Office of the City Auditor

City and County of Honolulu
State of Hawai`i

Report to the Mayor
and the
City Council of Honolulu

# Single-Use Polystyrene Food Containers and Plastic Bag Study

**Report No. 18-04**
December 2018

# Single-Use Polystyrene Food Containers and Plastic Bag Study

A Report to the
Mayor
and the
City Council
of Honolulu

Submitted by

**THE CITY AUDITOR**
CITY AND COUNTY
OF HONOLULU
STATE OF HAWAI`I

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EDWIN S.W. YOUNG
CITY AUDITOR

December 19, 2018

The Honorable Ernest Y. Martin, Chair
and Members
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawai'i 96813

Dear Council Chair Martin and Councilmembers:

A copy of our final report, *Single–Use Polystyrene Food Containers and Plastic Bag Study,* is attached. This study was conducted pursuant to City Council Resolution 18-35, CD1, which requested the city auditor to evaluate the use and impacts of single-use food service containers and single-use plastic bags. The resolution further requested a supplemental study on the potential financial and non-financial impacts of the city banning single-use food containers and single-use plastic bags by restaurants, lunch wagons, and other purveyors of meals and snacks.

**Background**

The city council and the city have taken several actions to address improper disposal of food service containers and to prevent litter. In 2015, the city council passed Bill 10 that issued a total ban on all non-recyclable paper and non-biodegradable single-use plastic bags. In 2017, the city council passed Bill 59 that required all businesses to charge customers at the point of sale a minimum of 15 cents per re-usable, compostable plastic or recyclable paper bag.

The Department of Environmental Services (ENV) is responsible for planning and administering the city's solid waste reduction and recycling programs. It also manages the city's H-POWER waste-to-energy facility.

**Audit Results**

Minimizing litter to keep our natural environment beautiful and safe from harm is an important community objective. To be successful, the city should pursue comprehensive methods rather than a simplistic ban on a single kind of litter/trash that is unlikely to effectively reduce the overall amount of litter and its harm to the environment.

There is general support among residents and businesses for a ban on single-use polystyrene (PS) food containers, even if it means food prices will increase as a result. However, a ban on single-use PS food containers will negatively impact certain classes of small foodservice businesses, who are not prepared to transition to alternate food containers. The ban may also disrupt certain business environmental advantages accruing from local manufacturing and distribution of PS food service items, which act to create economic efficiencies, lower prices and increase access for local businesses.

Any attempt to regulate the foodservice industry will impact a wide segment of Honolulu residents, largely in the form of price increases passed on to customers. Some impacts to certain vulnerable classes of residents need to be closely examined to prevent unnecessary effects and harms.

Despite product markings and claims about being compostable or recyclable, all single-use food service products collected by the Department of Environmental Services is taken to H-POWER and burned. There is no composting or recycling of food containers conducted locally.

There are various approaches to polystyrene material bans in the United States. We found over 60 expanded polystyrene foam bans in various cities and counties nationwide, with a majority in California. Most bans target foodservice establishments and retailers' use of polystyrene containers for takeout foods. Other approaches included a complete plastic ban; government itself prohibiting purchases of plastic containers; self-monitoring of container inventories; and establishing protected areas where food containers were prohibited.

Polystyrene bans are not effective in reducing litter. Most jurisdictions with bans in place use recycling and composting as the primary waste management approach for diverting waste from the landfill. If waste is not recycled or composted, landfilled or littered, the critical issue is: will the waste degrade or decompose effectively? Common exemptions to polystyrene bans are granted for temporary economic hardship. Some polystyrene applications are excluded from the bans, such as grocery meat trays, ice chests, and some prepackaged foods (e.g. ramen soups).

We found no examples of government incentives at the local level to promote transitions to green approaches or grants of business assistance in the form of tax exemptions, credits, or special development assistance. No examples were found at the city or county level. Most incentives are done at the state level to either promote new industries, or to promote innovation for environmental reasons (green manufacturing).

We would like to express our sincere appreciation for the cooperation and assistance provided us by the ENV managers and staff, its recycling program staff, and the many others who assisted us during this study. We also thank OmniTrak for surveying local businesses and residents and analyzing and projecting the survey results. We are available to meet with you and your staff to discuss the study results and to provide more information. If you have any questions, please call the auditor-in-charge, Wayne Kawamura or me at 768-3134.

Sincerely,

Edwin S.W. Young
City Auditor

c: Kirk Caldwell, Mayor
Roy Amemiya, Jr., Managing Director
Lori Kahikina, Director, Department of Environmental Services
Nelson Koyanagi, Jr., Director, Department of Budget and Fiscal Services

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# Chapter 1
## Introduction and Background

### Introduction

This study was conducted pursuant to City Council Resolution 18-35, CD1, *Requesting the City Auditor to Evaluate the use and impacts of single-use food service containers and single-use plastic bags.* The resolution, which was adopted by the Honolulu City Council on February 28, 2018, requested that the city auditor conduct a supplemental study on the potential financial and non-financial impacts of the city banning the use of single-use food containers and single-use plastic bags by restaurants, lunch wagons, and other purveyors of meals and snacks.

The resolution also asked that our study include the following:

- Determining the feasibility of effectively, efficiently, and economically processing single-use food containers and single-use plastic bags at the H-POWER waste-to-energy facility;
- Assessing the financial and non-financial impacts a ban on single-use food service containers and single-use plastic bags would have on businesses such as manufacturers, distributors, and foodservice establishments, and on consumers, and the city; and
- Identifying incentives, best practices, and relevant technologies employed in other jurisdictions that have assisted manufacturers of single-use food service containers in converting their operations to the manufacture of compostable food containers and related products.

### Background

The Office of the City Auditor was asked to conduct a supplemental study to provide additional information to determine the financial impacts of both the proper and improper disposal of single-use food service containers and single-use plastic bags so the city council could develop a sound public policy that addressed the issue in an effective, balanced, and fair manner. The previous study conducted by the Department of Environmental Services pursuant to Council Resolution No. 14-175 could not provide such an assessment.

## Other Council Actions to Address Improper Disposal of Food Service Containers

City Council Bill 71 (2017) was intended to address environmental health concerns related to the use of certain types of disposable food containers. The bill noted that improper disposal of these single-use food service containers had become a blight and a hazard to our environment, and negatively impacted our tourism-dependent economy. The bill also cited the persistence of component materials like expanded polystyrene, which take extremely long to degrade and decompose; the environmental hazards of its physical properties breaking into smaller and smaller bits in nature; and the speculation that there are potential health hazards to humans who use these containers. Bill 71 required all food containers to be compostable. It also proposed a ban on the use of polystyrene foam containers which would include regulations to be enforced and administered by the Department of Environmental Services and the Honolulu Police Department:

- No food vendor shall serve prepared food in any polystyrene foam container.
- All disposable food service containers must be made of compostable material.
- No food packager shall package meat, eggs, bakery products or other food in any polystyrene foam container.
- The Department of Environmental Services may require the manufacturer or supplier of the container used by the food packager to furnish a written statement from the manufacturer of the packaging, indicating that the container is not a polystyrene foam container.

## Council Actions to Prevent Littering

City Council Bill 73 (2017) was proposed in conjunction with Bill 71 in efforts to combat litter in city parks. Bill 73 required the director of parks and recreation to coordinate city agencies in antilitter efforts and cooperate with the state to accomplish coordination of antilitter campaigns. Bill 73 proposed the creation of a city environmental education and stewardship program that would be administered and operated by the Department of Parks and Recreation. The department would be tasked to establish rules and policies regarding an environmental education and stewardship program to utilize environmental non-profit

organizations in assisting the Department of Parks and Recreation in educating the public on city and state laws related to littering in public parks and enforcing such laws.

In 2015, City Council passed Bill 10 (2012) issuing a total ban on all non-recyclable paper and non-biodegradable single-use plastic bags.

In 2017, City Council passed Bill 59 requiring all businesses to charge customers at every point of sale transaction, a minimum of 15 cents per reusable, compostable plastic or recyclable paper bag.

City Council Bill 10 (2012) implemented a total ban on all non-recyclable paper and non-biodegradable single-use plastic bags effective July 1, 2015. The ban prohibits businesses from providing non-biodegradable single-use plastic checkout bags and non-recyclable single-use paper bags to their customers at the point of sale for the purpose of transporting groceries or other merchandise. Bill 10 requires the director of environmental services to establish rules regarding the implementation, administration and enforcement of the ban of all non-recyclable paper and non-biodegradable single-use plastic bags.

In 2017, the ban was amended in Bill 59 requiring all businesses, effective July 1, 2018, to charge customers at every point of sale transaction, a minimum of 15 cents per reusable, compostable plastic or recyclable paper bag provided to the customer for the purposes of transporting groceries or other merchandise.

## Single-Use Plastic Bag Ban Update

The Department of Environmental Services (ENV) plans, directs, operates and administers the city's wastewater, solid waste, and storm water permit programs. The ENV Division of Refuse Collection and Disposal is responsible for planning and administering the City and County of Honolulu's municipal solid waste (MSW) management program. The program includes solid waste reduction and recycling programs. Under the MSW program ENV was charged with establishing rules regarding the implementation, administration and enforcement of the ban of all non-recyclable paper and non-biodegradable single-use plastic bags.

In 2015, ENV was responsible for implementing the ban, administering inspections of all businesses, and ensuring compliance and adherence to the single-use plastic bag ban. In 2017, in preparation for the required 15 cent retail bag charge, ENV sent out over ten thousand mailers to various businesses to inform them of the new requirements and charges.

Despite ENV's information efforts, the July 1, 2018 requirement to charge 15 cents for retail bags caused unanticipated problems.

As of July 1, 2018, retailers are required to charge 15 cents per bag. The following top 3 concerns were:

- Notification of the new requirement was not received
- Unsure if the 15 cent charge applied to their business
- Advice on how to charge the customer, document the charge, and ensure compliance

ENV reported receiving many phone calls from small businesses and vendors voicing their questions and concerns.

In order to assess the financial and non-financial impacts of the single-use plastic bags ban we met with the director of ENV to follow up on the administration of the ban and how it affected local businesses. We focused on the 15 cent bag charge and the required monitoring and enforcement. ENV stated that they were still in the planning phase and were uncertain of how they would properly monitor and enforce the point of sale, 15 cent retail bag charge. Additionally, ENV noted reports have not yet shown the effects or impacts of the single-use plastic bag ban or any measures related to the reduction in both disposal and improper disposal of the bags.

The last phase of the single-use plastic bag ban will go into effect on January 1, 2020. This phase eliminates plastic film bags with a thickness of 10 mils or less from being considered as "Reusable Bags". Compostable plastic bags shall no longer be considered "Acceptable Bags" to be used to transport groceries and other merchandise. Customers will have to purchase or provide their own reusable bags after this date.

Plastic bags used to protect or transport prepared foods, beverages, or bakery goods; and takeout bags used at restaurants, fast food restaurants, and lunch wagons to transport prepared foods are exempt from the current plastic bag restrictions and may continue to be used by these businesses. As such, we did not survey these businesses about plastic bag use or the impact of the plastic bag ban. The primary emphasis of this report is on the financial and non-financial impacts of a proposed single-use polystyrene food container ban.

### *Regulation of polystyrene food containers*

Single-use polystyrene (PS) food containers were previously regulated by the city council in 1990, over concerns that chlorofluorocarbons (CFCs) used to make them were doing environmental damage to the ozone layer and the environment. The law currently forbids use of CFCs to manufacture single-use polystyrene food containers, and food containers manufactured by that process.

