

**Seattle Public Utilities:**

*Reducing Plastic Pollution through Progressive Policies*

by Yi Cao, Nora Haider, Carson Hornsby, and Angela Pietschmann

A capstone project submitted in partial fulfillment of the  
requirements for the degree of

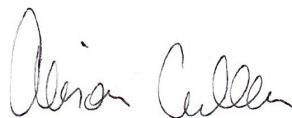
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Approved by:

A handwritten signature in black ink, appearing to read "Alison Cullen". The signature is fluid and cursive, with the first name "Alison" and the last name "Cullen" clearly distinguishable.

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Professor Alison Cullen



# Seattle Public Utilities

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# Glossary

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**Bring your own (BYO):** an outreach campaign that asks consumers to bring their own durable and reusable products, rather than using single-use disposable items provided by businesses.

**China National Sword Policy:** Chinese policy that restricts imports of solid waste, limits the import of contaminated recyclable commodities, and increases the inspections of recyclable imports. The policy is designed to address materials being imported into China that are contaminated or needed further cleaning up before they can be recycled, resulting in pollution and harm to human and environmental health.

**Coercive:** threats of fines or other penalties for non-compliance with a regulation or policy.

**Convenience Store:** a small retail business that sells a limited selection of products such as packaged food items, drinks, tobacco, and other small-ticket items.

**EBT – Electronic Benefits Transfer:** a food assistance program offered to low income people in Washington State.

**Facilitative:** removing barriers or providing assistance to make it easier comply with regulations or policies.

**Food deserts:** urban areas more than a mile away from a supermarket.

**Food Service Businesses (FSB):** any business that sells prepared food and/or beverages.

**Greenwashing:** falsely claiming that a product, service, company, or institution is responding to or correcting an environmental issue or problem.

**Incentive:** rewards for compliance with a regulation or policy.

**Lonely Whale:** a non-profit organization dedicated to reducing marine pollution and educating people about how their consumption habits contribute to ocean pollution.

**Material Recovery Facility (MRF):** specialized facility that separates and processes recyclable materials for resale to manufacturers and processors.

**Minimum Wage Ordinance:** a mandated Seattle minimum wage of \$15 per hour as of January 2018; Washington State's minimum wage is \$11.50 per hour.

**Strawless in Seattle:** a campaign organized by the Lonely Whale in which Seattle businesses pledged to provide paper straws only upon request during the month of September 2017.

**Sweetened Beverage Tax (Soda Tax):** a general excise tax on the distribution of sweetened beverages in Seattle.

# Executive Summary

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Over the past decade, Seattle Public Utilities (SPU) has implemented a variety of progressive environmental policies aimed at reducing waste and promoting sustainability, including:

- Seattle Municipal Code 21.36.100 in 2012, which prohibits retailer use of thin, single-use plastic carryout bags.
- Seattle Municipal Code 21.36.086 in 2010, which requires that food services businesses provide durable or compostable food service ware for dine-in customers (recyclable food service ware is allowed for takeout). Temporary annual exceptions are provided for items where compostable or recyclable alternatives meeting acceptable performance or recyclability standards are not readily available. Temporary exceptions for non-compostable straws and utensils will expire July 1, 2018.

Our report examines these policies and presents research describing:

- **Bag ban compliance** rates among convenience stores (which have shown low compliance rates in the past as compared to other retailers) and associated barriers to compliance.
- **Baseline straw and utensil usage rates** among food service businesses and potential barriers to compliance with the July 1<sup>st</sup> requirement to switch to compostables.

## Research Question

This research informs our recommendations for improving compliance, which is guided by the following primary research question: *“How can the City of Seattle improve businesses’ compliance with regulations restricting the use of single-use or landfill bound disposable plastic?”*

## Research Methods

To answer this question, we developed and administered two in-person surveys. We surveyed 70 Seattle convenience stores to measure bag ban compliance, identify barriers to compliance, and determine baseline straw and utensil usage. We surveyed 35 additional food service businesses to establish baseline straw and utensil usage and identify potential barriers to compliance with the upcoming requirement to switch to compostables. We supplemented these findings with a review of relevant literature on the convenience store industry, comparisons of other cities with bag bans, and behavior change principles.

## Key Findings

Based on our survey of 70 convenience stores and 35 food service businesses, we noted the following key findings:

### *Bags*

- 20% of surveyed convenience stores provide banned plastic carryout bags to customers.
- 14 of 70 surveyed convenience stores provide large paper bags to customers, but only 8 charge their customers the required minimum of \$0.05 per bag.
- 100% of surveyed convenience stores provide small paper bags to their customers.
- Out of the 60 convenience stores that shared with us their perceptions of the bag ban, 37% held negative perceptions, 34% held positive perceptions, and 13% had mixed perceptions.
- Common barriers to compliance include: lack of awareness, desire to accommodate customers, and language barriers.

### *Straws & Utensils*

- 86 of 105 (82%) surveyed convenience stores and food service businesses provide either non-compostable straws or utensils, and 50 (48%) provide both products.
- 30 of 83 (36%) respondents indicated awareness of the upcoming ban on non-compostable straws and utensils.
- 47 interviewees responded when asked about their opinions on the ban:
  - 53% responded positively
  - 17% provided negative feedback
  - 13% did not express an opinion
  - 11% felt unsure
  - 6% had mixed feelings

### **Key Recommendations**

We used the key findings above and supplemental literature review to develop a series of recommendations for SPU. Key recommendations for consideration include:

- Emphasize environmental and waste prevention benefits of policies in outreach and messaging.
- Rebrand outreach materials away from “bans” towards “Bring Your Own” (BYO).
- Integrate commercial outreach with single-family (SF) and multi-family (MF) outreach.
- Offer free compliance toolkits with product samples to Seattle businesses.
- Collaborate with neighboring cities and counties to align policies regionally.
- Extend bag ban to Seattle restaurants.
- Remove plastic bags from curbside recycling.
- Publicize non-compliance reporting channel.
- Utilize equitable enforcement framework for monetary penalties.

# Chapter 1: Introduction

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## Overview

Seattle Public Utilities (SPU) describes its strategic role as keeping Seattle the “best place to live and work” by partnering with the community to ensure public health and environmental protections for customers (Seattle Public Utilities, 2018). With this guiding vision, SPU has become a leader in progressive environmental policies designed to reduce plastic pollution in Seattle by solving problems at their source, primarily through restrictions on retail stores and food service businesses (FSB) offering single-use or landfill bound disposable plastics to their customers.

SPU commissioned our team of graduate consultants from the Evans School of Public Policy & Governance at the University of Washington to develop a report with recommendations that seeks to answer the following research question:

*“How can the City of Seattle improve businesses’ compliance with regulations restricting the use of single-use or landfill bound disposable plastic?”*

Our report focuses specifically on two key single-use plastics:

### **Thin Plastic Carryout Bags:**

In 2012 Seattle implemented Seattle Municipal Code (SMC) 21.36.100 which bans retailers from providing thin plastic carryout bags to customers. While the policy has evolved and expanded since its initial implementation, our research focuses on identifying strategies for increasing the adoption of this ordinance among convenience stores, as prior survey work identified these stores as the least compliant retail group.

### **Non-Compostable Straws & Utensils:**

Seattle implemented SMC 21.36.086 in 2010, which requires that food services businesses provide durable or compostable food service ware for dine-in customers (recyclable food service ware is allowed for takeout). Temporary annual exceptions are provided for items where compostable or recyclable alternatives meeting acceptable performance or recyclability standards are not readily available. Temporary exceptions for plastic straws and utensils will expire July 1, 2018. Our research helps establish a baseline estimate of the types of straw and utensil usage among Seattle businesses and identifies strategies for successful policy implementation.

Our primary objectives for this report are to:

- Present information on plastic bag ban compliance rates among convenience stores.
- Report baseline information on straw and utensil usage among FSBs.
- Identify businesses’ barriers to complying with Seattle’s plastic ordinances.
- Share recommendations that SPU can use to improve compliance rates.

To accomplish these objectives, we developed and administered two in-person surveys. We surveyed 70 Seattle convenience stores to measure bag ban compliance, identify barriers to compliance, and determine baseline straw and utensil usage. We surveyed 35 additional FSBs to establish baseline straw and utensil usage and identify potential barriers to compliance with the upcoming ban. We supplemented these findings with a review of relevant literature.



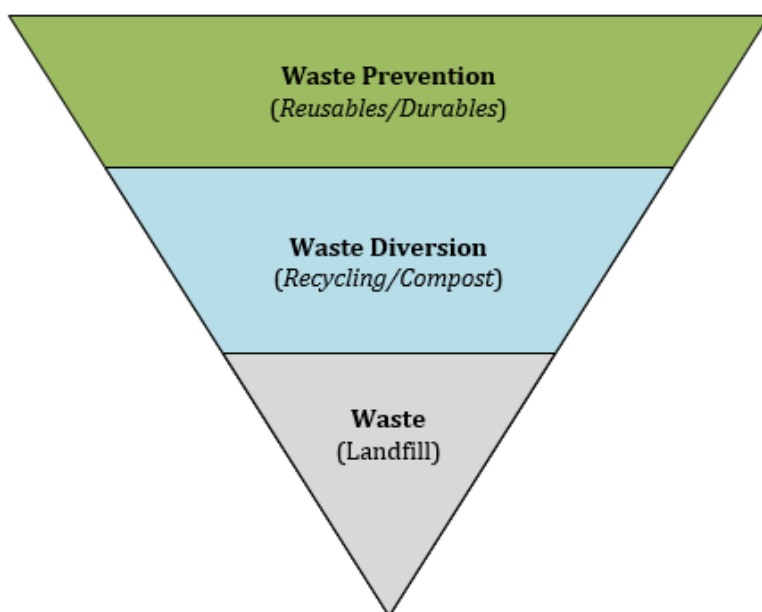
## Background

In 2007, Seattle City Council adopted Zero Waste Resolution 30990 which establishes recycling goals for the City of Seattle and provides direction on waste-reduction programs. SPU defines Zero Waste as follows:

*Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health (Seattle Public Utilities, 2018).*

In line with this vision, SPU emphasizes waste prevention followed by waste diversion as strategies for limiting what the city sends to landfill as much as possible (Figure 1).

**Figure 1:** Visual summary of zero waste hierarchy.



Within the waste diversion category, food service items are better suited for either recycling or composting based primarily on their post-consumer condition. For example, items like aluminum and glass beverage containers can typically be easily emptied and rinsed after use to maintain a condition acceptable for recycling. However, many items used to deliver food to customers cannot be easily or effectively cleaned after use and are better candidates for composting than recycling. Compostable food service items also serve as vehicles for capturing any residual food waste into the compost stream for regeneration. Residual food waste severely contaminates the recycling stream and lowers the value of recyclable commodities. Likewise, recyclable materials such as plastic severely contaminate the composting stream.

With these principles in mind, SPU has strategically designed their food service ware ordinances to encourage reusable/durable items whenever possible and promote recyclable and/or compostable alternatives as appropriate and available (Table 1). Single-use plastic products like carryout bags, straws, and utensils are a ubiquitous staple of the retail and food service industry, and while these products are convenient and cost-effective, the energy and resources used to create and transport them are wasted when they are landfilled after a single use. When these items are not properly landfilled they become the primary contaminants of local compost and recycling streams, litter the streets, or become marine pollution.

### *Compost Stream Contamination*

According to the *2017 Washington State Organics Contamination Reduction Workgroup Report and Toolkit*, plastic and plastic bags are the most prevalent contaminants of local compost. Contamination in compost increases labor and equipment costs and degrades the value and usability of the finished product (Washington State Organics Contamination Reduction Workgroup, 2017). Lookalike products that resemble compostable bags, straws, and utensils are an increasing source of compost contamination. For example, green tinted plastic bags resemble compostable plastic bags and are often used in homes as compost bin liners. Similarly, plastic utensils that are tinted brown or have “eco-labeling” are often mistakenly placed in compost bins. Seattle’s ordinances around bag tinting requirements and compostable food service ware attempt to reduce some of the confusion and contamination associated with these items. Refer to Table 1 for an overview of these ordinances.

### *Recycling Stream Contamination*

As noted above, when food-soiled items enter the recycling stream they significantly contaminate otherwise marketable commodities. SMC 21.36.086 requires that all food service ware items (with limited exceptions) provided to dine-in customers be reusable/durable or compostable to prevent recycling contamination and divert food waste from landfill. Recyclable alternatives are allowed under this ordinance for takeout food service ware as consumers can theoretically clean them before recycling. Temporary annual exceptions are provided for items where compostable or recyclable alternatives meeting acceptable performance or recyclability standards are not readily available.

Although plastic straws and utensils are often made from recyclable raw material, due to their small size and shape they are not accepted in Seattle’s recycling program. When they do end up in the recycling stream they contaminate baled commodities like mixed paper or become residual out-throws which are sent to landfill.

Plastic bags and film have been accepted in Seattle’s curbside recycling program since 2009 with the instruction to “bag your bags” by collecting all bags and film into one tied bag and placing in recycling bins. However, plastic bags and film have emerged as the most costly and pervasive problem items at Material Recovery Facilities (MRF). The Washington State Department of Ecology (DOE) released a report in October 2016 entitled: *Optimizing the Commingled Residential Curbside Recycling Systems in Northwest Washington*. This report was based on the findings of a workgroup formed in November 2012 which comprised of government recycling staff, solid waste and recycling service providers, and recyclable materials processors who met monthly and provided their perspectives on the issues they face with each recyclable material category: cardboard, newspaper, mixed paper, steel, aluminum, plastic, and glass (Kingfisher, 2016).

Two overarching issues emerged from this report related to plastic bags:

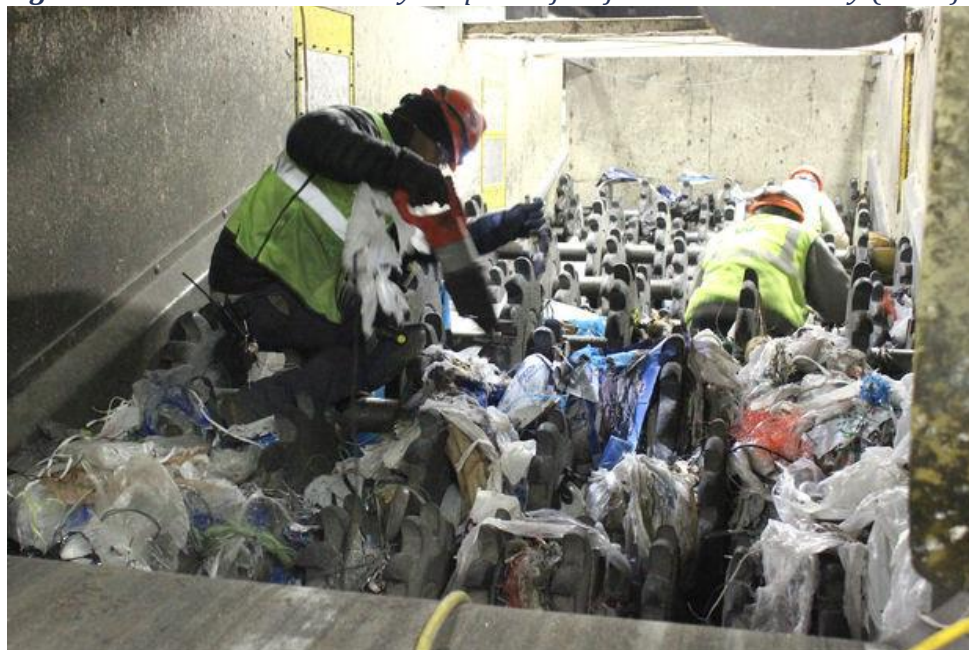
**Issues at Material Recovery Facilities:**

Plastic bags and film make up roughly 0.2% of incoming material by weight (approximately one bale per day). While operators can manually remove approximately 30-40% of the plastic bags during the pre-sorting process, the remaining 60-70% of bags consistently contaminate other baled commodities or obstruct processing equipment, requiring MRFs to stop machinery several times each day to remove film. This is a safety risk as workers must physically climb into the machinery and manually cut out the bags, as shown in Figure 2. Approximately 20-30% of total recycling center labor is attributed to dealing with film, costing \$700-\$1,000 per ton to remove this material (Kingfisher, 2016).

**Issues with Markets:**

Bags collected curbside are highly contaminated and the bales of film created from this stream at the MRFs typically do not meet domestic quality standards. As such, the film that is successfully sorted at the MRF is typically only suitable for export markets in China and Southeast Asia. Even within these markets, oversupply and low cost of virgin plastic contributes to the low value of film as a commodity. Bags and film returned to drop-off points at retailers participating in programs like the Wrap Recycling Action Program (WRAP) maintain a high enough quality to successfully sell to companies that recycle them to produce new materials like composite lumber (Kingfisher, 2016).

*Figure 2: MRF workers manually cut plastic film from MRF machinery (Wetli).*



*Issues Concerning Export of Plastic Film and Mixed Plastics*

As noted in the DOE report referenced above, plastic bags collected through curbside programs are a highly contaminated, low-value commodity with limited market demand. Since the release of the report in 2016, China announced the implementation of its National Sword Policy, under which it is no longer accepting imports of 24 classifications of solid waste, including plastic, scrap paper and

waste textile materials (Mosbergen, 2018). The policy limits the import of contaminated recyclable commodities and increases the inspections of recyclable imports.

The National Sword Policy is designed to address materials being imported into China that are contaminated or needed further cleaning up before they can be recycled, resulting in pollution and harm to human and environmental health. Jiu-Liang Wang's 2016 film, "Plastic China," put an international spotlight on these issues as it documented the struggle of an impoverished family to survive by living and working in a plastic waste household-recycling workshop (Figure 3). In 2016, China processed half of the world's exports of plastic, paper, and metal waste (Mosbergen, 2018).

*Figure 3: Still frame from Jiu-Liang Wang's "Plastic China" documentary (Wang, 2016).*



Before the National Sword Policy went into effect, Seattle's recycling processor exported nearly 100% of recyclable materials (excluding cardboard and metal) to China. With China essentially cutting off the import of recycled commodities, the U.S. is now exporting these materials to other countries in Southeast Asia (Romano, 2018). Countries such as Malaysia, Thailand, Vietnam, and India have increased their imports of recycled material by over 50% (Staub, 2108). Many of these countries are less developed and less regulated than China and are already some of the biggest contributors of plastic waste to international waters (McCarthy, 2017). The mismanagement of plastic is having a compounding effect on the marine litter, which is becoming one of the top transboundary global issues (Le Guern, 2018).

To reduce contaminants in sorted recycling bales, Seattle area recycling companies are asking their customers to step-up their recycling efforts. Residents should avoid "wishful recycling," which is when people place an item in the recycling bin, hoping that it will be accepted by the facility. Plastic straws, utensils, and bags are examples of items that ambitious recyclers place in recycling bins, which may ultimately contaminate bales of mixed paper and other recycled commodities (Strawless Ocean, 2018). When contaminated bales of recycled products go through customs processing in Asia, they can be rejected by the importing country and shipped back to the U.S. to be landfilled (Washington State Department of Ecology, 2018).

