



APPENDIX

B

Recycling Contamination Reduction and Outreach Plan

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Appendix B Recycling Contamination Reduction and Outreach Plan

This appendix presents Seattle’s Recycling Contamination Reduction & Outreach Plan approved by the Department of Ecology on July 19, 2021. It has been edited only to update chapter references to other parts of Seattle’s *2022 Solid Waste Plan Update (2022 Plan Update)* and to match the formatting of the rest of the *2022 Plan Update*.

The goal of the Recycling Contamination Reduction & Outreach Plan (CROP) is to reduce contamination of the materials collected in Seattle’s single-family, multifamily, drop box, and commercial recycling programs. This, in turn, helps Seattle more fully realize the economic, environmental, social, and public health benefits of these programs. The CROP does not specifically include strategies to reduce contamination of other material streams such as organics or construction and demolition debris. However, many of the same strategies apply to these streams and may be included in future CROP updates.

The CROP intends to meet the requirement in [RCW 70A.205.045\(10\)](#) that counties with a population of more than 25,000 and cities within these counties with independent Solid Waste Management Plans (SWMP) include a CROP in their SWMP by July 1, 2021.

The CROP is concerned with what is called “traditional recyclables,” which for Seattle means: paper, cardboard, metal, plastic containers, and glass containers. Seattle has developed this CROP consistent with the 2021 Solid Waste Plan Update. Seattle has already implemented a robust suite of strategies to reduce contamination, therefore instead of using the template provided by the Department of Ecology, this CROP presents detailed documentation of the contamination reduction strategies that are already in place. The CROP also includes a list of potential future strategies.

Background on Seattle’s Solid Waste System

This section provides some context on Seattle’s solid waste system, including customer sectors, collection methods, designated list of recyclables collected, relevant contracts, and rate structure.

Customer sectors

The City of Seattle recognizes four customer sectors:

- 1 Single-family: Residences with one to four dwelling units.
- 2 Multifamily: Apartment and condominium buildings with five or more dwelling units.
- 3 Commercial: Business and institutions, which are serviced directly by the haulers.
- 4 Self-haul: Customers that haul their solid waste to either of the two City-owned transfer stations. This sector is referred to as “drop box” in Ecology’s CROP template.

Single-Stream Recycling Collection Methods by Customer Sector

Table B.1 Single-Stream Recycling Collection Methods

SECTOR	MODE	CONTAINERS USED	FREQUENCY OF COLLECTION
Single-family	Single-stream	Carts	Every-other-week
Multifamily	Single-stream	Carts, dumpsters, and compactors	Every-other-week for 60% of the buildings and more often for the rest
Commercial	Single-stream	Carts [†] , bags*, dumpsters, and compactors	Variable
	Source separated	Various types of containers	Variable
Self-haul	Mixture of source separated and commingled [‡]	Various types of containers	N/A

Source: Chapter 5, *Recycling and Composting Policy and Markets*.

[†] Businesses that subscribe to garbage service that need a limited amount of recycling service can subscribe to a curbside cart-based every-other-week collection service for up to two carts at no additional charge (known as small recycling services for businesses). The cost of this limited recycling service is embedded in the cost of garbage collection service for these customers. Customers requiring more recycling can obtain those services from a collection contractor on the open market.

* Bags are used by a small number of customers as an alternative to having dumpsters in public alleys. The Clear Alleys Program (CAP) offers a prepaid bag system for business and multifamily residences in designated business districts that do not have storage in their buildings for containers. Bags are used for garbage and recycling.

‡ Glass, paper, and plastic are collected commingled. Cardboard and mixed metal are collected source separated. All scrap metal is accepted, without the size restrictions that exist in the other sectors.

Designated Recyclables by Customer Sector

Table B.2 Designated Recyclables for Single-family, Multifamily, and Commercial†

CATEGORY	INCLUDES
Paper	Mixed-waste paper, cardboard, newspaper, poly-coated paper, and aseptic packaging.
Metal	Tin cans, aluminum cans, pots, pans, foil, and scrap metal larger than 3 inches but smaller than two feet in any direction and less than 35 pounds.
Plastic	Plastic bottles, jars, tubs, cups, and food containers (excluding expanded polystyrene foam [EPS]), rigid plastics #1-6, lids larger than 3 inches, planter pots, and five-gallon buckets.
Glass	Glass bottles and jars.

Source: Chapter 5, Recycling and Composting Policy and Markets.

† Private sector recycling providers/collectors may alter their guidelines of acceptable materials.

