RRS
recycle.com
416 LONGSHORE DRIVE, ANN ARBOR, MI 48105

Chapter 5 - Fiscal Impacts from Policy

Local Government Funding for Solid Waste in Washington State

June 30, 2023
Ecology Publication 23-07-048

PREPARED BY:

RRS

COMMISSIONED BY:

DEPARTMENT OF ECOLOGY
State of Washington

Publication Information

This document is available on the Department of Ecology's website at:
https://apps.ecology.wa.gov/publications/summarypages/2307048.html

Related Information

Publication 23-07-044 -Chapter 1 - Summary and Recommendations - Local Government Funding for Solid Waste in Washington State
Publication 23-07-045 -Chapter 2 -Current Funding Types - Local Government Funding for Solid Waste in Washington State
Publication 23-07-046 -Chapter 3 - Core Services - Local Government Funding for Solid Waste in Washington State
Publication 23-07-047 -Chapter 4 - Alternative Funding Models - Local Government Funding for Solid Waste in Washington State
Publication 23-07-049 -Appendices - Local Government Funding for Solid Waste in Washington State

Solid Waste Management Program

Statewide Headquarters
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6000
Website[1]: Washington State Department of Ecology

ADA Accessibility

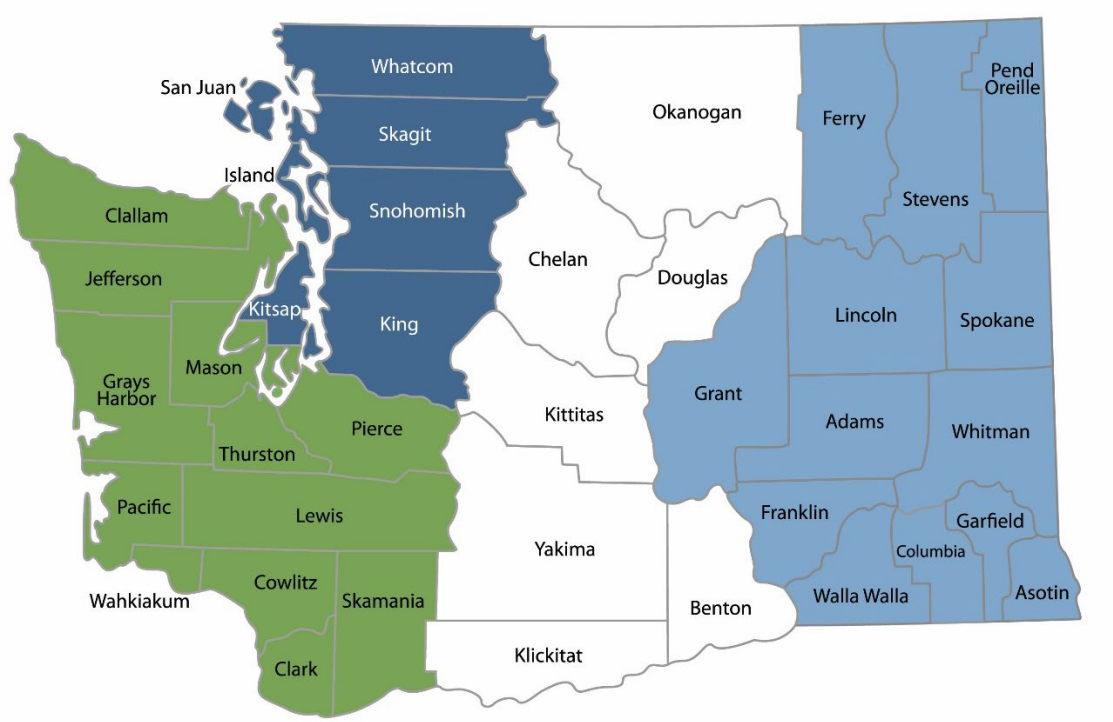
The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request an ADA accommodation, contact Ecology by phone at 360-407-6000 or email at SWMPublications@ecy.wa.gov. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's website for more information.

[1] www.ecology.wa.gov/contact

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	P.O. Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 West Alder Street Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 North Monroe Spokane, WA 99205	509-329-3400
Headquarters	Statewide	P.O. Box 46700 Olympia, WA 98504	360-407-6000

Table of Contents

Table of Tables

Table of Figures

Executive Summary

RRS evaluated the impact of 23 policies that were proposed or enacted between 2019 and 2022 to estimate their impact on the material flow, service level, and cost to city and county solid waste systems across Washington. The analyses look five years out, to evaluate policy at full implementation, and consider material flows and service level impacts waste, recycling, and organics collection and processing, as appropriate. Annualized system fiscal impacts for twenty-four representative cities and counties highlight impacts across jurisdictions of various populations, population densities, and locations across Washington. Additionally, fiscal impacts to cities and counties statewide, by region, and by jurisdiction designation (suburban, urban, and rural) are presented to assist in the identification of trends and policies with the greatest impact.

The analysis focuses on system-wide cost and savings. Utilizing this method provides the most robust accounting of the fiscal impact of the policies evaluated, by ensuring all costs and savings are documented. This approach recognizes that the division of solid waste management and recycling system costs and revenues among stakeholders (e.g., ratepayers, city government, county government, and private sector) varies by jurisdiction within Washington. However, it does not specify which costs or savings will be enjoyed by local governments, and which will be seen by ratepayers or the private sector, nor does it reflect the budgetary conditions of cities and counties. For example, policies that move materials from the waste stream into the recycling and composting stream may provide overall system cost savings. However, counties whose primary engagement in solid waste management and recycling systems is operating a landfill or transfer station, or depend on portions of tip fees to fund programs, will not enjoy those savings, and will instead experience a revenue loss. Despite this, it can be generally assumed that where policies increase costs, at least some of that cost will be borne by local governments, and where cost savings are enjoyed, local governments will benefit at some level.

This evaluation will assist the Legislature, the Washington State Department of Ecology (Ecology), and other key interested partners and parties in identifying the level of fiscal impact to provide required service levels and implement the new policies.

Key Findings – Systemwide Costs[2]

- Recently enacted laws could result in approximately $60 million per year in annualized net system costs statewide, equivalent to $19 per household per year. Equivalent fiscal impacts per

2 Financial analysis associated with each proposed policy can be found in the Proposed Policy Profiles in the appendix of this report. A discussion of the aggregate impact of proposed policies can be found in the Results and Discussion section of this report.

household among representative cities and counties range from a savings of $2 to a cost of $102.

- Approximately 3% of the statewide net annualized system fiscal impact (costs) of enacted policies, as modeled, can be attributed to revenue loss from decreased disposal of municipal solid waste and loss of associated tipping fees.
- House Bill 1799 (enacted 2022), Concerning organic materials management, has the most significant impact of the enacted laws, with estimated net system costs of $50 to $55 million per year statewide. Of this, between $33 and $37 million is associated with commercial organics management requirements.
- Senate Bill 5126 (enacted 2021), Concerning the Washington climate commitment act, and House Bill 1663 (enacted 2022), Reducing methane from landfills, bring significant cost impacts to some solid waste system costs due to their requirement to improve disposal infrastructure to account for and – in some cases – mitigate greenhouse gas impacts.
    - The City of Spokane owns the only municipal solid waste (MSW) waste-to-energy facility in the state. The annualized cost for the waste-to-energy facility to comply with the Washington Climate Commitment Act is between $2.3 million and $8.5 million. As the owner of the facility, the City of Spokane is solely responsible for meeting compliance obligations; however, it is anticipated this cost will be shared with jurisdictions in the county that also utilize the facility.
    - Statewide cost impacts associated with HB 1663, Reducing methane emissions from landfills, range from $3.7 million to $5.2 million and are more evenly distributed across the state.
- Many of the policies, particularly House Bill 1799 (enacted 2022), will require investment in new infrastructure for implementation, including carts, collection vehicles, and upgrades to (or the development of) new organics processing facilities. The analysis presented here does not explicitly model the cost of infrastructure; instead, it assumes that fees charged to customers for collection and processing cover the development of this new infrastructure by incorporating debt service costs. In the short-term, capital financing strategies such as bonds, loans, grants, and/or private sector investment will be needed to meet initial infrastructure cost needs. Without significant financial support, it is likely that local governments and ratepayers will bear some of the burden of capital financing.

Key Findings – Systemwide Savings[3]

- House Bill 1543 (enacted 2019), Concerning sustainable recycling, requires local governments to create and implement contamination reduction outreach plans. It adds planning costs for local governments and is estimated to result in systemwide savings between $560,000 and $2.48 million by reducing recycling processing costs due to less contamination.
- House Bill 1652 (enacted 2019), Paint stewardship, requires producers of architectural paint to fund a statewide paint collection and recycling program. It is estimated to result in savings of $546,000 per year.
- The largest fiscal benefit to local government solid waste systems would have come from House Bill 2003/Senate Bill 5697 (2022), Relating to renewing Washington's recycling system and reducing waste. This legislation would have created an Extended Producer Responsibility (EPR) Program for packaging and paper products, as discussed in Chapter 4, Alternative Funding Models, and was requested by some respondents to the survey in Chapter 2. The intention of this policy was to shift the financial responsibility for recycling packaging and paper products at the end of their useful life from local governments to the producers of this material. Cost savings from implementation of this policy is estimated to be between $176 and $268 million per year. The savings from this one policy would have been greater than the costs of all enacted policies with statewide projected cost impacts. A similar bill, the WRAP Act (House Bill 1131/Senate Bill 5144), was being considered during the 2023 legislative session but did not advance. Fiscal impact of the most recent EPR bill was not included in this study.

[3] Financial analysis associated with each proposed policy can be found in the Proposed Policy Profiles in the appendix of this report. A discussion of the aggregate impact of proposed policies can be found in the Results and Discussion section of this report.

Background & Purpose

The State of Washington Department of Ecology (Ecology) was directed by the Legislature to contract with a third-party consultant to study the adequacy of local government solid waste management funding, including options and recommendations for future program funding if significant statewide policy changes are enacted.

The Project Team was led by **Resource Recycling Systems (RRS)** and included **Cascadia Consulting Group** and **FCS Group**. The study began in October 2022 and ended in June 2023, and resulted in five independent yet complementary reports:

- **Chapter 1** provides an **Executive Summary** of all four components of the study and the range of findings that resulted from the research. Chapter 1 also contains the set of **Recommendations** based on the findings and the contract team's collective expertise in materials management, policy, and analysis.

- **Chapter 2** reviews the **Current Funding Types** that state and local governments are currently authorized to use for solid waste management activities, summarizes current solid-waste-related expenditures by state agencies, and outlines the results of a web-based survey of local governments to learn about solid waste funding types and their rates of adoption.

- **Chapter 3** is an analysis of **Core Services Funding Needs**, and is based on a service model designed to improve the solid waste management system in Washington, with the aim of ensuring that a set of core services are both operating and available to all residents of each county in Washington.

- **Chapter 4** discusses **Alternative Funding Models** that are in use or have been proposed in other parts of the United States and across the world that may have relevance in Washington.

- **Chapter 5** includes the analysis of the impact of 23 policies that were proposed or enacted between 2019 and 2022 to estimate their impact on the **Material Flow**, **Service Level**, and **Cost to City and County Solid Waste Systems** across Washington State.

Policy Proposal Impacts

Methodology

RRS evaluated 23 legislative policy proposals for their impact on material flow, service level, and cost to city and county solid waste systems. While we used 12 representative cites and 12 representative counties for this analysis, it is important to note that the division of solid waste management and recycling system costs and revenues among stakeholders (e.g., ratepayers, city government, county government, and private sector) varies by jurisdiction within Washington State. It is impossible to predict how additional costs or savings will be shared among those stakeholders. As a result, the methodology focuses on system costs/savings, and does not specifically break down which of those costs/savings will be enjoyed by local governments, ratepayers, and the private sector. To provide a contextual understanding, the analysis estimates what the system costs and benefits would be in the 12 representative cities and 12 representative counties. As described further below, these estimates are derived by applying cost factors (e.g., waste generation rates, utility fees) to the population in those counties and cities.

Tables 1 and 2 present the policies analyzed, including 11 solid waste policies that passed into law and 12 policy proposals that did not become law.