### *Marine Pollution*

The Environmental Protection Agency (EPA) estimates that about 80% of marine debris originates as land-based waste, intentionally or unintentionally disposed of into the marine environment.



Plastic debris presents particular concerns due to its ability to persist in the marine environment and “fragment into progressively smaller and more numerous particles without substantial chemical degradation.” These microplastic fragments (less than 5mm in diameter) make up approximately 90% of the plastic in the marine environment and are frequently ingested by birds, fish, and other marine wildlife. Plastics in general threaten marine wildlife when they become entangled in items like plastic bags and six-pack rings or their intestines become blocked when plastics are ingested. Additionally, the bioaccumulation of plastic chemicals in these animals threaten the entire food chain. Floating debris consists mostly of polyethylene (for example, plastic bags) and polypropylene due to prevalence of use and buoyancy (United States Environmental Protection Agency, 2018). Plastic straws are typically made from polypropylene (Schueller, 2018) while plastic utensils are typically made from polystyrene (American Chemistry Council, 2018).

## History

Seattle has earned its reputation as a national environmental leader in part through its progressive waste prevention and diversion policies. Beginning with a ban on expanded polystyrene (“Styrofoam”) products in 2009, the city has continued to advance these policies to prohibit single-use plastics in favor of durable, recyclable, and compostable packaging. Refer to Table 1 for a summary of Seattle’s policies since 2009. Refer to Appendix C for a visual overview of Seattle’s bag ban policy.

While these policies carry with them a \$250 fine for non-compliance, Seattle has historically relied on education and outreach programs to bring businesses into compliance and help them improve their sustainability programs through free resources and technical assistance (Seattle Public Utilities, 2018). SPU staff inspect over 700 FSB and retail businesses throughout the year and provide a channel for citizens to report non-compliant businesses.

## Report Overview

In the second chapter we present a summary of the report produced in 2017 by a former team of Evans School graduate consultants on bag ban compliance as well as background information on convenience stores. Our research focuses on convenience stores as prior year fieldwork suggested that they have the lowest bag ban compliance rates compared to other retailers. We provide context on regulation policy design and perform a comparison of the policy design, outreach and education initiatives, and enforcement strategies across Washington cities and counties that have also implemented plastic bag bans. We also summarize behavior change principles as they relate to SPU’s goals of waste prevention and diversion.

Our third chapter outlines our survey design, target population, sampling methodology, and in-field script. We present our procedures for collecting and analyzing survey data.

In our fourth chapter, we present a summary and analysis of our quantitative and qualitative findings gathered through survey fieldwork and disclose the limitations of our survey methodology.

Based on our literature review and survey fieldwork, we present a series of tailored recommendations in our fifth chapter to address how the City of Seattle could improve businesses’ compliance with regulations restricting the use of single-use or landfill bound disposable plastics.

**Table 1:** SMC summary of key details (SMC, 2018).

Effective Date	SMC Ref.	Description	Penalty	Exceptions
01/01/09  01/01/10	Styrofoam 21.36.084	FSBs are prohibited from selling or providing food in expanded polystyrene (Styrofoam) food service products.  FSBs are prohibited from selling or providing raw meat or raw seafood, for consumption on or off the premises, in expanded polystyrene food service products.	\$250 per violation	Prepackaged foods that have been filled and sealed prior to receipt by the FSB.
01/01/10  07/01/18	Packaging 21.36.086	FSBs that sell or provide food in one-time-use containers are required to use compostable items for dine-in service. Packaging may be recyclable or compostable for take-out service.  Temporary exceptions for non-compostable straws, utensils, and cocktail picks will expire. Only compostable alternatives will be permitted.	\$250 per violation	Temporary one-year exceptions provided by Director's rule: disposable plastic cutlery, drinking straws, cocktail straws, cocktail picks, metal foil, metal foil-faced papers and engineered composite papers used to wrap hot food such as hamburgers and burritos, portion cups (two ounces and under), if used for hot foods or requiring lids.
01/01/12  07/01/17	Bags 21.36.100	Retail establishments are prohibited from providing thin single-use plastic carryout bags to any customer.  Retailers may provide paper bags made of at least 40% recycled paper for a minimum \$0.05 pass through charge that retailers keep to offset the cost of providing bags. Compostable carryout bags are prohibited. Compostable bags provided to shoppers in-store for bulk foods and produce must be tinted green or brown and clearly labeled as such.  Non-compostable plastic bags may not be tinted green or brown or be labeled with the term "biodegradable," "degradable," "decomposable," or any similar terms.	\$250 per violation	Plastic bags $\geq 2.25$ ml thick are permitted.  Plastic bags used by shoppers in store (for bulk foods, meat, flowers, bakery goods, or prescriptions), newspaper bags, door-hanger bags, and dry-cleaning bags are permitted.  FSBs serving take-out food may provide plastic carryout bags.  Low-income customers who qualify for food assistance programs are provided paper bags at no charge. Small paper bags can be provided for free to all customers.

## Chapter 2: Literature Review

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### Overview

Our literature review has five primary objectives:

- Provide an overview of prior year research findings on bag ban compliance rates.
- Highlight relevant background information on the convenience store industry.
- Position SPU's bag ban policy within the larger framework of regulation policies.
- Compare compliance, enforcement, and outreach methods used in other Washington cities with bag bans to identify successful strategies that can be used by the City of Seattle.
- Summarize behavior change principles relevant to discouraging single-use plastics.

To accomplish these objectives, we reviewed a combination of peer-reviewed literature, grey literature, SMC, and internal SPU documentation. Refer to the sub-sections below for detail on specific sources and methodology by research area.

### 2017 Evans Consulting Team Findings

While Seattle's bag ban has been in effect since 2012, Seattle City Council ("the Council") has approved subsequent ordinances to expand SMC Section 21.36.100. In 2016, the Council passed Ordinance No. 125165 which removed the sunset date for paper bag charges, outlined rules on plastic bag tinting, and defined 'compostable'.

As part of this ordinance, the Council issued several annual reporting requirements to SPU for 2017 through 2021 (Seattle Municipal Code, 2016), including updates on:

- Waste and litter reduction benefits of the City's bag ban program.
- Strategies for increasing bag ban compliance in all stores.
- Effectiveness of this ordinance in reducing the number of non-compostable bags contaminating the waste stream.
- Strategies to address the impacts of loose plastic bags on curbside recycling.

SPU utilized a previous Evans Consulting team to help them complete the 2017 update report to the Council. Our team's work expands on the prior team's work to fill qualitative information gaps and help inform SPU's July 1, 2018 bag update report.

We reviewed the 2017 Evans Consulting team findings in combination with SPU's final update report issued to Council noting the following key highlights:

- The majority of grocery stores, pharmacies, and clothing stores have stopped providing customers thin plastic carryout bags since the bag ban was implemented (Hara, 2017).
- Among businesses surveyed in 2017, convenience stores had the highest non-compliance rate at 56% (n=9). Five out of the nine convenience stores surveyed were found to be using non-compliant thin plastic carryout bags (Evans, Fina, & Pham, 2017).
- SPU will include a strategy specific to raising convenience store compliance rates in the 2018 update report to council (Hara, 2017).

These findings present an opportunity for SPU to further research convenience stores in Seattle to identify potential barriers to compliance with the ordinance, as well as ways to improve outreach, technical assistance, and enforcement initiatives.

## Convenience Store Industry Background

For the purposes of our research, we define a convenience store as a small retail business that sells a limited selection of products such as packaged foods, drinks, tobacco, and other small-ticket items. These stores often sell gasoline and are operated during extended hours, but these characteristics are not requirements for our definition.

According to the 2017 National Association of Convenience Stores (NACS)/Nielsen Convenience Industry Store Count, there are 154,958 convenience stores in the U.S. as of December 31, 2017 (National Association of Convenience Stores, 2017). Convenience stores make up 34.4% of all U.S. brick-and mortar retail stores and serve 160 million customers daily (National Association of Convenience Stores, 2017).

### *Products & Pricing*

The most common products sold in-store by convenience stores in 2016 include (National Association of Convenience Stores, 2016):

- |   |              |
|---|--------------|
| • Tobacco products                      | <b>36.0%</b> |
| • Prepared food and dispensed beverages | <b>21.6%</b> |
| • Packaged beverages                    | <b>15.0%</b> |
| • Snacks and candy                      | <b>9.8%</b>  |
| • Beer                                  | <b>6.8%</b>  |

Including gasoline and in-store sales, the convenience store industry's overall net profit margin was 1.85% in 2016. Products sold in-store tend to have a higher markup than grocery or other retail stores because convenience stores tend to order lower wholesale quantities at a higher cost and pay more per square foot for their convenient locations (National Association of Convenience Stores, 2017).

### *Convenience*

As the name implies, convenience stores are premised on their convenient location and quick service model. The average consumer spends only 3 minutes and 33 seconds per visit at convenience stores (National Association of Convenience Stores, 2017):

- |                                   |                   |
|-----------------------------------|-------------------|
| • Walking to / from car and store | <b>79 seconds</b> |
| • Selecting items                 | <b>71 seconds</b> |
| • Waiting in line and paying      | <b>63 seconds</b> |

### *Food Deserts*

The USDA reported in 2009 that 2.3 million U.S. households are located in "food deserts," which are defined as urban areas more than a mile away from a supermarket. Many residents in food deserts do not have sufficient access to transportation, making it difficult to buy healthy and affordable food. Neighborhoods lacking traditional grocery store options often depend on convenience stores to meet their grocery shopping needs and purchase more items than other convenience store shoppers (United States Department of Agriculture, 2009). This scenario creates demand for carryout bags capable of holding more than the typical selection of small products purchased at convenience stores.



## Owners and Operators

Convenience store ownership typically operates under one of three general models (National Association of Convenience Stores, 2017):

- **Small business:** independently owned and operated.
- **Franchise:** store owners pay franchising fee and monthly royalties / advertising fees (examples include 7-Eleven and Circle-K stores).
- **Dealer license arrangement:** fuel distributor contracts with retailer and allows them to operate the store and sell branded fuel (examples include Shell and Chevron).

63.2% of convenience stores are owned and operated by an individual with only one store. Immigrants accounted for 27.7% of business owners in the Seattle area as of 2015, with retail trade as the third largest industry employing immigrant workers in Washington State (American Immigration Council, 2017). NACS reports that convenience stores are an appealing option for immigrants in the U.S. given that: (1) costs of owning and operating these small businesses are lower than other retail options, (2) convenience stores are often family-run businesses, cutting down on the costs of outside labor, and (3) the convenience store business model is familiar worldwide (National Association of Convenience Stores, 2017).

## Benchmarking Seattle's Policies against Standards

*The Tools of Government*, edited by Lester M. Salamon, is a professional public administration guide, lauded by policy academics, consultants, and researchers for providing a comprehensive framework of various policy tools and their functions (Oxford University Press, 2018). We reviewed "Chapter 5: Social Regulation" of this book, written by Peter J. May (Distinguished Professor Emeritus of American Politics at the University of Washington), to provide context for the structure of Seattle's bag ban and its enforcement methods.

Seattle's plastic bag ban fits the classic model of a social regulation policy tool which compels action by individuals and firms to improve overall public welfare (May, 2002). In line with May's definition of social regulation, the bag ban aims to induce behavior change by prohibiting businesses from providing plastic bags and charging customers for paper bags, indirectly encouraging individuals to shift towards reusable bags to reduce plastic pollution. According to May, social regulation policies consist of the components outlined in Table 2.

**Table 2:** *May's components of social regulation applied to Seattle's bag ban (May, 2002).*

May's Components	Seattle's Application of Each Component
Rules that govern expected behaviors or outcomes.	SMC 21.36.100 outlines the formal rules regarding the bag ban, its exceptions, and associated definitions.
Standards that serve as benchmarks for compliance.	SMC 21.36.100 outlines the standards for acceptable plastic bag use ( $\geq 2.25$ mm), paper bag use (\$0.05 fee, $\geq 40\%$ recycled content and labeled as such), and tinting (mandatory for compostable bags, prohibited for non-compostable bags).
Sanctions for noncompliance with the rules.	\$250 fine.
Administrative apparatus that enforces the rules and administers sanctions.	The city provides a hotline for individuals to call and report plastic bag use. Outreach specialists inspect reported stores and provide technical assistance to promote compliance. Routine inspections of any retail business may occur throughout the city with or without hotline notifications.

May's framework acknowledges that for most social regulations, "enforcement typically rests heavily on voluntary reporting by regulated entities as well as infrequent inspection". May highlights three paths that regulators take to induce compliance with regulations (May, 2002):

- **Coercive:** threats of fines or other penalties for non-compliance
- **Incentive:** rewards for compliance
- **Facilitative:** removing barriers or providing assistance, making it easier to comply

Since the inception of the bag ban in 2012, Seattle has taken a facilitative approach to induce compliance among businesses. While the coercive threat of a fine for non-compliance is included in the ordinance language, fines have not been imposed on any businesses to date.

Our surveys of convenience stores align with May's advice to "target those regulated entities that historically have high rates of violations" (May, 2002). One of the primary goals of our survey fieldwork is to identify barriers that discourage compliance with the bag ban and provide recommendations on how to best overcome these barriers.

In line with SPU's collaborative approach towards a "community-centered utility committed to equitable service for all customers," our recommendations focus on enhancing existing facilitative methods and piloting new facilitative and/or incentive strategies to improve bag ban compliance rates (Seattle Public Utilities, 2018). While we suggest reserving coercive methods as a last resort, we propose a framework for issuing sanctions in the "Recommendations" section (Chapter 5) of this report.

## Bag Ban Policy Comparison

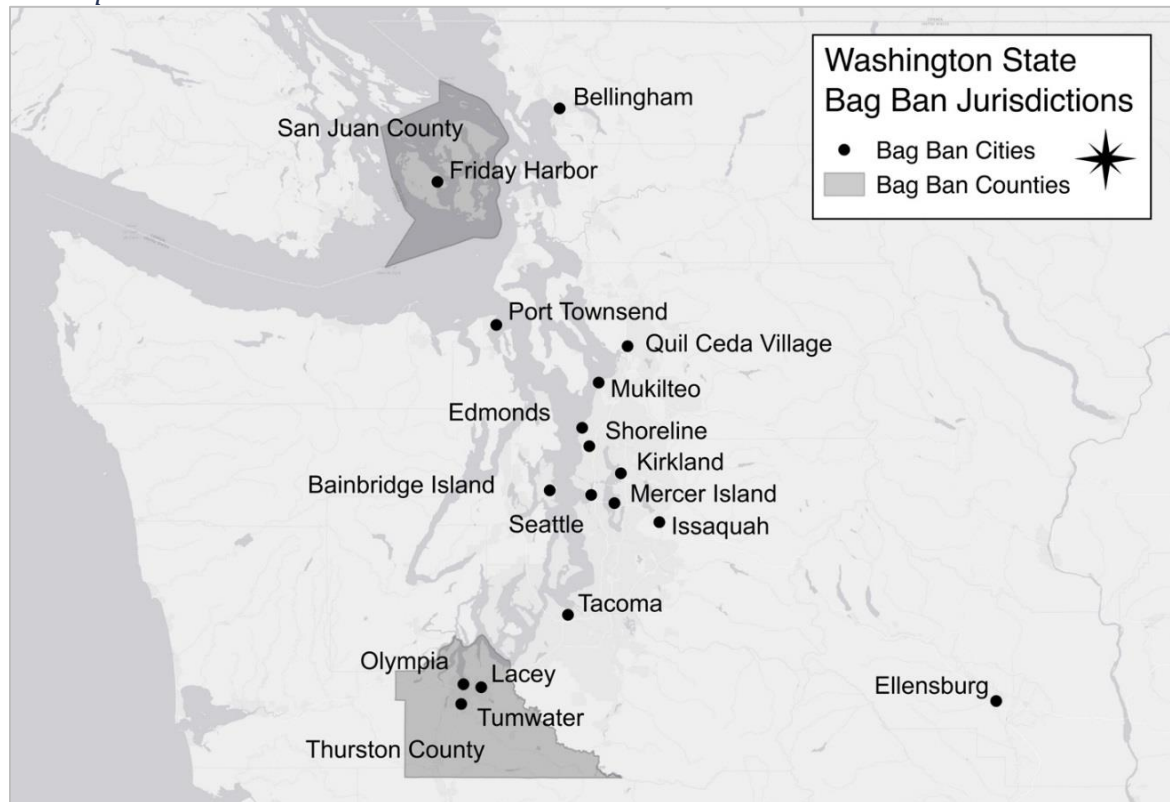
In addition to Seattle, there are 16 cities in Washington State that have banned plastic bags, as well two counties that maintain a bag ban in their unincorporated areas (Figure 4). Seattle was one of the first cities in Washington to implement a plastic bag ordinance in 2012. Edmonds was the first Washington city to ban plastic bags in 2010. Ellensburg, the only east-side city with a ban, began regulating the use of plastic bags in January of 2018.

Using local governments' public websites and published reports, we compared Seattle's bag ban to similar policies throughout Washington State. We present below the most salient differences in the policy design, outreach and education initiatives, and enforcement strategies as considerations for SPU. Refer to Appendix B for a full list of all Washington bag ban cities with a description of their specific regulations.

### *Outreach and Education*

Most of the cities that have instituted a bag ban provide specific bag ban information on their websites. City websites offer residents and businesses resources on the specific regulations for their municipality. Many cities have printable outreach materials, including point-of-sale bulletins that businesses can use to encourage customers to bring their own bag (refer to Appendix E for examples). Ten of the sixteen cities we examined use "Bring Your Own Bag" messaging in their outreach materials (as opposed to "Bag Ban" messaging). Two cities use slight variations: "One Less Bag" and "Choose Renewable."

**Figure 4:** Geographic overview of bag bans in Washington State. There are 17 cities in Washington with a bag ban, including Seattle. Two counties in the state also have a ban on plastic bags in their unincorporated areas.



Very few cities provide information on the purpose and rationale for their bag ban. When a justification for the ban is provided, the message typically references environmental reasons like reducing marine debris and litter, for example:

The **City of Issaquah's** bag ban flyer includes a list of frequently asked questions. One question asks, "Why do these rules exist?" The city justifies the ban saying: "Using durable, reusable bags on a regular basis has the greatest environmental benefit" (City of Issaquah, 2018).

The **City of Edmonds** explains how reusable bags are "a better idea" and notes that "making a conscious effort to use reusable bags instead of single-use bags is ecologically and economically beneficial. Using reusable bags conserves energy and natural resources, reduces waste in landfills, diminishes litter, and promotes a cleaner environment" (City of Edmonds Washington, 2018).

**Mercer Island** is perhaps the most explicit in their justification for the ban. On their website, the city's intent behind limiting single-use plastic carryout bags is clearly stated as: "to reduce plastic litter in our cherished and vital aquatic environment that completely surrounds the island, minimize harm to fish and other marine animals, and encourage consumers to purchase more sustainable, long-lived, reusable bags" (City of Mercer Island, 2018).