Table B.3 Designated Recyclables for Self-haul

CATEGORY	MATERIALS INCLUDED
Paper	Mixed-waste paper, cardboard, newspaper, poly-coated paper, and aseptic packaging.
Metal	Tin cans, aluminum cans, pots, pans, foil, and scrap.
Plastic	Plastic bottles, jars, tubs, cups, and food containers (excluding EPS), rigid plastics #1-6, lids larger than 3 inches, planter pots, and five-gallon buckets.
Glass	Glass bottles and jars.

NOTE: Glass, paper, and plastic are collected commingled. Cardboard and mixed metal are collected source separated. All scrap metal is accepted.

Source: <http://www.seattle.gov/utilities/your-services/collection-and-disposal/transfer-stations/north-station/station-features>

Seattle removed plastic bags from the accepted list in 2020 to reduce contamination in the recycling process.

Collection or Material Processing Contracts

- Hauling of residential garbage, recycling, and organics, and of commercial garbage in Seattle is limited to designated contractors.
- Currently, two City-contracted companies, Waste Management, Inc. and Recology, collect residential garbage, recycling, and organics, as well as commercial garbage. Current contracts with these companies began on April 1, 2019 and continue through March 31, 2029.
- Seattle includes elements in collection contracts that support its broader goals, such as:
 - Minimum recycled content for collection carts. Seattle requires the current collection contractors to purchase waste carts with at least 30% post-consumer recycled content. This requirement supports recycling market development.
- Contractors take residential garbage and organics to one of two City-owned transfer stations. Residential recyclables are picked up and deposited at a City-contracted Material Recovery Facility (MRF), or processor, where materials are sorted, separated, and prepared for sale. Seattle covers the disposal costs of the contamination in recycling program containers from our customers. Seattle allows the contracted MRF to dispose of customer generated contamination at no costs through City disposal system.
- Seattle currently contracts with Republic Services for recycling processing at their Republic Services Recycling Complex and Transfer Station. The contractor is responsible for the processing and marketing of all recyclables collected under City contracts.
- All non-recycled garbage in Seattle must ultimately go to the City's contracted landfill.
- For commercial customers, collection and processing of recyclable materials is typically provided by direct arrangements between the commercial customer and a private vendor. Vendors collect both mixed and source-separated materials and deliver them to a variety of processors. Since 1997, the City has required private recyclers to report annually on materials collected, material sources, and delivery destinations as part of their business license renewal.

Rate Structure Incentives

SPU's rate structure incentivizes waste reduction, recycling, and composting. Garbage is the most expensive service and is offered at several different price levels that increase with the volume of service. As customers reduce waste generation overall and divert more material from the garbage into the recycling or compost carts, they can decrease their garbage service and save money. Residential recycling service is offered at no additional cost (i.e., it is embedded into the garbage rate), and compost service costs significantly less than garbage.

Solid Waste Regulations

The City of Seattle has several solid waste regulations to ensure access to solid waste services and encourage diversion. The bullets below include solid waste regulations that while are not directly related to contamination reduction, provide context on the solid waste system.

- **Disposal bans:** Seattle Municipal Code prohibits the disposal of recyclables in residential (Seattle Municipal Code [SMC] 21.36.083) and commercial (SMC 21.36.082) garbage.
- **Residential service requirements:** All residential (single-family and multifamily) customers must subscribe to garbage collection service. Garbage service includes embedded recycling collection. Single-family customers are automatically signed up for recycling when they request garbage collection. Multifamily buildings are required to provide their residents with recycling service.
 - For multifamily buildings, SPU provides recommendations on appropriate service levels depending on the number of dwelling units, as illustrated in the table below.

Table B.4 Multifamily Recommended Service Levels Per Week Per Dwelling Unit

STREAM	GALLONS	CUBIC YARDS
Garbage (uncompacted)	30	0.15
Recycle (uncompacted)	30	0.15
Compost	2	0.01

Source: <http://www.seattle.gov/utilities/your-services/collection-and-disposal/multi-family-properties/for-managers-and-owners>

- As part of SPU's goal to provide equitable services to all customers, multifamily residents are provided solid waste services that are as close as possible to those provided to single-family residents.
- Multifamily residents, who are not SPU account holders (i.e., they do not have or manage solid waste, water, and wastewater services for their individual dwelling unit), are empowered to report solid waste issues by email to the SPU education team or to report anonymously when they lack sufficient service.
- **Commercial service requirements:** Commercial businesses are not required to subscribe to garbage collection service. They can self-haul their garbage to a City- or privately-owned transfer station; however, their recyclables are required to be separated.

Available Tonnage and Composition Data

Since the start of curbside recycling in the late 1980s, solid waste data tracking has been a priority for Seattle. The sections below highlight the most relevant efforts.