Table 1. Policy Proposals that were Enacted, 2019-2022

Bill Year	Bill Number(s)	Bill Title
2019	HB 1114	Reducing the wasting of food in order to fight hunger and reduce environmental impacts
2019	HB 1543 / SB 5545	Concerning sustainable recycling
2019	HB 1652	Concerning paint stewardship
2019	SB 5397 / HB 1204	Concerning the responsible management of plastic packaging
2020	SB 5323 / HB 1205	Reducing pollution from plastic bags by establishing minimum state standards for the use of bags at retail establishments
2021	SB 5022 / HB 1118	Concerning the management of certain materials to support recycling and waste and litter reduction
2021	SB 5040	Enhancing litter control along state highways
2021	SB 5126	Concerning the Washington climate commitment act
2021	SB 5345	Establishing a statewide industrial waste coordination program
2022	HB 1663	Reducing methane from landfills
2022	HB 1799 / SB 5731	Concerning organic materials management

Table 2. Policy Proposals that were Not Enacted, 2019-2022

Bill Year	Bill Number(s)	Bill Title
2019	HB 2360	Establishing the sharps waste stewardship program
2020	HB 2429 / SB 6213	Concerning certain expanded polystyrene products
2020	HB 2656 / SB 6627	Reducing the waste associated with single-use food service products
2020	HB 2722 (vetoed) / SB 6645	Concerning minimum recycled content requirements
2021	HB 1488	Concerning the management of plastic packaging materials
2021	SB 5219	Concerning the management of plastic packaging materials
2022	SB 5286	Establishing a statewide organic waste management goal
2022	HB 1896	Responsible environmental management of batteries
2022	HB 1932 / SB 5658	Concerning the recyclability of products and packaging
2022	HB 2003 / SB 5697	Renewing Washington's recycling system and reducing waste
2022	SB 5740	Providing for a temporary adjustment to waste reduction, recycling, and litter control account
2022	SB 5837	Removing plastic bags as an option for use at retail establishments

Geographic Scope

The analysis modeled the impact of the 23 proposed state level policies on local solid waste systems in the state of Washington. Statewide aggregate material flow, service level, and annualized system fiscal impact are presented in each bill summary. The annualized system fiscal impact represents the total cost or savings that result from implementation of the policy, whether that cost or savings is enjoyed by the local government, the ratepayer, or the private sector. Note that the analysis does not include costs to state government to implement or enforce legislation. To assist the reader in understanding the fiscal impact of the policies, annualized system fiscal impacts on the following geographic scales are presented for each bill summary:

- statewide;
- regional, utilizing Washington Ecology region designations;

- urban, suburban, and rural jurisdictions by region; and
- impacts on representative jurisdictions (12 cities and 12 counties).

Figure 1. Map of Washington Ecology Regions

The estimated annualized system fiscal impacts for the 12 representative counties reflect the local cost factors applied to the population in unincorporated areas and cities that do not independently develop solid waste management plans. (Spokane County is the only representative county containing cities, Liberty Lake and Spokane Valley, that independently develop solid waste plans.) These cost factors include the Washington Utilities and Transportation Commission (UTC) rates, county tipping fees, and waste generation rates. The system fiscal impacts may be borne by the county, by ratepayers, or by the private sector, depending on how the local system is operated.

Estimated annualized system fiscal impacts for the 12 representative cities reflect the local costs factors applied to the population in that city. The system fiscal impacts may be borne by the city, the county in which the city resides, ratepayers, or the private sector, depending on how the local system is operated.

Representative Jurisdictions

Representative jurisdictions were selected by the project team and vetted with the Association of Washington Cities (AWC), the Washington Association of County Solid Waste Managers (WACSWM), and staff from Ecology. Selection criteria used to determine the representative jurisdictions included:

- distribution across all four Ecology regions;
- rural, suburban, and urban classification;

- small, medium, and large classification; and
- access to rate studies to enable cost modeling.

The representative cities that were used in modeling are listed in Table 3. Counties are listed in Table 4. Figure 1 depicts both cities and counties.

Figure 2. Representative Jurisdictions

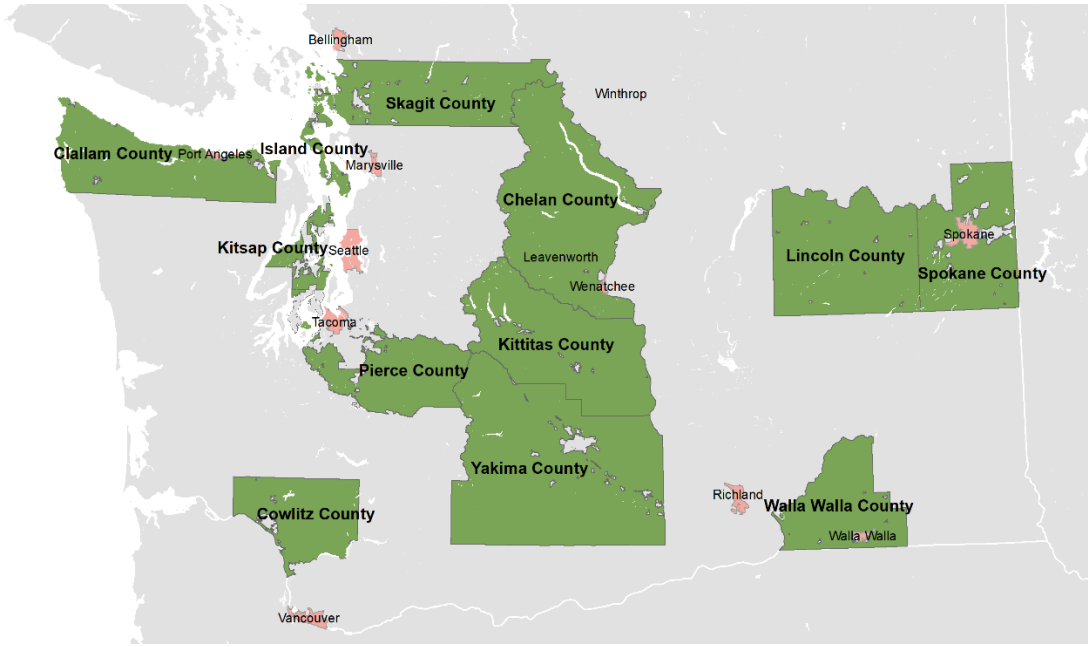


Table 3. Representative Cities (in Order of Largest to Smallest Population)

City	County	Region	City Type	Size	Population	Population Per Square Mile
Seattle	King	Northwest	Urban	Large	742,400	7,492
Spokane	Spokane	Eastern	Urban	Large	229,400	3,295
Tacoma	Pierce	Southwest	Urban	Large	218,700	4,424
Vancouver	Clark	Southwest	Urban	Large	194,400	3,685
Bellingham	Whatcom	Northwest	Urban	Medium	89,860	3,146
Marysville	Snohomish	Northwest	Urban	Medium	71,250	3,390
Richland	Benton	Central	Urban	Medium	61,320	1,440
Leavenworth	Chelan	Central	Suburban	Small	2,390	1,683
Port Angeles	Clallam	Southwest	Suburban	Small	20,120	1,384
Walla Walla	Walla Walla	Eastern	Suburban	Small	33,680	2,421
Wenatchee	Chelan	Central	Suburban	Small	35,550	3,326
Winthrop	Okanogan	Central	Suburban	Small	535	575

Table 4. Representative Counties (in Order of Largest to Smallest Population)

County	Region	County Type	Size	Population	Population Per Square Mile
Pierce	Southwest	Suburban	Large	928,200	556
Spokane	Eastern	Suburban	Large	542,100	307
Cowlitz	Southwest	Rural	Medium	111,500	98
Kitsap	Northwest	Suburban	Medium	277,700	703
Skagit	Northwest	Rural	Medium	130,000	75
Yakima	Central	Rural	Medium	258,100	60
Chelan	Central	Rural	Small	80,000	27
Clallam	Southwest	Rural	Small	77,750	45
Island	Northwest	Suburban	Small	87,100	418
Kittitas	Central	Rural	Small	45,225	20
Lincoln	Eastern	Rural	Small	10,900	5
Walla Walla	Eastern	Rural	Small	62,100	49

Modeling Local System Impacts

Local governments have primary responsibility for regulating and overseeing management of solid waste in Washington.[1][2] Counties, jurisdictional health departments, and cities share this responsibility. Solid waste management costs may be paid by ratepayers directly to service providers, by counties in areas where they contract for service provision, or by cities within the county that contract for service. In cities which provide or contract for service, residents pay the city for service through fees or pay service providers directly. The following describes county and city waste systems in more detail, as well as the role of the private sector within these systems.

County Solid Waste System

Under state law, counties in Washington are generally responsible for coordinating comprehensive solid waste planning.[3] Planning is funded by the county and can be offset in part by state grants.

Waste, recycling, and composting collection services in unincorporated areas of the counties are generally provided by private haulers through franchises regulated by the Washington State UTC.[3] Residents and businesses pay private UTC-franchised service providers directly for services.

Recycling and composting outreach typically is provided by the county in unincorporated areas, and cities within the county where service is provided by a UTC-regulated hauler. County outreach expenses can be offset in part by state grants.

The solid waste management infrastructure within each county may be supported by cities, environmental health districts, and regulated and non-regulated private waste haulers/companies. Many of the counties operate or contract for the operation of the regional transfer stations and MSW disposal facilities. Development and maintenance of infrastructure owned by the private sector is paid for directly by these private entities. This investment is typically recouped through adjustments to service rates paid for by residents and businesses (ratepayers), other waste haulers that utilize the facility, or the cities and counties that contract for services. Infrastructure owned by the county is paid for by the county and is recouped through tax and fee adjustments.

City Solid Waste System

Spokane Valley, Liberty Lake, and Seattle conduct comprehensive solid waste planning independently of the counties in which they reside. Solid waste planning for other cities is led by their respective counties. Planning is funded by the county and can be offset in part by state grants. Cities that plan independently can access a portion of the grant funding.

For waste collection services, cities may choose to use the UTC- franchised service provider, contract for services, or provide their own services. For recycling and organics collection services, cities may provide services directly to residents or contract with a private hauler to provide those services. Cities can use multiple methods to charge residents for these services, including charging them a specific collection rate or disposal fees.

Cities that directly manage their city's solid waste programs are typically also responsible for recycling, composting, and waste prevention education and outreach. When recycling and composting services are contracted, recycling and composting outreach is typically incorporated into collection contracts. City outreach expenses can be offset in part by state grants.

Cities typically do not own waste, recycling, and composting facilities. Instead, cities generally enter into agreements to utilize county transfer and disposal facilities or contract with the private sector. Examples of exceptions include the City of Spokane's Waste to Energy Facility, the Port Angeles transfer station, and landfills owned by the cities of Walla Walla and Richland.

Recycling, composting, and anaerobic digestion facilities are typically owned and operated by the private sector. Development and maintenance of private infrastructure is the responsibility of the private entities, typically recouped through service rates or fees paid for by ratepayers, by other waste haulers that utilize the facility, or by the cities and counties that contract for services.

System Impacts

Annualized fiscal impacts of the 23 proposed policies were modeled from a system perspective to account for all costs and savings incurred by city and county governments, residents, businesses receiving services, and the private sector service providers. We calculated system impacts for the 12 representative cities and the 12 representative counties, using cost assumptions informed by the local context (see calculation of included variables). Focusing on system costs and savings enables cities and counties to understand the full fiscal impact of a policy on communities. It is important to have a robust understanding of fiscal impacts prior to determining whether or how costs or savings will be shared among local governments, private service providers, residents, and businesses.

The modeling does not break out the costs and savings by stakeholder (government, resident or business) because the division of cost and savings among stakeholders varies across jurisdictions. The costs and savings are presented by representative cities and counties to provide a contextual understanding of the impacts, applying cost factors to those jurisdictions. Furthermore, the adjustments made to adapt to increased costs (e.g., pass on to ratepayers, increase fees, identify grants) vary from one jurisdiction to the next. As a result, it is not possible to pinpoint how the costs or savings that result from a policy will be shared among the stakeholders and reliably model whether costs or savings will be absorbed by local governments and businesses, or passed on to ratepayers. For

example, a private landfill may experience capital costs associated with facility upgrades required by legislation or regulation. The private landfill experiencing this new cost will consider market conditions to determine how to absorb the cost and maintain profitability, likely by adjusting its fee structure. A jurisdiction using the facility may opt to absorb the cost increase into its budget and/or increase the fees to ratepayers. Another example is implementing contamination reduction efforts that lead to decreased costs to a private recycling facility. Whether the local government, the ratepayer, or the recycling facility operator realizes the cost savings depends on contract terms. As contract terms can change over time, reporting the net savings that result from the policy change provides the most accurate information to inform next steps for local governments. Because costs and savings in the analysis represent full system impacts, in some instances the resulting costs and savings will be greater than the current local government operating costs.

Annualized System Fiscal Impact Scope

The following variables define the scope of the local system fiscal impacts that were included and excluded in the quantitative analysis for each proposed policy.

Calculation of Included Variables

New Local Government Planning Requirements

For policies which include new local government planning requirements, the fiscal impact was modeled by estimating the annualized costs for each local planning unit to meet the new requirements. Costs were assumed to be incurred every five years to account for required plan updates.

Local Government and Private Hauler Outreach

Local government and private hauler outreach, when needed, was modeled by estimating a cost of outreach per household per year and then multiplying that by the targeted number of households in the relevant jurisdiction. The per household cost includes the labor and expenses required to execute outreach and varies between policies depending on the required type of outreach. Please see individual policy profiles for specific costs per household utilized.

Residential and Commercial Collection, Processing, and Disposal Costs

2021 financial records for Washington State UTC-regulated and non-regulated service areas were used to establish collection and processing costs per customer per year for garbage, recycling, and organics for both regulated and non-regulated service areas. These per customer costs reflect the labor and infrastructure required to deliver the relevant service. This data set was deemed the best source as it is publicly available data from companies servicing over one million residential households for trash and recycling collection services. The resulting residential collection, processing, and disposal costs are evaluated at low, medium, and high costs. These are set at the first quartile (low-level), median (mid-level), and third quartile (high-level) for garbage and recycling, and third quartile and maximum values for all impact scenarios for organics. Maximum values were utilized for residential organics collection and processing based on the assumption that the new infrastructure required would be reflected in a higher per customer cost. If a jurisdiction is in a regulated area, the regulated costs were used; if a jurisdiction is in a non-regulated area, non-regulated costs were used. Tables 5 and 6 list the values utilized. These costs were then multiplied by the number of households to arrive at the total cost per applicable jurisdiction.