Some businesses and residents are finding creative solutions for carrying purchases. For example, Tacoma's Bag Share Program provides locations at community centers throughout the city where people can drop off or pick up clean reusable bags (City of Tacoma Washington, 2018). In Thurston County, some retail stores' alternatives to plastic bags include: not providing bags for easy to carry items, providing recycled bags and cardboard boxes, and selling reusable bags (Cunningham Environmental Consulting, 2016). A few stores stopped providing bags of any kind.

### *Enforcement Strategies*

Most Washington cities with bag bans have a \$250 penalty for non-compliant businesses. Some cities' enforcement mechanisms start with a warning for the first offense followed by a \$250 fine for subsequent offenses. Every city appears to prefer a facilitative approach to enforcement, using outreach and education tactics rather than issuing fines.

### *Compliance Rates*

Besides Thurston County and Seattle, Washington cities have not studied the compliance rate of their bag bans. Seattle and Thurston County are the only jurisdictions that have conducted formal reviews of their bag ban policies. Our team asked the staff of several Washington cities about their perceptions of bag ban compliance. Interviewed staff reported that compliance in their city meets their expectations and was generally high overall. This anecdotal evidence of compliance was also conveyed in Thurston County's *2016 Plastic Bag Ban Evaluation Report* (Cunningham Environmental Consulting, 2016).

On behalf of Thurston County, Cunningham Environmental Consulting conducted interviews with city staff from Bellingham, Edmonds, Mercer Island, Issaquah, and Seattle. Their interviews found that overall bag ban compliance is "good." Each of these cities (except for Seattle) rely on customers to report non-compliant stores (Cunningham Environmental Consulting, 2016). In our interviews with the representatives of the cities of Bellingham and Mercer Island, staff reported no complaints of non-compliance, while the representative of the City of Edmonds said that there were only two reports of plastic bag use.

The Thurston County Bag Ban Evaluation Report notes the following key findings on the effectiveness of the county's bag ban (Cunningham Environmental Consulting, 2016):

- Plastic bags made up 0.53% of the city's waste stream prior to the ban.
- Plastic bag waste decreased to 0.25% of the waste stream shortly after the ban came into effect. This difference equates to 382 tons fewer plastic bags in the waste stream.
- 55% of businesses report that 10% or fewer of their customers bring their own bags.
- Customers are more likely to bring reusable bags to grocery stores than other types of stores.
- 48% of businesses said that since the bag ban was implemented they provide at least 50% fewer bags to customers.
- 16% of businesses have stopped providing any type of bag.
- Litter pick-up crews in Olympia, Tumwater, and along major roadways observed a reduction in plastic bag litter.

## **Behavior Change Principles**

We reviewed three primary sources as part of our literature review on behavior change principles:

- *"Changing Behavior – A Public Policy Perspective"* released by the Australian Public Service Commission (APSC) is a publication designed to help government and public servants make

the best choices. It draws from different theories and empirical evidence on behavioral change and, on a case-by-case basis, from trialing different models for different situations.

- *“Public Policy Approaches for the Reduction of Plastic Bag Marine Debris,”* prepared by a team of graduate consultants from Columbia University for the Ocean Conservancy, an organization that is actively involved in international coastal cleanup efforts, is a report identifying ways to cut down on plastic bag use.
- *“Make Behavior Change Easier,”* published by the Center for Research on Environmental Decisions (CRED), is a guide on the psychology of climate change communication.

The behavioral change theory that underlies many public policies is the rational choice model, which assumes people rationally seek to maximize their welfare (Australian Public Service Commission, 2007). The theory posits that people assess the choices available to them and select the one that maximizes their net benefits. Governments provide information to consumers with the intent to influence behavior by applying this underlying assumption of the rational choice model: if people know that certain behaviors can lead to adverse consequences, they will make an effort to reduce or eliminate such behaviors. For example, to foster compliance and reduce plastic waste, the City of Seattle informs local businesses that non-compliance with the plastic bag ban may result in a \$250 fine per violation.

However, implementation and enforcement of such regulations aside, the rational choice model has its limitations from a behavioral change perspective (Australian Public Service Commission, 2007). For many social policy problems, human behavior is complex and hard to predict. For example, people may continue to make unhealthy lifestyle choices despite knowing that such choices will cause them long-term harm. The rational choice model tends to ignore the other influences on human behavior, such as the power of peer pressure and expectations, and key motivators other than self-interest (Australian Public Service Commission, 2007).

It can also be difficult for individuals to accurately estimate future costs and benefits, particularly if there are relatively high levels of uncertainty around them. These limitations, if not addressed and dealt with, can have a negative impact on the effectiveness of policies and associated rates of compliance. The following behavioral change theories and strategies help shed light on the pertinent environmental policy compliance barriers facing the City of the Seattle.

#### *People tend to heavily discount future benefits*

Most people heavily discount future costs or benefits, compared to immediate costs or benefits. The further into the future, the more future costs and benefits will be discounted. Due to discounting, promoting the benefits of the desired behavior can be especially difficult in health and environmental areas where the benefits are long-term and tend to vary. For example, it is difficult to give up smoking when the harmful effects of tobacco are neither immediate nor obvious—most only manifest after years of smoking. Similarly, when people heavily discount the benefit of a healthier environment (e.g. less plastic waste in the oceans) in the distant future, they become less incentivized to comply with environmental regulations that aim to reduce the use of plastics.

While all people tend to discount, those living chaotic or impoverished lives have especially high discount rates as a result of their immediate circumstances, making it less likely that they will make longer-term investments in their health, welfare, or education (Halpern, et al., 2004). The APSC suggests presenting benefits to individuals in the most compelling way whenever possible (Australian Public Service Commission, 2007). For example, many public health messages emphasize exercise for its health benefits; however, many people value exercise because of its

superficial benefits in making them appear more attractive (Kotler & Lee, 2007). The APSC suggests that we leverage this link to help improve compliance by emphasizing the benefits of the new behavior (and the disadvantages of the old behavior) as close to the present time as possible.

*Non-monetary incentives can help motivate behavioral changes*

Giving people an immediate incentive in the form of recognition and appreciation can make behavior change easier. APSC offers the example of issuing window stickers to recognize businesses that adopt environmentally friendly practices (Australian Public Service Commission, 2007).

*Cognitive consistency can be contingent on convenience*

Cognitive consistency theory states that people are motivated to seek consistency between their beliefs, values and attitudes, and their behaviors (Australian Public Service Commission, 2007). However, there are limits to the effectiveness of such commitments, particularly those made without other supportive measures (Australian Public Service Commission, 2007). There is strong evidence, for example, that people do not always behave in a way that is consistent with their attitudes and beliefs, even if they have promised commitment. This gap is particularly acute for environmental issues (Collins, Thomas, Willis, & Wilsdon, 2003). Convenience is a major factor in these cases: people are less likely to stay committed to things like recycling if it is inconvenient to do so. Similarly, they are less likely to use reusable bags if it requires extra effort to remember and to prepare for mundane trips to the convenience or grocery store.

*Outreach and communication needs cultural and demographical specificity*

A non-targeted approach to communication may be particularly ineffective for population subgroups with diverse and unique cultural backgrounds (Australian Public Service Commission, 2007). Therefore, outreach materials and communication styles targeting a certain subgroup are most effective when tailored specifically to people within that community (recognizing that each culture is also heterogeneous). Groups that may require specialized tailoring, as suggested by the APSC, include: recent immigrants (especially those with language barriers), low-income populations, the elderly, and young people.

*Provision of assistance can improve public acceptance*

A provision to mitigate financial hardship is important for gaining public acceptance of a fee-based policy (Murdoch, 2009). In a case study comparison report prepared by a team of Columbia University graduate consultants for The Ocean Conservancy, the authors note that one of the most effective features of the Anacostia River Cleanup and Protection Act of 2009 was the requirement that the District Department of Environment provide a total of 122,000 reusable carryout bags to low-income households, as they anticipated the public would perceive the regulation as disproportionately burdening low-income residents with the \$0.05 bag fee (John Williams, 2012).

## Chapter 3: Research Methodology

### Overview

To collect information on usage rates of bags, straws, and utensils, we conducted in-person surveys of 105 Seattle businesses. Our goal was to identify the bag ban compliance rate among convenience stores and develop baseline usage rates for straws and utensils among food service businesses. We support our quantitative data with qualitative feedback collected from interviewees to understand the diverse perspectives of individuals based on their experience as a business owner, manager, or employee.

We focused primarily on collecting data from convenience stores to estimate compliance rates in this market sector and uncover compliance barriers for stores that continue to offer plastic bags to their customers. We present baseline usage data on straws and utensils and identify preliminary roadblocks that may hinder compliance when the non-compostable straw and utensil ban goes into effect on July 1, 2018. The in-person survey visits also served as an opportunity to share SPU's outreach materials regarding these ordinances and raise awareness of SPU's technical assistance services.

Summarized in Table 3, our team collaborated closely with SPU to build two surveys that facilitate in-person observation and inquiry of businesses' use of plastic bags, straws, and utensils.

*Table 3: Survey targets, sample size, and goals.*

	<b>Survey 1: Bags</b>	<b>Survey 2: Straws/Utensils</b>
<b>Survey Target</b>	<ul style="list-style-type: none"><li>• Convenience stores</li></ul>	<ul style="list-style-type: none"><li>• Convenience stores</li><li>• Coffee, bubble tea, and smoothie shops</li><li>• Quick-serve restaurants and cafes</li><li>• Strawless in Seattle participants</li><li>• Other FSBs</li></ul>
<b>Sample Size</b>	<ul style="list-style-type: none"><li>• 70 convenience stores</li></ul>	<ul style="list-style-type: none"><li>• 70 convenience stores</li><li>• 35 additional FSBs selected from target groups above</li></ul>
<b>Survey Goals</b>	<ul style="list-style-type: none"><li>• Identify compliance rates and bag usage</li><li>• Understand barriers to compliance</li><li>• Collect feedback on policies</li><li>• Provide outreach materials and offer technical assistance</li></ul>	<ul style="list-style-type: none"><li>• Identify baseline straw and utensil usage</li><li>• Inform businesses of upcoming ban on non-compostable straws and utensils</li><li>• Collect feedback on policies</li><li>• Provide outreach materials and offer technical assistance</li></ul>

### Identification of Population & Sampling Methodology

#### *Bag Ban Compliance Survey*

Our bag ban compliance survey targets convenience stores, which are defined as businesses that sell a limited selection of products such as packaged food items, drinks, tobacco, and other small-ticket items. This definition includes chain stores and gas stations. We excluded stores with a deli, full food service counter, or sit-down area for customers, as these businesses are technically allowed to offer their customers plastic carryout bags for take-out food.



We manually created a population listing through a combination of methods:

- 1) We obtained a listing of all businesses with a permit to sell food in Seattle from the King County Health Department and manually selected all business names that contain any of the following key words: convenience, store, express, mart, market, grocery.
- 2) Using the same health department listing we included big name convenience stores such as 7-Eleven and gas stations such as Chevron and Shell.
- 3) In addition to the health department listing, we searched for businesses with NAICS code 445120 (convenience stores) on the “City of Seattle Business License Database”. Business applicants self-select NAICS codes when applying for their license.
- 4) We further validated the combined listing created via steps 1-3 above by checking the business names and addresses against business listings on Google and Yelp to preliminarily determine whether the business met the criteria of a convenience store per our definition above.

We used the listing of 201 convenience stores created in steps 1-4 above as our survey population. Given the manual nature of the process used to identify our population, we recognized that our list of convenience stores was subjective and potentially incomplete. We discussed these limitations with SPU who approved our methodology before we selected our sample and conducted survey fieldwork.

Using the population identified above, we systematically assigned a four-digit reference number to each business using Microsoft Excel’s RANDBETWEEN function, which returns a random number within the range specified (1111 through 9999). We sampled 70 convenience stores from the population by selecting the ten stores with the lowest randomized reference numbers from each of the seven Seattle Council Districts. There are two notable exceptions to this general methodology:

**Council District 3:**

We selected Council District 3 as our pilot neighborhood for testing the efficacy of our survey. We sampled businesses in this council district based primarily on their relative proximity to each other to maximize the number of stores we could visit in one outing. SPU approved of this approach.

**Resamples:**

Any stores that were selected as a sample but not surveyed (as they did not meet our definition of a convenience store or were permanently closed) were replaced with another store within the council district based primarily on geographic convenience for the survey team, given the limited amount of time available in the field. SPU approved of this approach.

*Straws & Utensils Baseline Survey*

To maximize the utility of each site visit, we incorporated our straw and utensil survey into convenience store bag ban survey visits wherever applicable. In addition to these convenience store samples, we also identified a population of FSBs that SPU was most interested in surveying to develop a baseline understanding of straw and utensil usage. Using the same health department listing noted above, we manually selected a targeted sample of five coffee shops, smoothie and bubble-tea cafes, quick-serve restaurants, cafes, and other miscellaneous FSBs from each of the seven council districts based on direction from SPU (total sample size = 35).

We also included in this sample one restaurant that signed the Lonely Whale’s “Strawless in Seattle” pledge to provide only marine compostable (paper) straws upon request in September 2017. The



Lonely Whale is a non-profit organization that organized the Strawless in Seattle campaign and worked closely with SPU to encourage Seattle businesses and residents to forgo using straws or choose compostable paper straws as an alternative.

## Survey Design

We administered surveys in-person at each sampled business. Before approaching employees with questions, we first observed as many details as possible to determine if the store is in compliance with the bag ban and/or if they are using non-compostable straws and utensils. When certain information was unobservable, we inquired of the business after approaching store employees and offering a brief introduction:

*"Hi, my name is \_\_\_\_ ; I am a graduate student at the University of Washington conducting a research project for the City of Seattle on the bag ban [and/or "upcoming plastic straw and utensil ban," if applicable]. Do you have five minutes to talk with me? Any information you provide will be kept confidential."*

Refer to Appendix A for actual surveys used in the field as well as a summary of our survey design and the objective of each component.

## Data Collection & Analysis Process

For each sampled business, our team observed as much information as possible before approaching staff. If staff agreed to participate in the survey, we asked as many of the survey questions as possible and documented all the responses directly on survey forms. We report all data collected from the surveys here in aggregate to avoid providing any identifying information that could be traced back to individual businesses. If businesses requested technical assistance or outreach from SPU, we verbally confirmed that we had the individual's explicit consent before providing their contact information to SPU for follow-up.

The goal of our data analysis step is to evaluate the feedback that we collected through our two surveys, and use the information to answer our research question, *"How can the City of Seattle improve businesses' compliance with regulations restricting the use of single-use or landfill bound disposable plastic?"*

### Data Preparation

Our team used the following process for capturing and coding survey data:

- 1) Input survey questions into a spreadsheet in columns from left to right, and sampled convenience stores in rows from top to bottom (refer to Table 4 for example).
- 2) Code survey responses into numbers (if they are not already numbers).
  - a. For example, 0 = No, plastic carryout bags not observed; 1 = Yes, plastic carryout bags observed.
- 3) Categorize open-ended questions into several general themes and replace the individual responses with these themes (coded like step 2) consistently. Refer to the "Data Analysis Procedure for Open Ended Questions" section below for details on how these responses are coded.
- 4) Add a new column ("Compliance") that categorizes a convenience store as either "in compliance," "not in compliance," or in partial compliance (e.g. 0 = not in compliance, 1= in compliance, 2= partial compliance).

**Table 4:** Example of survey results data spreadsheet.

Sample Reference No.	Respondent Type	Q1	Q2	Council District	Compliance
1	1	2	2	1	1
2	1	3	2	2	1
3	2	0	0	3	0

#### *Sample Statistics Calculations*

- 1) Summarize data to determine descriptive statistics of the responses.
- 2) Use a histogram to show the frequency of responses. For example: identify areas where noncompliance is high (e.g. 7/10 convenience stores still provide plastic bags), barriers to compliance (e.g. 5/10 of convenience stores think “the cost of replacing plastic bags with paper bags is too high”), and other qualitative data.
- 3) Aggregate data by council district to identify differences across the city.
- 4) Determine whether there is an association between the variables and the outcome of compliance. For example, we looked at compliance as it relates to:
  - Council district
  - Independent vs. chain convenience stores
  - The respondent’s opinion of the bag ban based on their role in the store (employee, manager, owner)
  - Language barriers

#### *Data Analysis Procedure for Open-Ended Questions*

We used the following procedure to code and analyze responses to open ended questions:

- 1) The team created a preliminary list of observed themes based on survey responses.
- 2) Team members coded the responses into common themes:
  - a. For example, if one business says that “paper bags are too expensive” and another says, “plastic bags don’t cost as much,” we code the responses under the theme of “cost”.
  - b. We created new coding themes for responses that did not fall under the predetermined themes.
  - c. When businesses provided multiple responses to questions, we coded each response into the appropriate theme and included it in the analysis.
- 3) We then tallied the coded responses under each theme. We analyzed each theme by identifying patterns and trends to develop a descriptive narrative of the responses. This method allowed us to go into greater detail about the respondents’ thoughts and opinions of the ban, SPU’s outreach methods, and how the ban has affected their store.

## Chapter 4: Findings and Analysis

### Overview

In this chapter we summarize the findings from our surveys of 70 Seattle convenience stores and 35 FSBs. First, we present a quantitative summary of our bag ban survey results, looking at overall compliance and awareness of the plastic bag ban. We support this summary data with an analysis of our qualitative findings. The second part of this chapter summarizes our straw and utensil survey results to establish a baseline of usage and provides potential barriers to compliance.

Note that not every interviewee responded to every survey question. As such, our population numbers (n=) vary throughout this section. Percentages are reported based on total respondents to each question, not necessarily total surveyed businesses.

### Summary of Bag Ban Survey Data

Table 5 summarizes the frequencies of observed bags at convenience stores by council district and bag type. 20% of sampled businesses provide thin plastic carryout bags, 20% provide large paper bags, and 100% provide small paper bags. Our team observed thick plastic carryout bags at only two sampled stores and clear produce bags (provided for donuts and pastries in display cases) at four sampled stores.