Tonnage by Stream and Sector

SPU keeps track of tonnage by stream and sector. This information is published in the [Solid Waste Quarterly Reports](#) available online. These reports, along with additional information, are rolled up into an Annual Waste Prevention & Recycling Report, [published most recently in 2020](#).

The Annual Waste Prevention and Recycling Report does not currently provide the tonnage of traditional recyclables. Instead, it aggregates the tonnage of what was collected as recyclables and compostables. However, the Solid Waste Quarterly Reports have tonnage information about recyclables by sector, which is provided below.

Table B.5 Annual Traditional Recyclable Tonnage by Sector 2019

SECTOR	RECYCLABLES WITHOUT CONTAMINANTS (TONS)	CONTAMINANTS (TONS)	NOTES
Single-family	50,505	5,691	
Multifamily	24,802	3,201	
Commercial	134,485	N/A (most of the material is source separated)	Includes 2,814 tons collected from the small recycling service for businesses.
Self-haul	4,176	N/A	

Sources: SPU 2019 4th Quarter Solid Waste Reports (Single-family, Multifamily, and Commercial small recycling service for businesses); Econometric model estimation (Commercial at large information); and 2019 Washington State Recycling Survey for Ecology (Self-haul), 2019.

Composition Studies

SPU conducts waste composition studies by stream and sector to gain an understanding of the typical types and amounts of materials that make up each stream, including those going into the wrong container, such as contaminants in the recycle/compost, and

recyclables/compostables in the garbage. This information is used for planning purposes, for example, to decide which materials, streams, and/or sectors will be targeted in future outreach. All the historic reports are available here:

<https://www.seattle.gov/utilities/about/reports/solid-waste-reports/composition-studies>.

In addition, the recycling composition studies are conducted every four to five years to confirm customer contamination amounts, which have implications for disposal of material recovery facility (MRF) contracted contamination into the City's disposal system.

The most recent published residential composition study on recyclables was conducted in 2015 (Table 5). In April 2021, SPU will collect a final round of samples to complete the City's most recent residential garbage and recycling study. Results of the 2020-2021 residential garbage and recycling composition studies should be available in Q3 2021.

Table B.6 Residential Recycle Composition 2015

SECTOR	PAPER (W/O CARDBOARD) [% OF STREAM BY WEIGHT]	CARDBOARD [% OF STREAM BY WEIGHT]	GLASS [% OF STREAM BY WEIGHT]	PLASTIC [% OF STREAM BY WEIGHT]	METAL [% OF STREAM BY WEIGHT]	CONTAMINANTS [% OF STREAM BY WEIGHT]
Single-family	40.7	15.0	26.5	5.0	2.6	10.1
Multifamily	36.5	19.6	25.2	4.9	2.4	11.4

Source: SPU, [2014 Residential Recycling Stream Composition Study, 2015](#).

Most of the recycling tonnage collected in the commercial and self-haul sectors is source-separated and hence suffers less from contamination. Therefore, composition studies on these two sectors are not considered a priority compared to residential garbage studies and garbage studies across all sectors.

Contamination Issues

The most prevalent contaminants in the recycling, according to the 2015 composition study listed above, are shown in Table 6.

Table B.7 Most Common Contaminants

CONTAMINANT CATEGORY NAME (AS USED IN STUDY)	EXAMPLES OF MATERIALS IN CATEGORY	% OF STREAM
Other non-recyclables	Items that do not fit in any of the 34 defined categories	3.1
Non-conforming paper	Tissues and photographs	2.7
Non-conforming plastic	Tarps, bubble wrap, and EPS	1.4
Food, green waste, and wood	Food scraps, yard waste, and clean wood	1.3
Non-conforming metal	Products containing a mixture of metals, detached metal can lids, and aerosol containers	0.8
Textiles and clothing	Purses, belts, shoes and other clothing and textiles	0.6
Non-conforming glass	Window glass, light bulbs, and glassware	0.6

Source: SPU, [2015 Residential Recycling Stream Composition Study, 2015](#).

At the time of the study, plastic bags were accepted (if bagged together) in the recycling. More recent studies, such as the 2019 surveys conducted by the Recycling Partnership with material recovery facilities and cities in Washington, identified the following recycling contaminants as the most problematic and costly to manage:

- Plastic bags and film
- Tangles including rope, cords, chains, and hoses
- Food and liquids
- Shredded paper
- Bagged garbage
- Non-program plastics
- Hypodermic needles

In response to these studies and to decrease contamination, Seattle removed plastic bags from the accepted list in January 2020. In Seattle, shredded paper is accepted in the compost stream, which offers our customers an option for diverting this material from the garbage.