Table 5. 2021 Annual Cost per Residential Customer by Service Type in Regulated Service Areas

	Garbage	Recycling	Yard Waste / Organics
Minimum	$83.51	$80.03	$71.88
1st Quartile	$232.89	$94.45	$107.40
Median	$275.03	$111.97	$128.33
3rd Quartile	$338.05	$125.33	$132.04
Maximum	$422.10	$260.64	$158.38

Table 6. 2021 Annual Cost per Residential Customer by Service Type in Non-Regulated Service Areas

	Garbage	Recycling	Yard Waste / Organics
Minimum	$105.06	$7.10	$19.29
1st Quartile	$190.57	$37.50	$54.80
Median	$271.01	$70.60	$80.09
3rd Quartile	$329.26	$88.84	$96.84
Maximum	$415.62	$352.43	$113.50

Residential and commercial disposal costs were modeled by multiplying the estimated tonnage change due to the policy by the jurisdiction's 2021 disposal tip fee. County disposal tip fees for 2021 range from $38 to $400 per ton with an average of $116 per ton. This value can be either a cost (if additional tonnage is disposed) of or a savings (if tonnages are diverted). The revenue losses to local governments from diverted tonnages are also recognized, as described in the disposal revenue loss section below. Because the analysis focuses on system costs, the model does not specify whether the costs or savings are enjoyed by local governments, ratepayers, or the private sector. However, it is fair to assume that any costs or savings would be shared among the stakeholders.

Organics processing costs were similarly modeled using the 2021 statewide third quartile food and yard waste per ton disposal fee of $55.94 per ton. Organics processing values ranged from $19.00 to $59.71 per ton for 2021.

A recycling processing cost per ton was not utilized as part of the proposed policy analysis.

Disposal Revenue Loss

To account for the impact of a reduction in disposal revenue to local governments from diverted tonnages, the analysis isolates the amount of disposal revenue that is used to manage waste at the disposal facility from the revenue used by local governments for activities not related to the operation of the disposal facility. The revenue used to fund other activities is reflected in the model as a revenue loss to the local government. Revenue associated with managing waste would be neutral since that waste would no longer need to be managed as disposed. Costs to manage the diverted tonnages outside of the disposal system (such as through recycling or composting) are reflected in the collection, processing and disposal costs described above.

Table 7 provides data to support the average of 28.37% of disposal revenue used for activities not related to MSW disposal. In modeling the impact from legislation, this revenue was considered when legislation resulted in a projected tonnage change. The calculation of this revenue is carried out by multiplying the projected tonnage change due to the legislation, the disposal tip fee in the corresponding county, and the proportion of that tip fee used for other activities.

Kitsap County, Skagit County, King County, Pierce County, and Spokane County data were utilized to calculate these values due to the recentness of the data as well as the availability of underlying data detailing the amount of disposal revenue utilized for other activities.

Table 7. Disposal Revenue and Estimated Disposal Revenue Loss

Jurisdiction (Data Year)	MSW Transfer	MSW Transport	MSW Disposal	All Other Activities	Total	Est. % of Revenue Not Related to MSW Disposal
Kitsap County (2021)[4]	$6,092,051	$12,088,261	$5,053,289	$8,126,361	$31,359,962	25.91%
King County (2021)[5]	$54,946,193	$13,934,600	$32,798,760	$38,091,626	$139,771,179	27.25%
Spokane County[6]	$4,432,041	-	$6,207,870	$4,436,029	$15,075,940	29.42%
Skagit County (2018)[7]	$7,542,872	-	-	$2,904,193	$10,447,065	27.80%
Pierce County (2021-2022)[8]	$50.89/ton	-	$64.58/ton	$53.04/ton	$168.51/ton	31.48%
Average						**28.37%**

Household Hazardous Waste Events Staffing, Hauling, and Disposal

The Solid Waste in Washington State, 24th Annual Status Report (2015), provided 2014 data by county on pounds of household hazardous waste (HHW) collected, the number of participants, and cost per participant.[9] Costs were adjusted to 2021 dollars and the data were utilized to calculate a 2021 cost per ton for HHW staffing, hauling, and disposal by county. Cities with separate HHW programs were assumed to have the same costs per ton as the counties in which they reside. The estimated 2021 HHW costs by county ranged from $402 - $9,542 per ton. The median cost was $2,270 per ton.

Required Disposal Facility Upgrades, Emissions Monitoring, and Emissions Allowances

Facility upgrades were modeled by estimating the needed capital and then amortizing that capital over the proper timeframe (10 years for equipment such as carts and trucks, 20 years for landfill

gas collection equipment, and 20 years for buildings). This annualizes the capital cost so it can be accounted for in the relevant jurisdictions.

Methods and assumptions associated with emissions monitoring and emissions allowances are described within relevant bill summaries in the analysis section of the chapter.

Upgrades to Existing and Development of New Recycling and Organics processing Infrastructure

The analysis assumes that the annualized cost of new infrastructure and facility upgrades will be incorporated into collection costs per customer, and that upgrades to existing and development of new recycling and organics processing infrastructure are reflected in the per customer collection and processing costs. Given the significant investment projected for organics, high per customer costs were utilized to model organics legislation.

Staffing

Costs of local government or private sector staffing to implement the local program required by each policy are incorporated into the cost of each activity. For example, collection, processing, and disposal costs include the drivers, sorters, and other staff required to implement each policy. State government staff to enforce or oversee laws are not reflected in the annualized system fiscal impact analysis.

State Grants

The main state grants to local governments (Local Solid Waste and Financial Assistance grants) are disbursed using a base amount plus an additional amount based on population and can be used to cover a range of activities. The analysis assumes that these and other grants will neither increase or decrease as a result of the policies evaluated, unless specified, and therefore the net impact to the grant amounts is cost neutral. However, policies that add unfunded requirements for local governments may contend for limited grant funds which are already in use for other purposes. Where a policy includes specific grant funds, those funds are incorporated into the system fiscal impact analysis as described in each relevant policy summary.

Discussion of Excluded Variables

The following variables have not been included in the fiscal impact analysis.

State Costs

Given that the scope of the project is limited to impact on local jurisdictions, state costs and impacts associated with Ecology managing and implementing programs were not modeled.

Litter Staffing and Disposal

The majority of costs to solid waste programs with respect to litter are related to the collection and disposal of litter. Individual policies target materials that are relatively small proportions of the litter stream as a whole, and therefore are unlikely to reduce enough litter to allow for reduced labor (fewer litter collection crews/routes) or substantially reduced disposal costs. Furthermore, the amount of litter impacted by the analyzed policies is a minute fraction of the total amount managed in the solid waste system. As a result, litter costs were not included in the model.

Costs Associated with Increased Service Level and Paid for by Product Manufacturers

For EPR policies such as those related to paint, batteries, packaging, and sharps, increases in collection and/or recycling as a result of the policy and paid for by product producers are discussed in terms of increases in service level (defined below) and are not reflected in the annualized system fiscal impacts of the policy. Instead, the analysis includes cost savings realized by cities and counties equal to the costs paid by cities and counties providing a similar service prior to the policy going into effect. The analysis also reflects disposal savings and/or revenue loss associated with newly diverted tons that result from the program implementation.

Impacts Not Directly Related to Materials Management

As the focus of this analysis is on the fiscal impact to local solid waste systems, other direct or indirect fiscal impacts are not addressed. For example, environmental benefits of reduced litter or increased wages and tax revenue due to increased recycling and composting are outside the scope of this study.

Analysis

The analysis evaluated the service level, material flow, and fiscal impacts associated with each of the policies listed in Tables 8 and 9. Fiscal impact is expressed as the annualized fiscal system impact after five years (in 2027) to reflect full program implementation and is expressed in 2021 dollars. The total cost is based on a low, medium, and high policy impact scenario, and for the majority of policies, set at the 1st quartile (low-level), median (mid-level), and 3rd quartile (high-level) of statewide data for collection and processing and/or disposal per customer (see Annualized System Fiscal Impact Scope above and individual bill summaries in Appendix A for additional detail). The highest policy impact scenario can be the lowest cost scenario if greater diversion results in costs savings compared to the current management scenario.

Each policy profile contains the following:

- bill number and, if applicable, number of the companion bills;
- year introduced or passed;
- a summary of the key provisions of the bill that relate to local solid waste management;
- an evaluation of service level, material flow, and annualized system fiscal impacts; and
- any methods or assumptions unique to the policy impact evaluation and not covered in the methodology.

Service Level Impact

The service level impact section addresses changes in types of service offered, changes in access to services, and/or changes to materials accepted. For example, increasing the number of households receiving curbside recycling service or adding food waste to existing yard waste collection would increase service levels. Assumptions for calculating system level impact are explained in each policy profile presented in Chapter 5.

Material Flow Impact

The material flow impact section addresses changes in tons sent to landfill, recycling, and organics recovery statewide. Assumptions for calculating material flow impact are explained. Where applicable, changes in the quality of material sent to recycling and organics processing facilities is discussed.

Annualized Fiscal Impact

Policies for which the analysis identified an annualized fiscal impact, the following information is presented and discussed:

- annualized system fiscal impact statewide;
- annualized system fiscal impact by region and jurisdiction designation (urban, suburban, rural);

- annualized system fiscal impact applied to representative county system; and
- annualized system fiscal impact applied to representative city system.

Each policy profile presented in Chapter 5 presents the inputs and the formulas used to arrive at system cost estimates.

Legislation that was enacted and is now law is analyzed first, followed by bills that did not pass. Both are organized first by year introduced and then by bill number.

Net costs are presented as positive values whereas net cost savings are presented in parentheses to indicate that they are negative values.

Detailed policy profiles are provided in Appendix A. Aggregate impacts of analyzed policies are detailed in the Results and Discussion Section.

Table 8 lists policy proposals enacted by year, along with a brief description of the policy and whether the policy creates local system fiscal impacts as determined by the fiscal impact analysis presented in the proposed policy profiles. All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including planning, outreach collection, processing, transportation and disposal (see "Calculation of Included Variables" section for full list of included variables). The costs/savings may be borne by local government, ratepayers, or the private sector. The analysis quantifies annualized system fiscal impact after five years (in 2027) to reflect full program implementation. Of the 11 laws enacted in the past four years, six were deemed to have fiscal impacts on local solid waste systems.

Table 8. Policy Proposals that were Enacted, 2019-2022 (Detailed)

Bill Year	Bill Number(s)	Bill Description	Local System Fiscal Impact (Y/N)
2019	HB 1114	**Reducing the Wasting of Food in Order to Fight Hunger and Reduce Environmental Impacts** • The law establishes a goal to reduce food waste in Washington by 50% by 2030. The bill specifically calls for the promotion of processes and systems that "prevent, rescue, and recover wasted food" through the development of a state wasted food reduction strategy.	**No**
2019	HB 1543 / SB 5545	**Concerning Sustainable Recycling** The law requires cities and counties responsible for preparing solid waste plans and that have populations greater than 25,000 to develop and implement	**Yes**

Bill Year	Bill Number(s)	Bill Description	Local System Fiscal Impact (Y/N)
		contamination reduction and outreach plans for recycling programs. It also reallocates Waste Reduction, Recycling, and Litter Account funding such that 20% of the fund is to be for competitive grants to local governments for developing and implementing contamination reduction plans.	
2019	HB 1652	**Concerning Paint Stewardship** The law requires producers of interior or exterior architectural paint sold in containers of five gallons or less to participate in an approved stewardship plan and help fund a paint stewardship organization. Additionally, paint retailers may not sell paint from a producer who does not participate in a stewardship plan.	**Yes**
2019	SB 5397 / HB 1204	**Concerning the Responsible Management of Plastic Packaging** The law requires Ecology to evaluate and assess the amount and types of plastic packaging sold into the state as well as the associated management and disposal activities attributed to this material. This law required a third-party, independent consultant to conduct the evaluation and assessment.	**No**
2020	SB 5323 / HB 1205	**Reducing Pollution from Plastic Bags by Establishing Minimum State Standards for the Use of Bags at Retail Establishments** The law prohibits a retail establishment from providing to a customer, or to a person at an event, a single-use plastic carryout bag or a paper or reusable plastic carryout bag that does not meet recycled content requirements. Additionally, with the passage of this bill, local governments are prohibited from implementing local carryout bag ordinances.	**Yes**
2021	SB 5022 / HB 1118	**Concerning the Management of Certain Materials to Support Recycling and Waste and Litter Reduction** Effective as of July 25, 2021, Senate Bill 5022 is a result of the recommendations from the legislatively directed Ecology report that evaluated and assessed the amount and types of plastic packaging sold into the state, as well as its management and disposal. The	**No local system fiscal impact but does include local pre-emption on some bans**