*Table 5: Bag usage frequencies by bag type and council district.*

Council District	Thin Plastic	Thick Plastic	Large Paper	Small Paper	Produce
1	3	0	0	10	0
2	3	0	4	10	1
3	2	1	4	10	0
4	1	1	3	10	2
5	2	0	2	10	0
6	0	0	1	10	0
7	3	0	0	10	1
<b>Totals</b>	<b>14</b>	<b>2</b>	<b>14</b>	<b>70</b>	<b>4</b>

We categorized each sampled store into one of three groups:

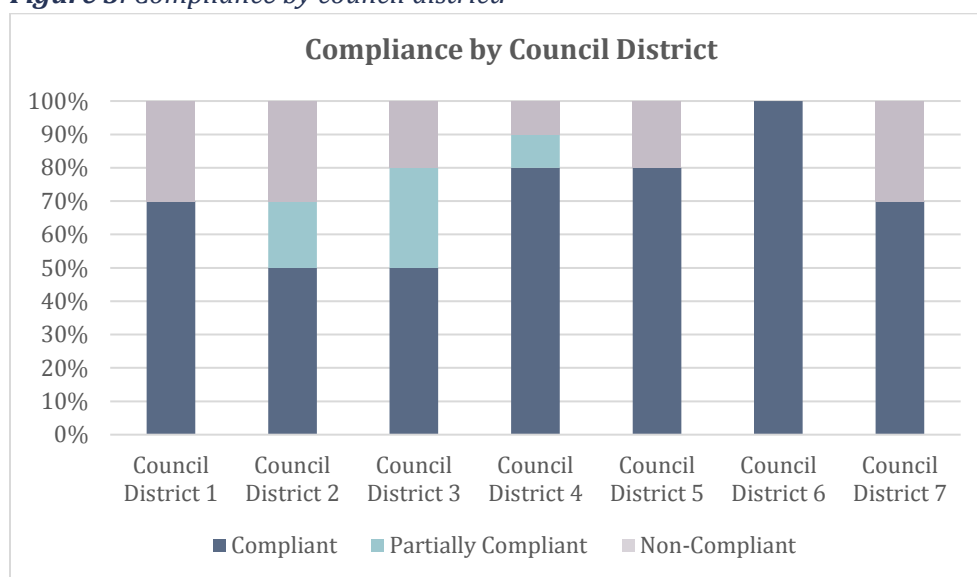
- **Compliant (C):** does not use thin plastic carryout bags and if using large paper bags, charges at least \$0.05 per bag.
- **Partially Compliant (PC):** does not use thin plastic carryout bags. Provides large paper bags but charges less than the required \$0.05 (or does not charge at all).
- **Non-Compliant (NC):** uses thin plastic carryout bags.

We observed an overall non-compliance rate among convenience stores of 20%, which is significantly lower than the 56% non-compliance rate observed by the 2017 Evans Consulting team, summarized in Table 6. This difference could be attributed to SPU outreach and inspection efforts and/or misleading results from the prior year survey data due to small sample size (nine total convenience stores). As shown in Figure 5, non-compliant convenience stores in our sample are distributed relatively evenly across all council districts with a range of 0%-30% non-compliance.

**Table 6: 2017 and 2018 convenience store survey results.**

Council District	2018 Results					2017 Results				
	Sample Size	C	PC	NC	NC Rate	Sample Size	C	PC	NC	NC Rate
1	10	7	0	3	30%	2	1	0	1	50%
2	10	5	2	3	30%	1	0	0	1	100%
3	10	5	3	2	20%	0	N/A	N/A	N/A	N/A
4	10	8	1	1	10%	0	N/A	N/A	N/A	N/A
5	10	8	0	2	20%	1	0	0	1	100%
6	10	10	0	0	0%	4	1	1	2	50%
7	10	7	0	3	30%	1	1	0	0	0%
<b>Totals</b>	<b>70</b>	<b>50</b>	<b>6</b>	<b>14</b>	<b>20%</b>	<b>9</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>56%</b>

**Figure 5: Compliance by council district.**



## Non-Compliant Convenience Store Themes & Compliance Barriers

### Language Barriers – 43% (n=14)

Our team experienced communication difficulties with six of the 14 non-compliant convenience store interviewees due to language barriers. One of these interviewees did not wish to speak to our team due to language barriers and did not provide any response to our survey questions. The following themes summarize the responses from the remaining 13 non-compliant convenience store interviewees (n=13).

### Incomplete Understanding of the Ban or Unawareness – 38% (n=13)

Four of 13 interviewees responded that they were not aware of Seattle’s plastic bag ban. One interviewee responded that they were aware of the ban and that they were compliant. However, our team observed that they were actually using a “greenwashed” version of a non-compliant thin plastic carryout bag, with “100% Recyclable” printed on the front (Figure 21).

When asked if they understood Seattle's rationale for the bag ban, respondents said:

- Not sure (6).
- Environmental reasons (5).
- It is better to use paper (1).
- To reduce litter (1).

#### *Customer Preference for Plastic Bags – 77% (n=13)*

Ten of 13 interviewees reported their customers' preference for plastic bags as a primary reason for non-compliance, responses summarized below:

- Most customers want or prefer plastic bags because they: have handles, can carry more items, are stronger, and can be reused as garbage bags. Paper bags: fall apart in the rain, are not as strong as plastic, and are inconvenient.
- Frequent/repeat customers prefer plastic.
- Customers from the geographical or cultural community prefer plastic.
- Customers demand plastic bags and get aggressive and confrontational if not provided. Employees feel unsafe interacting with hostile customers about bags, so they just provide them to avoid the confrontation.
- Customers that do not have vehicles walk to their store. Many of their customers do their grocery shopping at the store (grocery stores are one or more miles away) and need a sturdier bag to carry more items.

We observed six of 14 (43%) non-compliant convenience stores using black-tinted thin plastic carryout bags. One interviewee explained that their store only provides these bags for alcohol purchases and that customers prefer this type of bag to conceal purchases.

#### *Other Reported Barriers to Compliance (n=13)*

In addition to the commonly reported barriers above, interviewees provided the following barriers:

- It is unfair that businesses have to "enforce" the city's policies: they did not come up with the law, but they are required to enforce it at their business.
- The city's policies are out of touch with "real people".
- Seattle has too many rules / policies for businesses to comply with.
- Other neighboring cities have different rules: it's confusing for businesses and customers.
- Enforcement should be fair to all businesses: why would they comply if other nearby businesses do not?

#### *Technical Assistance to Promote Compliance (n=9)*

Nine interviewees responded to our survey question asking whether technical assistance would help promote compliance at their business. Responses included:

- Do not need assistance / not interested (5).
- Interested in offering reusable bags from SPU to customers (2).
- Not sure (2).

### *Enforcement through Monetary Penalties to Promote Compliance (n=7)*

Seven interviewees responded to our survey question asking whether monetary penalties would promote compliance at their business. Responses included:

- No, we would continue providing plastic bags even if fined (3).
- Yes (2).
- The city would have to provide us with alternative solutions first (1).
- No, employee safety is a higher priority (1).

### *Customer Feedback to Promote Compliance*

Six interviewees responded to our survey question asking whether customer feedback would promote compliance at their business. Responses included:

- Customers only ask for plastic bags, so this question is not relevant (3).
- Yes, but customers like plastic so it is unlikely (3).

### *Communication Preferences*

When interviewees were asked how they heard about the bag ban, respondents said:

- SPU visited the store / SPU fliers in the mail (2).
- News (2).
- Television (1).

When interviewees were asked how they prefer to hear about these types of policies, two respondents said, “on the news”.

## **Partially Compliant Convenience Store Themes & Compliance Barriers**

We observed 14 stores providing large paper bags to customers, six of which were not charging at least \$0.05 (43%). One of the partially compliant convenience store interviewees did not wish to speak to our team and did not provide any response to our survey questions. The following themes summarize the responses from the remaining five partially compliant convenience store interviewees (n=5).

*Awareness:* all respondents said they were aware of the bag ban (n=5).

- The ban was already in effect when they moved to Seattle (2).
- Heard about it on the news (1).
- Heard about it through word of mouth, would prefer to hear about it on the news (1).

*Bag Ban Rationale (n=4):*

- All respondents said the ban was implemented for environmental reasons (4).

*Thoughts on the Bag Ban (n=4):*

- It is good for the environment (3).
- It is good to cut down on plastic, but unsure if increase in use of paper is better (1).

*Business Transition (n=3):*

- Was not in Seattle when bag ban took effect (2).
- It is only a small cost for the store, not a big deal (1).

#### *Customer Transition (n=5):*

- Plastic bags are more convenient for customers, they have handles and carry heavy items better (1).
- Customers ask for plastic when it rains (1).
- Customers did not like paper bags at first, but now they are used to them (1).
- Customers do not ask for plastic anymore, they bring reusable bags (1).
- Not difficult (1).

### **Overall Trends and Perceptions**

#### *Language Barriers (n=70)*

We experienced a language barrier at ten of the 70 sampled convenience stores we visited (14%). Our team was able to observe the types of bags provided to customers at these stores; however, conversations were not possible or were limited due to language barriers. In addition to these ten interviewees, many of our survey respondents spoke English as a second language.

#### *Chain Stores (n=70)*

60% of the convenience stores we surveyed were chain stores (for example, franchises like 7-Eleven or dealer-license arrangements like Shell/Chevron). We observed higher rates of non-compliance at stores that were not part of a chain (Table 7).

**Table 7: Compliance by convenience store type.**

Store Type	Sample Size	C	PC	NC	NC Rate
Chain	42	33	3	6	14%
Not Chain	28	17	3	8	29%
<b>Totals</b>	<b>70</b>	<b>50</b>	<b>6</b>	<b>14</b>	<b>20%</b>

#### *Suppliers (n=17)*

17 interviewees provided a response when asked where they purchase bags. Nine of these respondents said that they shop at Costco and two said Cash & Carry. Other suppliers included 7-Eleven distributor, Core-Mark, Market Supply, McLand, Restaurant Depot, Sam's Club, and WinCo (one respondent each).

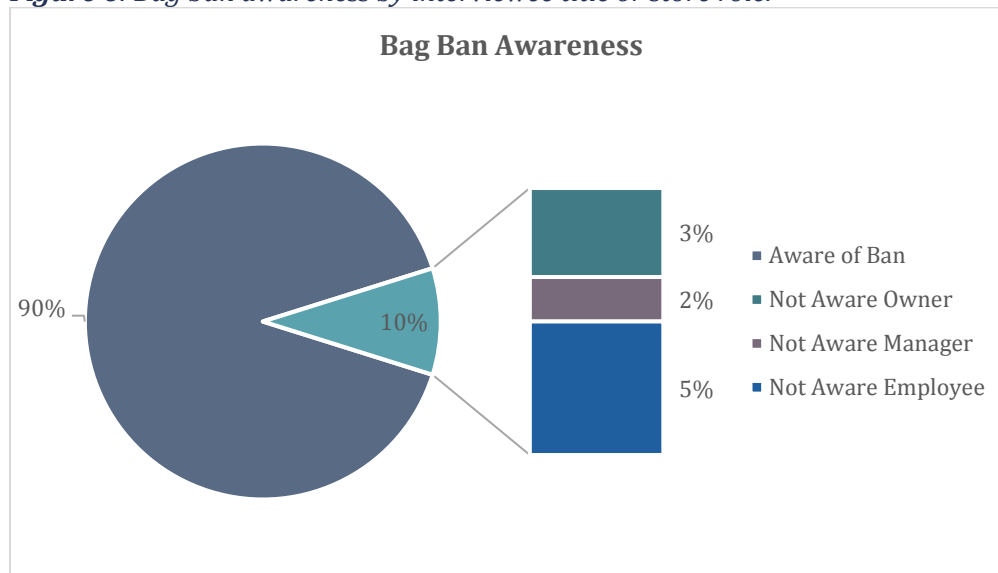
#### *Awareness (n=62)*

6 of 62 (10%) total respondents said that they were not aware of the bag ban, or our team determined through inquiry that they had an incomplete or incorrect understanding of the bag ban (Figure 6).

When interviewees were asked if they knew Seattle's rationale for the bag ban, 34 (64%) thought it was for environmental reasons generally while 14 (26%) were unsure (n=53). Other responses included:

- To reduce litter (2).
- Health reasons (1).
- Paper is better than plastic (1).
- It is just a city policy (1).

**Figure 6:** Bag ban awareness by interviewee title or store role.



### Charging for Bags

Table 8 summarizes observed bag charges. For stores that charge, the fee was \$0.05 per bag with the following exceptions:

- Two stores provide large paper bags for \$0.10 each.
- One store provides small paper bags for \$0.10 each.
- One store provides small paper bags for \$0.25 each.
- One of the two stores providing thick plastic reusable bags charges \$0.25 each.

**Table 8:** Summary of bag charges.

Bag Type	Charging	Not Charging	Total	% Charging
Thin Plastic	0	14	14	0%
Thick Plastic	1	1	2	50%
Large Paper	8	6	14	57%
Small Paper	13	57	70	19%
<b>Totals</b>	<b>22</b>	<b>78</b>	<b>100</b>	<b>22%</b>

### Perceptions & Feedback

Eight of the 70 convenience stores we surveyed were unwilling or unable to respond to our survey questions. As such, the following summary of perceptions and feedback is based on the responses from the remaining 62 interviewees (n=62).

We asked convenience store employees and owners to share their thoughts on Seattle's bag ban (n=62). Overall, the results are mixed with 23 (37%) holding negative perceptions, 21 (34%) holding positive perceptions, 8 (13%) with mixed perceptions, and 10 (16%) respondents were indifferent to the policy. The word cloud in Figure 7 was generated based on survey interviewee responses and visually summarizes recurring themes.

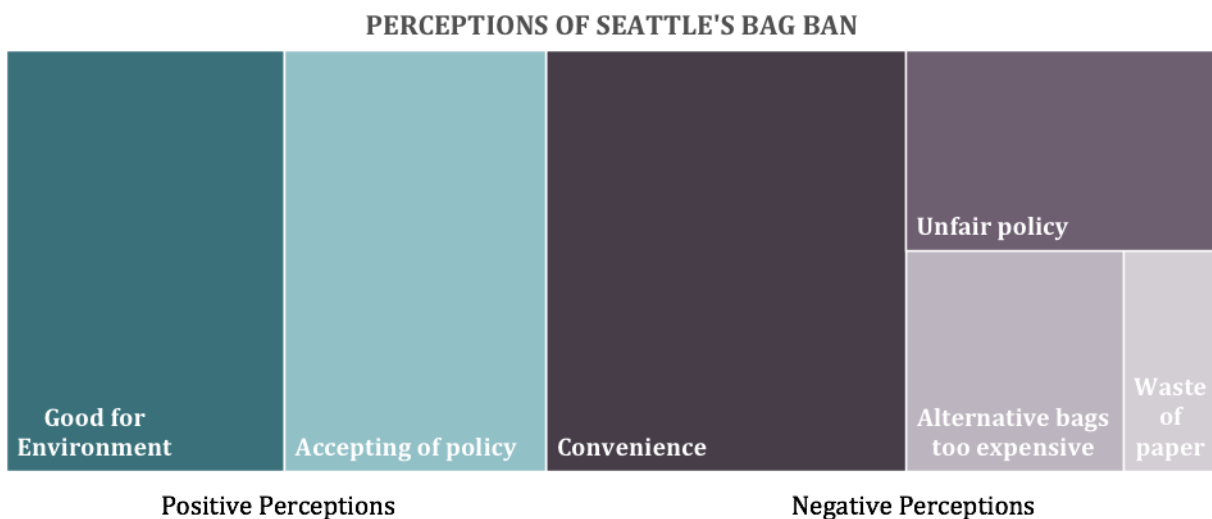




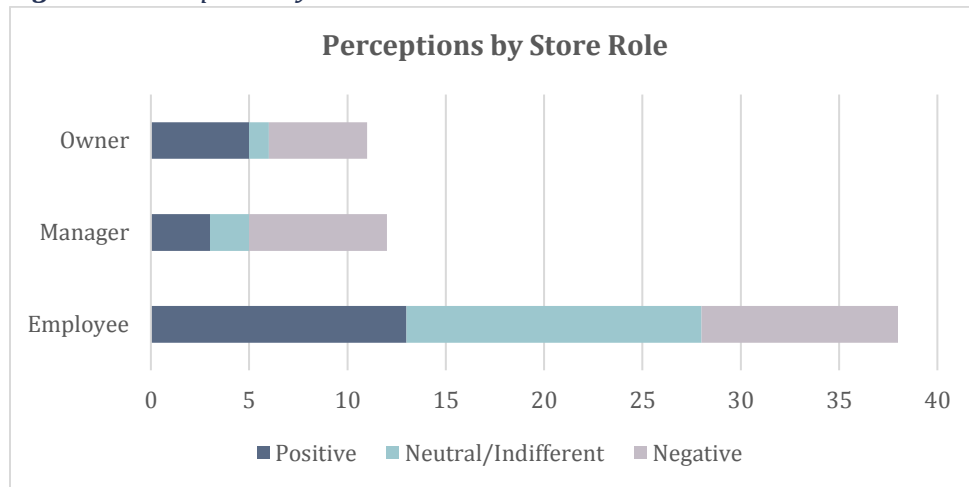
**Table 9:** Summary of positive and negative bag ban perceptions.

Positive Perceptions	
Good for environment	Does not like seeing plastic bags as trash on city streets
	Supports the ban because they are concerned about marine pollution
General acceptance	It's a good thing
	Feels it is better to use paper
	Customers are accepting of the policy
	Got used to the ban since it has been in place for a long time
	No strong feeling, accepts that this is just the way it is
Negative Perceptions	
Convenience	Not having plastic is an inconvenience for customers
	Customers ask for plastic and get angry when the store does not provide
	Plastic bags are needed for customers purchasing many items
	Paper bags are not sturdy and do not hold up when they get wet
	Customers like having handles on their bags
Unfair policy	Why isn't this ban everywhere?
	Unclear how these types of policies benefit "regular people"
	Restaurants still get to use plastic
	Seattle's small businesses pay too much in taxes (property tax and sugar tax)
Compliant bags are too expensive	Paper is more expensive than plastic
	Paying three times the cost of plastic bags
Waste of paper	The carbon lifecycle should be considered
	It takes more energy to make paper bags

**Figure 8:** Hierarchical summary of bag ban perceptions.



**Figure 9: Perceptions by role in store.**



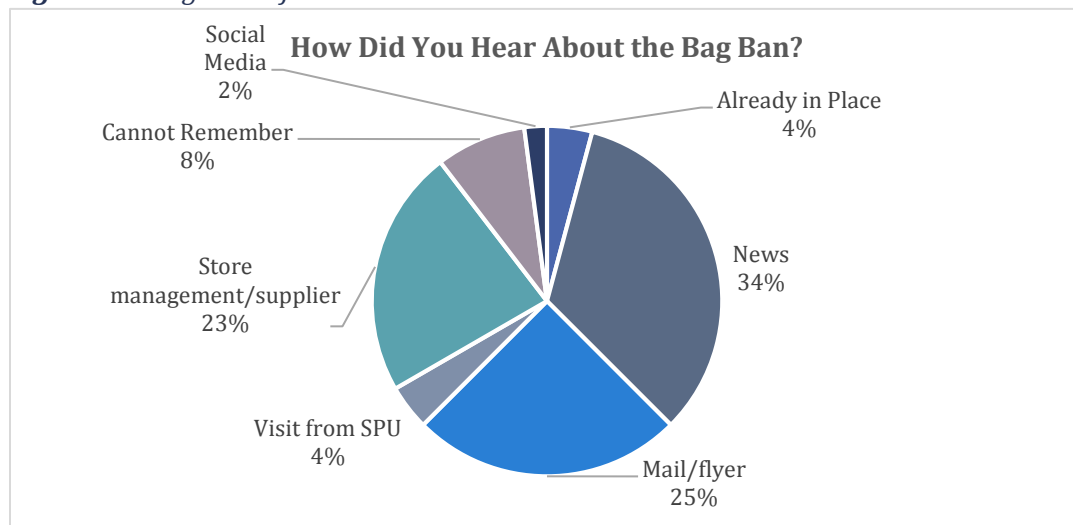
#### *Business and Customer Transition*

85% of respondents felt the transition away from using plastic bags was easy for their store but 68% said that the transition was difficult for customers (n=27). Eight of 50 (16%) respondents felt that their customers viewed the transition away from plastic bags positively. These respondents reported that their customers initially did not like the ban but got used to it over time. One respondent noted that their customers began bringing their own bags.