The contracted MRFs, collection providers, and the City of Seattle experience operational impacts and costs associated with contamination. For example, the Department of Ecology outlined the most severe impacts in their CROP template as:

- Slow down the sorting and processing of materials.
- Reduce the quality and value of secondary material feedstocks.
- Result in costly shutdowns.
- Damage collection, processing, and remanufacturing equipment.
- Cause serious injuries to collection and processing facility staff.

According to the Recycling Partnership, the greatest costs associated with managing a contaminated recycling stream at national MRFs come from disposal of residuals (40%), value lost from contaminated recyclables (26%), and labor required to remove contamination from sorting equipment (14%), which together account for 80% of total contamination-related costs.

The Washington State Recycling Contamination Reduction Outreach Plan signals that regional and MRF-shed strategies could be effective in tackling contamination. Noting, for example, that all the residential recyclables collected throughout the state are funneled to only eight MRFs.¹

Current Strategies for Contamination Reduction

Seattle, as the largest city in Washington State (population > 770,000), plays an important role in the amount and quality of recyclables collected throughout the state. For example, King County is responsible for 43% of the residential recycling materials that is collected curbside in Washington State.² Fortunately, Seattle has a well-established solid waste system to increase diversion and decrease contamination in recycling. This system relies on the following four strategies: regulation, operations/contracts, education, and enforcement. Each of these tactics are used as opportunities arise, conditions change, and as customers become more engaged. The top strategies Seattle uses to reduce contamination in recycling are outlined below.

¹ Washington State Department of Ecology, "Washington State Recycling Contamination Reduction Outreach Plan (CROP)," September 2020. Page 15, Figure 8.

² Washington State Department of Ecology, "Washington State Recycling Contamination Reduction Outreach Plan (CROP)," Page 19, Figure 13.

Coordinated Operations, Compliance, and Education Efforts

Operations staff training: Drivers receive training on solid waste, in particular on what constitutes contamination and how to respond to it.

Driver tagging, compliance, and education: Contracted haulers and SPU staff address contamination issues through the following process:

- Solid waste collection drivers inspect containers at collection time.
- Containers with more than 20% contamination in plain view are not collected. They receive an “Oops” tag, encouraging customer to call SPU. SPU provides guidance on how to get their materials collected: customers may choose to remove the non-recyclable material and have it collected as recycling or pay a special collection fee for the cart to be collected as garbage.
- Containers with between 10-20% contamination in plain view are collected. They receive an “Oops” tag and a contamination note is logged in the customer account.
- If there is another instance of contamination within the next four to six weeks, SPU will mail a letter informing the customer of the issue and providing support to address it. This letter is sent in English, Vietnamese, Chinese, and Spanish.
- A pilot program began in September 2020 to test the impact of additional follow up phone calls to customer who have received letters in a subset of zip codes (98104, 98106, 98108, 98118, and 98144). SPU consultants conducting these calls are able to help customers who need in-language information.
- If there is a third or a fourth instance of contamination, the drivers will leave an “Oops” tag noting the number of times they have been flagged and request a contamination inspection by an SPU solid waste inspector, who will contact the customer to address the issue.
- If there is a fifth instance of contamination, the driver will leave the container and an “Oops” tag encouraging the customer to call SPU. If requested, an SPU solid waste inspector will



*Sample of SPU “Oops” tag
(Source: Seattle Public Utilities)*

contact the costumer to address the issue. The customer could be charged for a special pickup fee to collect the container as garbage.

- In the multifamily sector, the customer could be fined \$50 per instance of contamination if a third “Oops” tag is issued. In practice, this is hardly ever enforced.

Special item curbside collection and collection events

- Seattle provides residential customers with the option to request a curbside “special item” collection of the following materials: foam blocks, batteries, mercury-containing light bulbs, electronics, small appliances, small gas canisters, and cooking and motor oil.
- There are about a dozen recycling and reuse events held every year throughout Seattle where customers can dispose of foam blocks, batteries, electronics, small appliances, clothing, small furniture, and shred documents.
- In addition to providing customers with additional recycling options, these services keep materials that require special handling out of the recycling cart.

Education and Outreach

Emphasis on waste prevention and reuse

- Shift to prevention, reuse, and refill strategies for food serviceware and packaging where possible.
- Research, pilot, promote, and advocate for prevention strategies and reuse/refill options to address single-use items that are hard to recycle or create contamination issues. One example is SPU’s Waste-Free Community Matching Grant Program that funds community-initiated and led waste prevention and reuse projects.
- SPU’s main sorting guidelines flyer include a reuse panel that complements the compost, recycle, and garbage panels.