Bill Year	Bill Number(s)	Bill Description	Local System Fiscal Impact (Y/N)
		report, published in December 2020, lists ten policy recommendations, eight of which required legislative policy action. In response to the recommendations, SB 5022 addresses reductions in plastic.	
2021	SB 5040	**Enhancing Litter Control Along State Highways** The law requires Ecology to contract with the Department of Transportation to schedule litter prevention messaging and coordination of litter emphasis patrols with the Washington State Patrol. Local governments may initiate and apply to Ecology for reimbursement of litter clean-up activities on state highway ramps located within the jurisdiction of the local government. This is an amendment to an existing law to allow additional services to be reimbursed, but it does not require new or enhanced services, nor does it increase the amount of funding available for reimbursement.	**No local system fiscal impact but does create a new grant program for locals using existing funds**
2021	SB 5126	**Concerning the Washington Climate Commitment Act** The law instructs Ecology to implement a greenhouse gas (GHG) emissions cap and "invest" program to reduce GHG emissions consistent with statewide emissions limits. Covered entities must purchase greenhouse gas emissions allowances through auctions hosted by Ecology, or through the secondary market. The overall allowances issued each year are reduced to support Washington state in meeting its greenhouse gas (GHG) emissions reduction targets. Waste-to-energy facilities are the only type of covered entity that is part of a solid waste system, and therefore relevant to this analysis. Compliance requirements for waste-to-energy facilities commence in 2027.	**Yes**
2021	SB 5345	**Establishing a Statewide Industrial Waste Coordination Program** The law creates an industrial waste coordination program to provide expertise, technical assistance, and best practices to support local industrial symbiosis projects. The program must facilitate the exchange of	**No**

Bill Year	Bill Number(s)	Bill Description	Local System Fiscal Impact (Y/N)
		wasted resources such that they can be used by another company or sector.	
2022	HB 1663	**Reducing Methane from Landfills** The law reduces methane emissions through establishing methane concentration limits and, requiring owners and operators of landfills to: monitor surface emissions, report on various data points influencing emissions, and/or install gas collection equipment at landfills that meet specified criteria.	**Yes**
2022	HB 1799 / SB 5731	**Concerning Organic Materials Management** The law establishes organic materials management goals and requirements for local governments and businesses and addresses product degradability labeling requirements for manufacturers and retailers. It also required this study.	**Yes**

Table 9 lists policy proposals that were not enacted, along with a brief description of the policy and whether the policy would have created local system fiscal impacts as determined by the fiscal impact analysis presented in the proposed policy profiles. All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including planning, outreach collection, processing, transportation, and disposal (see "Calculation of Include Variables" section for full list of included variables). The costs/savings may be borne by local government, ratepayers, or the private sector. The analysis quantifies annualized system fiscal impact after five years (in 2027) to reflect full program implementation. Of the nine policy proposals that did not pass, three were deemed to have a fiscal impact on local solid waste systems. Please note that policy proposals that did not pass which are similar in nature to enacted policy proposals were not modeled separately.

Table 9. Policy Proposals that were Not Enacted, 2019-2022 (Detailed)

Bill Year	Bill Number(s)	Bill Title	Local System Fiscal Impact (Y/N)
2019	HB 2360	**Establishing the Sharps Waste Stewardship Program** House Bill 2360 would have established a stewardship program for sharps manufacturers to collect and dispose of material from consumers. The program would have required sharps producers to provide waste containers and prepaid mail-back materials upon request and at no cost to specified users and entities.	**No**
2020	HB 2429 / SB 6213	**Concerning Certain Expanded Polystyrene Products** House Bill 2429/Senate Bill 6213 would have prohibited the sale or distribution of certain expanded polystyrene products in or into Washington State beginning June 1, 2023.	**Yes, see 1118/5022 (passed)**
2020	HB 2656 / SB 6627	**Reducing the Waste Associated with Single-use Food Service Products** HB 2656 would have restricted the sale or provision of plastic food service products beginning January 1, 2022 in certain cities and counties, and beginning as late as January 1, 2030 in other cities and counties. The bill would also add requirements for counties updating solid waste management plans after 2020. Additional planning requirements would have been null and void if adequate funding was not provided to each county to meet these requirements.	**No local system fiscal impact, but adds local planning requirements if fully funded**
2020	HB 2722 (vetoed) / SB 6645	**Concerning Minimum Recycled Content Requirements** House Bill 2722 passed the House and Senate but was vetoed by the Governor on April 3, 2020. This bill would have: • established a minimum post-consumer recycled content (PRC) requirements for plastic containers of certain beverages sold, offered for sale, or distributed in Washington, • required that beverage manufacturers annually report the type and amount of virgin plastic and PRC plastic used for these beverages, • established penalties for beverage manufactures who fail to meet minimum post-consumer recycled content requirements, and	**No**

Bill Year	Bill Number(s)	Bill Title	Local System Fiscal Impact (Y/N)
		• required annual reporting of pounds of all resin used (virgin and post-consumer recycled content) by the beverage manufacturer that sold, offered for sale, or distributed plastic beverage container in Washington. Ecology would have been required to post this information on their website. Senate Bill 5022, containing similar requirements, passed in the 2021 session.	
2021	HB 5219/ SB 1488	**Concerning the Management of Plastic Packaging Materials** Two similar pieces of legislation, SB 5219 and HB 1488 would have required producers of plastic packaging to meet minimum standards for PRC on average for the total amount of plastic packaging sold, offered for sale, or distributed in Washington. They would have created a fee on plastics that would be distributed in part to local governments.	**Yes**
2022	SB 5286	**Establishing a Statewide Organic Waste Management Goal** Senate Bill 5286 established a goal to divert and reduce not less than 50% of organic waste by weight from landfill disposal by 2025, and to divert and reduce not less than 90% of organic waste by weight from landfill disposal by the end of 2030 (relative to June 30, 2021). All local city and county governments with populations of 50,000 or more would have been required to ensure that their comprehensive solid waste management plans incorporated organics diversion approaches to achieve these goals. House Bill 1799, containing similar requirements, passed in 2022.	**Yes, see HB 1799 (passed)**
2022	HB 1896	**Responsible Environmental Management of Batteries** House Bill 1896 would have created an extended producer responsibility program for batteries. Manufacturers of a broad range of batteries and battery containing products would be responsible for the complete lifecycle of their products.	**Yes**
2022	HB 1932 / SB 5658	**Concerning the Recyclability of Products and Packaging**	**No**

Bill Year	Bill Number(s)	Bill Title	Local System Fiscal Impact (Y/N)
		House Bill 1932 and Senate Bill 5658 would have mandated post-consumer recycled content in plastic items offered for sale, sold into, or distributed into the state and would have required producer reporting of products and their corresponding level of recycled content. If passed, this law legislation would have also required established 'truth in labeling' requirements that outlaw deceptive or misleading claims about recyclability of the product or packaging. It would have designated the use of the 'chasing arrows' symbol only to materials that are readily recyclable across the state, as defined by Ecology. To determine the criteria for which materials are readily recyclable in the state, this law legislation also called for an every-five-year material characterization study that would identify what material types and forms are actively recovered, how these materials are collected or processed, and their end markets.	
2022	HB 2003 / SB 5697	**Renewing Washington's Recycling System and Reducing Waste** The intention of House Bill 2003 and Senate Bill 5697 was to shift the responsibility for packaging and paper products (PPP) at the end of their useful life from cities and counties to the producers of this material, creating an Extended Producer Responsibility (EPR) for PPP program.	**Yes**
2022	SB 5740	**Providing for a Temporary Adjustment to Waste Reduction, Recycling, and Litter Control Account** Senate Bill 5740 intended to divert 50% of waste reduction, recycling, and litter control account (WRRLCA) funds to the highway cleanup account for one year and require a 50% reduction in remaining expenditures of the waste reduction, recycling, and litter control account funds. This reduction was to be taken across all of WRRLCA, including the 20% portion that is used by local governments. Part of these funds are allocated to counties via the Community Litter Clean up Grants to clean up litter on county roads. The funding for the competitive Waste Reduction and Recycling Education grants also comes from the 20% portion. This bill would have cut the amount available to local governments in half.	**Yes. However, fiscal impact was not included in analysis due to fiscal impact being limited to one year**

Bill Year	Bill Number(s)	Bill Title	Local System Fiscal Impact (Y/N)
		The reduction would also reduce by half the 40% WRRLCA funds used by Ecology's solid waste program to fund staff work that supports local governments, including litter coordination, data generation, and technical assistance for waste reduction and recycling.	
2022	SB 5837	**Removing Plastic Bags as an Option for Use at Retail Establishments** Senate Bill 5837 would have amended Revised Code of Washington (RCW) 70A.530.020 to remove plastic bags as an option for use at retail establishments and events.	**Yes, see 5323 (passed)**

Results and Discussion

This section synthesizes the system fiscal impact of the 23 proposed policies. Fiscal impact is expressed as the annualized system fiscal impact five years from now (in 2027) and is expressed in 2021 dollars. Five years was selected as many policies contain phase-in schedules, and this allows for costs associated with full implementation to be considered. Annualized system fiscal impacts incorporate impacts to both costs and revenue. Infrastructure investment is incorporated into policies where investment in infrastructure is explicitly required. In cases where it is not explicitly required, it is assumed that annualized costs of infrastructure are incorporated into costs for collection, processing, or disposal. Low, medium, and high impact scenarios have been calculated. Note that there is not always a correlation between lowest impact and lowest cost. Some policies result in cost savings, so as the impact of the policy gets higher the savings increase and the costs decrease. In other instances, policies can achieve economies of scale, so as the impact increases the relative costs decrease. Appendix A includes a detailed description of the analysis, assumptions, inputs, and formulas used to derive the estimates of impact of each of the policies evaluated.

System Fiscal Impacts from Passed Policy

Statewide, city, and county solid waste and recycling systems will realize a net cost from laws enacted in the last four years. The annualized system fiscal impact due to recently enacted policies is approximately $60M per year, equivalent to $19 per household per year.

Table 10 presents the statewide annualized system fiscal impact of each of the enacted policies. Cost savings are presented (in parentheses). Of the 11 enacted policies in the past year, four result in a net increase in system costs statewide, two create system cost savings statewide, one has variable impact, and five were deemed to have no impact or their impact was modeled with another similar enacted policy proposal as noted.

Table 10. Annualized System Fiscal Impact for Enacted Policies, Statewide ($/Yr.)

Bill Number	Bill Title	Low	Medium	High
HB 1114	Reducing the wasting of food	See HB 1799 (SB 5731) (passed)	See HB 1799 (SB 5731) (passed)	See HB 1799 (SB 5731) (passed)
HB 1543 / SB 5545	Concerning sustainable recycling	($590,000)	($1,530,000)	($2,470,000)
HB 1652	Concerning paint stewardship	($546,000)	($546,000)	($546,000)
SB 5397 / HB 1204	Responsible management of plastic packaging	$0	$0	$0
SB 5323 / HB 1205	Reducing pollution from plastic bags	$468,000	$120,000	($228,000)
SB 5022 / HB 1118	Management of certain materials	$0	$0	$0
SB 5040	Litter control along state highways	$0	$0	$0
SB 5126	Climate commitment act	$2,333,000	$5,447,000	$8,560,000
SB 5345	Statewide industrial waste coordination program	$0	$0	$0
HB 1663	Reducing methane emissions from landfills	$3,730,000	$4,480,000	$5,240,000
HB 1799 / SB 5731[4]	Organic materials management	$55,460,000	$53,990,000	$50,290,000
Total		$60,860,000	$61,960,000	$60,850,000

The three policies that produce systems costs are:

- HB 1799 / SB 5731, Concerning organics materials management
- HB 1663, Reducing methane emissions from landfills

4 $32.8 million-$36.7 million, equivalent to $10-$11 per household per year, are for commercial sector organics requirements (HB 1799).

- SB 5126, Concerning the Washington climate commitment act

The enacted policy with the highest system cost is HB 1799 (2022), the Organics Management Law, with annualized system costs ranging from $50M - $55M; however, $33M-$37M are associated with meeting non-residential sector requirements.

SB 5126 (2021), Concerning the Washington climate commitment act, and HB1663 (2022), Reducing methane emission from landfills, both bring significant cost impacts to city and county solid waste and recycling systems because of a requirement to improve disposal infrastructure to account for and – in some cases – mitigate greenhouse gas impacts. In the case of SB 5126, the impact is isolated to the City of Spokane and jurisdictions in the County that utilize the city's waste-to-energy facility.

Three new laws are expected to save local governments money in one or more scenarios. These include:

- HB 1652 (2019), Concerning paint stewardship
- SB 5323 (HB 1205) (2020), Reducing pollution from plastic bags
- HB 1543 (SB 5545) (2019), Concerning sustainable recycling

Highest Cost Policy – House Bill 1799(2022)

House Bill 1799, concerning organic materials management, results in the highest costs to city and county solid waste management systems of all enacted policies. The policy requires both residential and non-residential sectors to meet specified requirements for the separate collection and processing of organic waste, including food waste.

Table 11 provides the statewide system fiscal impacts to city and county solid waste programs for HB 1799 by sector – residential and non-residential. Non-residential requirements comprise more than 60% of the policy's system fiscal impact.

Table 11. Statewide Annualized System Fiscal Impact HB 1799 (by sector)

Sector	Low	Medium	High
Residential	$18,780,000	$18,410,000	$17,510,000
Non-Residential	$36,680,000	$35,570,000	$32,800,000
Total	**$55,460,000**	**$53,990,000**	**$50,290,000**

Annualized System Fiscal Impact of Enacted Policies as Applied to Representative Cities and Counties

While the estimated system fiscal impact of recently enacted laws statewide is equivalent to $19 per household, the estimated system cost per household in the 24 representative cities and counties ranges from -$2-$102/household per year. Cost savings are presented (in parentheses).

Figure 3 displays the ranges of costs to city and county solid waste management and recycling systems expressed in dollars per household per year, whereas Tables 12 and 13 present both the total annualized system fiscal impact and the equivalent costs per household per year for representative cities and counties respectively.