#### *Communication Preferences (n=48)*

Respondents reported that their primary source of information about the ban was the news; we include both television and print media in this category. The second largest source consisted of direct mail and/or the SPU bag ban flyer, followed by store management or store suppliers. Two stores reported that they had a visit from SPU and one said they learned about the ban on social media. Six people said that they did not remember, or the ban was already in place when they moved to Seattle (Figure 10).

**Figure 10: Bag ban information sources.**



## Summary of Straw and Utensil Survey Data

Table 10 summarizes the frequencies of observed straws and utensil usage, awareness, and perceptions at convenience stores and food service businesses. Data presented in this table may serve as the baseline measure for comparisons in the year(s) after the non-compostable straw and utensils ban goes into effect.

**Table 10:** Observed straw & utensil baseline summary.

	<b>Convenience Stores (70 stores)</b>		<b>Food Service Businesses (35 stores)</b>		<b>All (105 stores)</b>	
<b>Awareness of The Ban</b>	# of Respondents: 51		# of Respondents: 32		# of Respondents: 83	
	Aware: 12	24%	Aware: 18	56%	Aware: 30	36%
	Not Aware: 39	76%	Not Aware: 14	44%	Not Aware: 53	64%
<b>Non- Compostable Straw Usage</b>	# of Respondents: 70		# of Respondents: 35		# of Respondents: 105	
	Observed: 53	76%	Observed: 30	86%	Observed: 83	79%
	Not Observed: 17	24%	Not Observed: 5	14%	Not Observed: 22	21%
<b>Compostable Straw Usage</b>	# of Respondents: 70		# of Respondents: 35		# of Respondents: 105	
	Observed: 1	1%	Observed: 5	14%	Observed: 6	6%
	Not Observed: 69	99%	Not Observed: 30	86%	Not Observed: 99	94%
<b>Non- Compostable Utensil Usage</b>	# of Respondents: 70		# of Respondents: 35		# of Respondents: 105	
	Observed: 36	51%	Observed: 18	51%	Observed: 54	51%
	Not Observed: 34	49%	Not Observed: 17	49%	Not Observed: 51	49%
<b>Compostable Utensil Usage</b>	# of Respondents: 70		# of Respondents: 35		# of Respondents: 105	
	Observed: 0	0%	Observed: 8	23%	Observed: 8	8%
	Not Observed: 70	100%	Not Observed: 27	77%	Not Observed: 97	92%
<b>Perceptions</b>	# of Respondents: 20		# of Respondents: 27		# of Respondents: 47	
	Positive: 8	40%	Positive: 17	63%	Positive: 25	53%
	Negative: 3	15%	Negative: 5	19%	Negative: 8	17%
	Mixed: 2	10%	Mixed: 1	4%	Mixed: 3	6%
	Not Sure: 2	10%	Not Sure: 3	11%	Not Sure: 5	11%
	Don't Care: 5	25%	Don't Care: 1	4%	Don't Care: 6	13%

### *Awareness (n=83)*

30 of 83 (36%) total respondents said that they were aware of the upcoming ban on non-compostable straws and utensils. 12 of 51 convenience stores (24%) were aware of the upcoming ban compared to 18 of 32 (56%) FSBs (Table 11).

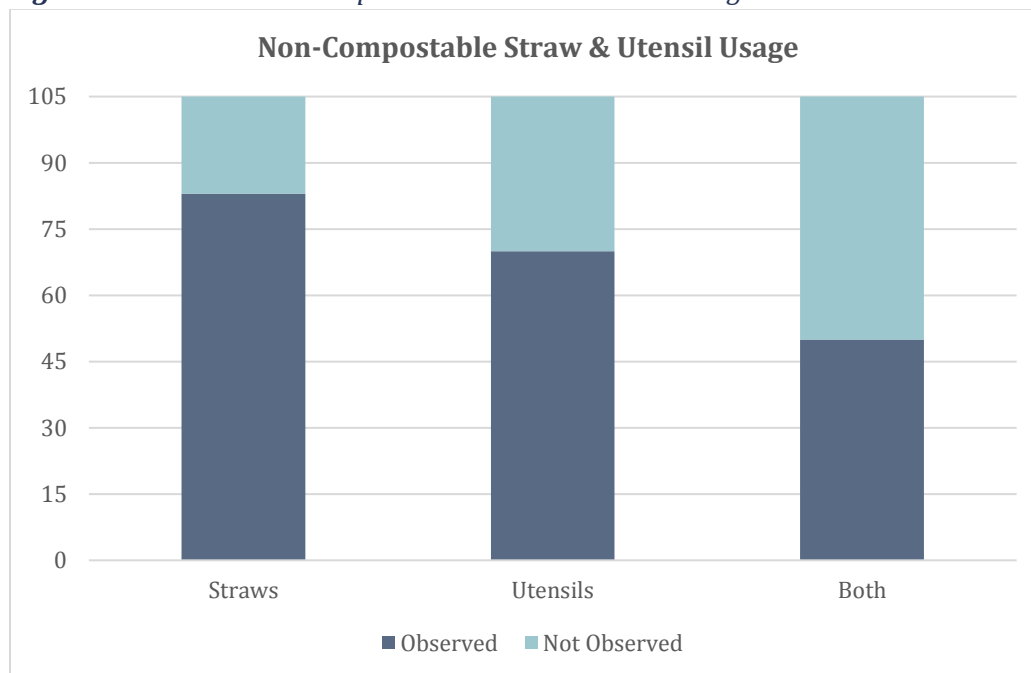
**Table 11:** Awareness of non-compostable straw and utensil ban by store type.

Store Type	Total Respondents	Aware	Percent Aware
Convenience	51	12	24%
Coffee/Tea	12	8	67%
Bubble Tea	3	2	67%
Smoothie/Juice	4	2	50%
Quick Serve	13	6	46%
<b>Totals</b>	<b>83</b>	<b>30</b>	<b>36%</b>

#### *Straw & Utensil Usage Rates (n=105)*

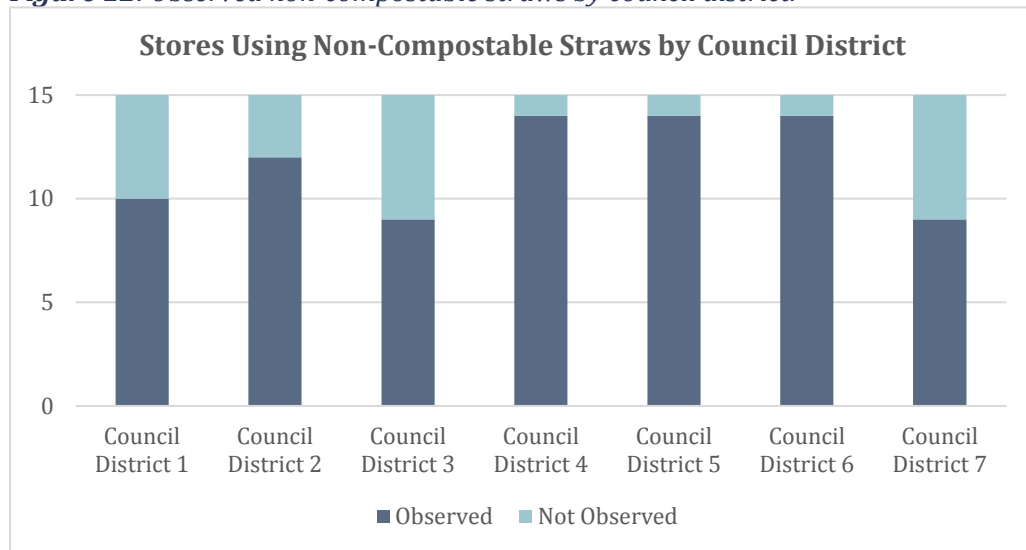
83 stores (79%) provide non-compostable straws to customers, while 54 stores (51%) provide non-compostable plastic utensils (n=105). Of the 105 stores we surveyed, 86 (82%) of them were providing either non-compostable straws or utensils to customers, while 50 (48%) of them were providing both products (Figure 11).

**Figure 11:** Current non-compostable straw and utensil usage.

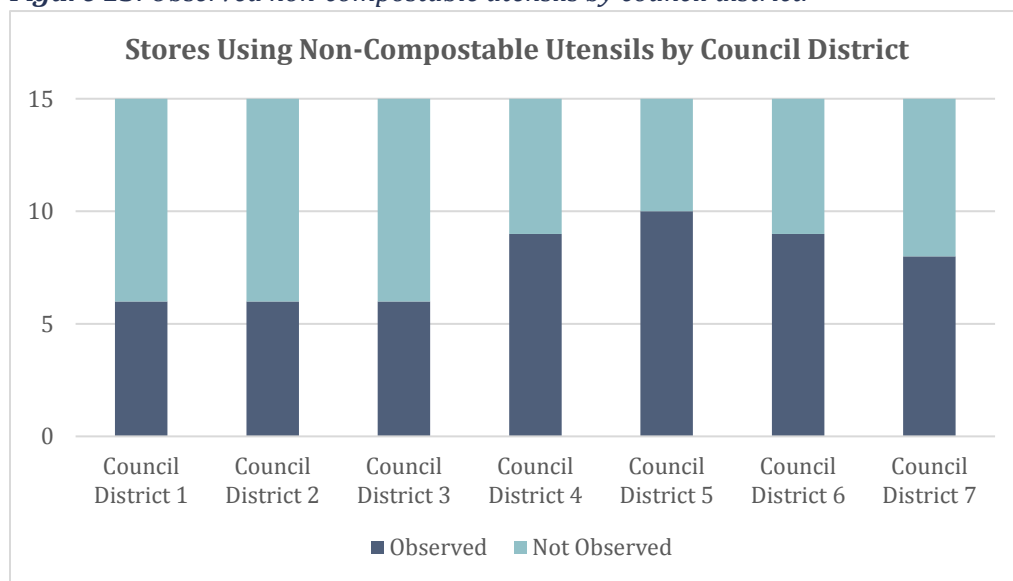


Of the 86 stores that provided either non-compostable straws or utensils, 78 (91%) allowed customers to grab them freely from the counter. Only five (6%) of the stores provided them upon request. Refer to Figures 12 and 13 for summary of usage by council district.

**Figure 12:** Observed non-compostable straws by council district.



**Figure 13:** Observed non-compostable utensils by council district.

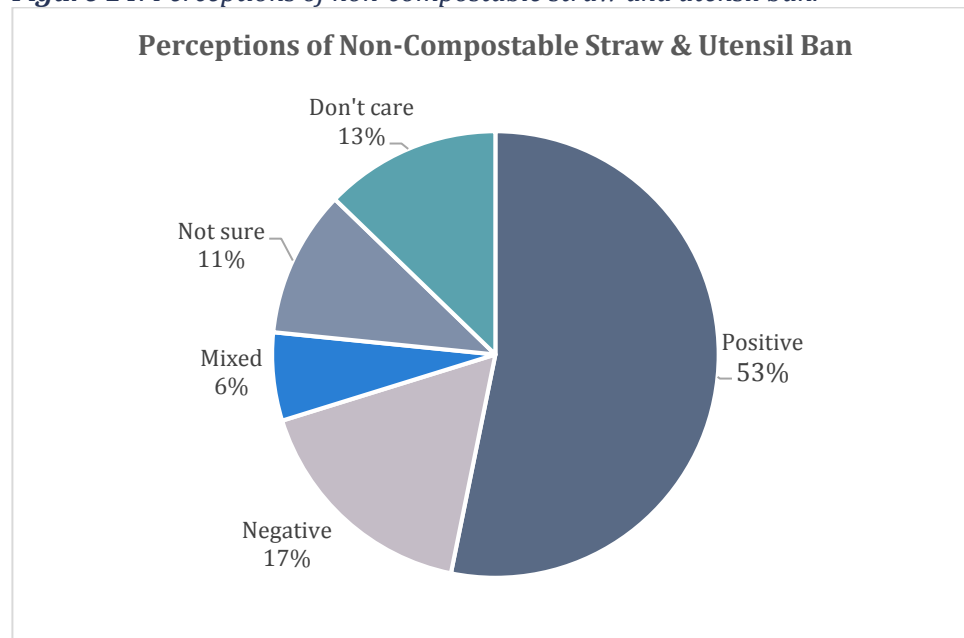


#### *Perceptions of Non-Compostable Straw & Utensil Ban (n=47)*

47 of the 105 surveyed stores responded to our question around non-compostable straw and utensil ban perceptions (Figure 14).

- 53% responded positively (25).
- 17% provided negative feedback (8).
- 13% did not express an opinion either way (6).
- 11% felt unsure (5).
- 6% had mixed feelings about the ban (3).

**Figure 14:** *Perceptions of non-compostable straw and utensil ban.*



Interviewees that responded positively all mentioned something related to environment, whereas the negative feedback consisted of four general themes:

- **Customer sorting:** some stores questioned customers' ability and willingness to properly sort compostable straws and utensils into compost collection bins.
- **Cost:** switching to compostable straws and utensils will raise the costs for businesses.
  - "there are already so many rules and regulations in place, like the sugar tax"
  - "small businesses need 'safeguards' against these types of cost increases"
- **Quality:** compostable straws and utensils may not be a good fit for some foods and drinks.
  - stores selling hot food or drinks are concerned that compostable straws and utensils will break down or melt at high temperatures
  - certain drinks like bubble tea served in cups using heat-sealed plastic film tops use special straws that are less likely to be made with compostable materials
- **Disconnectedness:** respondents felt disconnected from the policies enacted by elected officials and that they did not reflect "real people".

Similar to the bag ban survey findings, the mixed perceptions we noted were generally related to the ban being good for the environment, but bad for business. Two interviewees also speculated that the City's requirement for compostable service ware is due to lobbying pressure from local compost facilities (and compostable service ware producers) like Cedar Grove.

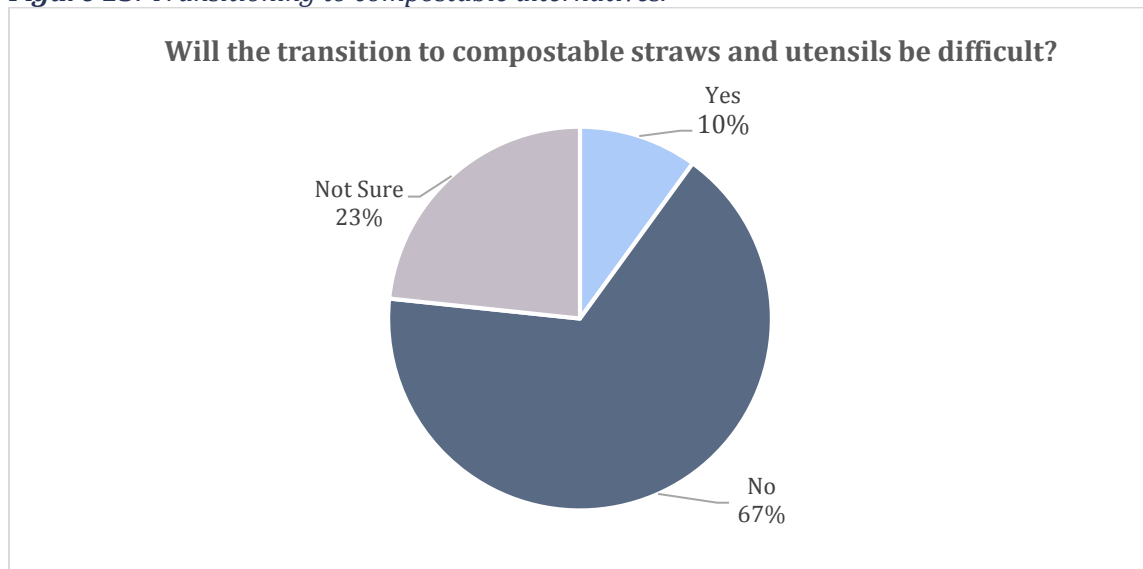
#### *Transition (n=30)*

30 interviewees responded to our question asking whether transitioning to compostable products would be difficult for their business (Figure 15). Responses included:

- Do not think the transition will be difficult (20).
- Not sure what to expect (7).
- Think the transition will be difficult (3).



**Figure 15: Transitioning to compostable alternatives.**



#### *Preparation (n=28)*

We then asked respondents how they would prepare for the upcoming ban on non-compostable straws and utensils. Responses included:

- Will switch to compostable straws and utensils (7).
- Will have to do research to find the ideal replacement; one respondent then mentioned that they would also research how much the fine would be (6).
- Do not know what the next step will be (5).
- Need to discuss with upper management before making a change (5).
- Need to properly label bins so that customers can sort correctly (2).
- Already transitioned or slowly transitioning (2).
- Need to use up existing inventory first (1).

We also asked the stores to estimate how long their existing inventory of non-compostable straws and/or utensils would last. Only eight interviewees responded to this question, of which only one answered that it would take a long time. All others thought that they could use up their existing inventory before July 1, 2018 or were unsure.

#### *Provision upon Request (n=25)*

We asked interviewees whether they would consider only handing out straws and/or utensils upon request. Responses included:

- No (11), with reasons such as:
  - "it's a given that customers need straws for drinks like smoothies"
  - "most drive-through customers want straws"
  - "self-serve works fine"
- Would consider it (6).
- Already providing straws and utensils only upon request (5).
- Unsure (3).

### *“Strawless in Seattle” Sample*

As part of the Lonely Whale’s “Strawless in Seattle” campaign, a number of food service businesses throughout the city pledged to provide only marine compostable (paper) straws upon request during the month of September 2017. We selected one of these businesses in our sample and noted that they continued their commitment by providing only compostable paper straws to customers.

### Survey Limitations

We acknowledge there are inherent limitations in our survey results that should be considered before making any assumptions about the target population:

- **Self-selection bias:** although our team was able to complete the observation portion of our surveys at all 105 sampled businesses, we were not able to administer the interview component of our survey to staff unwilling or unable to respond to our questions. We are unable to make assumptions about the responses of those who chose not to participate in our survey.
- **Language barriers:** many of our survey respondents were not native English speakers which created a communication barrier for our team. There were instances where we were unsure if the survey respondent understood our questions as intended and/or if we understood their responses as intended.
- **Minimal responses:** some survey respondents were not willing to elaborate on their responses, and as such, we did not capture a fully formed response.
- **Questions not asked/answered:** due to time restraints, language barriers, disinterest from survey participants, and human error among team members administering the survey, some survey questions were not asked by our team or not answered by the survey respondent.
- **Population:** as noted in “Chapter 3: Research Methodology” of this report, our population listing of convenience stores was manually created, subjective, and potentially incomplete.
- **Sampling methodology:** as noted in “Chapter 3: Research Methodology” of this report, our sample was created using a targeted approach by council district, samples from Council District 3 were selected based on geographic proximity to each other, and our resamples were selected based primarily on convenience.
- **Sample size:** given our population limitations and limited time to complete fieldwork, our sample sizes are not large enough to draw statistically significant conclusions. Our reported metrics are based on observations and not necessarily indicative of the larger population.