### *Plastic food container background*

There are 7 different types of plastics used in food packaging as shown in Exhibit 1.1. Each plastic has a "resin identification code" also known as the "recycling number. "

## Exhibit 1.1
## Table of Plastic Identification Codes, Names, Descriptions, and Use

| Identification Code | Name | Description | Use | FDA* Approved | Hawai'i Recyclable |
|---|---|---|---|---|---|
| 1 | Polyethylene terephthalate (PETE or PET) | A lightweight plastic that is made to be semi-rigid or rigid which makes it more impact resistant, and helps protect food or liquids inside the packaging. | Food packaging for soft drinks, sport drinks, single-serve water, ketchup, salad dressing, vitamins, vegetable oil bottles, and peanut butter containers. | Yes | Yes |
| 2 | High-density polyethylene (HDPE) | A hard, opaque plastic that is lightweight but also strong. | Commonly used in food packaging for juice and milk jugs, squeeze butter, vinegar bottles, chocolate syrup containers, as well as grocery bags. | Yes | Yes |
| 3 | Polyvinyl chloride (PVC) | A common type of plastic that is biologically and chemically resistant. These two characteristics help PVC containers maintain the integrity of the products inside, including medicines. | Clear vinyl is used as packaging for tamper-resistant over-the-counter medications, as well as shrink wrap for a variety of products. Vinyl also is used in blister packaging (packaging that has a plastic cavity or pocket) such as in packaging for breath mints or gum, for example. | Yes | No |
| 4 | Low-density polyethylene (LDPE) | Thinner than other resins and also has high heat resilience. Due to its toughness and flexibility, LDPE is primarily used in film applications where heat sealing is needed and used in rigid applications. | Used in food packaging to make coffee can lids, bread bags, six-pack soda can rings, as well as fruit and vegetable bags used in grocery stores. | Yes | No |
| 5 | Polypropylene (PP) | Somewhat stiff, but less brittle than some other plastics. It can be made translucent, opaque or a different color when it is manufactured. PP generally has a high melting point, making it particularly suitable for food packaging products that are used in microwaves or cleaned in dishwashers, for example. | Commonly used in food packaging to make yogurt, maple syrup, cream cheese, and sour cream containers, as well as prescription drug bottles. | Yes | No |
| **6** | **Polystyrene (PS)** | **A colorless, hard plastic without much flexibility. It can be made into foam or cast into molds and given fine detail in its shape when it is manufactured, for instance into the shape of plastic spoons or forks.** | **Commonly used to make plastic cups, deli and bakery trays, fast food containers and lids, hot cups, and egg cartons.** | **Yes** | **No** |
| 7 | "Other" or a #7 | Packaging is made with a plastic resin other than the six types of resins listed above. For example, the packaging could be made with polycarbonate or the bioplastic polylactide (PLA), or it could be made with more than one plastic resin material. | Commonly used to make water cooler five-gallon jugs; some citrus juice and ketchup bottles; as well as cups, coffee lids, and clamshell containers. | Yes | No |

* Food and Drug Administration

Source: Office of the City Auditor

Polystyrene (PS) is in one of the most common types of plastics used for foodservice packaging. PS is used to make single-use Styrofoam food containers. PS is FDA approved to be used for food service containers. Single-use PS food service containers are safe, economical and effective for foodservice use here in Hawai'i. The local experience with single-use PS food containers have proved to be compatible with foods that are served hot, with gravies, or soup-based.

Non-PS containers are not as effective with these kinds of local foods. Other types of plastics commonly used in single-use food service products here in Hawai'i include polymers, including polypropylene (PP) and polyethylene terephthalate (PET or PETE).

Single-use food service containers are highly combustible since they are made from low-grade papers and plastics which produce high levels of energy when burned.

In recent years there has been an increased interest in single-use food service products made of "alternative materials" such as natural starches, recycled fibers, water, air, and natural minerals that can be recycled or composted in efforts to reduce plastic waste and protect the environment. There are a number of alternatives to PS food service items that are not sourced from plastic fossil-fuels, however, these typically cost 2 to 6 times the price of a comparable single-use PS food container.

## Inspection and Enforcement of Local Environmental-Related Requirements

**Department of Environmental Services**

The Department of Environmental Services (ENV) via its recycling branch continually monitors compliance with city laws pertaining to recycling and other environmental requirements, and enforces restrictions at city disposal facilities. Each year, the branch staff monitors compliance of businesses with mandatory business recycling requirements. Currently, branch staff assist and promote effective recycling in their compliance and inspection operations rather than penalize for non-compliance. The branch is also responsible for inspecting and enforcing the compliance of businesses with the city's plastic bag ban. As its predecessor department, it was responsible for monitoring and enforcing the laws regulating polystyrene food containers. It will likely be responsible for the monitoring and enforcement of any polystyrene food container ban.

**Honolulu Police Department**

The Honolulu Police Department is responsible for enforcing the city's environmental mandates as specified by ordinances and law, including citing violations of the state's littering ordinance, Hawai'i Revised Statutes Section 708-829.

## Objectives, Scope and Methodology

The main objective of this study was to determine the potential financial and non-financial impacts of the city banning the use of single-use PS food containers by restaurants, lunch wagons, and other purveyors of meals and snacks.

The team performed a variety of tasks to address the study's objectives. The team did islandwide beach and stream observations and interviewed 15 local food businesses from a variety of backgrounds and sizes. In addition, the team interviewed 2 local manufacturing companies and food container distributors. The team also met with 5 environmental and non-profit organizations, including the National Oceanic and Atmospheric Administration (NOAA), Keep Hawai'i Beautiful, Kokua Hawai'i Foundation, 808 Clean Up, and B.E.A.C.H.

To identify incentives, best practices, and relevant technologies employed in other jurisdictions, we examined laws and bans passed related to polystyrene food containers. We also reviewed comparable cities that implemented these laws and regulations. These jurisdictions included Athens-Clarke County, GA; Berkeley, CA; Folly Beach, SC; Hawai'i County, HI; Houston, TX; Madison County, NY; Maui, HI; New York, NY; Philadelphia, PA; Portland, ME; San Diego, CA; San Francisco, CA; Seattle, WA; and Washington, DC.

A local company, OmniTrak, Inc. was used to survey local residents and businesses on the impact of the ban. The survey results were statistically projected and are detailed in Chapters 3 and 4.

This audit was performed in accordance with modified GAGAS (generally accepted government auditing standards). Audit recommendations were informal and presented as options for reducing litter. A formal, written response from management was not required to ensure project deadlines were met. The audit report was formally and informally discussed with city auditees and managers, their comments incorporated into the report, and the report formally discussed at exit conferences before publishing

the report. The audit was performed from March to October 2018 in accordance with modified GAGAS. These standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Study Results

Minimizing litter to keep our natural environment beautiful and safe from harm is an important community objective. To be successful, the city should pursue comprehensive methods rather than a simplistic ban on a single kind of litter/trash that is unlikely to effectively reduce the overall amount of litter and its harm to the environment.

That said, there is general support among residents and businesses for a ban on polystyrene food containers, even if it means food prices will increase. However, a ban on single-use polystyrene food containers will negatively impact certain classes of small foodservice businesses that are not prepared to transition to alternate food containers. The ban may also disrupt certain business environmental advantages accruing from local manufacturing and distribution of PS food service items, which act to create economic efficiencies, lower prices and increase access for local businesses. Any attempt to regulate the foodservice industry will impact a wide segment of Honolulu residents, largely in the form of price increases passed on to customers. Some impacts to certain vulnerable classes of residents need to be closely examined to prevent unnecessary effects and harms.

### *Single-use food containers are properly disposed of only at H-POWER*

Despite product markings and claims about being compostable or recyclable, all single-use food service products collected by the Department of Environmental Services is taken to H-POWER and burned. There is no composting or recycling of food containers conducted locally.

### *Other jurisdictions efforts to regulate polystyrene food containers*

There are various approaches to polystyrene material bans in the United States. We found over 60 expanded polystyrene foam bans in various cities and counties nationwide, with a majority in California. Most bans target foodservice establishments and retailers' use of single-use PS food containers for takeout foods.

Generally, the bans we reviewed utilized these approaches:

- **Complete plastic ban: Seattle.** Single-use PS food containers, plastic utensils, straws and bags are prohibited.
- **Government prohibited: San Diego.** Prohibits government purchase of polystyrene containers. Hawai'i Department of Education (DOE) is considering an administrative decision concerning purchasing of single-use PS food containers for school cafeteria supplies.
- **Inventory of containers monitored: Berkeley, CA.** Restaurants and retail businesses submit lists of containers to government for review.
- **Protected Area of prohibition: Miami, FL and Folly Beach, SC.** No food containers at beaches and parks to prevent littering and environmental harms.

### *PS bans do not reduce litter*

PS bans are compatible and necessary for the waste management approaches of other jurisdictions, but are not directly effective in reducing litter. Most jurisdictions with bans in place use recycling and composting as primary waste management approaches to divert waste from the landfill. If waste is not recycled or composted, it will be landfilled or littered. So a critical issue is will the waste degrade or decompose effectively? Compostable products are critical waste management and environmental issues in these jurisdictions.

Common exemptions to polystyrene bans are granted for temporary economic hardship caused by the imposed requirements. Some polystyrene applications are excluded from bans like grocery meat trays, ice chests, and some prepackaged foods (e.g. ramen soups).

We found no examples of government incentives at the local level to promote transitions to green approaches or grants of business assistance in the form of tax exemptions or credits or special development assistance. No examples were found at the city or county level. Most incentives are done at the state level to either promote new industries, or to promote innovation for environmental reasons (green manufacturing).

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# Chapter 2

## Banning Single-Use Polystyrene Food Containers Will Not Reduce Litter

Minimizing litter to keep our natural environment beautiful and safe from harm is an important community objective. To be successful, the city must pursue comprehensive methods rather than a simplistic ban on a single kind of litter/trash that is unlikely to effectively reduce the overall amount of litter and its harm to the environment.

### Background

Litter on our streets, parks, waterways and beaches comprise a broad range of items representing what people typically use in their daily lives. All types of materials, including single-use food containers, are occasionally discarded improperly without regard to the impacts. Recent focus has shifted to how the city can best deal with plastic bag and single-use polystyrene (PS) food container litter and minimize its damage to the environment. Current policy efforts seek to ban these items from use and to decrease the potential amounts of litter that result from improper disposal of these items.

### Proper Disposal of Polystyrene Food Containers

Under the current waste management system on O'ahu, any single-use food service container, no matter the type or quality disposed in the trash, would be collected and turned into energy at the city's waste-to-energy facility, H-POWER. This is because any food container thrown in the trash would become a part of the normal municipal solid waste (MSW) stream. The waste is normally collected by licensed private refuse haulers from businesses, hotels, and private vendors. Single-use food containers taken home and thrown away by residents are normally collected by city crews. With the recent third boiler expansion of H-POWER, all MSW including single-use food containers is diverted from landfill disposal and converted from waste to energy.

#### *No local composting or recycling of single-use food containers*

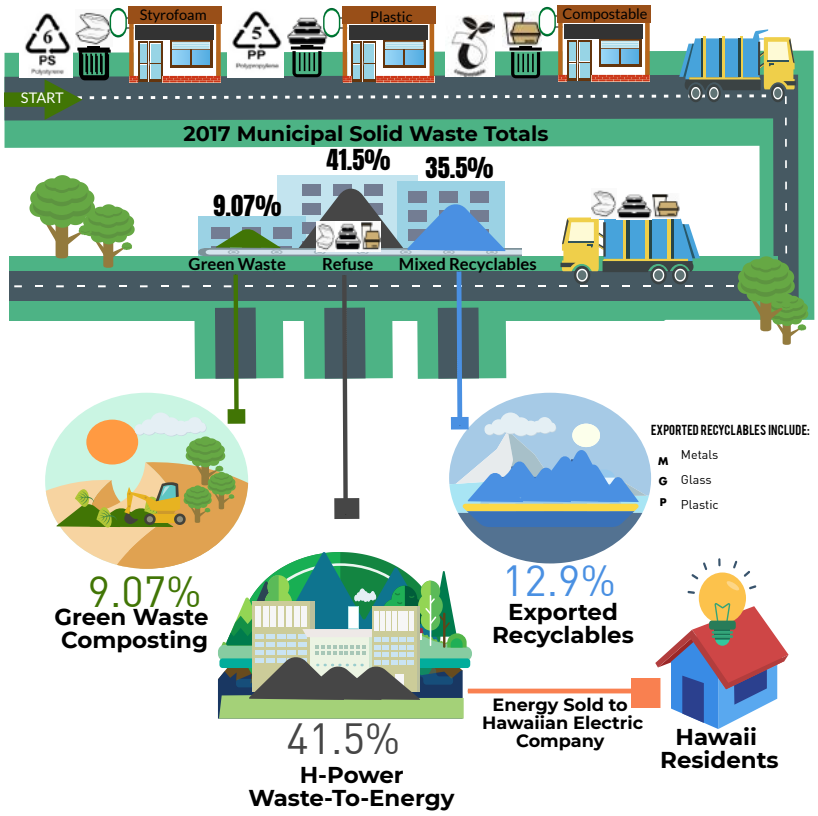
There is no local composting or recycling of polystyrene food containers and compostable food containers. To determine whether any business on the island composts or recycles single-use food containers, we contacted the State Department of

Health Solid and Hazardous Waste Branch (DOH). This state government agency is responsible for permitting and regulating such operations. DOH indicated they were not aware of any recent applications or companies on O'ahu collecting, accepting and/or processing recyclable or compostable single-use food service containers.