Figure 3. Annualized System Fiscal Impact of Enacted Policies as Applied to Representative City and County Systems ($/Household Per Year)

The following provides insight into the outliers in the system cost analysis presented in Figure 3.

- Island County's estimated additional system costs per household per year due to passed polices are $97-$102 per household per year. This is due primarily to the residential requirements of HB 1799, concerning organics management. Estimated costs are high for the implementation of this policy as it would involve newly establishing curbside organics collection in the majority of the unincorporated area (existing curbside yard waste collection is very limited).

- Cowlitz County's estimated additional system costs per household per year due to passed polices are $59-$63 per household per year. This is due primarily to HB 1799, concerning organics management, requirements in addition to HB 1663, reducing methane emissions from landfills, requirements. While the majority of Cowlitz County is exempt from HB 1799 requirements due to population thresholds, the city of Longview is required to meet both residential and non-residential organics recovery requirements. Cowlitz County also owns one active and one closed landfill resulting in compliance costs associated with HB 1663.

- The City of Spokane's estimated additional system cost is $39-99 per household per year due to passed polices. The majority of the increase is due to SB 5126, Washington Climate Commitment Act, which requires the City of Spokane's waste-to-energy facility to purchase GHG emissions allowances. The City of Spokane's waste-to-energy facility is the only municipal solid waste waste-to-energy facility in the state. Therefore, the city and the portions of the county that utilize the waste-to-energy facility are the solid waste systems with fiscal impacts resulting from SB 5126. The enacted policy with the second highest system fiscal impact to the City of Spokane is HB 1799, concerning organics management. This impact is associated with the implementation of non-residential requirements.

- The city and county systems with the lowest additional cost per household include Lincoln County, at $0 per household per year, and the City of Seattle, at ($2) to ($1) per household per year. Lincoln County is exempt from the majority of the enacted policies that have cost impact due to the low population yet is able to enjoy the benefits of the policies that provide cost savings. The two policies that have cost savings for Lincoln County in one or more modeled scenarios are HB 1652 (2019), concerning paint stewardship, and HB 1543, concerning sustainable recycling. Seattle's low costs are described below along with the discussion of Table 12.

Table 12 presents representative city annualized system fiscal impact of passed policies, expressed both in total estimated costed per year and in dollars per household per year.

Table 12. Representative City Annualized System Fiscal Impact of Enacted Policies, Total and Household per Year

City	City Size	Low Impact ($/Yr)	Medium Impact ($/Yr)	High Impact ($/Yr)	Low Impact ($/Hh/Yr)	Medium Impact ($/Hh/Yr)	High Impact ($/Hh/Yr)
Seattle	Large	($322,000)	($500,000)	($677,000)	($1)	($1)	($2)
Spokane	Large	$3,897,800	$6,935,800	$9,912,900	$39	$69	$99
Tacoma	Large	$1,448,000	$1,429,000	$1,351,000	$16	$15	$15
Vancouver	Large	$1,008,100	$957,600	$866,100	$12	$11	$10
Bellingham	Med.	$981,000	$933,000	$826,000	$23	$22	$20
Marysville	Med.	$493,600	$461,400	$399,300	$19	$18	$15
Richland	Med.	$481,300	$487,600	$482,900	$19	$19	$19
Leavenworth	Small	$200	$100	($100)	$0	$0	$0
Port Angeles	Small	$90,000	$100,000	$110,000	$9	$10	$11
Walla Walla	Small	$425,300	$430,600	$416,900	$31	$32	$31
Wenatchee	Small	$409,000	$385,800	$342,500	$28	$26	$23
Winthrop	Small	($52)	($78)	($94)	$0	$0	$0

The cities with the lowest total fiscal impact are also the cities with lowest per household fiscal impact. In the case of Seattle, many policies have no system fiscal impact or result in cost savings, as Seattle already has programs in place similar to the policies enacted. For example, Seattle experiences no system fiscal impact from HB 1799, concerning organics management, as residential and commercial organics policies and programs already are in place. The policy providing the greatest cost savings to Seattle is HB 1543, concerning sustainable recycling, which requires the development and implementation of contamination reduction outreach plans. Seattle's system is projected to realize significant cost savings through this program because of the relatively high volume of recyclables collected per household combined with a high MSW tip fee. More tons will be diverted from landfills through contamination reduction programs, and there will be greater savings for each ton diverted due to the relatively high cost of MSW tip fees.

Table 13 below shows the annualized system fiscal impact of enacted policies applied to representative counties.

Table 13. Representative County Annualized System Fiscal Impact of Enacted Policies

County	County Size	Low Impact ($/Yr)	Medium Impact ($/Yr)	High Impact ($/Yr)	Low Impact ($/Hh/Yr)	Medium Impact ($/Hh/Yr)	High Impact ($/Hh/Yr)
Pierce	Large	$4,500,000	$4,010,000	$2,910,000	$19	$17	$12
Spokane	Large	$5,000,000	$7,980,000	$10,850,000	$22	$35	$48
Cowlitz	Medium	$1,865,000	$1,937,000	$1,990,000	$59	$61	$63
Kitsap	Medium	$1,440,000	$1,420,000	$1,370,000	$18	$17	$17
Skagit	Medium	$351,000	$321,000	$283,000	$9	$8	$7
Yakima	Medium	$1,770,000	$1,970,000	$2,170,000	$19	$22	$24
Chelan	Small	$420,500	$393,500	$346,500	$11	$10	$9
Clallam	Small	$90,000	$83,000	$77,000	$3	$3	$3
Island	Small	$4,300,000	$4,230,000	$4,080,000	$102	$100	$97
Kittitas	Small	$91,500	$100,500	$98,500	$4	$4	$4
Lincoln	Small	$900	($100)	($100)	$0	$0	$0
Walla Walla	Small	$426,300	$430,300	$415,300	$17	$17	$17

Spokane County has the highest total costs of all representative counties. The majority of the increase is due to SB 5126, the Washington Climate Commitment Act, which requires the City of Spokane's waste-to-energy facility to purchase GHG allowances. The City of Spokane's waste-to-energy facility is the only MSW waste-to-energy facility in the state. Therefore, the city and the portions of the county that utilize the waste-to-energy facility are the solid waste systems with fiscal impacts resulting from SB 5126.

Spokane, Island, Kitsap, and Pierce are the only representative counties whose unincorporated regions are subject to HB 1799 requirements; Pierce, Island, and Spokane counties have the highest system fiscal impact due primarily to HB 1799.

Both Kitsap and Spokane have residential curbside yard waste collection already in place, reducing the need for additional food waste collection and thus easing the amount of additional system costs per household. Given the tonnage of food waste generated by the commercial sector in unincorporated areas of Pierce County, additional commercial food waste collection leads to significant system cost increases for the county's solid waste management.

Table 14 presents the annualized system fiscal impact by region expressed in total cost per year, as well as in dollars per household per year.

Table 14. Annualized System Fiscal Impact by Region

Region	Low Impact ($/Yr)	Medium Impact ($/Yr)	High Impact ($/R	Low Impact ($/Hh/Yr.)	Medium Impact ($/Hh/Yr.)	High Impact ($/Hh/Yr.)
Central	$3,610,000	$3,790,000	$3,980,000	$13	$13	$14
Eastern	$10,570,000	$13,500,000	$16,210,000	$28	$35	$43
Northwest	$24,680,000	$23,400,000	$21,020,000	$15	$14	$13
Southwest	$22,000,000	$21,270,000	$19,630,000	$24	$23	$21
Total	$60,860,000	$61,960,000	$60,840,000	$19	$19	$19

Fiscal Impacts of Legislation that was Not Enacted

Several policies related to solid waste and recycling introduced in the last four years that were not enacted were also analyzed. If they had passed, city and county solid waste management and recycling systems would have realized the system fiscal impacts presented in Table 15. Cost savings are presented (in parentheses). Note that HB 2722/ SB 6645 passed in both the House and the Senate but was vetoed by the Governor due to extenuating circumstances related to COVID-19.

Table 15. Annualized System Fiscal Impact of Proposed Policies that Were Not Enacted

Bill Number(S)	Bill Title	Low	Medium	High
HB 2360	Establishing the sharps waste stewardship program	$0	$0	$0
HB 2429 / SB 6213	Concerning certain expanded polystyrene products	See 1118/5022 passed	See 1118/5022 passed	See 1118/5022 passed
HB 2656 / SB 6627	Reducing the waste associated with single-use food service products	$0	$0	$0
HB 2722 (vetoed) / SB 6645	Concerning minimum recycled content requirements	$0	$0	$0
HB 1488	Concerning the management of plastic packaging materials	See 5219	See 5219	See 5219
SB 5219	Concerning the management of plastic packaging materials	($12,550,000)	($16,940,000)	($21,350,000)
SB 5286	Establishing a statewide organic waste management goal	$0	$0	$0
HB 1896	Responsible environmental management of batteries	($1,999,000)	($1,999,000)	($1,999,000)
HB 1932 / SB 5658	Concerning the recyclability of products and packaging	$0	$0	$0
HB 2003 / SB 5697	Renewing Washington's recycling system and reducing waste	($176,200,000)	($232,800,000)	($268,400,000)
SB 5740	Providing for a temporary adjustment to waste reduction, recycling, and litter control account	$0	$0	$0
SB 5837	Removing plastic bags as an option for use at retail establishments	See 5323 (passed)	See 5323 (passed)	See 5323 (passed)

Three policies would have had notable fiscal implications on the solid waste and recycling systems in cities and counties. SB 5219, concerning the management of plastic packaging materials, would have resulted in a significant funding increase, ranging from $12M per year in a low impact scenario to over $21M per year in a high impact scenario. The legislation would have instituted a fee that would be charged to plastic packaging producers that do not meet specified post-consumer recycling

requirements in plastic packaging they sell in the state. The fee was to be structured to generate ~$20M to $60M in revenue per biennium, with higher levels of revenue required to be generated per biennium prior to 2031. The legislation specifies that 25% of the funds raised by the fee would be used for grants to owners or operators of material recovery facilities. This would result in more types of plastic packaging being accepted in the recycling system. The other 75% of grant funds distributed to cities and counties were accounted for as revenue in the fiscal analysis.

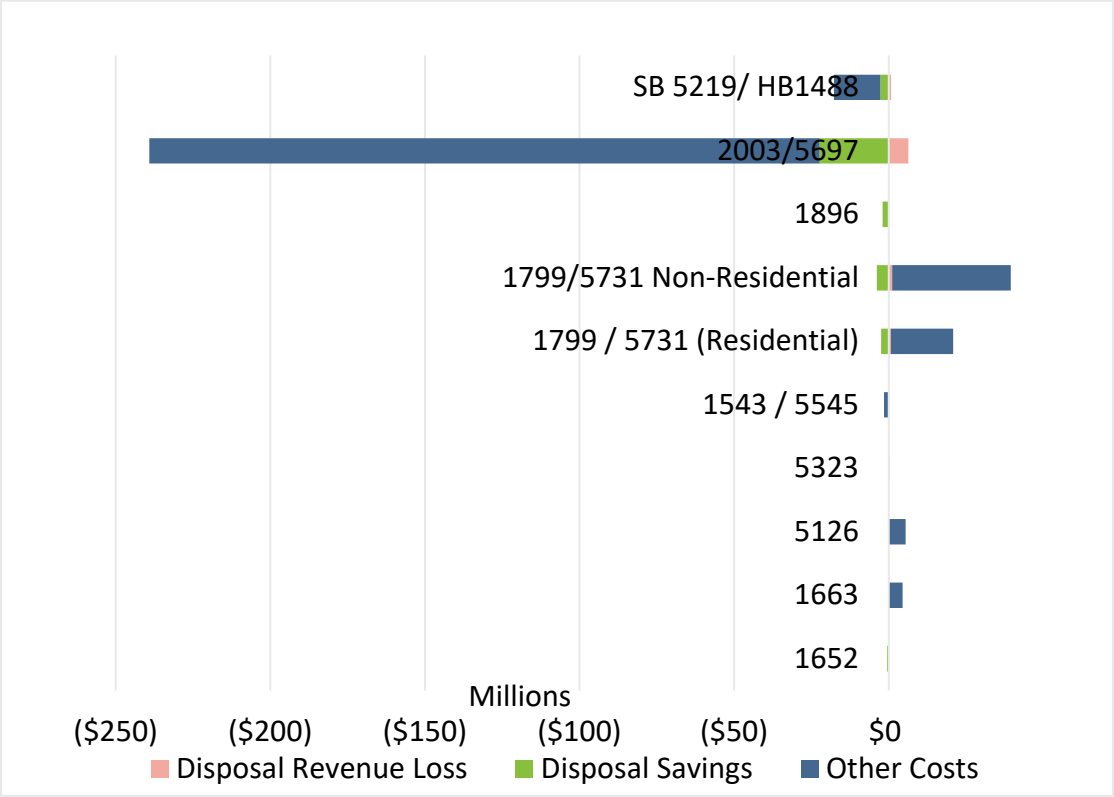
Savings would have been realized from two policies. HB 1896, responsible environmental management of batteries, would have resulted in annualized system cost savings of $2M to cities and counties statewide. All cities and counties would realize increased service levels as result of the implementation of the policy. Cities and counties currently offering battery recycling programs would realize cost savings. The existing battery recycling programs would be assumed to no longer be needed, or costs would be transferred to the stewardship organization.