A sample of SPU's sorting guidelines flyer (Source: Seattle Public Utilities)

Emphasis on consistency: A powerful strategy to prevent contamination is emphasizing consistency whenever customers interact with the solid waste system. This includes using a consistent color scheme across solid waste programs and sectors, as well as setting expectations on the type and frequency of direct mailings that customers receive. Past and current efforts include:

- *Harmonization of collected materials:* In Seattle, the materials accepted in the recycle stream are the same across all sectors, or “harmonized.”
- *Color coordination:* SPU has been working to achieve consistent color coordination in all solid waste containers, posters, stickers, and flyers across all sectors and programs.
 - The designated stream colors are gray or black for garbage, blue for recycling, and green for compost.
 - While carts have been following this scheme for many years, this has not been the case for dumpsters. However, starting in 2017, all the residential garbage dumpsters delivered to multifamily sites are gray. There are still many green garbage dumpsters used throughout the city, but as customers update their service levels or the containers age-out, it is expected that the non-conforming dumpsters will be exchanged with dumpsters that follow Seattle’s solid waste color-coordination scheme.
 - Although this is not a requirement for commercial customers, contractors have also started to use gray dumpsters for commercial garbage. In some cases, the contractors have implemented this change in their programs in other municipalities in the region.



Residential recycling, compost, and trash collection containers (Source: SPU Image Library)

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(Top left) Sample of commercial front of house recycle guidelines, (top right) sample of general residential recycle guidelines, (bottom) sample of multifamily top 5 items recycle guidelines (Source: Seattle Public Utilities)

Focus on five main categories: Outreach focuses on five main categories of recyclable materials to reduce customer confusion and contamination: Paper, cardboard, plastic bottles/containers, metal, and glass.

Emphasis on equitable outreach: SPU strives to eliminate racial, social, and cultural barriers to ensure that customers can take advantage of Seattle's program and services. Some of these efforts are described below.

- Multilingual container decals that include:
 - The four most common languages in Seattle (English, Chinese, Spanish, and Vietnamese)

- Large size (24" x 11" for dumpsters, 9" x 7" for carts)
 - Color-coordination
 - Images and consistent icons
- Culturally relevant and image-based information:
 - Developed through a research-based and culturally competent translation process known as transcreation.

Well established communication channels to customers: SPU has many ways to distribute materials, such as flyers and posters, with the latest guidelines and updated information to customers.

- **Annual residential mailings:** All residential customers receive at least one annual direct mailing. Single-family customers receive a recycling collection calendar. Multifamily residents receive sorting guidelines.
- **Targeted mailings:** In the commercial sector, customers receive customized targeted direct mail materials (e.g., postcards or event notifications sent to food service, automotive, or other sectors).
- **Multifamily online order form:** Property managers and residents can request that flyers, posters, and stickers be sent to them by a mailing house (<http://www.seattle.gov/utilities/your-services/collection-and-disposal/multifamily-properties/for-managers-and-owners/help-residents#order>).
- **Commercial online order form:** Businesses can request that flyers and stickers be sent to them by a mailing house (<https://www.seattle.gov/utilities/protecting-our-environment/sustainability-tips/waste-prevention/at-work/waste-poster-order-form>).
- **Newsletters:** Curb Waste and Conserve (<https://content.govdelivery.com/accounts/WASEATTLE/bulletins/29c5950>) is a 2-3 times a year newsletter that was mailed to all residential customers through 2019, when it switched to an electronic-only format.



Sample of culturally relevant and image-based information (Source: Seattle Public Utilities)

Customized education: SPU, in partnership with contractors, consultants, and community-based organizations (CBOs), provides outreach either virtually, in person, or by phone.

- Outreach partners are often bilingual solid waste subject matter experts that provide in-language training and tools to Seattle businesses, as well as multifamily and single-family customers.
- Outreach approaches vary depending on the sector. For example, during site visits to businesses, staff evaluates on-site recycle bins and containers to identify contamination and provide information on how to improve sorting.
- Targeted education is conducted as needed. For example, commercial and multifamily customers that are part of the CAP program are currently contacted to improve overall program participation, which includes reducing contamination in the recycling.
- Outreach partners conduct tabling at farmers' markets and community events to provide sorting information and written materials. Seattle funds a master composter and sustainability steward volunteer program to support Seattle's waste reduction and recycling efforts.
- SPU works with public and private schools and supports their efforts to educate students and teachers on how to sort correctly and reduce contamination in their recycle and compost.



Sample of SPU residential mailing with information about recycling (Source: Seattle Public Utilities)



Multilingual educators conducting multifamily outreach. (Source: 2019 Waste Prevention & Recycling Report)

Institutional Partnerships: SPU works closely with large institutions (such as the University of Washington, Seattle University, and Seattle Public and Schools) and provides them with support, tools, and signage, as needed.