***Single-use food containers are converted like all solid waste into energy by H-POWER***

The City and County of Honolulu employs a Waste-To-Energy combustion plant known as H-POWER. All single-use food service products, if properly disposed of, are collected by the Department of Environmental Services and private refuse collectors. These collections are taken to H-POWER and burned, converting the Honolulu's plastic and compostable food container waste into energy. H-POWER currently produces up to 10% of O'ahu's electricity. Exhibit 2.1 illustrates Honolulu's current solid waste to energy process and all food containers which are properly collected and disposed will be processed this way, no matter their ability to be composted or recycled.

**Exhibit 2.1**
**Solid Waste to Energy Flowchart**




Source: Office of the City Auditor

***Benefits of the current disposal system***

- Much of Honolulu's municipal solid waste is diverted from the landfill via recycling and energy conversion.
- Green waste is diverted from the waste stream, composted, and made available for soil enhancement products.
- Metals, glass, and plastics are diverted from the waste stream, sold to commodity markets for recycling and sometimes return revenues to the city.
- Energy created by the H-POWER process supplies up to 10% of the city's energy needs, and avoids importation of oil and costly shipping, with its attendant negative environmental impacts.
- Energy sold to Hawaiian Electric provides the city with millions of dollars in electrical revenue.

***Amount of properly disposed polystyrene items, including single-use food containers, is unknown***

The amount of polystyrene items that are properly disposed of is unknown, but likely very small. The Department of Environmental Services conducts periodic waste characterization studies, the most recent was completed in 2006, and a new one is due this year. These studies provide information on the quantity and types of wastes disposed on O'ahu by breaking down the entire waste stream into general categories such as paper, plastics, metals, glass, green waste, inorganics, etc. These general categories are then further sorted into specific types of wastes such as newspaper, high-grade paper, low-grade paper, PET bottles, HDPE containers, etc.

The most recent study did not specifically assess single-use PS food containers, and it is impractical to estimate quantities based on the data provided in the study. It appears that polystyrene waste is a very small component of Honolulu's overall municipal solid waste, with an estimated 6,800 tons (0.9% of the total waste stream) sent to H-POWER in the study year.

***PS food service containers are a small portion of litter and banning them would not meaningfully reduce the volume of litter or trash observed and any harm to the environment***

Previous Honolulu litter studies have determined that single-use PS food service containers are a small component of Honolulu's litter. Since there is no reusable alternative food container, a ban simply will substitute other containers that will likely be littered. Studies have shown that bans only change the composition of litter. The amount of the banned item found in litter will be reduced, but when the item is already a small component of litter, the difference is negligible.

***Previous litter studies establish single-use polystyrene food container litter as a minor component to overall litter***

***2012 Study on Contribution of PS Foam Food Service Products to Litter***

This study evaluated 19 statistically based litter studies from around the nation and Canada. The study found that when PS food service products are specifically studied in litter, PS food service products are a small portion of the overall litter in the studied jurisdictions, with a 1.5% median of all littered items. Since 2000, when studied, PS food service litter has declined to a median of 1.1% of all litter.

***2016 Technical Assessment: Litter, Solid Waste and Storm Water Management Systems in Honolulu, HI***

A technical assessment was performed over 400 miles of roadways and recreational areas were surveyed in detail during April 2015 for the state government. The study's author reported that PS foam food service items were observed to be a minor component of litter found throughout Honolulu during the study.

***2016 Hawai'i State DOT Trash Reduction Study, October 2016***

In preparation of its federal discharge permit, the state transportation department (DOT) released its trash reduction study in October 2016. The three largest contributors to the trash composition observed were:

- Plastic bags and packaging 51%
- Miscellaneous items of trash 21%
- Paper 18%
- PS foam trash 1.46% (similar to reported national average)

All three litter studies established polystyrene food container litter as a minor component to the overall litter. The studies indicate governmental regulatory efforts on banning plastic bags and packaging should be redirected to reducing litter and, combined with regular monitoring and enforcement of litter laws, educating citizens to modify their behavior concerning improperly disposing/littering their waste.

***Without reusable alternatives, other food containers replacing PS will be similarly littered***

Food service containers made of polystyrene are a minor component of litter and, because there is no reusable alternative, a ban simply will substitute other containers that will likely be littered. Proposed restrictions on the use of PS food service products are different from the restriction on plastic bag usage, which was dependent on viable substitute reusable bags that would be purchased and reused.

There is no current feasible use for personal reusable food containers as a takeout option due to food safety regulations. FDA regulations largely discourage and restrict foodservice businesses from accepting personal, reusable consumer takeout containers due to sanitary and health reasons. This likely means any banned items would simply be replaced by other food service containers (fiber, paper or plastic) that likely would be littered in the same fashion.

***Material bans change the composition of litter, with negligible effect for already small components of litter***

We found very few post-material ban litter studies to review the effect of bans on the presence of banned items in litter and to reduce litter overall. Studies have shown that bans only change the composition of litter. The amount of the banned item found in litter will be reduced, but when the item is already a small component of litter, the difference is negligible. Honolulu's proposed polystyrene food service container ban appears to fit the criteria.

In San Francisco, they found post-ban that its already small amount of PS litter had reduced from 0.9% to 0.6%, but overall litter amount and food container amounts had increased. This suggests other food containers were substituted for PS ones and were similarly littered, but in greater volume.

The California State Water Resources Board in its NPDES application noted that a ban of PS foam food containers resulted in the substitution of other products that were discarded in the same manner. We believe any proposed ban of polystyrene food containers here would share similar results in terms of littering.

***A ban on single-use polystyrene food service items would have limited effect on most debris and litter***

Our field observations confirm that much of the litter and debris we observed at city parks and beaches would be unaffected by a ban on single-use polystyrene food service items. The majority of litter we observed were miscellaneous items, and food service items were mainly of non-polystyrene material that would remain unaffected by a ban.

We conducted field work observations, documenting and surveying examples of improper disposal of polystyrene single-use food service containers in heavily trafficked city and county beach parks. The objective of the observation was to see if there was a substantial amount of polystyrene containers or debris littered throughout the parks and shoreline. We identified Ala Moana Beach Park and Kailua Beach Park as high use locations that we wanted to visit and observe after major holidays such as the Memorial Day weekend, the Independence Day weekend, and the Labor Day weekend. We also observed major city parks and beaches around the island to compare their use, the amounts and kinds of litter and debris present, and considered other contributing factors for the conditions we observed.

***Ala Moana Observations***. We found limited single-use polystyrene food service container trash littered at Ala Moana Beach Park during our visits. We found only one single-use polystyrene container that was improperly disposed of and two polystyrene plates and a few pieces of polystyrene debris during our first visit. One food container had been dug out by a homeless person and left beside the trash bin. Bigger issues appeared to be littering of miscellaneous items; poor and inefficient containment of trash by receptacles that were overfilled and unlidded; and trash blown across the beach park and shoreline.

**Exhibit 2.2**
**Photos of Park and Beach Litter**

*Above: Beach shot of litter in sand; Pringles chip container, plastic cup and plastic candy bag on shoreline.*

*Right: Photos of bagged open trash in parks.*

Source: Office of the City Auditor

**Exhibit 2.3**
**Photos of Litter and Polystyrene Containers Around Trash Cans Without Lids**

*Left Photos: Photos of Styrofoam items: bowl, plate, single-use food service container and debris in grass.*
*Right Photos: Photos of trash cans without lids and various litter around trash cans.*

Source: Office of the City Auditor

Many personal litter items (e.g., baby wipes, candy bags) were found on the beach and shoreline. We also noted multiple, large piles of trash bags and lose trash that could easily be blown away. The latter caused a large amount of litter and debris to end up on the beach or shoreline.

None of these situations would be resolved by a single-use PS food container ban, but better trash containment might prevent polystyrene food containers and debris from escaping trash cans.

***Kailua Beach Observations***. We found no single-use polystyrene food containers that were improperly disposed of during our visits at Kailua Beach. However, we did find multiple instances of pieces of polystyrene debris throughout the park and in the sand, as well as, along the shoreline. We also found a large amount of microplastic and debris washed up on the beach

along the shoreline. These tiny pieces of plastic appeared to be washed up from the ocean and broken down into tiny little pieces contributing to the global phenomenon known as microplastic pollution.[1] None of these situations would be resolved by a polystyrene food container ban, but better trash containment might prevent polystyrene debris from escaping trash cans.

**Exhibit 2.4**
**Photos of Polystyrene Litter in Grass, Sand, and on the Beach**

*Left Photos: Photos of Styrofoam items (plate and debris) in grass and sand.*
*Right Photos: Photos of microplastic pollution washed up on the sand and along the shoreline.*

Source: Office of the City Auditor

[1] Microplastics are small pieces of plastic that pollute the environment. While there is some contention over their size, the U.S. National Oceanic and Atmospheric Administration (NOAA) classifies microplastics as less than 5 mm in diameter. They come from a variety of sources, including cosmetics, clothing, and industrial processes. Two classifications of microplastics currently exist: primary microplastics are manufactured and are a direct result of human material and product use, and secondary microplastics are derived from the breakdown of larger plastic debris like the macroscopic parts that make up the bulk of the Great Pacific Garbage Patch. Both types are recognized to persist in the environment at high levels, particularly in aquatic and marine ecosystems.

***All observations generally***. The majority of litter we observed was located by streams and canals rather than beaches, caused by homeless encampments, items discarded by pedestrians and vehicles, and lack of trash cans. We came across many active and previous homeless encampments near streams, canals, and beaches. The proposed ban would not have a meaningful effect in reducing the propagation of litter in these areas.

**Exhibit 2.5**
**Photos of Homeless Encampment Litter**

*Homeless encampments in canals and streams resulting in litter and debris.*

Source: Office of the City Auditor

***Sources of Litter***. The causes of the litter we observed like homeless encampments, unlidded garbage cans, and no garbage cans would not be affected by a PS food container ban. Based on our observations, we expect that the litter would include an increase of non-PS food containers.

For instance, near a recreational area, many kinds of food containers were littered on a stream bank next to where the public parks their cars and where people socialized. Trash cans were provided near the recreational facility, but quite far from where most people parked. This litter was the product of many, many instances of carelessness and neglect, but only PS food container trash would be regulated out of this impromptu trash heap of many different food containers on the stream bank.

**Exhibit 2.6**
**Photos of Trash and Litter Around Locked Dumpster**

*Recreational park area prone to loitering, trash and litter. Garbage dumpster is located across the street and is locked up at night. No other trash receptacles available for proper trash disposal.*

Source: Office of the City Auditor

***The marine debris we observed would not be reduced by a single-use PS food container ban***

Based on the State of Hawai'i Department of Land and Natural Resources' tsunami debris study report, we determined beach sites which were subject to natural accumulation of marine debris. We observed high accumulation sites around the island that we could legally gain access to make observations of the amounts of marine debris present and the kinds of materials that make up marine debris.

Marine debris is defined as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes. Several oceanographic processes, including gyres, eddies, and meanders, drive the movement and accumulation of marine debris. Hawai'i is located in the center of the North Pacific Subtropical Convergence Zone, largely affected by the Central Pacific Gyre. This gyre is powered by four major ocean currents that stretch across the north Central Pacific Ocean from Japan to California. Because a circulating body of water collects debris in its center, the coastlines of Hawai'i receive significant quantities of debris each year.

We visited the Kahuku Golf Course beach on two separate occasions for observation. The beach is cleaned monthly by volunteers from the non-profit group, 808 Cleanups. We went to the beach in the week prior to the scheduled cleanup. It was strewn with fishing nets, remnants of plastic containers, plastic household, commercial, and service items, and small and large varieties of plastic debris. There appeared to be some personal trash and discarded drink containers. Plastic bags were present, as the place is known to attract homeless from time to time. A polystyrene grocery meat tray used to carry fishing bait was jammed in the rocks. But there were no polystyrene food containers or remnants in the litter we observed.

**Exhibit 2.7**
**Photos of Kahuku Beach Before and After Beach Clean-Up**

*Left: Kahuku Golf Course Beach before 808 Cleanup. Kahuku Golf Course Beach is known to be the dirtiest beach on O'ahu caused by marine debris.*

*Right: Kahuku Golf Course Beach after 808 Cleanup.*

Source: Office of the City Auditor

We returned to the beach days after a scheduled cleanup. The beach was so clean that a sea turtle had come up to sun on the beach. The only evident debris on the beach was the natural wash up of wood, seaweed and rocks. The cleaning of the beach and the removal of the debris was successfully accomplished by volunteers.

With or without a ban, this beach will have an ongoing need for monthly efforts to clean and remove marine debris plastic, and it will continue indefinitely as large amounts of plastics mixed with the marine debris wash up on the beach. With the occasional human habitation and visiting of the beach, personal litter will occur, but it is not evident how a single-use PS food container ban

would make a difference in reducing the human contribution to the debris and littering in the area.