HB Bill 2003/SB 5697, Renewing Washington's Recycling System and Reducing Waste, would have created extended producer responsibility for printed paper and packaging, or EPR for PPP. This would have offered the most significant cost savings to city and county solid waste and recycling systems, $176M - $268M per year statewide. The intention of EPR for PPP programs is to shift the responsibility for managing PPP at the end of its useful life from local governments back to the producers of this material. To model potential city and county impact, it is assumed that all cities and counties achieve a 70% recycling rate, based on the successes in other jurisdictions. The bill was projected to increase service levels and tons of recyclables diverted from disposal, with the greatest service level increases and material flow impacts in cities and counties with the lowest recycling rates. The bill would have created the greatest cost savings to city and county solid waste management systems that currently have strong residential recycling programs in place, as it is assumed the costs of these programs would either be transferred to or reimbursed by the packaging producers.

Revenue and Cost Factors Informing System Fiscal Impact

Figure 4 provides detail on the contributions of disposal revenue loss, disposal savings, and other costs for nine policies projected to have an annualized fiscal impact. Disposal savings represent cost savings associated with the decrease in waste sent for disposal and are the MSW tip fee multiplied by the tons of MSW reduced or diverted from disposal.

Figure 4. Statewide Policy Fiscal Impact Detail, Medium Impact Scenario



Disposal revenue loss represents revenue from MSW tipping fees at transfer stations and disposal facilities the many jurisdictions use to fund other solid waste programs. Based on the documented county costs presented in Chapter 3, our methodology estimates that the portion of the tip fee utilized for programs other than transfer station or disposal facility operations is 28.37% (see Methodology section of this chapter for a more detailed description). Further, the analysis assumes that the jurisdiction that experiences a change in tons sent for disposal also incur the fiscal impact for changes in disposal revenue. All told, disposal revenue loss is estimated to account for ~3% of the annualized system fiscal impact of passed policies.

The primary component of other costs is the collection and processing costs for diverted materials, except in the case of climate-related bills, SB 5126 and HB 1663, where other costs reflect expenses related to GHG mitigation requirements.

As can be seen in Figure 4, the savings from HB 2003/SB 5697 far exceed the cost of proposed policies estimated to have an annualized system fiscal impact.

Appendix A – Proposed Policy Profiles

Introduction

The proposed policy profiles present the service level, material flow, and fiscal impacts associated with each of the policies listed in Tables 1 and 2. Fiscal impact is expressed as the annualized fiscal system impact after five years, in 2027, to reflect full program implementation and is expressed in 2021 dollars. The total cost is based on a low, medium, and high policy impact scenario, and for the majority of policies, set at the 1st quartile (low-level), median (mid-level), and 3rd quartile (high-level) of statewide data for collection and processing and/or disposal per customer (See Annualized System Fiscal Impact Scope above and individual bill summaries below for additional detail). The highest policy impact scenario can be the lowest cost scenario if greater diversion results in costs savings compared to the current management scenario.

Each proposed policy profile contains the following:

- bill number and, if applicable, number of the companion bills;
- year introduced or passed;
- a summary of the key provisions of the bill that relate to local solid waste management;
- an evaluation of service level, material flow, and annualized system fiscal impacts; and
- any methods or assumptions unique to the bill impact evaluation and not covered in the methodology.

Service Level Impact

The service level impact section addresses changes in types of service offered, changes in access to services, and/or changes to materials accepted. For example, increasing the number of households receiving curbside recycling service or adding food waste to existing yard waste collection would increase service levels. Assumptions for calculating system level impact are explained in each policy profile presented in Chapter 5.

Material Flow Impact

The material flow impact section addresses changes in tons sent to landfill, recycling, and organics recovery statewide. Assumptions for calculating material flow impact are explained. Where applicable, changes in the quality of material sent to recycling and organics processing facilities is discussed.

Annualized System Fiscal Impact

Policies for which the analysis identified an annualized fiscal impact, the following information is presented and discussed:

- annualized system fiscal impact statewide;

- annualized system fiscal impact by region and jurisdiction designation (urban, suburban, rural);
- annualized system fiscal impact applied to representative county system; and
- annualized system fiscal impact applied to representative city system.

Each policy profile includes the inputs and the formulas used to arrive at system cost estimates.

Legislation that was enacted and is now law is analyzed first, followed by bills that did not pass. Both are organized first by year introduced and then by bill number.

Net costs are presented as positive values whereas net cost savings are presented in parentheses to indicate they are negative values.

Enacted Legislation

House Bill 1114

Reducing the Wasting of Food in Order to Fight Hunger and Reduce Environmental Impacts
Enacted - 2019 Session

House Bill 1114 became effective on July 28, 2019. The law established a goal to reduce food waste in Washington by 50% by 2030, using 2015 levels as a baseline. The law specifically calls for the promotion of processes and systems that "prevent, rescue, and recover wasted food" through the development of a state wasted food reduction strategy. These efforts could include:

- Improving efficiencies in the food production and distribution system, with the primary purpose of reducing greenhouse gas emissions associated with food waste.
- Fighting hunger through the redirection of excess food for the purpose of feeding people.
- Supporting the expansion of management facilities that can receive food that has been wasted but is ineligible for redistribution, while simultaneously reducing volumes of food that are directed to the facilities.

By October 1, 2020, Ecology was required to develop and adopt a "state wasted food reduction and food waste diversion plan" that supports the efforts of all parties, including local governments, seeking to prevent, rescue, and recover wasted food.

Specific to local governments, the plan "must include suggested best practices that local governments may incorporate into solid waste management plans developed under RCW 70.95.080." As stated, these are not mandates but enabling mechanisms.

Funding for HB 1114 is authorized in the Waste Reduction, Recycling, and Litter Control Act of 1971. This Act applies a 0.015% litter tax on manufacturers', wholesalers', and retailers' gross proceeds on 13 categories of consumer products.

HB 1114 does not create a separate pool of funding but authorizes Ecology to financially support food waste reduction as one of the many programs funded by the Waste Reduction, Recycling, and Litter Control account. Local governments may receive up to $60,000, with a required match of 25% (cash or in-kind).

Local System Impacts

There are no direct impacts to city and county waste systems as a result of this law. It does not require any action by cities and counties. The system cost and savings associated with organics recycling are estimated in the analysis for House Bill 1799, concerning organic materials management, which passed in 2022.

Senate Bill 5397

Concerning the Responsible Management of Plastic Packaging
Enacted - 2019 Session
Companion: HB 1204

Effective as of July 28, 2019, this law required Ecology to evaluate and assess the amount and types of plastic packaging sold into the state as well as the associated management and disposal activities attributed to this material. This law required a third-party, independent consultant to conduct the evaluation and assessment.

Ecology was required to submit a report to the legislature by October 31, 2020, to include findings and recommendations from the evaluation and assessment. The report was to include the amount and types of plastic packaging procured or imported into the state, the full cost of managing this plastic waste, final disposal location, the costs and savings to all stakeholders in product stewardship programs implemented elsewhere, infrastructure needs, identification of contamination and sorting issues, and the identification of existing stewardship organizations in the state.

The final report was also required to include recommendations for how the state could meet the following goals:

- achieving 100% recyclable, reusable, or compostable packaging in all goods sold in Washington by Jan. 1, 2025;
- achieving at least 20% post-consumer recycled content in packaging by January 1, 2025; and
- reducing plastic packaging when possible.[10]

Local System Impacts

There are no direct impacts to city and county waste systems as a result of this law. Revenues from the litter tax are allocated from the Waste Reduction, Recycling, and Litter Control account to Ecology to carry out its responsibility to conduct this study.

House Bill 1543

Concerning Sustainable Recycling
Enacted - 2019 Session
Companion: SB 5545

This law requires cities and counties with populations greater than 25,000 that are responsible for preparing solid waste plans to develop and implement contamination reduction and outreach plans for recycling programs. It also allows some of the Waste Reduction, Recycling, and Litter Account funding to be used for competitive grants to local governments for developing and implementing contamination reduction plans.

Additionally, the Act created the Recycling Development Center (Center) within the Washington Department of Ecology to help develop markets and processing for recycled commodities and products. Programs implemented by the Washington Department of Ecology are not included as part of the analysis (see Annualized System Fiscal Impact Scope section).

Local System Impacts

HB 1543 is projected to have no impact on local solid waste and recycling service levels. The analysis found that while material flows will change, there is no net change in the amount of recyclables managed at material recovery facilities (MRFs), or the amount of waste sent for disposal. Contamination reduction and outreach plans are expected to reduce contamination while increasing the amount of targeted recyclables in the recycling stream. As a result, less non-recyclable material will be sorted through MRFs and ultimately disposed by those facilities. The amount added to the disposal stream will be offset by an increase in the recyclables directed to MRFs due to outreach and education efforts.

Statewide, the law is projected to provide cost savings in low, medium, and high impact scenarios, due to reduced contamination and associated reduction in MRF disposal fees. Annualized system fiscal impacts for representative cities and counties varies based on volume of material collected for recycling prior to the law going into effect in addition to the MSW tip fee, as this dictates the amount of savings per ton realized by reducing disposal costs to recycling processors. System costs and savings may not be borne by the same entities. How costs and savings will be shared depends on contractual and service agreements. For example, in cities that contract for recycling processing, contracts between the city and the MRF may require periodic composition auditing to determine contamination rates and adjust processing fees accordingly.

Service Level Impact

This law will not change access to recycling, or materials collected in recycling programs, though harmonization of acceptance lists to certain key materials is encouraged.

Material Flow Impact

The analysis assumes that material flows will change, but the overall amount of material managed through MRFs and disposal facilities will remain constant. This is due to the contamination reduction and outreach program leading to more and better recycling – residents put fewer contaminants and more target materials in the bin, but the overall amount is the same. Similarly, residents put fewer recyclables in the trash, but the contaminants move from the MRFs to the disposal stream. As a result, the amount of recyclables collected and processed remains the same, while the amount of contamination in the recyclable stream is reduced. The amount of waste going to disposal also remains constant, as the amount of contamination entering the waste stream is offset by the amount of recyclables removed from the waste stream and directed to recycling.

Research suggests that contamination outreach results in increased participation in existing programs and increased recyclables collected per household, which offsets the reduction in recycling due to the removal of contamination. Successful outreach campaigns have proven to simultaneously reduce contamination and increase or maintain the volume of recyclables collected. In Washington, DC, a nine-month outreach campaign increased collection of recyclables by 9.5% while decreasing contamination by 30%.[11] Similarly, tagging campaigns in Washington, DC reduced presence of contaminants with no change in volume of recyclables collected. Michigan contamination reduction programs have also reported an increase in participation in recycling by residents with existing recycling access.[12] Based on these findings, a conservative assumption that there is no change in total tonnage disposed or recycled was used. Recycling contamination reduction of 20%, 30%, and 40% is modeled with recycling volumes remaining constant.[13]

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

Counties and cities incur the cost of developing recycling contamination reduction and outreach plans for their jurisdictions. For each solid waste management planning unit, the cost of developing this plan is projected to be equivalent to $5,000 every five years per city and unincorporated area in the planning unit. Since most planning units include multiple cities and unincorporated areas, the cost per planning unit every five years ranges from $5,000 to $85,000. For the purposes of this analysis, the planning cost is annualized over a five-year period. Outreach is estimated to cost between $2-$5 ($3 average is used in modeling) per targeted household per year to implement the

contamination reduction plan.[5] Planning and outreach costs include labor/staffing to develop and deliver contamination reduction programming. The analysis assumes that 25% of households in each jurisdiction covered by the law are targeted each year.[6] It also is assumed that MRFs experience cost savings from the reduction in tons of trash disposed. For the purposes of this analysis, it is assumed that the reduction in trash disposed by MRFs is equivalent to the reduction in contamination of recyclables. Cities and counties with populations of 25,000 or less or that are not responsible for submitting solid waste management plans are exempt from the requirements and therefore not reflected in this analysis. The fiscal impact inputs and formulas used for analyzing this policy are presented in in Figure 5.

Figure 5. Fiscal Impact Inputs and Formulas, HB 1543

Fiscal Impact Inputs: Statewide Recyclables Generated Per Household Per Year [14] Number of Households by Jurisdiction[7] Regional Recycling Rate: Values ranging from 12-59% applied to each corresponding jurisdiction[15] Baseline Recycling Contamination Rate: 16%[8] Reduction in Contamination for Low, Medium, and High Impact Scenarios: 20%, 30%, 40%[13] Outreach Cost Per Household: $3/Year[9] MSW Tip Fee: 2021 Tip Fees by County[16]
Fiscal Impact Formulas: Generation of Recyclables by Jurisdiction: Statewide Recyclables Generated per Household per Year multiplied by Number of Households in Jurisdiction Material Collected for Recycling: Generation of Recyclables by Jurisdiction multiplied by Regional Recycling Rate Solid Waste Planning Unit Contamination Reduction Outreach Planning: Equivalent to $5,000 per city or unincorporated area with greater than 25,000 people in each solid waste planning unit every five years. Cost is annualized over 5 years. ($5,000 equals 50 hours @$100) Outreach Cost: Outreach Cost per Household multiplied by 25% of households MRF Disposal Cost Savings: Reduction in Contamination multiplied by Material Collected for Recycling multiplied by Baseline Recycling Contamination Rate multiplied by MSW Tip Fee

[5] $2-5 per household for recycling contamination outreach based on Recycling Partnership Recycling Contamination Reduction Kit Case Studies. Average of $3 per targeted household per year used for analysis.[13]
[6] Total housing units utilized to estimate total households.
[7] Total housing units utilized to estimate total households.[38]
[8] Based on Waste Management national inbound contamination rate as reported in its 2022 sustainability report and the Recycling Partnership's national contamination rate found through its 2019 community survey.[39], [40]
[9] $2-5 per household for recycling contamination outreach based on Recycling Partnership Case Studies and Recycling Contamination Reduction Kit. Average of $3 per targeted household per year used for analysis.