Tools and Materials

- Color-coordinated recycle bins that are clearly labeled are provided to businesses and schools for free. Some multifamily sites that need bins for recycling collection near mailboxes also receive these.
- Large signage that can be used in solid waste enclosures and trash rooms are available on request (available in sizes 24" x 36" and 32" x 50", example shown below).



Large signage and solid waste collection containers at a multifamily site (Source:SPU Image Library)

Website and *Where Does it Go* Webtool: SPU's website (<http://www.seattle.gov/utilities/your-services/collection-and-disposal>) provides customers solid waste information by stream and customer sector (single family, multifamily, commercial).

- The *Where Does it Go* online lookup tool allows customers to look up how to recycle, compost, or dispose of hundreds of items (<http://www.seattle.gov/utilities/your-services/collection-and-disposal/where-does-it-go#/categories>).

Recycle It App: The *Recycle It* App is a mobile phone app that sends customers weekly notifications ahead of collection day to remind them to put their carts out. It also connects them to sorting and service resources and informs them of generalized collections issues (available at www.seattle.gov/recycleit).

Social media channels: SPU has multiple social media channels (Facebook, Twitter, Instagram, TikTok, and Pinterest) to provide information and engage with customers. Since December 2019, SPU's social media efforts have ramped up resulting in impressions with thousands of customers each week. Posts about solid waste topics are posted three to four times a week, including:

- *Where Does it Go* posts provide information about how to sort confusing items.
- Promotion of outreach events, such as Recycle and Reuse Collection events where customers can drop off hard to recycle items (e.g., clothing, furniture, and foam).
- *Ask Evelyn Live*, a weekly show on Instagram TV that started in April 2020, addresses customer questions about solid waste. Short clips from shows are promoted on TikTok and used for additional social media promotion.
- Pinterest boards highlight waste sorting and reduction behaviors and tips.

Regulations and Partnerships

Local Regulations: Seattle has enacted regulations to help decrease contamination in the commercial sector (SMC 21.36.086), including:

- *EPS ban:* Businesses are prohibited from using plastic foam or EPS packaging.
- *Bag ban:* Business are prohibited from using single-use plastic carryout (shopping) bags. As a result, consumers are more likely to use reusable bags or receive recyclable paper bags.
- *Compostable serveware:* Food service businesses are required to use compostable food serveware if recyclable packaging used on-site is not clean enough after customer use to be accepted in Seattle's recycling. This includes serveware used in "dine-in" food consumption, as well as straws and utensils. Disposable plastic straws and utensils are prohibited.

State Regulations: SPU participates in proposing and advocating for state legislation to address many contamination issues that occur within Seattle due to inconsistent regulations and programs throughout the state that fail to implement best practices and lead to resident and business confusion. Examples include:

- E2SHB 1542, passed in 2019, which established the requirement for CROP development (this document) and established the Recycling Development Center.
- E2SSB 5397, passed in 2019, which began as a proposal to address all plastic packaging through establishing an Extended Producer Responsibility (EPR) system and passed as a study bill. The resulting study and recommendations were delivered to the legislature in November 2020 and SPU is engaged in next steps to implement the recommendations through additional policy proposals.
- ESHB 1569, passed in 2019, which requires tinting and labeling of compostable plastics so that they are more easily distinguished from non-compostable plastics.
- ESSB 5323, passed in 2020, establishes a state-wide ban on thin plastic bags and provides consistency in bag regulations across the state. It improves and expands regulations already in place through Seattle's bag ordinance, which is preempted by the state law. This will reduce plastic bag contamination in Seattle resulting from local businesses being confused by varying rules and customers receiving thin plastic bags when shopping outside of Seattle, as well as by eliminating plastic bag use by new sectors, such as for takeout food.
- E2SSB 5022, passed in 2021, includes many elements to reduce contamination including:
- Eliminating the existing state requirement that the "chasing arrows" be included in plastic resin codes on plastic packaging.
- Banning many EPS foam products statewide.
- Requiring an "opt-in" approach for single-use food serviceware, where customers must request single-use items such as utensils, straws, condiment packets, and drink lids in order to receive those items.