***The city should instead implement targeted enforcement of existing litter ordinances to reduce the blight and environmental hazards of litter***

The ostensible reason for banning polystyrene food container items is that when they are improperly disposed, they create blight and pose hazards to our natural environment. However, as discussed above, it is a minor component to Honolulu's overall litter. To promote a meaningful reduction of overall litter, the city could start by implementing targeted enforcement of existing litter ordinances. The data collected from the citations could help determine where larger amounts of trash are, and increase the ability to observe and trace their source. It is important to learn the how and the why, not just what is in litter.

Under current conditions, there is not enough staffing to prioritize enforcement of the litter ordinance or perform litter removal. Often litter removal is coordinated by city departments with volunteer groups to promote cleanups of city parks, streams, and beaches. It is not routinely conducted by city staff.

The state's littering enforcement law provides for community service and fines for offenders and repeat offenders. A first offense is 4 hours of litter removal community service. A second offense is 8 hours of litter removal community service and a $500 minimum fine. These cases require court adjudication. Although the police department issued 380 citations in 2017, only 8 cases were initiated for littering on O'ahu in the state Environmental Court in 2017. This means less than 2% of these cases are enforced as intended.

## Options to Reduce Litter

Effective litter abatement of food service as well as other items can be achieved by using a multi-prong approach:

1. Develop an ongoing, islandwide litter education program using a local-based theme;

2. Get communities to support the use of lidded trash receptacles as an integral part of this program;

3. Engage the foodservice business community and tie this in to an overall community program;

4. Enforce existing litter ordinances. People (and businesses) only believe that something is important if the community makes clear that it really is;

5. Ensure all parks, beaches, and other places where the public gathers have adequate trash containers, container service, and trash containment;

6. Disrupt tents and encampments of unauthorized camping, especially near rivers and streams, or other places where the trash generated would not be contained and pose harm to the natural environment; and

7. Prohibit all food containers in specific areas, like beaches and near streams, where food container litter could pose the most harm to the environment.

## Conclusions

A simplistic ban on a single kind of litter or trash is unlikely to effectively reduce the overall amount of litter and its harm to the environment. Most instances of accumulated litter and debris observed during the study would not be affected by simply imposing a ban on polystyrene food service items. The removal and cleanup of debris requires community and volunteer assistance because the city cannot staff the activity, and the needs are ongoing. The enforcement of littering statutes requires greater priority and focus by police and community members to show the commitment and importance of keeping the environment litter-free.

# Chapter 3

## Single-Use Polystyrene Food Containers Ban Would Negatively Affect Some Businesses

A ban on single-use polystyrene (PS) food containers would negatively impact certain classes of small foodservice businesses, who are not prepared to respond to the costs of transitioning to alternative food containers.

## Background

The use of the single-use PS take-out food containers has long been associated with the local foodservice industry and takeout meals. Local proponents of the container cite its durability, its insulation, its safety and its cost effectiveness for business. Advocates against the use of the containers cite that it is lightweight and easy to be littered, degrades into small pieces, and has a high potential for timeless damage to the environment. All agree that when these containers are improperly disposed, they can be a blight and pose hazards to our natural environment, and negatively impact our tourism-dependent economy.

### *Use of single-use polystyrene food containers*

From the accounts of restaurant users, existing single-use PS food containers are safe, economical and effective for foodservice use. These containers are well-established and have a long history of use in the local foodservice industry. While single-use PS food containers are not necessary for every food service item, they work particularly well with dishes that are served hot, with gravies, or are soup-based. For users with these requirements, they confirm that non-plastic, single-use containers are not effective with these kinds of foods, or have limitations that require extra care. Users also cite the product's cost, which helps keep their overall cost of business down. There are number of alternatives to single-use PS food service containers that are not derived fossil-fuels, but these typically cost 2 to 6 times the price of a comparable single-use PS food container.

We heard numerous claims about the health and safety of human use of these containers, but we lack the expertise to evaluate or assess these claims. An analysis of the potential health and safety risks associated with using these containers is beyond the scope of this report. We note, however, all food containers must meet federal Food and Drug Administration's requirements, and the agency does regulate food packaging in the United States, to the

extent that it ensures the safety through regulating the specific ingredients/chemicals used to make a food container.[1]

## Impact of Banning Single-Use Food Containers

The OmniTrak survey of businesses on the potential impact of the ban are itemized below.

### *The ban would eliminate the advantages of local access to single-use polystyrene food service containers*

According to businesses and residents, single-use PS food containers are locally manufactured or shipped in from the mainland United States and China.

Although there are a wide array of local distributors of single-use PS food service items, the presence of a local manufacturer is convenient and provides many advantages. For example, businesses may order items as needed and in the quantities needed. If the items are shipped from the mainland, the businesses would have to order in bulk quantities that exceed their immediate needs, and incur storage costs until the items can be used.

For the local foodservice market, the local manufacturer allows them to keeps costs down, provides faster access to supplies; reduces the amount ordered, and eliminates shipping costs. Locally, PS items can be produced quickly and in small quantities needed by local businesses. For example, a local manufacturer can produce and fill orders within 14 days or less. Ordering from the mainland would take 6 or more weeks for items to be delivered.

Items ordered from the mainland or abroad must be purchased in bulk and create a need for storage. Due to their degradable nature, non-PS products require special handling and must be stored in a controlled environment to ensure the products maintain their integrity and usefulness.

[1] Though many consider white single-use polystyrene food containers to be made of styrofoam, *Styrofoam* instead is an industrial polystyrene product that is not FDA-approved nor has it been tested for safe contact with food. The material of concern in the report is expanded polystyrene foam used to make foam takeout food service containers.

### *Other impacts of the ban on local manufacturing and distribution*

Businesses surveyed reported some of the following potential impacts on local businesses, manufacturing, and distribution:

- A ban on single-use PS food containers will result in nearly all non-PS food containers being shipped in and would create a dependency on outside sources which could be adversely affected by natural disasters, emergencies, or disruptions in shipping.

- Currently, problems exist in supplying non-PS food containers in bulk, providing cost-effective purchases for restaurants, and timely filling of orders to meet the immediate needs of restaurants.

- Compostable and other non-PS food containers are much heavier than PS food containers. The ban will likely increase shipping costs, and compound the cost of being in Hawai'i and its high operating costs.

- The ban will end or curtail local manufacturing of PS items. Due to the land, water and electricity costs, and the small economy, local manufacturing is difficult in Hawai'i. Obtaining local materials may be difficult and local production may not be economical for the quantities produced.

- PS food service items are used to support emergency response operations, to provide meals to the elderly, to provide safe food temperatures, and for logistical ease. The ban will make it harder to provide these services.

## Business Survey Results

As community partners, restaurants reported to us that they want to do what is best for the environment. Some businesses have taken action to prevent their food containers from being littered. Examples of common actions that they took were: switching to compostable products (47%), picking-up customer trash and recycling (14%), and reducing the distribution of containers and straws (14%).

Our survey revealed that 95% of respondent owners said that they believe waste and litter is an environmental problem for our streams and ocean. Even more, 98% of respondents stated that they would be willing to do more if they knew it would be green and protect the ocean. The matter of how much more was subordinate to their business concerns in a difficult restaurant and overall market in Honolulu.

### *Business Survey Scope and Methodology*

The Office of the City Auditor requested a comprehensive study with a random sample of residents of the City and County of Honolulu for the purpose of gathering insight concerning City Council Resolution 18-35, CD1. This study was conducted by OmniTrak, Inc. from September to October 2018.

The overall objective of the research was to obtain the opinions of business owners and operators about the financial and non-financial impact of a proposed islandwide ban on single-use food service containers. Survey questions and topics were prepared after consultation with various groups, and then refined and selected by the Office of the City Auditor.

OmniTrak conducted the survey utilizing a multi-mode methodology. OmniTrak purchased a random sample list of foodservice businesses, in the relevant categories, from a professional sample firm. All respondents were screened as:

- Restaurants and foodservice businesses in the City and County of Honolulu.

The response returns by mode of methodology is below:

| | |
|---|---|
| Phone (computer assisted interviewing): | 130 |
| Mail (long form question survey): | 10 |
| Online (long form question survey): | 2 |
| Total | 142 |

The results were statistically re-weighted, as needed, to reflect the proper restaurant business composition of the entire community, using state industry information. The precision of the estimates of the surveys were to a 93% confidence level with no greater than plus or minus seven percentage points around any given percentage reported for the entire sample.

### *Owning a restaurant in Honolulu is very costly*

The survey revealed the greatest difficulty that restaurants face is ever-increasing costs. Over three-fourths of responding businesses indicated that employee wages, food ingredients, and takeout supplies had increased and for some, greatly increased in the past two years. Other expenses, such as rents/leases, insurance, regulatory costs, fuel costs, and employee benefits had increased for most of them. Overall, the cost of operating a business increased during the same recent period.

***Raising prices is a common business response to increasing costs***

In response to increased costs, a majority of owner respondents (76%) said that they *increased prices* to their customers. There were some that absorbed the cost, and others who tried to scale back in other ways instead of increasing prices to customers. While most took no other additional actions, some tried to cut costs, cut worker hours, cut staff and their pay, and reduce their outsourcing costs.

***Increasing prices and charging for containers willl be used to offset business costs of a single-use PS food container ban***

The majority (54%) of respondents would consider increasing prices, and nearly a third (32%) would consider charging for containers to offset increased cost. Closing their restaurant (6%) or eliminating take-out (5%) were the least considered actions to offset associated costs.

***Negative customer reaction is not typical to increased prices locally***

The survey showed that almost half of the owners who had raised prices to their customers received no reaction from their customers. About a quarter (24%) said customers were not happy, some complained, and some never came back. About 1 in 5 (19%) said that customers were understanding or were positive about increased prices.

Our restaurant owner interviewees reported that they only increase prices as a last resort, and that when they do it is in very small increments (less than $1). They also try to do everything they can to avoid it, including reducing their own take home pay. They find that their customers tend to be understanding because it is Hawai'i (difficult to do business here); it has been quite a while (up to 2 years) since the last price increase. When there is negative response, it is usually from fixed income regular customers who expect a certain price for a meal, or customers who become disgruntled with the new price.

***Restaurants are very conscious of providing value to their customers***

One of our respondents stated a large portion of their business is large celebration parties or catering involving families and friends. The restaurants view these large family gatherings as essential to their business. The restaurant believed that families find value in gathering in their local community and celebrating at a reasonable price. This respondent was of a size that was well able to absorb any costs from regulatory changes, but still was concerned that if it has to raise prices it will affect the value it can offer its family customers, may discourage social gatherings, and ultimately harm local communities.

Most restaurants surveyed (54%) indicated their primary clientele was family customers. Other groups of clientele mentioned were mixed groups, middle income customers, college students, and senior citizens. A common thread among all of these groups was customer value. Our restaurant interviewees emphasized providing value to their customers as very important. Respondents indicated that their customers also wanted good customer service. Offering takeout and healthy options were considered the least important to customers.

### *Restaurants are very aware of the proposed single-use PS food container ban*

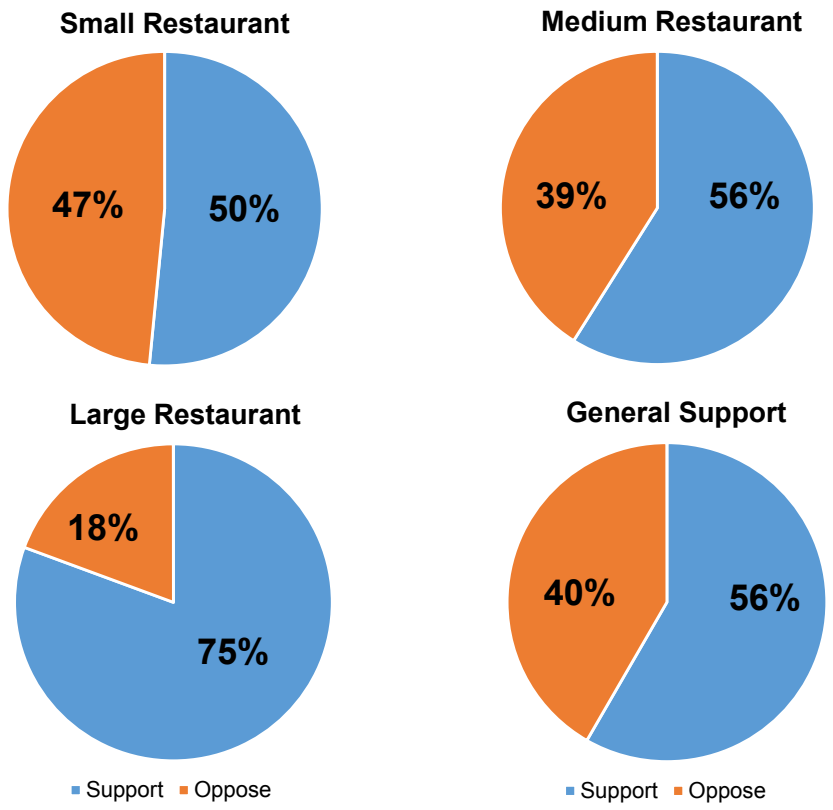
About 3 in 4 (74%) of respondents stated that they were aware of the city council's proposed ban on single-use PS food containers. Food trucks were more likely to have heard about the proposed ban compared to other foodservice businesses.