## Chapter Five: Recommendations

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### Overview

In this chapter we provide an innovative portfolio of recommendations, which are intended to be evaluated by SPU to determine which ones to pilot and/or implement to improve businesses' compliance with regulations restricting the use of single-use or landfill bound disposable plastic. Recommendations are broken out into three sub-categories: outreach, policy, and enforcement.

These recommendations are rooted in our experiences, observations, and conversations with 105 Seattle businesses (15 from each council district) and supplemented by our review of academic literature. In the field we uncovered common barriers to compliance and collected feedback to better understand the perspective of interviewees and their customers. Refer to Appendix H for a matrix that summarizes our recommendations and how they specifically address identified compliance barriers.

We tailored our recommendations for Seattle's unique environment, facilitative approach to enforcement, and commitment to centering the community and equity in problem-solving. These solutions are intended to be collaborative and build trust between SPU and the community to move forward together as partners in preventing waste and reducing plastic pollution. Our team believes it is important to consult with SPU's Environmental Justice and Service Equity (EJSE) team before implementing any of the following recommendations.

### Consult with SPU's Environmental Justice and Service Equity Team

During survey fieldwork, our team noted that the overwhelming majority of the 70 convenience stores we visited were owned and/or operated by people of color, immigrants, and refugees. This observation indicates that the solutions we propose below would therefore disproportionately affect these groups (positively or negatively). As such, we strongly encourage SPU to consult with their internal Environmental Justice and Service Equity (EJSE) team before implementing any of the recommendations below. The EJSE team works with SPU departments to "deliver inclusive and equitable service to customers across the city" by looking for equity gaps in how projects, programs, and policies are planned and implemented (Seattle Public Utilities, 2018).

EJSE recently launched their Community Partnerships Program (CPP) to "better support people of color, immigrant, refugee, and low-income customers." CPP works with trusted organizations and community leaders that serve a variety of ethnic and language groups and ask for community input for improving SPU outreach and engagement efforts (Seattle Public Utilities, 2018). CPP engagement offerings include: information sharing/awareness, building knowledge, focus groups, surveys, and input and/or feedback. Refer to Appendix D for Community Partnerships Program Intake Form.

SPU should also consider collaborating with other internal and external partners to help bridge economic, environmental, and cultural gaps (Table 12). SPU should identify existing programs relevant to their work with helping businesses comply with recycling, composting, and food service ware ordinances to leverage connections, networks, and community partnership opportunities.

**Table 12:** *Potential partner organizations.*

<b>Organization / Department</b>	<b>Mission</b>
Environmental Coalition of South Seattle (ECOSS)	Delivers environmental education, resources, and technical assistance and outreach to multicultural communities and businesses (ECOSS, 2018).
City of Seattle Office of Immigrant & Refugee Affairs	Developing stronger relationships and increased accountability between the City of Seattle government and immigrant and refugee communities (City of Seattle, 2018).
City of Seattle Department of Neighborhoods	Provides resources and opportunities for community members to build strong communities and improve their quality of life (City of Seattle, 2018).
City of Seattle Office of Planning & Community Development	Partner with neighborhoods, businesses, agencies and others to bring about positive change and coordinate investments for Seattle communities (City of Seattle, 2018).
City of Seattle Office of Sustainability & Environment	Develops and implements citywide environmental policies and programs that propel our city toward a sustainable, equitable, and carbon neutral future (City of Seattle, 2018).
City of Seattle Office of Economic Development	Helps create a vibrant economy which benefits the whole city by promoting access to economic opportunities for all of Seattle's diverse communities. Support economic development that is financially, environmentally, and socially sustainable (City of Seattle, 2018).
Business Improvement Area (BIA) Administrators	Aid in economic development and neighborhood revitalization, and facilitate the cooperation of merchants, businesses, and residential property owners which assists trade, economic viability, and livability (City of Seattle, 2018).

## Outreach Recommendations

### Emphasize Environmental Benefits of Policies in Messaging

As noted in Chapter Four, 26% of survey respondents were unaware of the rationale behind Seattle's bag ban. 64% attributed bag regulations generally to "environmental reasons." Similarly, 36% of survey respondents were unaware of the rationale behind Seattle's compostable straw and utensil requirement.

Our survey results indicate that while store owners and operators often associate the bag ban and food service ware ordinances generally with environmentalism, 29% of bag ban survey respondents perceive environmental policies as: expensive, burdensome, intrusive, ineffective, and/or out of touch with businesses interests and the interests of "real people" (n=62). In addition to stigmas around environmental policies, five interviewees associated these policies with other Seattle ordinances like the soda tax and minimum wage requirement.

SPU should evaluate opportunities to destigmatize environmentalism in their messaging and differentiate environmental policies from the soda tax, property tax, and minimum wage requirement. Conversations with Seattle business owners/operators indicated that many of them did not understand the difference or benefits of using paper over plastic bags and/or the benefits of compostable straws and utensils over plastic ones. SPU should consider explicitly incorporating their environmental goals and outlining their policy rationale for these ordinances as a core

component of the outreach and engagement materials they provide to businesses and the community.

### **Emphasize Waste Prevention Benefits of Policies in Messaging**

Similar to the environmental messaging recommended above, SPU should consider explicitly discussing waste prevention goals in outreach and messaging. Incorporating the zero-waste hierarchy (Figure 1) helps businesses think about preventing waste instead of simply diverting it from the landfill to the compost or recycling streams. Using visuals and infographics would be an efficient way to communicate the most salient messages to a broad audience.

#### *Bags*

SPU should connect the dots for businesses and consumers on their bag ban policy and its waste prevention benefits. By prohibiting retail businesses from providing plastic bags and requiring that they charge customers for paper bags, there is an increased incentive for consumers to bring their own bags to reduce waste, as opposed to just switching from plastic to paper. Further, requiring that compostable bags be tinted green or brown (and prohibiting non-compostable bags from being tinted green or brown) helps to prevent compost contamination and reduces confusion for consumers.

#### *Straws & Utensils*

SPU should promote durables or “bring your own (BYO)” reusables whenever possible and explain why compostable food service ware is preferred to recyclables or disposables. For example – if packaging will be soiled with food, it is best to choose a compostable option because any food waste is captured and contributes valuable nutrients to the compost stream instead of being wasted in the landfill (or MRF where it would cause recycling contamination). Avoiding recycling contamination becomes even more pertinent under China’s National Sword policy as municipalities work to reduce contamination to maintain the value of recycled paper and plastic commodities.

### **Rebrand Messaging away from “Bans” towards “Bring Your Own (BYO)”**

#### *Bags*

To further emphasize the environmental and waste prevention aspects of these policies, SPU should consider rebranding their plastic bag outreach messaging as a “Bring Your Own (BYO) Bag” or “Reusable Bag Ordinance” versus a “Bag Ban” (refer to Appendix E for examples). Rebranding as “BYO Bag” more clearly conveys that the ordinance’s goal is not simply to replace plastic bags with paper bags but to promote waste prevention and reusables before choosing a recyclable paper option.

Survey interviewees indicated that framing the ordinance as a “ban” disconnects the public from the environmental goals of the ordinance and positions the ordinance as another coercive policy that Seattle businesses must comply with, in addition to policies such as the sweetened beverage tax and minimum wage requirement. Reframing as a “BYO” ordinance also helps shift some of the perceived burden away from businesses and engages the public in waste prevention measures. BYO branded materials could be provided to businesses to place at their register and/or on shopping carts as a reminder to customers that they need to bring their own bag or pay for paper bags to help

avoid confrontation between customers and cashiers at checkout (refer to Appendix E for examples).

One of SPU's most popular giveaways at outreach events is the reusable blue bag pictured in Figure 16 below. SPU should consider using these bags as an additional opportunity to connect their waste prevention message with the community. Although "*Where Does it Go?*" has been an effective slogan used in SPU's outreach materials promoting proper waste sorting and diversion, a "BYO" slogan could be a more appropriate theme for reusable bags. As an alternative, SPU could use "Bring Me!" or "BYO-Bag" as the main messaging on these bags (refer to Appendix E for examples).

*Figure 16: SPU's reusable blue bag provided for free at outreach events*



### *Straws & Utensils*

As shown in Figure 17, the first bullet point of SPU's messaging around the upcoming ban on non-compostable straws and utensils refers to the original 2010 ordinance prohibiting disposable food service ware. The second bullet explains that the temporary exceptions for disposable straws and utensils will expire as of July 1, 2018. However, in our conversations at Seattle businesses, respondents were mostly unaware that this exception has been in place since 2010. Some interviewees felt that the city should do a better job of "picking its battles" when it comes to these smaller items and that the city's rules are already so cumbersome that this is just "one more ban." SPU's materials use the word "BANNED" in red letters three times on their outreach flyer which emphasizes that plastic straws and utensils are no longer allowed but does not clearly indicate why.

Rather than positioning this rollout as a "ban" on plastic straws and utensils, SPU should consider rebranding the compostable straw and utensil requirement as part of a larger goal of transitioning all food service ware to durable/reusable or compostable alternatives and clearly explain the environmental benefits of making this switch. While these materials clearly outline what businesses need to do to be compliant, they could be even more effective with the inclusion of environmental and waste prevention benefits.



*Figure 17: SPU's straw and utensil ban postcard flyer.*



## **Integrate Commercial Outreach with Single-Family (SF) and Multi-Family (MF) Outreach**

### *Bags*

While the blue reusable bags pictured in Figure 16 are occasionally given out as part of SPU's commercial outreach campaigns, they are typically intended for single-family (SF) and multi-family (MF) residential use. This presents an opportunity for SPU to align commercial, SF, and MF bag outreach into a synergistic strategy, mutually reinforcing the bag ban and waste prevention goals between businesses and their customers.

When SPU identifies areas with non-compliant businesses, they could reinforce commercial outreach efforts by targeting SF and MF bag outreach within the same neighborhood. This strategy could be particularly beneficial in neighborhoods where non-compliant businesses are community staples with a high number of local or repeat customers.

Tips targeting residents could be included as part of the reusable bag giveaway, for example:

- Strategies for remembering to bring your own bag (keep one on your doorknob at home, in your purse or backpack, in the car, etc.).
- Where to drop off plastic bags for recycling (instead of placing in curbside recycling).
- Best practices on cleaning reusable bags.

### *Straws & Utensils*

Current outreach materials for food service ware emphasize the responsibilities of the businesses to provide their customers with compliant items; however, SPU should consider supplementing these materials with "BYO" messaging aimed at residents, similar to the bag messaging above.



Encourage customers to participate in waste prevention efforts whenever possible by refusing single-use straws and utensils and/or bringing their own reusable versions, as shown in Figure 18 below.

*Figure 18: Example of “BYO” messaging (City of Manhattan Beach California, 2018).*



SPU could also create “leave-behinds” that empower customers to get involved and provide feedback directly to businesses in a non-confrontational way. For example, small cards that customers could leave behind at restaurants when paying their bill to encourage the business to provide straws only upon request (Figure 19).

*Figure 19: Example of “leave-behinds” customers can give to businesses (The Last Plastic Straw, 2018).*



## Reusable Bag Outreach Campaigns and Pilot Programs

In neighborhoods with low bag ban compliance rates, SPU should consider a two-fold strategy:

- **SF/MF:** Actively engage these neighborhoods in SF and MF solid waste outreach planning and incorporate “bring your own bag” messaging into these outreach efforts as noted above.
- **Commercial:** Partner with small non-compliant retail stores that serve a high percentage of local and repeat customers on reusable bag pilots.

### *Pilot Example #1*

One strategy for the commercial reusable bag pilot would be to supply businesses with a small stock of blue reusable SPU bags (Figure 16) to offer their customers in lieu of plastic carryout bags. Businesses could then notify the customer that they will no longer be offering plastic bags, so the customer should remember to bring their reusable bag back next time, or they will need to pay for a paper bag. Business owners/operators would have the discretion on which customers to offer reusable bags to, for example: repeat customers, customers with a large number of items, EBT shoppers, and elderly or disabled customers.

Small businesses with many local/repeat customers would be the best candidates for this type of pilot. During our site visits we noted that many of these stores are immigrant/refugee owned and operated and serve as community staples: they know their customers, they interact with them frequently, and they are part of the same cultural community. Some of these stores also stand in as groceries for customers who do not have personal vehicles in areas with limited grocery options (“food deserts”).

At an approximate cost of \$2.82/bag, a small pilot of 100 bags per store would be a low-cost way to facilitate compliance and build trust between SPU and the business/community. SPU should take a partnership approach: “We understand this transition can be difficult for businesses. How can we support you with this transition? Let’s collaborate towards a mutually beneficial solution. We want to avoid monetary penalties.” SPU could monitor the store’s progress after a 30-day grace period and check in with the store owner/operator on the transition and see if requests for plastic bags decreased.

### *Pilot Example #2*

As an alternative or complement to Pilot Example #1 above, SPU could also pilot a program similar to Tacoma’s Bag Share Program (summarized in Figure 20) which facilitates consumer-to-consumer “take-a-bag / leave-a-bag” drives at community centers, non-profit organizations, and local stores.

**Figure 20:** Summary of Tacoma's Bag Share Program (City of Tacoma, 2018).

**Where to Find Bag Share Bins**

Find Bag Share bins at the following locations:

- Tacoma Municipal Building, TacomaFIRST 311 Customer Support Center (747 Market Street, Second Floor)
- People's Community Center (1602 MLK Jr. Way)
- Center at Norpoint (4818 Nassau Ave. NE)
- Portland Avenue Community Center (3513 E Portland Ave.)
- STAR Center (3873 S 66th St.)
- Asia Pacific Cultural Center (4851 South Tacoma Way)
- Dixon Village THA Community Room (5420 S Stevens St.)
- Bergerson Terrace THA Community Room (5305 S Orchard St.)



## Offer Free Compliance Toolkits with Product Samples to Seattle Businesses

### Bags

One of the interviewees we surveyed explained that their store recently switched to what they believed was a “recyclable” thin plastic carryout bag, which cost three times as much as the thin plastic carryout bags they were previously purchasing (Figure 21). This bag is a classic example of “greenwashing” in which products are misrepresented as more environmentally responsible than they actually are.

**Figure 21:** Greenwashed thin plastic carryout bag.



In this case, the bag itself claims to be “100% recyclable” and “environmentally responsive”; however, these are both meaningless terms in the context of thin plastic carryout bags. A separate Seattle business was told by their bag supplier that they did not need to comply with Seattle’s bag ban and that plenty of businesses in the city still use thin plastic carryout bags, so it would not be a problem to continue using them.

In both cases, the interviewee spoke English as a second language. Appendix C visually depicts the complicated nature of Seattle’s bag ban. While these rules can be complicated for all businesses, business owners/operators with language barriers face even more difficulty complying with Seattle’s rules.

To provide technical assistance to these businesses (or any business upon request), SPU could provide free toolkits with actual examples of each bag type, clearly labeled:

- Thin plastic carryout bag (**non-compliant**)
- 2.25 mil thick plastic carryout bag (**compliant**)
- 1/8 barrel large paper bag made with 40% post-consumer recycled content (**compliant**)
- Small paper bag (**compliant**)
- Clear plastic produce/bulk bag (**compliant**)
- Green/brown tinted plastic produce/bulk bag (**non-compliant**)
- Green/brown tinted compostable produce/bulk bag (**compliant**)
- Green/brown tinted compostable carryout bag (**non-compliant for retailers**)

Providing actual examples offers a reference point for business owners on the sizes, textures, and colors described in the ordinance. It also provides them with a tangible reference to use when purchasing supplies to help them clearly communicate what they need from their distributors.

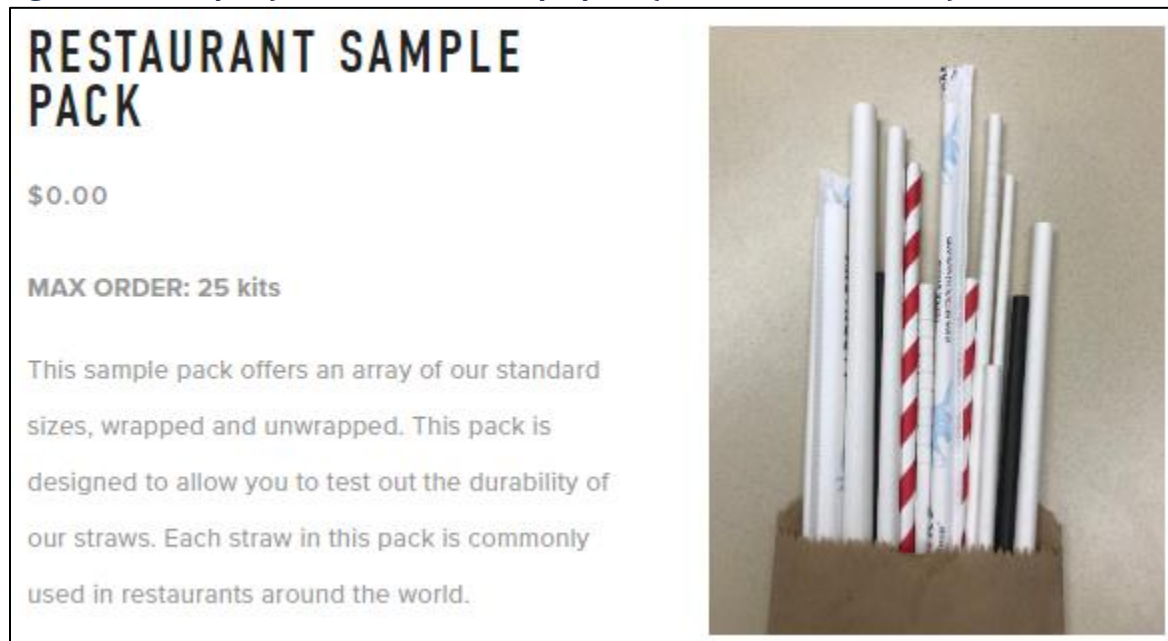
The toolkit could also include helpful resources such as a list of local wholesale suppliers of compliant reusable plastic and paper bags, and signage that businesses could post to clearly indicate to their customers that the bag ban is a City of Seattle law (not a store policy) and that stores can be fined for not following the law.

### *Straws & Utensils*

One interviewee responded that although his business has been using all compostable packaging for years, the distributors he works with are often uninformed or unhelpful when it comes to guidance on which products are compostable. There are currently 29 compostable straw products and 67 compostable utensil products on the market under 22 different brands that have been tested and approved for use in Seattle by local compost facilities (Seattle Public Utilities, 2018).