Regional and national partnerships to improve recycling

- **King County's Responsible Recycling Task Force:** Seattle has been an active participant of this regional effort that pursues "a philosophy that ensures we take responsibility for the waste and recyclables we generate so that they are sorted, processed, and if necessary, disposed in a responsible manner. It ensures that our recycled materials do not cause harm here or elsewhere, including other countries. It also motivates producers and consumers to

reduce wasteful packaging and products and increase the use of recycled and recyclable materials.”³

- **Recycle Right Campaign:** A regional communications campaign to reduce contamination in the recycle stream by ensuring that recyclables are empty, clean, and dry; keeping plastic bags out; and emphasizing the five categories of accepted materials (paper, cardboard, plastic containers/bottles, metal containers, and glass containers). This regional effort is the product of an ongoing collaboration (Recycle Right Communication Consortium) between SPU, King County Solid Waste, City of Bellevue, Sound Cities Association, Waste Management, Republic Services, Recology, and Cedar Grove to create regional messaging that reduces contamination by focusing on a harmonized messages for all municipalities in the region.
- **Government Reuse Forum and National Reuse Network:** Seattle actively participates in these networks for U.S. based state and local governments and non-governmental organizations to develop and launch policies and infrastructure to steward the transition from single-use to reuse.
- **US Plastics Pact:** Seattle is a Founding Activator and active participant of the US Plastics Pact. The Pact is a collaborative to unify diverse public-private stakeholders across the plastics value chain to rethink the design, use, and reuse of plastics to create a path forward to realize a circular economy for plastic in the United States. The Pact has created a road map for addressing problematic plastics and policies that will help reduce contamination, including Extended Producer Responsibility.

Potential Future Strategies for Contamination Reduction

SPU plans to continue implementing the current strategies for contamination reduction outlined above for the next six years. Additionally, there are some further efforts that are already part of future work plans. These strategies are outlined below:

³ King County's Responsible Recycling Task Force, "Recommendations to Achieve a Responsible Recycling System," January 10, 2019. (<https://kingcounty.gov/~media/depts/dnrp/solid-waste/about/planning/documents/task-force-final-recommendations.ashx?la=en>)

Coordinated Operations, Compliance, and Education Efforts

Years 1-3:

- Expand coordination efforts to deal with frequent contamination by creating a systematic procedure to address containers that are often contaminated based on the lessons learned from the contamination pilot program described.

Years 1-6:

- Solid waste containers best management practice improvements: As the Solid Waste Compliance team works with customers, they will evaluate dumpsters and carts to make sure that the site has up-to-date decals, gray garbage dumpsters, and that damaged, or extremely dirty containers are replaced.
- When all interventions, education, and outreach efforts with customers have been exhausted, enforcement and/or fines will be used. SPU will make sure that an equity lens is used when applying fines.⁴

Education and Outreach

Years 1-2:

- Develop a “contamination reduction” decal for recycle dumpsters that emphasized the following messages: “no plastic bags,” “break down boxes,” and “keep lids closed.”
- Increase efforts to get residents to flatten cardboard, which can help reduce overflow issues and open lids. Open lids may decrease the quality of the recyclables if they become wet from rainwater.

Years 1-6:

- Continue to research, pilot, promote and advocate for prevention strategies and reuse/refill options to address single-use items that are hard to recycle or create contamination issues.
- Emphasize educating customers on the items that belong in the garbage.
- Continue to expand virtual education, which has allowed Seattle to reach customers that were hard to reach before the COVID-19 pandemic.
- Commercial sector strategies:

⁴ Fines are not applied to single-family customers at this time.

- Work with large venues (such as sport stadiums) and special event organizers to improve their waste stations and sorting to reduce contamination and provide correct sorting messaging to attendees.
- Use a “targeted universalism” approach, which focuses on equity and ensuring that all commercial sites are provided support to move their operations into compliance⁵.
- Multifamily sector strategies:
 - Conduct a pilot program to provide multifamily residents with tote bags to store and transport their recyclables to reduce the amount of plastic bags in recycling.
 - Improve resident access to recycling by providing recycling carts for on-floor trash rooms. These would be paired with signage focusing on the top five recycle categories.

Regulations and Partnerships

Years 1-6:

- Continue participating in partnerships focused on ensuring improved reuse, recycling, and contamination reduction, for example, through EPR policies. Seattle supports local, state, and national efforts to implement and expand programs. For example, in 2020 SPU contributed to policy approaches included in the federal *Break Free from Plastics Act*. In 2021, SPU advocated for legislation to establish a comprehensive producer responsibility system for all plastic packaging (HB 1118/SB 5022). State or national EPR legislation would harmonize materials collected at a state, regional, or national scale and other attributes of EPR would do much to minimize contamination.

⁵ powell, john a., Stephen Menendian, and Wendy Ake, “Targeted Universalism: Policy & Practice.” Haas Institute for a Fair and Inclusive Society, University of California, Berkeley, 2019. (belonging.berkeley.edu/targeted-universalism)

Department of Ecology Acceptance

Below are screenshots of the letter from the Department of Ecology that confirm Seattle's CROP includes all required elements.