There was a general reluctance among many of the owners of locally famous restaurants, including some already widely known as high contributing community and business leaders in their own right, to take a public position on the ban. They often fear retribution and damage to the goodwill of their business. All were focused on doing the right thing for the environment and their customers, doing what made sense for businesses, yet none wanted to alienate their customers by appearing to pick sides in the controversy.

### *Respondent owners generally support the single-use PS food container ban*

More than half (56%) of respondents surveyed stated that they would *support* a bill that banned the use of single-use polystyrene food containers, while 40% of respondents stated that they would *oppose* such a ban. The following exhibit shows the amount of support and opposition of the proposed ban on single-use PS food containers.

**Exhibit 3.1**
**Support of Single-Use Polystyrene Food Container Ban Among Types of Restaurants**




Source: OmniTrak and Office of the City Auditor

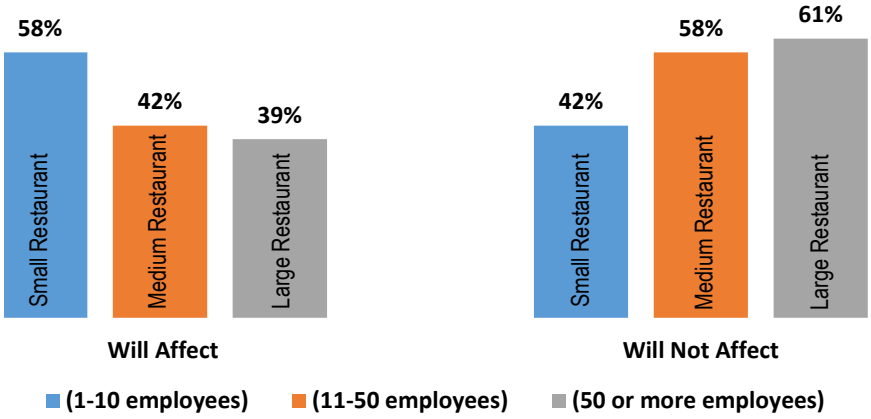
The following were the statistical highlights of analyzing the support for the single-use PS food container ban among restaurant owners and operators:

- Roughly 2 in 5 (39%) business respondents stated that they would strongly support a bill that banned the use of single-use polystyrene food containers;
- 17% of respondents stated that they would strongly oppose such a ban;
- Smaller restaurants (26%), restaurants with less than 10 employees, were more likely to strongly oppose the ban; and
- Larger restaurants (46%), restaurants with 50 or more employees, were more likely to support the ban.

***Support comes from a belief that the ban will not affect their business***

A majority (55%) of respondents stated that a polystyrene ban would not adversely affect their business. Smaller businesses were more likely to indicate that a polystyrene ban would adversely affect their business compared to larger businesses. Most of our restaurant interviewees were very concerned about the ban's effect on their business because single-use PS food containers were very integral to their business.

**Exhibit 3.2**
**Views on the Effect of a Single-Use Polystyrene Food Container Ban by Size of Restaurant**




Source: OmniTrak and Office of the City Auditor

For the businesses who did not feel the ban would affect them, the top reasons cited for the ban not affecting their business were:

- We don't use polystyrene (47%);
- We use paper/cardboard containers (23%); and
- Little to no change to my business (13%).

For the businesses who feel the ban will affect them, the top reasons cited for the ban having an effect on their business were:

- Polystyrene is cost effective (50%);
- We use them (polystyrene) regularly (23%); and
- Polystyrene is more purposeful (19%).

***Many restaurants report already going away from single-use PS food service items***

None of our interviewed owners mentioned that customers were telling them to change to non-PS food containers. This seems to come instead from their assessment of the suitability of non-PS food service items to meet their needs and being interested in the environment. Businesses can seek assistance and guidance on being more environmentally aware and eco-friendly from trade organization initiatives and environmental interest groups (e.g. Malama 808 program, Ocean Safe Restaurants). Some owners informed us that letting the business, customer or local market decide their preference works better than passing an arbitrary ban with the unknown collateral impacts.

The key distinctions on where restaurants fall on this issue seemed to be:

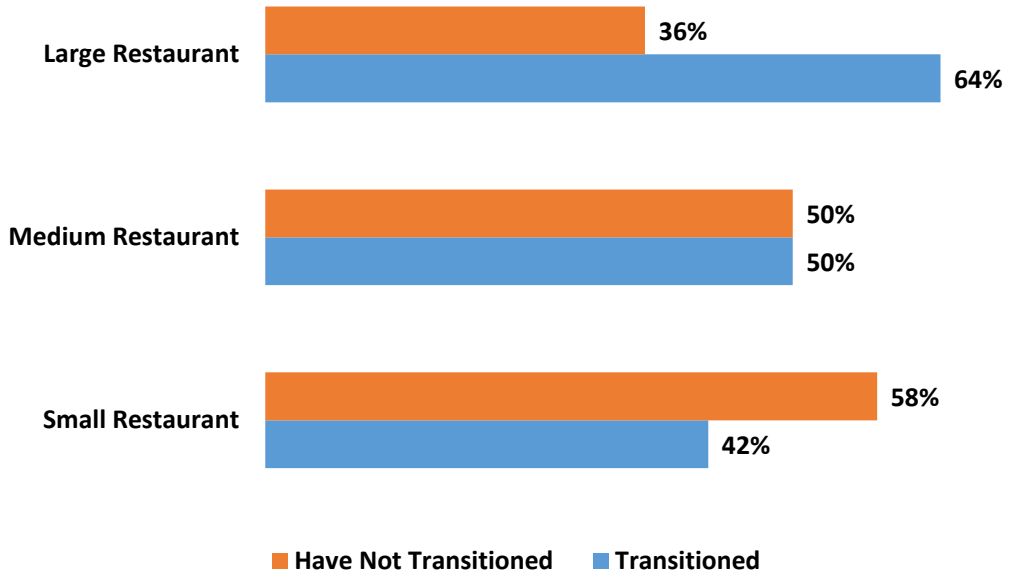
- whether polystyrene containers were used at all;
- whether there were cost-effective options besides polystyrene containers; and
- whether polystyrene containers met their individual needs best.

***51% of respondents report already transitioning from single-use PS food containers***

Just over half of respondents (51%) in our survey said that they have already transitioned to compostable or other types of containers. Larger companies (more than 50 employees) (64%), were more likely to have already transitioned to compostable containers compared to smaller companies (1-10 employees) (42%).

The larger companies we interviewed indicated that they would be able to survive the increased costs resulting from a single-use PS food container ban. They would be reluctant to raise prices and affect the value they provide their customers, but they would not hesitate raising them to meet increasing costs or increased container costs. Exhibit 3.3 shows the reported transition status of various sizes of restaurants.

**Exhibit 3.3**
**Transition from Polystyrene Containers by Types of Restaurants**




Source: OmniTrak and Office of the City Auditor

The single-use PS food container ban impact seemed to most heavily affect small businesses who have small margins, not much room for absorbing more cost, and are limited in their flexibility to make changes to their operations, including seemingly small ones like changing takeout containers.

***The largest financial impact of a single-use PS food container ban will likely fall on small businesses, who currently are not well prepared to respond***

Most of the small businesses we interviewed had not even considered transitioning from single-use PS food containers, and most do not know where to start to assess such a change. As a result, they generally did not know whether a non-PS food container meets their business needs and budget. They did not know how much it would cost to comply with a potential PS ban on food containers; did not know the increased monthly costs; had not considered how they would handle the cost increases; and had not determined whether the single-use PS food container ban would result in higher prices for customers. They were not well prepared to respond to the potential ban, even though the ban would have significant cost impacts on small businesses with tight operating margins.

***Many smaller restaurants have not considered whether transitioning to a non-PS container meets their needs and budget***

Many of the restaurant owners interviewed had not even started to consider a transition of their take-out containers. Many of them would not know where to start, so it is not surprising that survey respondents also did not know the cost to transition away from single-use PS food containers; what the increased monthly cost to their business would be; or how they would handle the cost increases (e.g. raise menu prices). The estimated costs cited by owners varied by size of business, but were a substantial increase to monthly and annual takeout food container costs.[2]

***Most do not know the cost to transition to non-PS containers***

Despite a majority of respondents reporting that they already had transitioned to a different food container, a majority (51%) said they did not know what the cost difference was. Twenty-one percent of the respondents stated the cost difference per container was up to 20 cents per container.

For those who had not transitioned, 59% of respondents reported that they did not know the cost difference to transition to a different food container. Thirty-four percent reported it would cost up to 60 cents per container.

***Most do not know the increased monthly cost to the business of a single-use PS food container ban***

Respondents said that on average, they expect the estimated monthly cost of the polystyrene ban to their business to be $294.64. Eighty percent of the respondents said they did not know what the monthly cost of the polystyrene ban would be on their business; this is especially true among small businesses, those with 1-10 employees, where 86% of them said they did not know what the monthly cost would be.

Survey analysis revealed that an increase in container costs could cause serious operational constraints, particularly for small restaurants with tight operating margins. Additionally, larger more active take-out businesses could also be negatively impacted by increased container costs, dependent on their use of containers. Exhibit 3.4 shows the monthly and annual cost increase estimates for various sizes of businesses to transition to non-PS food containers.

[2] Some owners were not concerned with the single-use PS food container ban because takeout food is not a large part of their business.

**Exhibit 3.4**
**Monthly and Annual Cost Estimates for Non-Polystyrene Food Containers by Types of Restaurants**

| *Type* | *Monthly Cost Increase Estimate* | *Annual Cost Increase Estimate (Monthly x 12)* |
|---|---|---|
| Total | $ 294.64 | $ 3,535.68 |
| Small Restaurant (1-10 employees) | $ 293.75 | $ 3,525.00 |
| Medium Restaurant (11-50 employees) | $ 222.72 | $ 2,672.64 |
| Large Restaurant (50 or more employees) | $ 420.00 | $ 5,040.00 |

Source: OmniTrak and Office of the City Auditor

To supplement the OmniTrak survey, we interviewed other owners. For many of the owners we interviewed, the monthly cost increase to comply with a single-use PS food container ban would reduce their monthly profits by up to 30% of their current net profit if they did not raise prices or attempt to cut costs. Overall, the cost of take-out supplies was not a major cost for most restaurant owners. However, when combined with a tight operating margin, any large increase in food container costs could make a big difference in operating results. This was the experience of most small mom-and-pop restaurant owners we interviewed.

***Most businesses do not know how increases in container costs will affect their menu prices***

A majority (70%) of respondents stated that they did not know the average take-out container cost increase that would need to occur before they increased their menu prices. Eleven percent (11%) of the respondents stated that it would have to cost more than a $1.00. Nine percent said it would have to be a price increase of between $0.01 and $0.20 cents. Owners we interviewed did not know how price increases would change their menu prices.

***Some small businesses are important for the preservation of local character and uniqueness***

Many well-known local restaurants have gone away because no one wants to continue running the business, or they have fallen due to high costs. Some of these small businesses face the same challenges to conform their business operations to regulatory requirements. This is not to say that certain businesses should be propped up by the government. Locally, if some of these unique Hawai‘i restaurants are unable to respond to increased costs due to a single-use PS food container ban, then pieces of local cultural heritage and tradition may be lost.

***Many small restaurants use single-use PS food containers to meet their unique requirements and needs***

For some restaurants, there is a practical need to use single-use polystyrene food containers.

- Generally, these containers best keep hot, soupy foods with gravies warm, and safe to transport. These kinds of ethnic and local foods are very typical to Hawai'i and single-use PS food containers best match their functional needs.

- Many have voluntarily switched to other kinds of take-out containers because their food offerings are suitably contained by non-PS food containers and they were concerned about the environment.

- A well-known restaurant, voluntarily transitioned to a compostable container, but found that the container was still not optimal for its needs (e.g., container's heat requires a plastic bag to carry it away, possibly adding to plastic bag littering), and the food within did not maintain temperatures as well as a single-use PS food container.

Other containers are not as cost effective.