SPU could request product samples from these companies to provide free toolkits upon request, similar to the bag toolkit described above. Providing real samples of straws and utensils would allow businesses to test them out with their actual food items before purchasing in bulk and providing to customers. The straw and utensil toolkit could also include a list of local wholesale suppliers of approved compostable brands. Figure 22 shows an example of a “restaurant sample pack” offered by Aardvark Straws.

**Figure 22:** Example of Aardvark Straw sample pack (Aardvark Straws, 2018).



### **Strategic Geographic Outreach by Retail and Food Service Category**

With over 4,700 food service businesses in Seattle, SPU should consider how to selectively target the businesses that are most likely to need technical assistance to comply with the city's bag and food service ware ordinances. We recommend several basic approaches:

- Focus on businesses closest to Seattle's borders where:
  - there may be confusion about the differing bag and packaging rules between the cities
  - businesses are more likely to serve customers who do not reside within Seattle and as such, compete with businesses outside of Seattle for their customer base (incentivizing non-compliance)
- Target outreach in geographic areas closest to bodies of water where there is a higher likelihood that items disposed of improperly will contribute directly to marine pollution (Alki, Admiral, Sunset Hill, Green Lake, Downtown, etc.).
- Consider layering food service categories into geographic outreach. For example, the packaging needs of coffee shops in West Seattle may be distinctly different from the packaging needs of Pho restaurants in West Seattle. Conducting inspections and providing technical assistance prepared with examples or photos of relevant packaging options and customized outreach materials could add value and improve the outcomes of these interactions.

## **Policy Recommendations**

### **Collaborate with Neighboring Cities and Counties to Align Policies Regionally**

Eight interviewees said that the bag ban was confusing because each city has different rules. Appendix F illustrates which neighboring cities have plastic bag regulations in place. One of the co-benefits of publicizing the success of these ordinances is providing a roadmap for other cities that

are considering adopting similar ordinances. Collaborating regionally/statewide to align bag bans and other ordinances helps harmonize language for consistency in messaging and strengthen the effectiveness of these rules.

### Extend Bag Ban to Seattle Restaurants

Seattle's bag ban currently permits restaurants to provide customers with plastic carryout bags for takeout orders. Future SPU studies might focus on estimating the number of Seattle restaurants that provide plastic carryout bags to their customers; if a large percentage of the plastic bags in Seattle's waste stream are determined to have originated from restaurants, SPU might consider following the lead of jurisdictions like Alameda County where the plastic bag ban has been extended to include restaurants (summarized in Figure 23).

Six interviewees told us that Seattle's bag bans are confusing not only because the rules are different from surrounding cities but also because businesses are held to different standards; they feel it is "unfair" that some businesses (restaurants) are allowed to provide thin plastic carryout bags to customers while others are not. By removing the exception for restaurants, SPU could apply the same rules across all businesses for consistency, simplicity, and fairness.

*Figure 23: Bag policy for restaurants (Alameda County Waste Management Authority, 2018).*

### For Restaurants and Delivery Services

**On November 1, 2017, the Reusable Bag Law for Alameda County expanded to include all eating establishments, which includes delivery services and ordering platforms.** The requirements of the new law are as follows:



**1. No more single-use plastic bags.**

As of November 1, 2017, eating establishments (and their delivery services/providers) in Alameda County can no longer distribute single-use plastic bags.



**2. No charge for paper bags.**

Recycled content paper bags may be distributed for free. If your eating establishment only distributes compliant paper bags, no additional action is necessary.



**3. Protective plastic bags without handles are allowed.**

The law only applies to carryout bags, not to paper or plastic bags without handles that are used to protect food (such as around containers of soup or stew to prevent spilling).



**4. Charge 10 cents for reusable bags.**

Compliant reusable bags (including thick, reusable plastic bags) may be distributed if at least ten cents is charged and itemized on the receipt. The eating establishment keeps the 10 cent charge, which is not subject to sales tax.



## **Remove Plastic Bags from Curbside Recycling**

Since 1988 Seattle has been a national leader in advancing its curbside recycling collection program and banning recyclables from commercial and residential garbage streams. As the city's landfill diversion goals have increased ambitiously over time, so has the list of items accepted curbside through the city's commingled/single-stream collection program. As highlighted previously in this report, when residents place plastic bags in curbside recycling bins, they get tangled in the sorting machinery at MRFs, causing shut-downs and processing delays multiple times per day. The market demand for curbside-collected plastic film as a commodity is limited, of low-value, and typically requires export to Southeast Asia. With these issues in mind, SPU should consider removing plastic bags as an accepted item in their curbside recycling program.

Salt Lake City removed plastic bags from their accepted curbside recyclable items in January of 2018 and shared a short and simple video with footage from MRFs to demonstrate the impacts that plastic bags have in recycling facilities. They included thorough and thoughtful responses to FAQ's like (SLCGreen, 2018):

- Why is Salt Lake City not accepting plastic bags in the blue recycling containers?
- What should I do instead?
- Where can I take my plastic bags now?

SPU could take a similar messaging approach so that residents support removing plastic bags from the curbside program and instead utilize plastic film drop-offs at retail locations throughout the city.

## **Enforcement Recommendations**

### **Publicize Non-Compliance Reporting Channel**

On their "FAQs - Bag Ban for Shoppers" webpage, SPU provides the following response to the question "How can I tell the city about stores using plastic bags?":

*"A call to SPU's customer service line, (206) 684-3000, will forward store names to outreach staff who will visit the location. Note that small stores – those without branches outside Seattle where they can send their existing stock of bags – are allowed some time to use up inventory. Also, strong plastic bags (2.25 mils thick or greater) are considered reusable and some stores such as department stores and book stores will be using them. You may also call this number if you see a store not charging for large, recyclable paper bags. No charge is required for small paper bags" (Seattle Public Utilities, 2018).*

Cities with bag bans often depend on consumers to report non-compliant businesses in order to strategically target their outreach and inspections across large volumes of businesses. SPU should consider formalizing their reporting channel into an online form similar to the example provided in Appendix G from Alameda County. In lieu of a form, SPU could actively promote the existing Seattle Green Business hotline and email as a way for shoppers to anonymously report non-compliant businesses. This option should be publicized as part of the SF/MF integrated outreach described above and included with the reusable bag giveaways. Collecting data from these consumer reports could also help SPU demonstrate that Seattle citizens approve of the bag ban and want to see it fully implemented throughout the city (rather than a top-down policy created and mandated by the city).



## **Utilize Equitable Enforcement Framework for Monetary Penalties**

Although failing to comply with Seattle's bag and food service ware ordinances carries a \$250 fine, Seattle has historically relied on education and outreach programs to bring businesses into compliance and help them improve their sustainability programs through free resources and technical assistance (Seattle Public Utilities, 2018). If SPU chooses to begin enforcing their policies through monetary penalties, it should thoughtfully consider how to do this in the fairest and most transparent way possible. Six interviewees told us that they feel Seattle does not enforce bag and food service ware ordinances "fairly" across all businesses (some are held to a higher standard than others for using non-compliant items). Strategies for improving this perception include:

### **3 Warnings:**

Developing and documenting a "3 strikes" approach in which the non-compliant business is inspected three times (for example, every 30 days). At each touchpoint, the inspector should inform the business of the penalty for non-compliance and offer technical assistance to support this business with transitioning to compliant alternatives. Each encounter should be thoroughly documented by SPU staff and a follow-up notice should be sent to the business after each inspection. A clear final warning should be given to the business before monetary penalties are levied.

### **Fairness:**

While equity should be the foundation of enforcement approaches, fairness was the most common priority for Seattle businesses in terms of enforcement: all businesses should be held to the same standard, especially those within the same geographic area. If a non-compliant business is identified, neighboring businesses should also be inspected and held to the same standard so that no individual business is being singled out or used as an example to deter others. Businesses should also be informed of how they can report other non-compliant businesses anonymously in the same way that consumers do.

## Conclusion

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The results of our bag ban survey show a full compliance rate of 71% among surveyed businesses (n=70). This is a significant increase over the 33% full compliance rate observed in 2017 (n=9). Given the small sample size of nine convenience stores in 2017, we believe our results are likely more representative of actual compliance rates within the sector. Our recommendations address common barriers to compliance identified through our surveys.

Our survey results show 86 out of 105 (82%) sampled businesses currently use non-compostable straws or utensils, and only 30 of the 83 (36%) are aware of the July 1, 2018 ban on these items. These findings indicate that awareness may be the largest barrier to compliance and presents an opportunity for SPU to ramp up outreach to increase awareness of the upcoming ban. However, most of the surveyed FSBs reported that they do not think the transition to compostable straws and utensils will be difficult for their business.

After reviewing the research, analysis, and recommendations in this report, SPU should consider which options to pursue and determine next steps for moving forward.

### **Recommendations for Related Research by Future Evans Consultants**

If SPU contracts another team of Evans Consultants in 2019, we recommend considering further research in the following areas:

*FSB compliance with food service ware ordinances.* We anticipate a slow adoption rate for the plastic straw and utensil component of SMC 21.36.086, so more data collection and feedback from the local food service industry could be beneficial to SPU's efforts to restrict the use of non-compostable plastic straws and utensils.

*FSB use of thin plastic carryout bags for take-out orders.* As more Seattle restaurants offer takeout options and partner with third party delivery services like UberEats, Grub Hub, and Caviar, SPU should consider measuring whether there is an associated increase in plastic carryout bag use among these businesses. Measuring utilization rates could help build a case for extending the bag ban to restaurants.

*Designing and executing a baseline litter assessment.* To determine whether SPU's policies have the litter reduction benefits intended, consider leveraging a student team to design an assessment protocol using best practices and consistent measuring standards that could be used to establish a baseline and measure progress over time.

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## Appendix A: Survey Instruments

### 2018 Convenience Store Bag Ban Survey

<b>Unique Store Identifier:</b>	
<b>Interviewee Title/Role:</b>	Owner / Manager / Supervisor / Employee
<b>Interviewer Names:</b>	
<b>Interview Date:</b>	
<b>Intro:</b> "Hi, my name is ____ and this is ____; we are graduate students at the University of Washington conducting a research project for the City of Seattle on the bag ban. Do you have a few minutes to talk with us? Any information you provide will be confidential"	

Plastic Carryout Shopping Bags	Larger Paper Shopping Bags	Smaller Paper Bags	Tinted Plastic Bag* (such as produce)	Tinted Compostable Produce Bags
				
	5¢ (Minimum charge required.)	FREE (Charge optional.)	*Requirement is effective July 1, 2017	
<input type="checkbox"/> Observed	<input type="checkbox"/> Observed	<input type="checkbox"/> Observed	<input type="checkbox"/> Observed	<input type="checkbox"/> Observed
<input type="checkbox"/> ≥ 2.25 mil thick	Charge: ¢	Charge: ¢		
<input type="checkbox"/> Tinted			<input type="checkbox"/> Tinted	<input type="checkbox"/> Tinted
Bag brand:	Bag brand:	Bag brand:	Bag brand:	Bag brand:
Supplier:	Supplier:	Supplier:	Supplier:	Supplier:
<b>Comments:</b>				





Additional Feedback Questions:	Notes:
Are you <b>aware</b> of Seattle's policy (ban) on providing plastic carryout bags?	
What are your <b>thoughts</b> on the bag ban?	
How easy has it been for you to switch to using paper bags? Did customers have any difficulty <b>transitioning</b> to using paper bags?	
<b>Why</b> do you think Seattle banned plastic bags?	
How did you <b>hear about</b> the bag ban? How do you like to get this type of information?	
Would <b>technical assistance</b> help this store transition away from using plastic bags?	
Would <b>customer feedback</b> persuade this store transition away from using plastic bags?	
If the City started <b>enforcing the ban through fines</b> would this persuade the store to comply?	
<b>General feedback:</b>	

Did interviewers experience communication issues due to language differences or other barriers? ☐ Yes ☐ No

Survey 1: Bags		
Survey Field/Question	Method	Objective
Interviewee title/role	Inquire	Determine staff level of employee to add context to their responses and authority level within the business.
Bag type: <ul style="list-style-type: none"> <li>Plastic carryout</li> <li>Plastic produce</li> <li>Small paper</li> <li>Large paper</li> <li>Compostable carryout</li> <li>Compostable produce</li> </ul>	Observe	<ul style="list-style-type: none"> <li>Determine bag usage and compliance.</li> <li>Plastic and compostable plastic carryout bags are banned.</li> <li>Compostable produce bags are permitted if tinted brown or green.</li> <li>Plastic produce bags are permitted but they may not be tinted brown or green.</li> </ul>
Plastic bag tinting (green/brown)	Observe	Tinting is required for compostable bags and prohibited for non-compostable plastic bags.
Plastic bag thickness	Observe	Plastic carryout bags are permitted if they are $\geq 2.25$ mil thick.
Charging for paper	Inquire	Small paper bags may be provided for free but large paper bags require a minimum \$0.05 charge.
Bag brand/supplier	Inquire	Potential opportunity for SPU to work directly with popular bag vendors as a method for increasing compliance rates.
Are you aware of Seattle's policy (ban) on providing plastic carryout bags?	Inquire	Determine if non-compliance is due to lack of awareness.
What are your thoughts on the bag ban?	Inquire	Collect general feedback from staff as an individual and as an owner/employee.
How easy has it been for you to switch to using paper bags? Did customers have any difficulty transitioning to using paper bags?	Inquire	<ul style="list-style-type: none"> <li>Understand compliance barriers for the business.</li> <li>Understand how feedback from customers may contribute to these barriers.</li> </ul>
Why do you think Seattle banned plastic bags?	Inquire	Collect information on whether businesses understand the rationale for the bag ban.
How did you hear about the bag ban? How do you like to get this type of information?	Inquire	Identify primary information sources and preferred information sources.
Would technical assistance help this store transition away from using plastic bags?	Inquire	<ul style="list-style-type: none"> <li>Identify potential method for overcoming compliance barrier.</li> <li>Connect store with SPU representatives for further assistance.</li> </ul>
Would customer feedback persuade this store transition away from using plastic bags?	Inquire	Identify potential method for overcoming compliance barrier.
If the City started enforcing the ban through fines would this persuade the store to comply?	Inquire	Identify potential method for overcoming compliance barrier.
Other general feedback?	Inquire	Provide business with opportunity to share thoughts outside of predetermined survey questions.
Did interviewers experience communication issues due to language differences or other barriers?	Observe	Document any communication or other issues that may have prevented the team from collecting complete and accurate answers to survey questions.

## 2018 Baseline Straws & Utensils Survey

<b>Unique Store Identifier:</b>	
<b>Interviewee Title/Role:</b>	Owner / Manager / Supervisor / Employee
<b>Interviewer Names:</b>	
<b>Interview Date:</b>	
<b>Intro:</b> "Hi, my name is ____ and this is ____; we are graduate students at the University of Washington conducting a research project for the City of Seattle's upcoming ban on non-compostable straws and utensils. Do you have a few minutes to talk with us? Any information you provide will be confidential"	

 <p><b>BANNED</b> EFFECTIVE 7/1/18</p> <p>Disposable Plastic Straws</p>	 <p><b>ALLOWED</b></p> <p>Compostable Paper Straws and Compostable Plastic Straws</p>	 <p><b>BANNED</b> EFFECTIVE 7/1/18</p> <p>Disposable Plastic Utensils</p>	 <p><b>ALLOWED</b></p> <p>Compostable Utensils</p>
<input type="checkbox"/> Individually wrapped	<input type="checkbox"/> Compostable paper <input type="checkbox"/> Compostable plastic <input type="checkbox"/> Compostable wood	<input type="checkbox"/> Individually wrapped	<input type="checkbox"/> Compostable plastic <input type="checkbox"/> Compostable wood/ bamboo
<input type="checkbox"/> Automatic provision	<input type="checkbox"/> Individually wrapped	<input type="checkbox"/> Individually wrapped	<input type="checkbox"/> Individually wrapped
<input type="checkbox"/> Provision upon request	<input type="checkbox"/> Automatic provision	<input type="checkbox"/> Automatic provision	<input type="checkbox"/> Automatic provision
<input type="checkbox"/> Self-serve	<input type="checkbox"/> Provision upon request	<input type="checkbox"/> Provision upon request	<input type="checkbox"/> Provision upon request
<input type="checkbox"/> Self-serve w dispenser	<input type="checkbox"/> Self-serve	<input type="checkbox"/> Self-serve	<input type="checkbox"/> Self-serve
Brand:	<input type="checkbox"/> Self-serve w dispenser	<input type="checkbox"/> Self-serve w dispenser	<input type="checkbox"/> Self-serve w dispenser
Supplier:	Brand:	Brand:	Brand:
Supplier:		Supplier:	Supplier:
<b>Comments:</b>			

Additional Feedback Questions:	Notes:
Are you <b>aware</b> of Seattle's upcoming (7/1/18) ban on non-compostable straws/utensils?	
How do you <b>hear about</b> local rules like this? How do you like to get this type of information?	
What do you <b>think about</b> it?	
<b>Why</b> do you think the City is banning straws/utensils?	
What will you do to prepare for the ban? Will this <b>transition</b> be difficult? How long to use up inventory?	
Will this store consider offering straws/utensils only <b>upon request</b> instead of automatically?	
<b>General feedback:</b>	