The statewide annualized system fiscal impact is a net savings of $560k-$2.48M per year, with the medium impact scenario realizing a net savings of $1.5M. Based on the medium impact scenario, as shown in Figure 6, the greatest cost savings results from reduction in recycling processing costs due to decreased contamination, $2.8M per year. Added planning and outreach costs to local governments, not including the revenue from state grants, are estimated to be $1.29M per year.

It is important to note that the system costs and savings may not be borne by the same entities, and how those costs and savings will be shared depends on contractual and service agreements. In areas where UTC haulers provide recycling collection services, savings may either be passed on to ratepayers or kept by private processors. In areas where cities provide recycling collection and contract for processing, costs for outreach will be paid by the city and cost savings for recycling processing may either be realized by the city or kept by the processor, depending on the contract terms and how the contract is managed. In cities that contract for recycling collection and processing, depending on contract terms and structures, outreach costs may or may not be incorporated into the contract and the city may or may not realize savings associated with recycling processing.

Figure 6. Statewide Annualized System Fiscal Impact Detail, HB 1543 (Medium Impact Scenario)

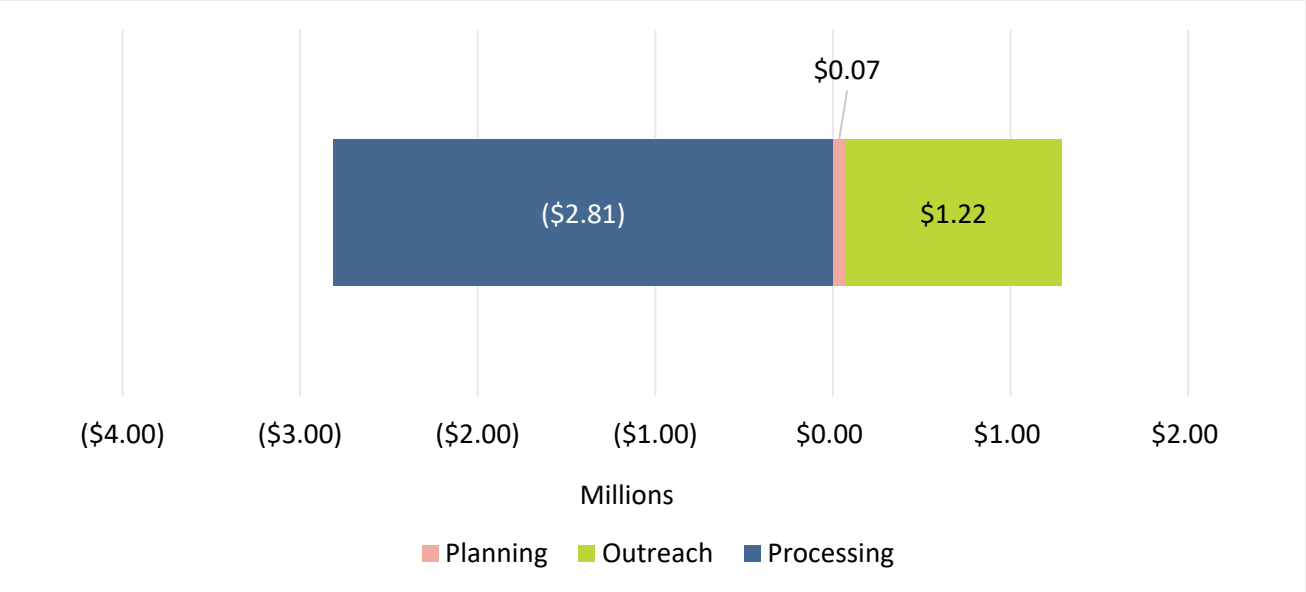


Table 16 presents the annualized system fiscal impact, by region. The law is projected to be cost neutral or result in system cost savings in all but the central region. The central region has the highest costs from the law due to the low volume of recyclables collected for recycling compared to other regions. A lower volume of recyclables collected results in less opportunity for cost savings through removal of contamination. The recycling rate for the central region is approximately 19% compared to the 49% state average. In contrast, the northwest region, which has both a higher-than-average recycling rate and MSW disposal fee, realizes the greatest cost savings.

Table 16. Annualized System Fiscal Impact by Region and Jurisdiction Designation, HB 1543

Region	Low	Medium	High
Central	**$90,000**	**$60,000**	**$50,000**
Rural	$10,000	$0	$0
Suburban	$40,000	$30,000	$20,000
Urban	$40,000	$30,000	$30,000
Eastern	**$50,000**	**($20,000)**	**($80,000)**
Rural	$10,000	$0	($10,000)
Suburban	$20,000	($20,000)	($60,000)
Urban	$20,000	$0	($10,000)
Northwest	**($560,000)**	**($1,170,000)**	**($1,770,000)**
Rural	($40,000)	($100,000)	($160,000)
Suburban	($510,000)	($1,030,000)	($1,550,000)
Urban	($10,000)	($40,000)	($60,000)
Southwest	**($140,000)**	**($400,000)**	**($680,000)**
Rural	($10,000)	($30,000)	($60,000)
Suburban	($130,000)	($340,000)	($560,000)
Urban	$0	($30,000)	($60,000)
Grand Total	**($560,000)**	**($1,530,000)**	**($2,480,000)**

Annualized System Fiscal Impact as Applied to Representative City Systems

The representative city system fiscal impacts presented in Table 17 include all costs resulting from services and material flows, using the impacts and formulas described in Figure 5. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see Annualized System Fiscal Impact Scope section for additional detail. The highest cost savings are in Seattle's system due to its above average recycling rate and cost of disposal. The city of Richland's system experiences the highest cost due to its region having a below average recycling rate and cost of disposal.

Table 17. Annualized System Fiscal Impact as Applied to Representative City Systems, HB 1543

City	County	Region	City Type	Low	Medium	High
Seattle	King	Northwest	Urban	($248,000)	($426,000)	($603,000)
Spokane	Spokane	Eastern	Urban	$6,000	($16,000)	($38,000)
Tacoma	Pierce	Southwest	Urban	($52,000)	($101,000)	($149,000)
Vancouver	Clark	Southwest	Urban	($6,000)	($26,000)	($47,000)
Bellingham	Whatcom	Northwest	Urban	($19,000)	($37,000)	($54,000)
Marysville	Snohomish	Northwest	Urban	($2,000)	($10,000)	($18,000)
Richland	Benton	Central	Urban	$9,000	$7,000	$4,000
Leavenworth	Chelan	Central	Suburban	Exempt	Exempt	Exempt
Port Angeles	Clallam	Southwest	Suburban	Exempt	Exempt	Exempt
Walla Walla	Walla Walla	Eastern	Suburban	$3,000	$0	($2,000)
Wenatchee	Chelan	Central	Suburban	$6,000	$5,000	$4,000
Winthrop	Okanogan	Central	Suburban	Exempt	Exempt	Exempt

Annualized System Fiscal Impact as Applied to Representative County Systems

The representative county system impacts presented in Table 18 include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake, and Spokane Valley, are not included in Spokane County costs. It also includes impacts to county ratepayers and the private sector. The cost drivers in the fiscal impact of this policy are the recycling rate and disposal fee – communities that have a higher recycling rate will achieve greater amounts of contamination reduction and greater disposal cost savings. The Pierce County system experiences the most savings because it has an above average recycling rate and an above average cost of disposal. Yakima County's system experiences the highest costs because it has a below average recycling rate and a below average cost of disposal.

Table 18. Annualized System Fiscal Impact as Applied to Representative County Systems, HB 1543

County	Region	County Type	Low	Medium	High
Pierce	Southwest	Suburban	($164,000)	($326,000)	($489,000)
Spokane	Eastern	Suburban	$14,000	($22,000)	($58,000)
Cowlitz	Southwest	Rural	$12,000	$7,000	$3,000
Kitsap	Northwest	Suburban	($1,000)	($27,000)	($52,000)
Skagit	Northwest	Rural	$0	($12,000)	($23,000)
Yakima	Central	Rural	$32,000	$30,000	$29,000
Chelan	Central	Rural	$14,000	$12,000	$10,000
Clallam	Southwest	Rural	($7,000)	($18,000)	($28,000)
Island	Northwest	Suburban	($8,000)	($22,000)	($36,000)
Kittitas	Central	Rural	Exempt	Exempt	Exempt
Lincoln	Eastern	Rural	Exempt	Exempt	Exempt
Walla Walla	Eastern	Rural	$3,000	$0	($2,000)

Key Issues

While in most instances the law will result in cost savings across the system when considering the reduced cost to MRFs to manage contamination, as well as increases in the amount recycled, the ability of cities and counties to realize the savings associated with reduction of contamination in recycling is contingent on contract terms and how the contract is managed. For example, some contracts include recycling composition studies every six months to adjust the composition of recycling for calculating the rebate due to the jurisdiction for the value of recyclables. For jurisdictions to realize these savings, the recycling audit provision must be in the contract and the jurisdiction must ensure the audit is executed and adjustments are implemented.

The analysis assumes a 16% contamination rate for recyclables. Annualized system fiscal impacts will vary depending on each jurisdiction's baseline contamination rate.

House Bill 1652

Concerning Paint Stewardship

Enacted - 2019 Session

This law requires producers of interior or exterior architectural paint sold in containers of five gallons or less to participate in an approved stewardship plan and help fund a paint stewardship organization. Additionally, paint retailers may not sell paint from a producer who does not participate in a stewardship plan.

A stewardship program plan must provide reasonable, convenient collection that is available statewide, utilizing existing solid waste services and facilities such as public and private waste collection services and existing paint retail stores as collection sites, when cost-effective and mutually agreeable. A collection service must be provided within 15 miles of 90% of the state's population, with an additional collection site for every 30,000 residents for every urban cluster. Curbside services authorized for leftover paint collection under the program may be provided by either solid waste companies regulated by the UTC or by companies that operate under contract with a city or town. Curbside collection services may charge an additional fee to cover the additional collection costs.[17]

The Act does not require any costs or services be provided by the local governments.

Local System Impacts

The bill increases access to recycle and/or safely dispose of latex and oil-based paint, increases the tons of paint recycled and/or safely disposed, and reduces costs to communities that had paint recycling/safe disposal programs in place prior to the policy going into effect.

Service Level Impact

The Act increases collection sites for paint as well as providing pick up services for contractors. In 2021, the first year the Act was in effect, there were 210 year-round drop off sites, 23 supplemental drop off sites, and large volume pickups from 236 sites.[18] This additional convenience is provided without additional costs to local governments.

Material Flow Impact

Table 19 reflects the estimated increase in the tons per year of paint collected before and after the policy was implemented. US EPA estimates that 10% of paint typically goes unused.[19] In 2018, the state of Washington is estimated to have collected 2,700 tons per year of oil-based and latex paint, with an estimated recovery rate of 3.4%. It is estimated that, due to this policy, in five years the paint recovery rate could increase to 4% to 7.9%, or approximately 40-80% of left over paint.

Table 19. Statewide Material Flow Impact, Tons per Year (TPY), HB 1652

Material Type	2018 Pre-Policy Actuals	Low	Medium	High
Paint Sold (TPY)	80,000	77,700	85,400	93,200
Paint Collected (TPY)	2,700	3,100	5,100	7,400
Recovery Rate	3.4%	4%	6%	7.9%

Paint recovery in 2018 is based on volumes of latex paint collected in the state of Washington as reported to Ecology. Ratios representing the mix of oil-based and latex paint collected as reported through Washington's PaintCare program were used to calculate 2018 collected volumes of oil-based paint. RRS utilized PaintCare's Washington state projections for volumes of paint sold per capita combined with estimated recovery rates to quantify the tons of material collected. PaintCare's assumption of 10 pounds per one gallon of paint was used.[20] Oregon's PaintCare program was used as the high recovery rate as it represents a data point from a mature program, having begun as a pilot in 2010 and now a fully developed model being used by other states.[21] The low recovery rate reflects 2021 recovery rates for paint as reported by PaintCare. The medium recovery rate is PaintCare's projection for Washington State in 2023.[20]

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation, and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

The Act will create a cost savings for cities and counties that use the PaintCare program instead of contracting for paint collection, recycling, and disposal programs.

Cost savings were estimated by calculating costs to Washington communities for collection, hauling, and disposal or recycling of latex and oil-based paint collected in 2018, prior to the Act being implemented. Cost estimates are based on 2021 Washington counties' HHW per ton costs (see Fiscal Impact Inputs and Formulas below for complete methodology details).