- The cost effectiveness of single-use PS food service items for the restaurant industry is a constant refrain. Even though containers may not be the most expensive item, many small restaurants face tight operating margins where increases in any cost severely impact the business. Most of the owners we interviewed indicated that non-PS items were 2 to 6 times more than what they were currently paying for containers.

- At a well-known restaurant, operations require using 4 to 5 containers per hot takeout food order. We were repeatedly told by owners that establishments purchase in bulk to gain the best possible price. This locally famous mom-and-pop restaurant spends at least $4000 per month on containers because they use 4-5 containers on a takeout order. The transition would cost them at least $10,000 a month, which is too much for the business to bear. They have found no affordable alternative containers for the transition.

Other containers are not meeting their individual purposes.

- At a well-known restaurant, the business does use non-PS containers at the request of catering customers. Its food offerings do not hold up well using non-PS containers. For example, liquids will absorb into the container (e.g. leaving less soup), or containers will fail under heat stress.

- An internationally known chain reported the business took nearly 30 years to fully transition all its food containers away from PS material. A representative conceded that its food offerings are easily contained in alternate containers with no safety or health concerns, and do not face the same constraints as many hot local dishes.

## Conclusion

Restaurant ownership in Hawai'i comes at a high cost. Many small restaurants are not prepared to make the transition to non-PS food containers, or bear the additional costs, due to very tight operational margins. Although the scale and size of larger operations are currently stable, both large and small operations are susceptible to increases in costs, and as a result many will pass along the costs to their customers to offset cost increases.

Most of the small restaurants we interviewed had not considered transitioning from single-use PS food containers, and did not know how to begin assessing such a change. Additionally, they did not know how much it would cost to comply with a potential ban on single-use PS food containers. As such, they generally do not know whether a non-PS food container would meet their business needs and budget. Without this pertinent information, it was hard for owners to appropriately respond to how they would address container cost increases; or forecast their businesses future viability. Smaller restaurants with tight operating margins are likely to be the most vulnerable to increased costs resulting from a single-use PS food container ban.

# Chapter 4

## Resident Survey Results on Banning Single-Use Food Containers

### Resident Survey Scope and Methodology

This study was conducted by OmniTrak Inc. from September to October 2018. The Office of the City Auditor requested a comprehensive study with a random sample of businesses and residents of the City and County of Honolulu for the purpose of gathering insight concerning City Council Resolution 18-35, CD1.

The overall objective of the research was to obtain the opinions of residents about the financial and non-financial impact of a proposed islandwide ban on single-use polystyrene (PS) food service containers. Survey questions and topics were prepared after consultation with various groups, and then refined and selected by the Office of the City Auditor.

OmniTrak conducted the survey using an online methodology. 400 respondents were recruited from a professionally managed online consumer research panel, and all were screened as:

- 18 years of age or older
- Resident of the City and County of Honolulu for at least 6-months
- Has no one in their household who works for a research company or media/advertising/public relations agency

Results were statistically re-weighted, as needed, to reflect the proper demographic composition of the entire community. The precision of the estimates of the surveys were to a 95% confidence level with no greater than plus or minus five percentage points around any given percentage reported for the entire sample.

### Resident Survey Results

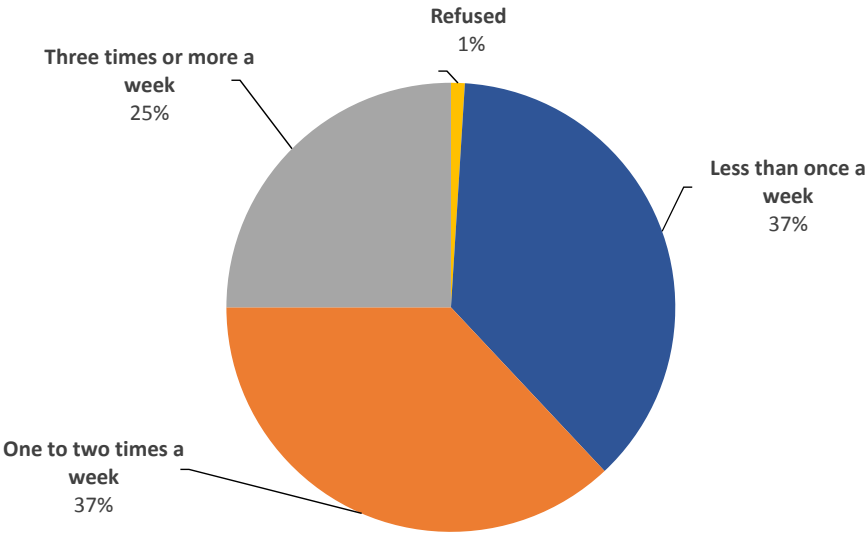
Honolulu residents eat a lot of take-out meals, and any attempt to regulate the foodservice industry, like a single-use PS food container ban, will have impacts on a wide segment of its residents. Customers who take-out meals have been subjected to higher prices recently due to increased business costs. Restaurants admit that a single-use PS food container ban will likely result in higher prices for customers. Residents are concerned about take-

out food containers becoming pollution. They generally support the single-use PS food container ban concept, even though it may result in restaurant price increases. Beyond price increases however, some important impacts to residents have not been fleshed out to avoid unnecessary impacts created by a ban on PS food containers.

### *Honolulu resident takeout statistics*

Unsurprisingly, Honolulu residents eat out a lot. A majority of respondents (62%) eat take-out meals at least once a week, with a quarter (25%) of respondents eating them three times or more per week. This demonstrates how important the foodservice industry is to support people's lifestyles and supply them with convenient meal options. Any attempt to regulate the industry will affect a wide segment of Honolulu residents, who patronize these establishments.

**Exhibit 4.1**
**Residents Who Eat Take-Out Meals Per Week**




Source: OmniTrak and Office of the City Auditor

**Most Popular "Take-out" Places**

Fast Food and Quick Service Restaurants

Fast food (McDonald's, Subway, Taco Bell, Popeye's, etc.) (75%) and quick service restaurants (Zippy's, L&L, Rainbow Drive-in, etc.) (65%) were the most popular "take-out" places with residents, with in-store delis (41%), mom & pop shops (39%), and lunch wagons (18%) also being quite popular. Consistent with the popularity of fast-food and quick service restaurants, fast-food options like burgers, sandwiches, tacos, fried chicken, and pizza are the most popular "take-out" foods. Ethnic foods like Chinese and Korean are the second most popular, followed by *local style* plate lunches.

**Most Important "Take-out" Factor**

Flavorful takeout in a leak-proof, appropriately sized container.

Flavor was the most important factor respondents cited when considering where to pick up "takeout". Quality, convenience and price were also cited as very important when considering where to get "take-out". Of all attributes, health was ranked last by respondents.

When considering the container for their take-out food, respondents said being leakproof and appropriately sized are the most important factors; green/eco-friendly and sturdy are the least important attributes. Most respondents do not base their patronage on the type of take-out container provided and it does not affect their choice of where to eat.

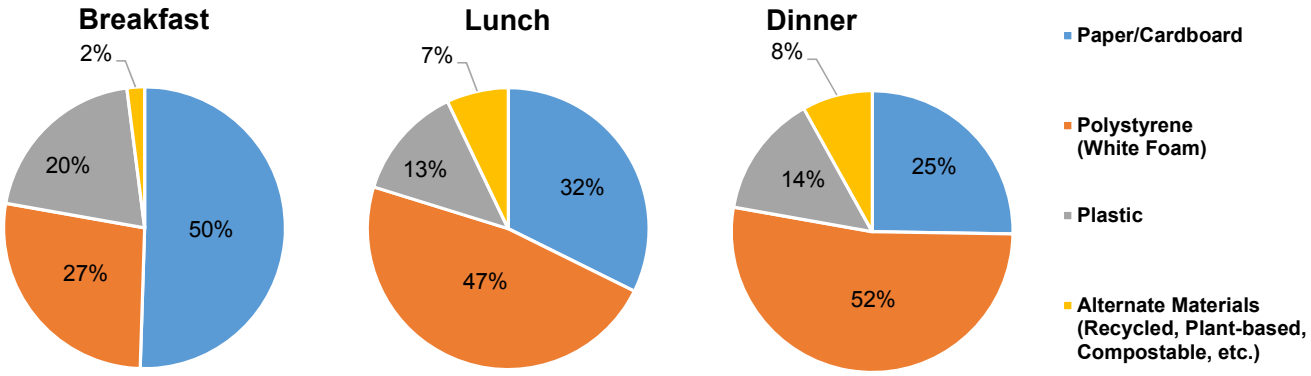
**Most Poplular "Take-out" Meal of the Day**

Lunch and Dinner

Respondents said that lunch is the most popular "take-out" meal (74%), followed closely by dinner (68%).

## *Single-use PS food container ban resident concerns*

**Exhibit 4.2**
**Types of Take-Out Container by Meal**




Source: OmniTrak and Office of the City Auditor

***Residents are concerned about pollution from improper disposal of food containers***

In the OmniTrak survey, a large majority (69%) of respondents stated that they were concerned that materials like polystyrene used in take-out food containers may pollute the marine environment due to improper disposal, while just under a third of respondents (30%) said they are not concerned. So, it is not really surprising that over two-thirds (69%) of respondents also stated that they were aware of the city council's proposed ban on single-use polystyrene food containers.

***Pollution concern has not led to customer preference away from single-use PS food containers***

The majority of the environmental interests we interviewed said customers need to avoid or refuse these items when offered a take-out container, or choose to not patronize these establishments. This kind of action would be effective to avoid the subsequent littering and environmental problems.

Despite the general concern of a majority of respondents about food containers and pollution of the marine environment, only six percent said that container material would always influence their decision to patronize a restaurant, and the majority (68%) stated that it would never influence their decision. So, a large majority of residents do not base their patronage on the container material used for their take-out meal; even if it might be more consistent with their environmental concerns. Concerns about container material do not appear to affect the choice of where to eat takeout meals. So any problems with improper disposal of any food container are likely to persist because take-out food containers are not likely to be avoided for any reason.

One business owner reported that his business in another jurisdiction does not use PS items because of consumer preferences and public sentiment that discouraged use of the items in the foodservice. This sentiment naturally occurred and had the effect of a government imposed ban.

In the abstract, consumers are willing to support initiatives to reduce single-use PS food containers to promote environmental goals. We considered a 2011 University of Hawai'i study which reported that 81% supported a single-use PS food containers ban in Honolulu and named their preferences for a non-PS food container. The preference was very sensitive to price. We noted that three of four groups were concerned about the price, but varied greatly on what price they would be willing to pay to switch to a non-PS container; the range was 4 to 39 cents. The anticipated transition to non-PS food containers would exceed or be towards the 39 cents end of the range, so support for the idea could erode if customers are unwilling to pay a higher price.

## Single-Use PS Food Container Ban Impact on Residents

***Residents have already been impacted by recent price increases for takeout food***

Menu price changes at restaurants often affect whether people decide to eat takeout meals or to eat their own prepared food. Our survey found that eight in ten (84%) respondents stated that the cost of "take-out" has increased in the past 2-3 years. Of those who said the price increased, just under half (48%) responded that the price increase forced them to eat less "takeout." This means that about half of respondents acted to cut back on getting take-out meals, while nearly everyone noticed recent increased menu prices.[1]

***Single-use PS food container ban will likely mean even higher prices for residents***

Price changes due to a single-use polystyrene food container ban will likely make menu prices go up again for customers. Businesses indicated in our other survey that when their costs increase, a little over three-fourths (76%) choose to raise prices in response to increased costs in the past two years. It is fair then to expect menu prices to increase after the ban, but it is an open question whether there will be a correction of pollution or harms caused by improper disposal of food containers.

***Single-Use PS food container ban will most likely negatively affect lunch and dinner takeout service***

Based on the results, lunch and dinner take-out service appears most likely to be affected by any proposed ban on single-use PS food containers. First, they are the most popular mealtimes for respondents to eat takeout meals. Respondents indicated they noticed polystyrene (white foam) containers were mainly used for the lunches and dinners. Therefore, restaurants that provide lunch and dinner take-out service will be most affected because the majority of responses noted these take-out meals were in the white foam containers.

***A majority of respondents support a single-use PS food container ban, even if prices increase***

The survey revealed almost two thirds (65%) of respondents stated that they would support a bill that banned the use of single-use polystyrene food containers, while about a third (34%) of respondents stated that they would oppose such a ban.

[1] The majority of those continuing to take out meals in the face of higher prices would not be moved to change their behavior until a $10 or more increase to their total bill occurred. Such a large change in price is unlikely to occur in the event of a single-use polystyrene food container ban.