DEPARTMENT OF ECOLOGY
*Northwest Regional Office • 15700 Dayton Ave North • Shoreline, Washington 98133-9716
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711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341*

July 19, 2021

Stephanie Schwenger, MPA
Solid and Hazardous Waste Lead Planner
City of Seattle, Seattle Public Utilities

RE: City of Seattle Contamination Reduction and Outreach Plan (CROP) as part of the 2021 Solid Waste Management Plan (SWMP) Revision

Dear Stephanie,

I hope this note finds you well. I am writing to inform you that Ecology has completed its review of the following materials you submitted to us on July 1, 2021.

- The Seattle CROP, dated July 1, 2021.
- A cover letter that includes a timeline for the 2021 Solid Waste Plan revision.

Ecology has also received the most relevant portions of the working draft of the 2021 Solid Waste Management Plan revision. This is helpful for seeing how the CROP fits into the larger SWMP, and the status of the SWMP. Ecology received the draft Chapters 4 and 5 on July 16, 2021.

Based on our review of these materials, we have determined that your CROP includes all of the elements listed below that are required under [RCW 70A.205.045\(10\)](#).

1. A list of actions to reduce contamination in existing recycling programs for single-family and multi-family residences, commercial locations, and drop boxes.
2. A list of key contaminants identified by the jurisdiction or Ecology.
3. A discussion of problem contaminants and their impact on the collection system.
4. An analysis of the costs and other impacts on the recycling system from contamination.
5. An implementation schedule and details on conducting outreach. Contamination reduction outreach may include sharing community-wide messaging through newsletters, articles, mailers, social media, websites, community events, educating drop box customers about contamination, and improving signage.

Seattle's 2022 Solid Waste Plan Update

Appendix B – Recycling Contamination Reduction and Outreach Plan

Attached to this letter is a Review Table to both synthesize where the CROP includes the above elements and to provide comments for your consideration as the CROP is incorporated into the larger SWMP.

Congratulations on completion of the above steps to fulfill the RCW and advance contamination reduction. We look forward to partnering with you in this important work. Please don't hesitate to contact me if you have any questions.

Sincerely,

Diana Wadley

Diana Wadley

Regional Planner and Grant Manager
Solid Waste Management Program
Northwest Regional Office
Department of Ecology

cc:

Peter Guttchen, Department of Ecology

Seattle Recycling Contamination Reduction and Outreach Plan Review		
Ecology review – 7/19/21		
Required element	Met or not met	Comments
Required Element #1 List of Action Steps to Reduce Contamination	Fully met	Pages 8-18, with actions beyond outreach (i.e. regulatory, and reuse), as well.
Required Element #2 List of Key Contaminants	Met	Pages 6-7, Contamination Issues section. Of note is how only plastic type numbers 1-6 are listed in Table 2, Designated Recyclables for Single-family, Multifamily, and Commercial. In recent conversation about which items are in the contract with the MRF (Republic), it seemed #7s were included, and #7s are also included in Table 4-1 of the draft Chapter 4 provided on July 16. As noted in our previous comments, it would be useful to include a discussion either here or in the SWMP regarding what factors Seattle considers when setting its accepted items list. One reason this list is important is that it defines what is contamination under RCW 70A.205.070(4)(b) in Seattle's recycling programs by what it excludes. Under this section of the RCW, contamination is defined as "any material not included on the local jurisdiction's acceptance list."
Required Element #3 Discussion of problem contaminants & impacts on the collection system	Met	Met on page 7 using Ecology data. Ecology encourages you to further discuss the impacts of contamination on the collection system as this CROP gets incorporated into the SWMP. This could include data gathered directly from the haulers and the MRF.

Appendix B – Recycling Contamination Reduction and Outreach Plan

Seattle Recycling Contamination Reduction and Outreach Plan Review		
<i>Ecology review – 7/19/21</i>		
Required element	Met or not met	Comments
Required Element #4 Analysis of costs and other impacts on the recycling system	Met	Met on pages 7 and 8 using Ecology data. Ecology encourages you to include and discuss the local data you have on the impacts and costs of contamination on the City's recycling system. For example, it is noted on page 3 that Seattle covers the disposal costs of the contamination in recycling program containers from its customers. This would be useful to explore further. You could also include a discussion of the outreach and education costs focused on contamination reduction.
Required Element #5 (a) Details on conducting outreach	Fully met	Pages 8-18, with actions beyond outreach (i.e. regulatory, and reuse) outlined on pages 15-16. Thank you for the reply in the response document to Ecology's June 9 th input that the terms "plastic containers" and "other plastics" may invite wishcycling. We stand by the comment, especially now that we know that #7 plastics are not desired. Perhaps this can be revisited in the future, such as with the Communications Consortium.
Required Element #5 (b) An implementation schedule	Met	The future strategies on pages 17 and 18 have target years assigned to them, and the time span is six years.