018
<b>Camden</b>	Plastic bags less than 2.25 mils		1/1/2020
<b>Charleston</b>	Plastic bags less than 4 mils		12/1/2019
<b>Charleston County</b>	Plastic carryout bags		9/1/2019
<b>Edisto Beach</b>	Plastic bags		1/1/2020
<b>Folly Beach</b>	Plastic bags		1/1/2017
<b>Isle of Palms</b>	Plastic bags		1/1/2016
<b>James Island</b>	Plastic bags		1/17/2020
<b>Kiawah Island</b>	Plastic bags less than 4 mils		9/8/2019
<b>Mt. Pleasant</b>	Plastic bags		4/16/2019
<b>North Myrtle Beach</b>	Plastic bags		1/1/2022
<b>Sullivan’s Island</b>	Plastic bags		12/1/2018
<b>Surfside Beach</b>	Plastic bags		6/1/2018
<b>Utah</b>			
<b>Logan</b>	Plastic bags less than 2.25 mils		7/31/2020
<b>Moab</b>	Plastic bags		1/1/2019
<b>Park City</b>	Plastic bags in stores larger than 12,000 square feet		6/25/2017
<b>Vermont</b>			
	<i>Statewide plastic bag ban</i>		7/1/2020
<b>Brattleboro</b>	Plastic bags		7/1/2018
<b>Norwich</b>	Plastic bags	10-cent tax on paper bags	9/1/2019
<b>Wilmington</b>	Plastic bags		7/1/2019
<b>Washington</b>			
<b>Bainbridge Island</b>	Plastic bags	5-cent fee on paper bags	11/1/2012
<b>Bellingham</b>	Plastic bags	5-cent fee on paper bags	8/1/2012
<b>Bothell</b>	Plastic bags	10-cent tax on paper bags	4/22/2020
<b>Bremerton</b>	Plastic bags less than 2.25 mils	8-cent tax on paper bags	1/1/2020
<b>Burien</b>	Plastic bags	10-cent tax on paper bags	1/1/2020
<b>Edmonds</b>	Plastic bags		8/27/2010

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<b>Ellensburg</b>		5-cent tax on paper & plastic bags	1/1/2018
<b>Everett</b>	Plastic bags		9/30/2019
<b>Friday Harbor</b>	Plastic bags		5/1/2017
<b>Gig Harbor</b>	Plastic bags less than 2.25 mils		6/18/2019
<b>Issaquah</b>	Plastic bags	5-cent fee of paper bags	3/1/2013
<b>Kenmore</b>	Plastic bags	5-cent fee on paper bags	1/1/2019
<b>Kent</b>	Plastic bags less than 2.25 mils	8-cent tax on paper & reusable bags	3/1/2020
<b>Kirkland</b>	Plastic bags	5-cent tax on paper bags	3/1/2016
<b>Kitsap County</b>	Plastic bags less than 2.25 mils	8-cent tax on paper & reusable bags	1/1/2020
<b>La Conner</b>	Plastic bags		8/1/2018
<b>Lacey</b>	Plastic bags	5-cent fee on paper bags	7/1/2014
<b>Lake Forest Park</b>	Plastic bags less than 2.25 mils	10-cent tax on paper bags	1/23/2019
<b>Mercer Island</b>	Plastic bags		4/22/2014
<b>Mukilteo</b>	Plastic bags		1/1/2013
<b>Olympia</b>	Plastic bags	5-cent fee on paper bags	7/1/2014
<b>Port Angeles</b>	Plastic bags less than 2.25 mils	5-cent tax on all bags	7/3/2018
<b>Port Orchard</b>	Plastic bags less than 2.25 mils	8-cent tax on paper & reusable bags	1/1/2020
<b>Port Townsend</b>	Plastic bags	5-cent fee on paper bags	11/1/2012
<b>Quil Ceda Village</b>	Plastic bags less than 2.25 mils		1/1/2018
<b>San Juan County</b>	Plastic bags		5/1/2017
<b>Seattle</b>	Plastic bags	5-cent fee on paper bags	7/1/2012
<b>Shoreline</b>	Plastic bags	5-cent fee on paper bags	2/1/2014
<b>Snohomish</b>	Plastic bags less than 2.25 mils	10-cent tax on paper bags	1/1/2020
<b>Tacoma</b>	Plastic bags less than 2.25 mils		7/11/2017
<b>Thurston County</b>	Plastic bags	5-cent fee on paper bags	7/1/2014
<b>Tumwater</b>	Plastic bags	5-cent fee on paper bags	7/1/2014
<b>Washington D.C.</b>	<i>Disposable non-recyclable plastic carryout bags</i>	<i>5-cent tax on paper/plastic bags</i>	<i>12/31/2019</i>
<b>Wyoming</b>			
<b>Jackson Hole</b>	Plastic bags	Tax on paper bags	4/15/2019

Source: Developed by LBFC staff from [www.bagtheban.com/in-your-state](http://www.bagtheban.com/in-your-state), as of May 2020.

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