Respondents appear to be environmentally conscious, and would like to make eco- friendly decisions.[2]

However, potential increased food prices from a ban did diminish support slightly. When they considered the prospect of prices increasing as a result of the ban, respondents in support of the ban fell 7 % to 58%, while those opposed to the ban rose 6% to 40%. Both positions are firm, respondents cited that it would take a nearly $7 price increase to their takeout bill to cause them to reconsider their prospective positions on the ban.

### *Concerns about awareness and impact of the ban*

The survey revealed that there are certain communities that could be negatively impacted from the ban.

- Older respondents (55+) were more likely to know about the ban and were strongly opposed to the ban. Their strong opposition increased when associated costs increased. In effect, a ban will inevitably have impacts on the economy especially the older, fixed income seniors and elderly which should be of significant concern.

- Lower income respondents (making less than $25K) were statistically more likely to state that they did not know about the proposed ban. As a result, the potential impacts on the lower income are not being represented in the current policy debate, due to lack of awareness and engagement. Consequently, the ban should be thoroughly vetted to provide reasonable assurance that it reflects the preferences of those from all income levels.

- There is a general concern that implementing a single-use PS food container ban will only burden local consumers with higher prices, with no positive environmental effect.

These are key considerations that need to be addressed to avoid negative impacts to residents if a PS food container ban is passed.

[2] When considering an alternative container to PS, almost half (47%) of respondents listed alternative materials such as recycled, plant-based and compostable as an acceptable alternative for "take-out" containers if the single-use polystyrene food container ban was passed. The next most cited material was paper/cardboard (33%) followed by plastic (12%). Almost half (47%) of respondents listed alternative materials because they were better for the environment and eco-friendly.

## Conclusion

Restaurants reported that customers are mainly concerned about customer service, value, taste of the food, and customer loyalty/ relationship. As surveyed, the idea of a single-use polystyrene food container ban is supported by residents and restaurants. However, we are concerned that this ban would only add to the high cost of living in Hawai‘i, without having a direct effect on litter reduction or other environmental harms.

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# Appendix A
## Polystyrene Study City Comparisons

### Summary

The majority of the bans target food service establishments and retail vendors that use expanded polystyrene (PS) takeout containers. Only some of the jurisdictions have strict bans that include manufacturers and packagers. For example, meat or eggs cannot be packed in PS containers in Portland, ME. San Francisco prohibits packaging providers from selling polystyrene foam packaging materials. Two bans include fines for individual people who use PS, one of which is Folly Beach, SC. These bans are the only two that are location specific; limited to beaches or park areas. Given that the majority of jurisdictions in the group selected focus on food service establishments and retail vendors, it may only be necessary to focus the ban on them.

A common way of monitoring is through inspections, with a system where individuals can report a violation. The City of Berkeley requires restaurants and retail vendors to give written documents to the city manager on the type of containers they use. Most jurisdictions give exemptions for business that make less than a certain amount a year, or can prove they would experience economic hardship. Before giving out fines, most jurisdictions will issue a warning. Most jurisdictions impose monetary fines, approximately $100 for a first offense, which increase with subsequent violations.

Businesses are not responsible for taking back items, but some jurisdictions require businesses to provide appropriate disposal containers for different types of waste. For example, food service establishments in California are required to provide a bin for waste, composting, and recyclables. Manufacturers have helped with PS recycling programs in some cities. DART Container Corporation in Philadelphia, collects and transports PS at no charge to the city. DART also has a collection center where residents can drop off polystyrene to be recycled in Chicago, IL. Other cities have received grants to expand their recycling program and capabilities to include PS.

San Francisco did a litter audit in 2009 after implementing their ban on single-use polystyrene containers and found that the amount of polystyrene did decrease. The audit however, shows that the amount of litter overall did not substantially decrease.

#### *Cities that have PS Ordinances*

**City of San Francisco, CA**

In 2007, San Francisco prohibited food service providers from using containers made, in whole or in part, from polystyrene foam. Food service providers are required to use “suitable alternative compostable or recyclable food service ware products” that are approved by the Director of the Department of the Environment. In 2017, San Francisco expanded the ordinance to include the sale and distribution of products made of polystyrene foam in the city. Some items included in the most recent ban are meat and fish trays, packing materials, coolers, dock floats, and mooring buoys or anchor or navigational markers. The city allows exemptions for food packaged outside the city, businesses with less than $500,000 annual income, and situations where no reasonable alternative exists. Non-compliant businesses are issued an initial warning, followed by fines between $100 and $500.

San Francisco requires both residents and businesses to separate out their recyclables, compostables, and trash. Property owners/managers must provide color-coded, labeled bins in convenient locations (blue for recycling, green for composting, and black for trash that goes to the landfill). They are also required to education on what goes in each bin must be provided to tenants, employees, contractors, and janitors. Food vendors that provide disposable food service ware or to-go containers must provide color-coded, labeled bins for use by customers and visitors. These bins must be placed near a main exit in the establishment. Fines may be given in cases of non-compliance. Individuals can drop off their Styrofoam for recycling but otherwise, it goes to the landfill.

San Francisco has a resolution to support statewide efforts to hold producers responsible for product waste, starting with toxic products defined as universal waste. Another similar resolution supports a statewide producer responsibility program to minimize marine plastic pollution.

**City of Berkeley, CA**

In 1990, Berkeley prohibited restaurants, retail food vendors, from using, purchasing, or possessing any food packaging made of polystyrene foam for take-out food. The ordinance specifies that at least fifty percent by volume of each restaurant or retail food vendor's packaging, used for take-out food, is degradable or recyclable. Restaurants are required to obtain from each of its suppliers a written statement signed by their supplier stating that the supplier will supply no polystyrene foam food packaging to that vendor. Retail vendors are required to separate their food packaging used in their take-out food operations from other food packaging. Containers for take-out food operations must be labeled and indicate that they contain no polystyrene. Berkeley requires all restaurants and retail food vendors to give written documents to the city manager on the type of containers they use. If businesses are found non-compliant, they are given a $100 fine for the first offense, a $200 fine for the second offense in the same year, and no more than $500 for each subsequent violation in the same year. Exemptions are granted for businesses that experience undue hardship, have no suitable alternatives, and contracts existing prior to September 22, 1987. The ordinance places a specific ban the city from purchasing any polystyrene food packaging, including those used for city sponsored events.

Berkeley's Zero Waste Division provides all commercial refuse, recycling and compost collection service for Berkeley businesses and multi-family dwellings with more than 9 units. The city also provides weekly residential refuse and compost collection service. The Ecology Center, the city's residential recycling collector, provides recycling service for single-family residents and multi-family dwellings under 10 units. As of July 1, 2014, all businesses are required to have recycling collection for basic recyclable materials. Recycling collection is included with paid refuse service. Food generating businesses, like restaurants and markets, are required to have organics collection for food scraps, food soiled paper and plant debris.

**City of New York, NY**

New York has attempted twice to pass ordinances to ban the use of expanded polystyrene items. The first ban took effect in July 2015, which sparked enormous controversy. Restaurants and plastics manufacturers, sued the city in the New York Supreme Court, arguing Styrofoam was recyclable. In September 2015, the judge ruled the businesses had provided sufficient evidence Styrofoam could be recycled. The city stopped enforcing the ban shortly after. The city's

Department of Sanitation launched a study to determine if expanded polystyrene could be recycled in a manner that is environmentally effective or economically feasible. Concluding that it could not, the city announced the ban will again go into effect January 1, 2019. The ban will prohibit food service establishments, mobile food commissary, or stores from possessing, selling, or offering polystyrene products. Those found in violation will be fined $250 for the first violation, $500 for the second violation within the same year, and $1,000 for the third and each subsequent violation committed within the same year.

In 2001, the Fresh Kills Landfill, the only disposal destination within NYC, closed. This forced the city to become more reliant on private transfer stations. The public system handles waste from residences, government buildings, and some non-profits. All other waste generated by commercial businesses are collected by private companies. The city requires trash to be separated into three categories: paper, metal/glass/plastic, or mixed solid waste (non-recyclable garbage). Paper and metal/glass/plastic waste is brought to one of the city's recyclable handling and recovery facilities. Mixed solid waste is taken to a transfer station, where it is transferred to either a landfill or a waste to energy plant. Both landfills, and waste to energy plants are typically located outside the city.

New York City littering fines doubled in 2017 to $100 for a first offense.

**City of Seattle, WA**

The polystyrene ban in Seattle was implemented in two parts. As of 2009, all food service businesses are prohibited from selling or providing food, intended for takeout, in expanded polystyrene food service products. Prepackaged soups and other foods that food service businesses sell or otherwise provide to their customers in expanded polystyrene containers that have been filled and sealed prior to receipt by the food service business are exempt. In 2010, food service businesses are prohibited from selling or providing raw meat or raw seafood in expanded polystyrene food service products. As of 2010, food service businesses are also prohibited from selling or providing disposable plastic food service ware. The ordinance mandates all food service businesses to switch to compostable or recyclable products. Food service businesses found in violation of the ordinance will receive a maximum penalty and default amount of $250.

Studies conducted in the 1980s found that it is unfeasible to establish a new landfill within the city limits. For that reason, the city has implemented different waste management systems. Seattle contracts with private service providers for recycling processing, organics composting, and landfill long-haul and disposal. As of the 2008, contract amendment with Waste Management, WM Renewable Energy, LLC was developing and permitting the landfill gas-to-electricity system at the Columbia Ridge Landfill. The city has the right to purchase all of the energy produced by the LFG system. Seattle has a mandatory commercial recycling ordinance, as well as a Zero Waste Resolution. Littering, illegal dumping and driving with uncovered loads are all punishable under Washington state law. Fines range from $50 - $5,000.

**City of Folly Beach, SC**

In 2016, Folly Beach became the first city in South Carolina to pass a ban on polystyrene containers. The ordinance also includes a ban on single-use plastic bags. As of 2017, businesses are prohibited from selling, distributing, or otherwise providing expanded polystyrene foam items. Businesses found in violation of the ordinance receive a written warning followed by a fine up to $100 for

the first violation, $200 for the second violation within a year period and $500 for each additional violation. Business are encourage to provide prominently displayed signage advising customers of the benefit of reducing, reusing, and recycling and promoting the use of reusable carryout bags and recyclable paper carryout bags. Individuals who bring banned items to the beach can also be fined $500, or 30 days in jail.

Recycling is handled at the county level. Weekly recycling pickup is provided by the Charleston County Environmental Management. Multi-family and commercial garbage collection is provided through privately owned dumpsters, and may be serviced by the city or by a 3rd party contractor at the option of the property manager or commercial establishment. Folly Beach littering laws are based on the amount of litter. The minimum fine for littering any amount less than 15 pounds, is $200, plus court costs and a minimum 15 hours litter gathering. For any amount of litter over 15 pounds and less than 500 pounds, the fine increases to $200-$500, mandatory community service and a possible prison sentence not to exceed 90 days.

**Washington DC**

In 2014, Washington DC passed the Sustainable DC Omnibus Amendment Act of 2014, banning the use of disposable food service ware made of expanded polystyrene and other items that cannot be recycled or composted. The ban was implemented in two phases. As of January 1, 2016 businesses and organizations that serve food are banned from using polystyrene products. The requirement to use recyclable and compostable products took effect on January 1, 2017. The ban does not included food or beverages filled and sealed prior to an entity receiving them, packaging used for raw, uncooked and butchered meat, fish, poultry, or seafood, and foam food service products purchased for home use. The ban is enforced by the Department of Energy & Environment (DOEE) through regular inspections and tips from the public. If found in violation of the ordinance, the DOEE may issue warnings and fines for violations. Fines can range from $100 to as much as $800.

The District requires that commercial establishments maintain an active recycling program.

**City of Portland, ME**

Effective April 15th, 2015, the City of Portland Maine implemented a ban on polystyrene containers. Retail vendors and food packagers are prohibited from serving or selling food in polystyrene foam containers. Some items included in this ban are prepared food, meat, eggs, and bakery products. Retail vendors are also prohibited from selling polystyrene foam food or beverage containers. The ordinance specifically states that city departments and parties who contract with the city, may not use, purchase, or acquire polystyrene foam as well. The ordinance has an exception for raw, but not cooked, seafood that is packaged in polystyrene. The city manager is in charge of enforcing the ban and may issue a written warning notice to a food vendor in violation of the ordinance, followed by a $250 fine for the first violation and $500 fine for each violation after within a one-year period.

The City of Portland provides waste and recycling collection services for residents and public entities. Waste produced by commercial properties are handled by private contractors. The city requires that all trash for curbside pickup must be placed into Purple Portland Trash Bags. The bags can be purchased at various markets, and stores. The city gives out fines for littering based on the amount of litter and the number of times the individual has littered. The initial fine for an individuals who litter 15 pounds or less, or more than 27 cubic feet is fined at least $100, and no

more than $500. If the individual litters more than 15 pounds, or more than 27 cubic feet the fine can be as much as $2,000. If the amount littered is more than 500 pounds or more than 100 cubic feet the individual may by fined between $2,500 and $25,000 for each day of the violation.