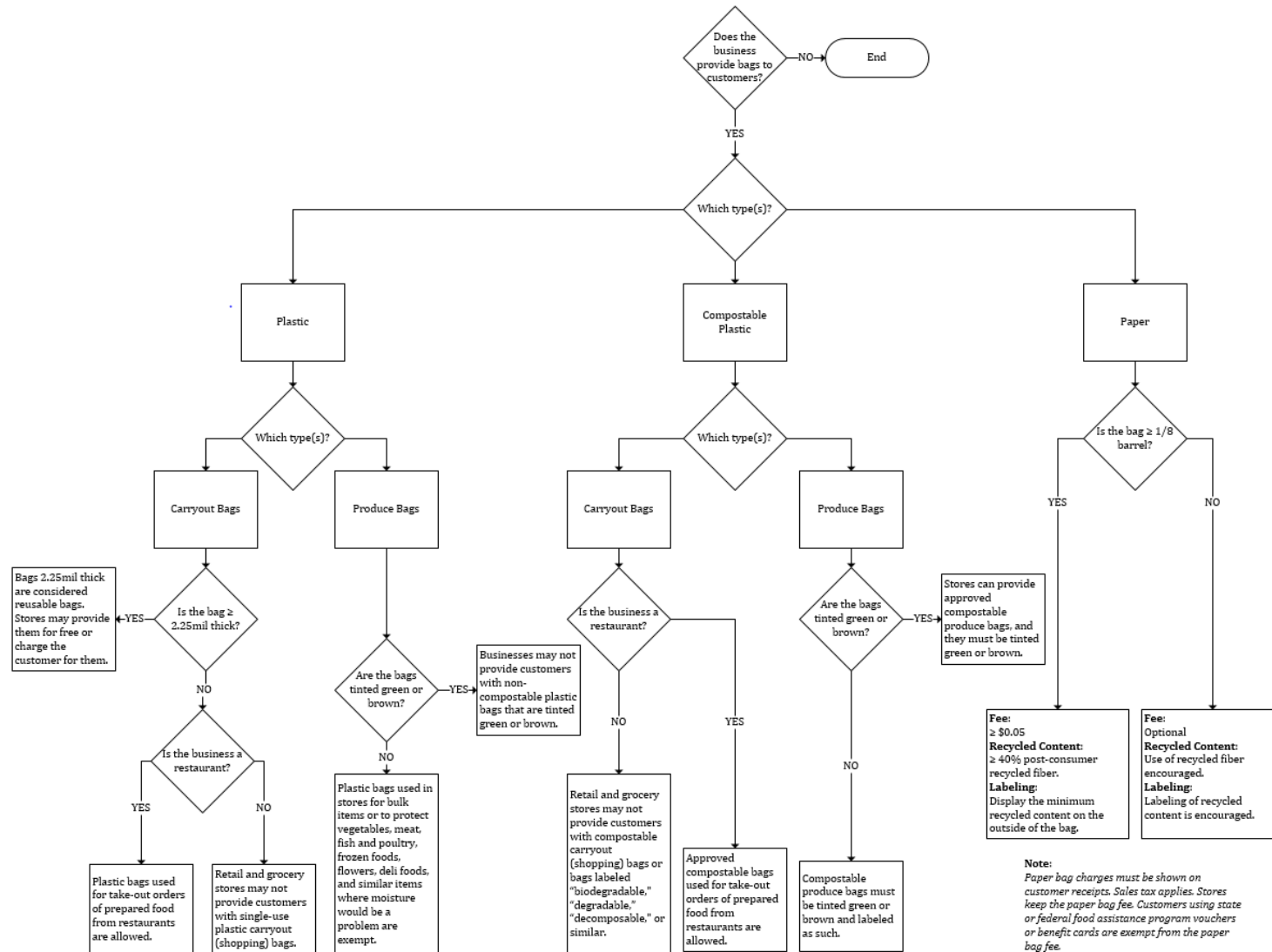
Did interviewers experience communication issues due to language differences or other barriers? ☐ Yes ☐ No

Survey 2: Straws/Utensils		
Survey Field/Question	Method	Objective
Interviewee title/role	Inquire	Determine staff level of employee to add context to their responses and authority level within the business.
Straw type: <ul style="list-style-type: none"> <li>Plastic</li> <li>Compostable plastic</li> <li>Compostable paper</li> <li>Compostable wood (coffee stirrer)</li> </ul>	Observe	<ul style="list-style-type: none"> <li>Determine baseline straw usage.</li> <li>Only compostable options are allowed as of 7/1/18</li> </ul>
Utensil type: <ul style="list-style-type: none"> <li>Plastic</li> <li>Compostable plastic</li> <li>Compostable wood/bamboo</li> </ul>	Observe	<ul style="list-style-type: none"> <li>Determine baseline utensil usage.</li> <li>Only compostable options are allowed as of 7/1/18</li> </ul>
Individually wrapped?	Observe	Determine baseline usage.
Provision method: <ul style="list-style-type: none"> <li>Automatic</li> <li>Upon request</li> <li>Self-serve</li> <li>Self-serve with dispenser</li> </ul>	Observe	Determine baseline usage.
Brand/supplier	Inquire	Potential opportunity for SPU to work directly with popular vendors as a method for increasing awareness and compliance rates.
Are you aware of Seattle's upcoming (7/1/18) ban on non-compostable straws and utensils?	Inquire	Determine if business is prepared to make the change to compostable alternatives.
How do you hear about local rules like this? How do you like to get this type of information?	Inquire	Identify primary information sources and preferred information sources.
What do you think about it?	Inquire	Collect general feedback from staff as an individual and as an owner/employee.
Why do you think the City is banning straws/utensils?	Inquire	Collect information on whether businesses understand the rationale for the ban.
What will you do to prepare for the ban? Will this transition be difficult? How long will it take to use up your existing inventory?	Inquire	<ul style="list-style-type: none"> <li>Understand compliance barriers for the business.</li> <li>Understand how feedback from customers may contribute to these barriers.</li> </ul>
Will this store consider offering straws/utensils only upon request instead of automatically?	Inquire	Present waste prevention and cost saving option to the business.
Other general feedback?	Inquire	Provide business with opportunity to share thoughts outside of predetermined survey questions.
Did interviewers experience communication issues due to language differences or other barriers?	Observe	Document any communication or other issues that may have prevented the team from collecting complete and accurate answers to survey questions.

## Appendix B: Washington State Bag Bans

Information on Location		Ordinance Language		
City	Population 2016	Effective Date	Key Differences from Seattle Ban	Penalties for Non-Compliance
Bainbridge Island	24,404	November 2012	Essentially the same as Seattle's bag ban.	\$250 fine
Bellingham	87,574	August 2012	Essentially the same as Seattle's bag ban.	Fine not to exceed \$250
Edmonds	41,840	August 2010	No charge requirements for paper bags.	\$100 first violation, \$250 second and subsequent offenses
Ellensburg	19,786	January 2018	Businesses can still use plastic bags less than 2.25 mils thick, but they must charge \$0.05.	Warning, then a fine of \$250
Friday Harbor (San Juan County)	2,338	May 2017	No charge requirements for paper bags.	None found
Issaquah	37,322	July 2013	Modeled after Seattle and Bellingham ordinances. Essentially the same as Seattle's bag ban.	\$250
Kirkland	87,701	March 2016	Only grocery stores, convenience stores, superstores, and pharmacies are required to charge for paper bags; other retail establishments are exempt from the rule.	"Code enforcement action"
Lacey (Thurston County)	47,688	July 2014	Essentially the same as Seattle's bag ban.	"Notice of Violation" for first offense, then a fine of \$250
Mercer Island	25,134	April 2014	Modeled after Seattle and Bellingham ordinances. Essentially the same as Seattle's bag ban.	Class 1 civil infraction - \$250 fine
Mukilteo	21,462	January 2013	No charge requirements for paper bags.	Class 3 civil infraction - \$50
Olympia (Thurston County)	251,202	July 2014	Essentially the same as Seattle's bag ban.	Warning, then a fine of \$250
Port Townsend	9,527	November 2012	Essentially the same as Seattle's bag ban.	None specified
Quil Ceda Village Tulalip Indian Reservation		January 2018	No charge requirement for paper bags.	Fine for each plastic bag given away up to \$250 per day.
Shoreline	55,333	February 2014	Essentially the same as Seattle's bag ban.	\$250
Tacoma	221,277	July 2017	Essentially the same as Seattle's bag ban.	\$250
Tumwater (Thurston County)	22,538	July 2014	Essentially the same as Seattle's bag ban.	Warning, then a fine of \$250
Unincorporated Thurston County	269,536 entire county	July 2014	Essentially the same as Seattle's bag ban.	Warning, then a fine of \$250
Unincorporated San Juan County	16,252 entire county	May 2017	No charge requirements for paper bags.	None found

## Appendix C: Visual Summary of Seattle's Bag Ban





## Appendix D: Community Partnerships Program Intake Form

### Community Partnerships Program Intake Form

Environmental Justice and Service Equity Division


Please complete and submit to the program manager. Allow for one month for matching, project planning, and training prior to execution.

<b>Name of project:</b>	
<b>Contact Name for project:</b>	
<b>Phone Number for Contact:</b>	
<b>Branch:</b>	
<b>Budget:</b>	
<b>Schedule for implementation</b> (if more than one year, please specify)	
<b>Project Description:</b>	
<b>Deliverables:</b> (if more than one year, please specify by year)	
<b>Target audience:</b> (Specific demographic – language, ethnic, race & etc., geographic, & others)	
<b>Types of engagement:</b> Please select all that apply <input type="checkbox"/> Information sharing/Awareness <input type="checkbox"/> Building knowledge <input type="checkbox"/> Focus Group <input type="checkbox"/> Surveys <input type="checkbox"/> Input and/or Feedback	
<b>Resources</b> (Please specify available resources that the project will provide and the resource needs. For example, translation, interpretation, testing of materials, & etc.)	

(SPU Environmental Justice & Service Equity Division, 2018)

## Appendix E: Examples of Bring Your Own Bag Outreach Materials


**BEGINNING MAY 1, 2017**  
BAG LAW FOR ALAMEDA COUNTY



**No More**  
single-use  
plastic bags

**Pay**  
for paper & plastic  
reusable bags

**or**  
**Bring Your  
Own Bag**


 [www.ReusableBagsAC.org](http://www.ReusableBagsAC.org)

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**Reusable Bag Ordinance**  
for Alameda County

- The reusable bag law for Alameda County is expanding to retail stores starting May 1, 2017. Stores in Alameda County can no longer distribute single-use plastic bags.
- Grocery, drug and liquor stores have been under the law since January, 2013.
- Stores must charge a minimum of 10 cents for each paper or reusable bag.
- The store keeps the 10 cent charge, which is not subject to sales tax.
- The reusable bag law is intended to reduce litter, keep plastic bags out of local waterways, and encourage the use of reusable bags.
- Please place this postcard in a location (such as at the cash register) where the other side will be visible to your customers. To order more cards, visit [www.ReusableBagsAC.org](http://www.ReusableBagsAC.org).

*Eating establishments have different requirements beginning November 1, 2017 and will receive a separate mailing with instructions on how to comply.*

 [www.ReusableBagsAC.org](http://www.ReusableBagsAC.org)  
Alameda County Waste Management Authority Ordinance 2016-02

(Alameda County Waste Management Authority, 2018)

**City of San José's**  
**Bring Your Own Bag Ordinance**



**Important Information About the New Ordinance:**

- Prohibits single-use carryout plastic bags provided at check out by all retail businesses.
- Stores may sell paper bags made of at least 40 percent post-consumer recycled content for a minimum price of 10 cents for each bag. All revenue from the sale of recycled paper bags is retained by the store.
- Allows "protective" plastic or paper bags, without handles, for items such as meat, fresh produce, prepared food, and prescription medication.
- Customers purchasing food with WIC and CalFresh "food stamps" can be provided a 40 percent post-consumer recycled content paper bag at no cost at checkout until December 31, 2013.

To view the ordinance language, visit [sanjoseca.gov](http://sanjoseca.gov).

**Shopping with Reusable Bags is the Best Choice**  
A high-quality reusable bag has the potential to replace over 600 single-use plastic bags over its lifetime, significantly reducing plastic bag litter. Plastic bags are one of the most common litter items found in creek cleanups. Paper bags are just as problematic, taking 14 million trees each year in the United States to produce a year's supply for retail use. Shopping with reusable bags is a great way to take part in reducing litter and conserving natural resources.

**Reusable Bag Tips**

- Keep reusable bags by the door, in your car, or near your car keys.
- Keep foldable bags in pockets, backpacks, or your purse.
- Keep bags clean by washing cloth bags, or wiping bags with a sponge and mild soap.
- Give your friends and family a reusable bag, and encourage them to start shopping with them today.

For additional information, visit [sanjoseca.gov/bags](http://sanjoseca.gov/bags).  
If you have questions, call (408) 534-BYOB (2962) or e-mail [Bring-ur-Bag@sanjoseca.gov](mailto:Bring-ur-Bag@sanjoseca.gov).


**sanjoseca.gov/bags**

In accordance with the Americans with Disabilities Act, City of San José Environmental Services materials can be made available upon request in alternative formats, such as Braille, large print, audio-tape or computer disk. Requests may be made by calling (408) 535-8550 (Voice) or (800) 735-2929 (CRS).

Printed on recycled paper

(City of San Jose, 2018)



(City of Pleasant Hill California, 2018)



(Sustainable Warwick, 2018)



(Castro Valley Sanitary District, 2013)

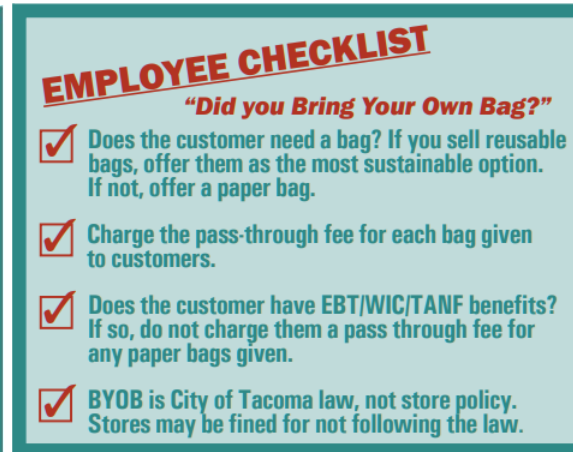


(Cambridge Department of Public Works, 2018)





(City of Tacoma, 2018)



(City of Kirkland, 2018)

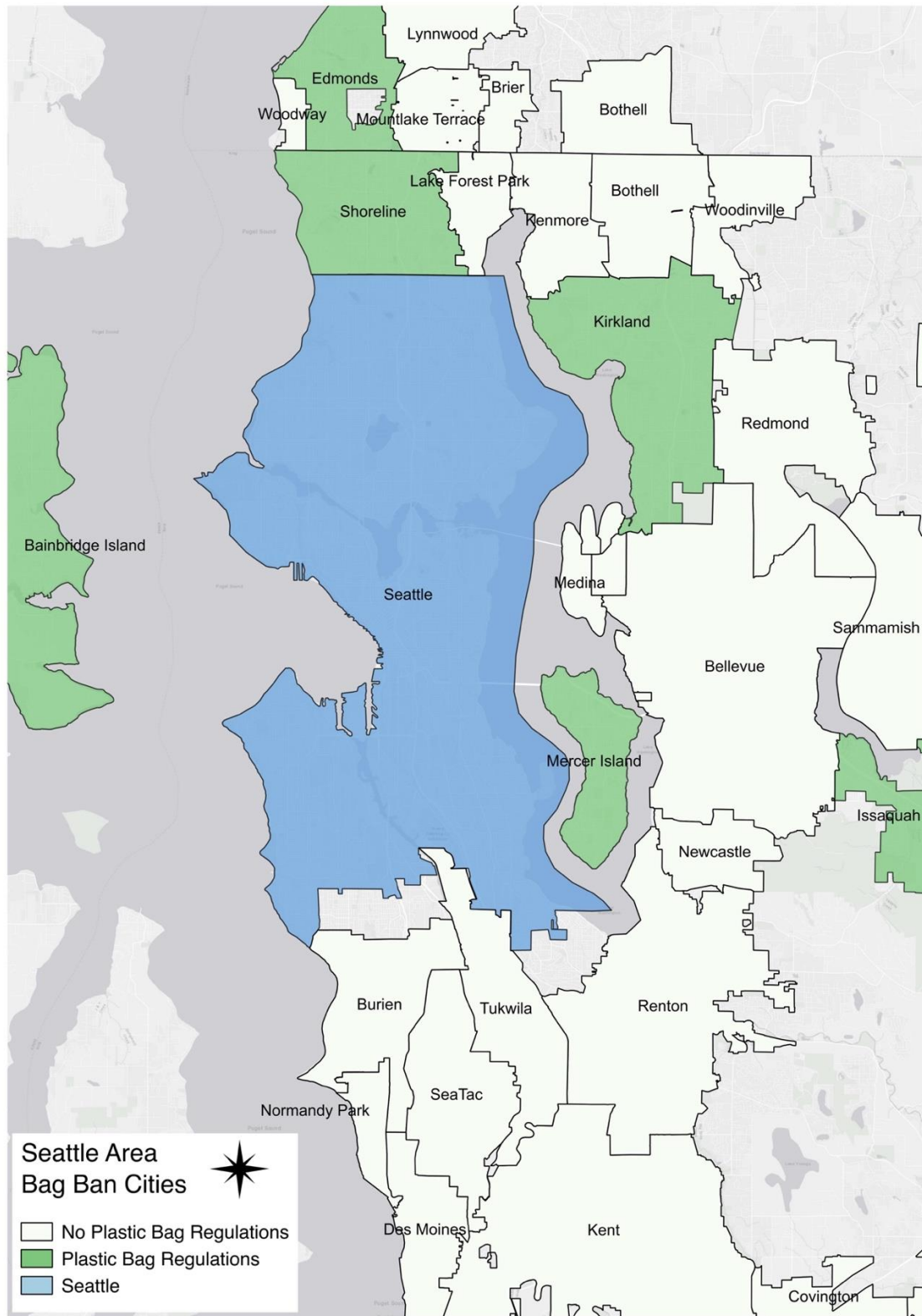


(SC Johnson, 2015)



(City of Salem, 2017)

## Appendix F: Cities with Bag Bans in Seattle Area



## Appendix G: Alameda County Plastic Bag Reporting Form

### Non-Compliance Reporting Form

As of November 1, 2017, single-use plastic carryout bags may no longer be distributed by retail stores or eating establishments in Alameda County. Stores must charge a minimum of \$0.10 for recycled paper or reusable bags provided at the checkout counter and itemize the bag charge on the customer receipt. Eating establishments do not need to charge for compliant paper bags.

**If you are aware of a store or eating establishment distributing single-use carryout bags, not charging for a reusable bag, and/or not itemizing bag charges on your receipt, we want to hear from you! We are relying on consumers to help us reach out to stores not complying with the new law.**

As a reminder, compliant thick plastic reusable bags and protective plastic bags for transporting meat, produce, or bulk food within a store are allowed under the ordinance. In addition, eating establishments do not need to charge for compliant paper bags. (Reference our [compliant bag page](#) for more details). If you have any questions about the terms of the ordinance, call our hotline at 510-891-6575 or read the [full text](#) of the ordinance.

Please take a moment to complete the form below.

Store Name

Store Address

Store City

Business Type  
☒ Retail Store  
☐ Restaurant

Type of Violation Observed \*  
Distributing single-use carryout bags ▼

Date Observed \*  
Apr ▼ 17 ▼ 2018 ▼

Description \*

Briefly describe what occurred, when it occurred, and any other relevant information that could help us follow up on your report.

May we contact you?  
☐ Yes  
☐ No

We will not disclose your name or contact information to any third party.

Submit

(Alameda County Waste Management Authority, 2018)

## Appendix H: Barriers to Compliance and Corresponding Recommendations

			Barriers to Compliance						
			Confusion around different policies outside of Seattle	Disconnect between policy goals and public perception	Language or cultural barriers	Focus on the customer wants and needs	Fairness and holding businesses to same standard	Lack of awareness	Burden on businesses to enforce Seattle's policies
Recommendations	Outreach	Emphasize environmental and waste prevention benefits of policies		X	X	X		X	X
		Rebrand from "bans" to "BYO"		X		X		X	X
		Integrate commercial, multi-family, and single-family outreach				X		X	X
		Reusable bag outreach campaigns or pilots				X		X	X
		Free Toolkits			X			X	X
	Policy	Align policies regionally	X					X	
		Extend bag ban to restaurants		X			X	X	
		Remove plastic bags from curbside collection program		X				X	
	Enforcement	Non-compliance reporting channel					X		
		Equitable monetary enforcement					X		