## *Cities that have PS Recycling Programs*

### Athens-Clarke County, GA

In 2016, Athens-Clarke County received a $29,000 grant from the Foam Recycling Coalition. Prior to the grant, residents could drop off foam packaging. The grant allowed the addition of food grade foam products like cups, egg cartons, and meat trays. The grant also helped the county expand their service to large quantity polystyrene generators. Residents can recycle foam at Publix Supermarkets and at the Athens-Clarke County Center for Hard to Recycle Materials.

Athens-Clarke County provides curbside pickup for waste and recyclables to its residents. In 2012, the county finished constructing a Landfill Gas Collection System, including a generator to convert the gas into electricity. The county also opened a commercial compositing facility in January 2011. The ACC Commercial Composting Facility produces two types of compost: Bio-solid compost and Food Waste compost. While the county does not provide composting bins in their curbside collection system, the ACC Commercial Composting Facility collects food scraps from *Let Us Compost,* a community food scrap collector. The county website also provides information on how residents can compost their own waste at home.

Businesses in the county are required to have a recycling plan that has been approved by the Solid Waste Department, Recycling Division. The county requires businesses to provide recycling containers for their customers, and recycling information and guidelines to their employees and/ or tenants. The county provides curbside pickup for some businesses, depending on their location. In 2010, business leaders in the county have partnered with the ACC Recycling Division and Power Partners to form a Sustainable Industry Roundtables (SIR). The group conducts quarterly meetings with guest speakers discussing topics pertaining to green industries, and provides quarterly newsletters.

### City of Philadelphia, PA

Philadelphia launched its polystyrene foam (#6) recycling pilot program in 2011. Both residents and businesses can drop-off foam materials that are marked with a #6 at the drop off center. There is no curbside pickup for these materials. There is no limit to the amount of foam materials that can be dropped off at one time by either a business or a resident. The city is partnering with Dart Container Corporation, a leading manufacturer of polystyrene foam #6 foodservices products. Dart collects and transports the materials from the drop off center at no charge to the city.

The city provides weekly residential weekly residential curbside trash collection and recycling for residential dwellings of six units or less, but does not provide collection containers.. Single-family residential units are limited to a maximum of four 32-gallon containers or eight 32-gallon trash bags. The city provides waste services for commercial establishments and multi-unit properties for $300 a year. Waste collected by the city are diverted to recycling facilities, landfills, or waste to energy facilities. Businesses and municipal buildings are required to have a recycling plan.
As a part of their Zero Waste goal, the city is developing a Zero Waste Partnerships Program that

works with and recognizes community based organizations, non-profit organizations, businesses, and institutions to promote zero waste strategies.

### Madison County, NY

In 2016, Madison County started a pilot program to accept foam as a part of its recycling program. After the pilot program, the county purchased and installed a densifier to continue to collect polystyrene. In 2017, the county then received a $42,925 grant from the Foam Recycling Coalition to expand the collection program. The county does not accept packaging peanuts, soiled containers, colored materials or anything other than PS #6.

### San Diego, CA

San Diego has a partial ban on polystyrene, which restricts government agencies from purchasing PS containers. In 2014, the city began allowing residents to recycle polystyrene shipping packaging. As of July 1, 2017, the city began recycling polystyrene food and beverage containers. Clean PS containers can be placed in curbside bins.

Composting voucher program?

### City of Houston, TX

Polystyrene foam is not accepted curbside, and is accepted only at the recycling center. At the recycling center the polystyrene foam is condensed and shipped to other facilities (Total Petrochemicals & Refining USA). There are a few restrictions: it must be a clean, white block type or foam packaging, no food residue, chemical particulates, or plastic or metal attachments, and PS from businesses is not accepted. Almost half of the polystyrene foam packaging recycled is remanufactured into new packaging. Other uses included building materials, agricultural products, auto products, etc.

The city provides curbside waste and recycling services to its residents, and small to mid-size businesses.

## Exhibit A.1
## City Comparisons and Best Practices

| Jurisdiction | Affected by PS Ban | Ban's Effective Date | PS Fine (first offense) | PS Recycling Program | Waste Management | Supportive Industries | Litter Fines (first offense) | Similar Ordinances |
|---|---|---|---|---|---|---|---|---|
| Maui County, HI | Food Service | 2018 | $1,000 | none | Recycle<br>Landfill | none | $100-$1,000 | Plastic Bag Ban |
| Hawai'I County, HI | Food Service<br>Retail Sale | 2018 | $10 | none | | none | | Plastic Bag Ban |
| City and County of San Francisco, CA | Food Service<br>Retail Sale | 2007, 2017 | $1 | Drop-off | Compost<br>Recyle<br>Landfill | Mandatory Business Recycling<br><br>Producer Responsibility Resolution | $250-$1,000 | Plastic Straw Ban<br>Plastic Bag Ban |
| City of Berkeley, CA<br>(1990) | Food Service<br>Government | 1990 | $100 | none | Compost<br>Recyle<br>Landfill | Mandatory Business Recycling | $250-$1,000 | Plastic Bag Ban |
| City of Folly Beach, SC (2017) | Food Service<br>Retail Sale<br>Individuals | 2017 | $100 (business)<br>$500 (individual) | none | Recylce<br>Landfill? | none | $200 and minimum 15 hours litter gathering | Plastic Bag Ban<br>Plastic Straws* Ban |
| City of Portland, ME (2015) | Food Service<br>Retail Sale<br>Government | 2015 | $250 | none | Recycle<br>Waste to Energy | none | $100-$500 | Plastic Bag Ban |
| City of Seattle, WA<br>(2009) | Food Service | 2009, 2010 | $250 | none | Compost<br>Recycle<br>Gas to Energy | Mandatory Business Recycling | $50-$5,000 | Plastic Straw Ban<br>Plastic Utinsil Ban<br>Plastic Bag Ban |
| Washington D.C. (2016) | Food Service | 2016 , 2017 | $100 | none | Recycling<br>Waste to Energy<br>Composting? | Mandatory Business Recycling | $75 | Plastic Bag Fees |
| City of New York, NY (2017) | Food Service<br>Retail Sale<br>Manufacturer/ Supplier | 2015, 2019 | $250 | none | Compost<br>Recycle<br>Landfill<br>Waste to Energy | Mandatory Business Recycling | $100 | none |
| Athens-Clarke County, GA | N/A | N/A | N/A | Drop-Off | Commercial Composting<br>Recycling<br>Gas to Energy | Mandatory Business Recycling<br><br>Sustainable Industry Roundatables | up to $1,000 | none |
| City of Philadelphia, PA | N/A | N/A | N/A | Drop-Off<br>Curbside Pickup | Recycling<br>Landfill<br>Waste to Energy | Mandatory Business Recycling<br><br>Mandatory Municipal Recycling<br><br>Zero Waste Partnerships Program | $50-$300 and/or imprisonment for not more than 90 days | none |
| City of Houston, TX | N/A | N/A | N/A | Curbside Pickup | Recycling<br>Landfill | none | $50 – $1,000 | none |
| Madison County, NY | N/A | N/A | N/A | Curbside Pickup | Recycling<br>Landfill | none | | none |
| City of San Diego, CA | City Departments | 2011 | N/A | Curbside Pickup | Recycling<br>Landfill<br>Gas to Energy | Mandatory Business Recycling<br><br>Mandatory Residential Recycling | $250-$1,000 | Plastic Bag Ban<br>Bottle Water Ban<br>(City Departments) |

Source: Office of the City Auditor

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# Appendix B
## City Council Resolution 18-35, CD1

**CITY COUNCIL**
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. **18-35, CD1**

RESOLUTION

REQUESTING THE OFFICE OF THE CITY AUDITOR TO EVALUATE THE USE AND IMPACTS OF SINGLE-USE FOOD SERVICE CONTAINERS AND SINGLE-USE PLASTIC BAGS.

WHEREAS, single-use food service containers and single-use plastic bags are ubiquitous in our island culture and are a significant part of doing business for restaurants, lunch wagons, and other purveyors of meals and snacks; and

WHEREAS, single-use food service containers and plastic bags are important and convenient implements for businesses and consumers, are made from various materials, including paper, plastic, and expanded polystyrene, and may or may not be labeled biodegradable or compostable; and

WHEREAS, improperly disposed of single-use food service containers and plastic bags have become a blight upon and a hazard to our natural environment, negatively impacting our tourism-dependent economy, wildlife, and natural resources; and

WHEREAS, the issue of the improper disposal of these single-use food service containers and plastic bags has become a flashpoint in our island society, with environmentalists, business representatives, and consumers all weighing in on the perceived impacts and needed solutions; and

WHEREAS, in its June 26, 2015 report, *Report to City Council on the Uses and Impacts of Single-Use Food Service Containers* (Departmental Communication No. 483 (2015)), the Department of Environmental Services could not comprehensively assess the potential financial and non-financial impacts of various options for the disposal of single-use food service containers, including a partial or total ban of single-use food service containers as requested in Resolution 14-175; and

WHEREAS, the City and County of Honolulu ("City") is in the process of preparing its update of the *Integrated Solid Waste Management Plan*, which update will be reviewed by the State Office of Solid Waste Management prior to its adoption by the City; and

WHEREAS, in its review of the *Integrated Solid Waste Management Plan*, the State Office of Solid Waste Management must consider whether the plan provides for the maximum feasible development and implementation of recycling, source reduction, and bioconversion programs; and

**CITY COUNCIL**
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. **18-35, CD1**

# RESOLUTION

WHEREAS, the City Council ("Council") finds that it needs additional information in order to enable it to determine the financial impacts of both the proper and improper disposal of single-use food service containers and single-use plastic bags to allow the Council to develop sound public policy that addresses the issue in an effective, balanced, and fair manner; now, therefore,

BE IT RESOLVED by the Council of the City and County of Honolulu, that the Office of the City Auditor is requested to conduct a supplemental study on the potential financial and non-financial impacts of the City banning the use of single-use food containers and single-use plastic bags by restaurants, lunch wagons, and other purveyors of meals and snacks; and

BE IT FURTHER RESOLVED that the study include, but not be limited to the following:

1. Determining the feasibility of effectively, efficiently, and economically processing single-use food containers and single-use plastic bags at the H-Power waste-to-energy facility;

2. Assessing the financial and non-financial impacts a ban on single-use food service containers and single-use plastic bags would have on businesses such as manufacturers, distributors, and food service establishments, and on consumers, and the City; and

3. Identifying incentives, best practices, and relevant technologies employed in other jurisdictions that have assisted manufacturers of single-use food service containers in converting their operations to the manufacture of compostable food containers and related products; and

**CITY COUNCIL**
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. **18-35, CD1**

# RESOLUTION

BE IT FINALLY RESOLVED that copies of this resolution be transmitted to the City Auditor, the Director of the Department of Environmental Services, the Mayor, and the Managing Director.

INTRODUCED BY:

Carol Fukunaga

DATE OF INTRODUCTION:

February 7, 2018
Honolulu, Hawaii

Councilmembers

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII
CERTIFICATE

**RESOLUTION 18-35, CD1**

| | | | | | |
|---|---|---|---|---|---|
| Introduced: | 02/07/18 | By: | CAROL FUKUNAGA | Committee: | PUBLIC WORKS, INFRASTRUCTURE AND SUSTAINABILITY |

Title: RESOLUTION REQUESTING THE OFFICE OF THE CITY AUDITOR TO EVALUATE THE USE AND IMPACTS OF SINGLE-USE FOOD SERVICE CONTAINERS AND SINGLE-USE PLASTIC BAGS.

Voting Legend: * = Aye w/Reservations

| | | |
|---|---|---|
| 02/14/18 | PUBLIC WORKS, INFRASTRUCTURE AND SUSTAINABILITY | CR-82 – RESOLUTION REPORTED OUT OF COMMITTEE FOR ADOPTION AS AMENDED IN CD1 FORM. |
| 02/28/18 | COUNCIL | CR-82 AND RESOLUTION 18-35, CD1, AS AMENDED WERE ADOPTED.<br>9 AYES: ANDERSON, ELEFANTE, FUKUNAGA, KOBAYASHI, MANAHAN, MARTIN, MENOR, OZAWA, PINE. |

I hereby certify that the above is a true record of action by the Council of the City and County of Honolulu on this RESOLUTION.

GLEN I. TAKAHASHI, CITY CLERK

RON MENOR, CHAIR AND PRESIDING OFFICER