Figure 7. Fiscal Impact Inputs and Formulas, HB 1652

Fiscal Impact Inputs: 2021 HHW Per Ton Costs by County[10] 2018 Latex Paint Collection Volumes by County[22] Percent of Total Paint Collected that is Latex: 89%[11] Percent of State Total HHW that Each County Generates[12]
Fiscal Impact Formulas: 2018 Oil-based Paint Statewide Volumes: Total 2018 Latex Paint Volumes / Percent of Total Paint that is Latex multiplied by (1 - Percent of Total Paint that is Latex) 2018 Oil-based Paint Volumes by County: 2018 Oil-based Paint Statewide Volumes multiplied by Percent of State Total HHW that Each County Generates 2018 Paint Volumes by County: 2018 Latex Paint Volumes by County + 2018 Oil-based Paint Volumes by County Cost Savings: 2021 HHW Per Ton Costs by County multiplied by 2018 Paint Volumes by County

Below is the estimated annualized system fiscal impact in five years by region, jurisdiction type, and as applied to the representative sample of counties and cities. As impact is based on 2018 volumes collected and HHW costs by county adjusted to 2021 dollars, a range of costs is not presented. "No impact" indicates that no known program was in place prior to the policy going into effect, and therefore no fiscal impact is realized.

[10] See Annualized System Fiscal Impact, Calculation of Included Variables section of report for discussion of data source.
[11] According to Paint Care's 2021 Annual Report for Washington State, 11% of paint processed through the program was oil-based and 89% was latex.[18]
[12] The Solid Waste in Washington State, 24th Annual Status Report (2015) provided 2014 data by county on pounds of HHW collected. This was utilized to calculate the percent of total HHW that each county generates.[9]

Table 20. Annualized System Fiscal Impact by Region and Jurisdiction Designation, HB 1652

Region And Jurisdiction Designation	Estimated Savings
Central	($5,000)
Rural	$(3,100)
Suburban	$(1,900)
Urban	No Impact
Eastern	($4,000)
Rural	$(2,100)
Suburban	$(1,900)
Urban	No Impact
Northwest	($480,000)
Rural	$(9,400)
Suburban	$(396,600)
Urban	$(74,000)
Southwest	($57,000)
Rural	$(30,700)
Suburban	$(26,300)
Urban	No Impact
Statewide Total	($546,000)

Table 21 presents the annualized system fiscal impacts to Seattle. Seattle is the only representative city with projected annualized system fiscal impacts, as it is the only one with oil and latex paint collection programs in place prior to the policy being enacted.[13] As a result, Seattle is the only representative city with estimated cost savings from the enactment of the policy.

[13] Based on Washington Ecology data for HHW and latex paint collected by jurisdiction.

Table 21. Annualized System Fiscal Impact to Seattle

Name	Region	County	Type	Estimated System Impact
Seattle	Northwest	King	Urban	($74,000)

Annualized System Fiscal Impact as Applied to Representative County Systems

Representative county system impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs.

Pierce County and Island County are the only two counties identified as having latex paint collection programs in place prior to the policy going into effect and as such experience greater savings. Skagit County's cost was estimated to be more than $4,000 per ton for HHW. As a result, its savings are greater than other medium sized counties.

Table 22. Representative County Annualized System Fiscal Impact, HB 1652

Name	Region	Type	Size	Estimated System Impact
Pierce	Southwest	Suburban	Large	($21,000)
Spokane	Eastern	Suburban	Large	($1,900)
Cowlitz	Southwest	Rural	Medium	($1,000)
Kitsap	Northwest	Suburban	Medium	($5,100)
Skagit	Northwest	Rural	Medium	($9,400)
Yakima	Central	Rural	Medium	($1,800)
Chelan	Central	Rural	Small	($500)
Clallam	Southwest	Rural	Small	($600)
Island	Northwest	Suburban	Small	($2,100)
Kittitas	Central	Rural	Small	($500)
Lincoln	Eastern	Rural	Small	($100)
Walla Walla	Eastern	Rural	Small	($700)

Senate Bill 5323

Reducing Pollution from Plastic Bags by Establishing Minimum State Standards for the Use of Bags at Retail Establishments
Enacted - 2020 Session
Companion: HB 1205

Beginning January 1, 2021, a retail establishment is prohibited from providing to a customer, or to a person at an event, a single-use plastic carryout bag, or a paper or reusable plastic carryout bag that does not meet recycled content requirements. Until December 31, 2025, retail establishments must collect an $0.08 pass-through charge when providing a reusable plastic film bag or carryout paper bag that is at least 882 cubic inches. Beginning January 1, 2026, the pass-through charge for reusable carryout plastic film bags will be $0.12 and the fee for paper bags will remain $0.08.

A recycled content paper carryout bag must:

- contain a minimum of 40% postconsumer recycled materials; and
- be capable of meeting ASTM composting requirements.

A reusable carryout bag, if made from film plastic, must contain a minimum of 20% postconsumer recycled material until July 1, 2022, and a minimum of 40% postconsumer recycled material thereafter.

With the passage of this bill, local governments are prohibited from implementing local carryout bag ordinances.

Local System Impacts

The law increases waste being disposed in the low and medium impact scenarios, and decreases waste disposed in the high impact scenario. Local solid waste system fiscal impacts parallel projected changes in tons disposed by scenario. The cost impact as a result of postconsumer recycled content requirements is not anticipated to fiscally impact local solid waste and recycling systems and therefore was not modeled. There is no impact on service levels for any of the scenarios.

Service Level Impact

This law will not change access to recycling, or materials collected in recycling programs.

Material Flow Impact

The Act is projected to increase disposed waste statewide by 5,600 tons per year in the low impact scenario and reduce disposed waste statewide by 2,700 tons per year in the high impact scenario. The bill bans single-use plastic carry-out bags, which are replaced with reusable plastic bags for a $0.08 fee. The reusable plastic bags are heavier per bag than the single-use bags. It is assumed that the bag fee along with bag reuse reduces the total number of bags in the system

(reusable plastic and paper). However, the bags that remain in the system are heavier, and therefore, in the low impact scenario in which the fee has the least impact, the amount of waste is increased due to the use and disposal of heavier bags. That impact remains in the medium scenario, while the high impact scenario results in so many fewer bags being used that, even though they are heavier, the overall amount of waste is reduced. Figure 8 presets the plastic and paper bag reduction rates assumed for each scenario modeled. The change in total tonnage disposed is calculated by reducing the total number of bags disposed and then applying the per plastic bag weight increase due to the switch from single-use to reusable. The low and medium scenarios result in an overall tonnage increase. In the high impact scenario, there is enough reduction in reusable plastic and paper bags disposed to achieve a net reduction in total weight disposed.

Table 23. Statewide Material Flow Impact, SB 5323

Material Type	Low	Medium	High
MSW Disposed	5,600	1,400	(2,700)

Bag weight changes were modeled by first comparing the per bag weight of lighter, single-use plastic bags to reusable plastic bags which are estimated to be 2.4 times heavier.[14] Paper bags containing recycled content, as mandated by the bill, were assumed to weigh the same as paper bags in use prior to the policy being implemented.

Thirty-three communities in the state of Washington were identified as having carryout bag ordinances in place before the state bag ordinance went into effect. No impact was assumed for these communities.

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

The Act results in a system cost increase statewide in the low and medium impact scenarios, and a system cost savings statewide in the high impact scenario. The cost driver is disposal fees – the low scenario increases waste disposed and therefore increased waste disposal costs, and the high scenario results in a disposal reduction and therefore reduced disposal costs. Statewide, the low

14 RRS calculation based on Ecology provided preliminary industry data after bill implementation. Data showed a 50% reduction in the number bags sold and a 20% increase in the total weight of bags sold. Weight Ratio = (1+20%)/50% = 2.4

impact scenario results in a cost increase of $468,000, while the high impact scenario results in a savings of $228,000, as shown in Table 24.

Figure 8. Fiscal Impact Inputs and Formulas, SB 5323

Fiscal Impact Inputs: Jurisdiction Population[23] Statewide Plastic Merchandise Bag Disposal per Capita: 5.33 lbs./year[14] Paper to Plastic Merchandise Bag Ratio: 0.5[15] Reusable to Single-Use Plastic Merchandise Bag Weight Ratio: 2.4[16] Plastic Merchandise Bag Reduction Rate for Low, Medium, and High Impact Scenarios: 40%, 50%, 60%**Error! Bookmark not defined.** Paper Merchandise Bag Reduction Rate for Low, Medium, and High Impact Scenarios: 10%, 20%, 30%[17] MSW Tip Fee: 2021 Tip Fees by County Revenue Portion of MSW Tip Fee: 28.37%[18]
Fiscal Impact Formulas: Plastic Merchandise Bag Disposal by Jurisdiction: Statewide Plastic Merchandise Bag Disposal per Capita multiplied by Jurisdiction Population Paper Merchandise Bag Disposal by Jurisdiction: Plastic Merchandise Bag Disposal by Jurisdiction multiplied by Paper to Plastic Merchandise Bag Ratio Plastic Merchandise Bag Disposal Weight Change: Plastic Merchandise Bag Disposal by Jurisdiction multiplied by (1 - Plastic Merchandise Bag Reduction Rate) multiplied by Reusable to Single-Use Plastic Merchandise Bag Weight Ratio) - Plastic Merchandise Bag Disposal by Jurisdiction Paper Merchandise Bag Disposal Weight Change: Paper Merchandise Bag Disposal by Jurisdiction multiplied by (1 - Paper Merchandise Bag Reduction Rate) - Paper Merchandise Bag Disposal by Jurisdiction Disposal Weight Change: Plastic Merchandise Bag Disposal Weight Change + Paper Merchandise Bag Disposal Weight Change Disposal Revenue Change: Disposal Weight Change multiplied by MSW Tip Fee multiplied by Revenue Portion of MSW Tip Fee Disposal Cost Change: Disposal Weight Change multiplied by MSW Tip Fee Fiscal Impact Change: Disposal Cost Change + Disposal Revenue Change

[15] RRS estimate based on industry data.
[16] RRS calculation based on Ecology provided preliminary industry data after bill implementation. Data showed a 50% reduction in the number bags sold and a 20% increase in the total weight of bags sold. Weight Ratio = (1+20%)/50% = 2.4
[17] RRS estimate
[18] See Annualized Fiscal Impact Scope, Calculation of Included Variables section of report for discussion of methodology.

Regional annualized system fiscal impacts parallel regional populations, with the Northwest having the largest fiscal impact and the Central region having the smallest fiscal impact. All regions and jurisdiction designations enjoy costs for the low and medium impact scenarios, and cost savings for the high impact scenarios due to higher reduction rates for paper and plastic bags utilized in the high impact scenarios (see Figure 15).

Table 24. Annualized Fiscal Impact by Region and Jurisdiction Designation, SB 5323

Region	Low	Medium	High
Central	**$33,000**	**$8,000**	**($16,000)**
Suburban	$11,000	$3,000	($5,000)
Urban	$8,000	$2,000	($4,000)
Rural	$14,000	$3,000	($7,000)
Eastern	**$70,000**	**$18,000**	**($34,000)**
Suburban	$15,000	$4,000	($8,000)
Urban	$32,000	$8,000	($15,000)
Rural	$23,000	$6,000	($11,000)
Northwest	**$203,000**	**$52,000**	**($100,000)**
Suburban	$54,000	$14,000	($27,000)
Urban	$135,000	$35,000	($66,000)
Rural	$14,000	$3,000	($7,000)
Southwest	**$162,000**	**$41,000**	**($78,000)**
Suburban	$44,000	$11,000	($21,000)
Urban	$93,000	$24,000	($45,000)
Rural	$25,000	$6,000	($12,000)
Grand Total	**$468,000**	**$119,000**	**($228,000)**

Annualized System Fiscal Impact as Applied to Representative City Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 8 applied to the population of the city analyzed. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see Annualized System Fiscal Impact Scope section for additional detail. “No Impact” refers to cities that had plastic bag ordinances in effect prior to the state law being passed. The impact is ‘0’ in Winthrop due to the small population size.

Table 25. Annualized System Fiscal Impact as Applied to Representative City Systems, SB 5323

City	County	Region	City Type	Low	Medium	High
Seattle	King	Northwest	Urban	No Impact	No Impact	No Impact
Spokane	Spokane	Eastern	Urban	$18,800	$4,800	($9,100)
Tacoma	Pierce	Southwest	Urban	No Impact	No Impact	No Impact
Vancouver	Clark	Southwest	Urban	$14,100	$3,600	($6,900)
Bellingham	Whatcom	Northwest	Urban	No Impact	No Impact	No Impact
Marysville	Snohomish	Northwest	Urban	$5,600	$1,400	($2,700)
Richland	Benton	Central	Urban	$2,300	$600	($1,100)
Leavenworth	Chelan	Central	Suburban	$200	$100	($100)
Port Angeles	Clallam	Southwest	Suburban	No Impact	No Impact	No Impact
Walla Walla	Walla Walla	Eastern	Suburban	$2,300	$600	($1,100)
Wenatchee	Chelan	Central	Suburban	$3,000	$800	($1,500)
Winthrop	Okanogan	Central	Suburban	$0	$0	$0

Annualized System Fiscal Impacts as Applied to Representative County Systems

Representative county system impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs. It also includes impacts to county ratepayers and the private sector. "No Impact" refers to counties that had plastic bag ordinances in effect prior to the state law being passed.

Table 26. Representative County Annualized System Fiscal Impact, SB 5323

County	Region	County Type	Low	Medium	High
Pierce	Southwest	Suburban	$87,000	$22,000	($42,000)
Spokane	Eastern	Suburban	$35,000	$9,000	($17,000)
Cowlitz	Southwest	Rural	$4,000	$1,000	($2,000)
Kitsap	Northwest	Suburban	No Impact	No Impact	No Impact
Skagit	Northwest	Rural	$10,000	$2,000	($5,000)
Yakima	Central	Rural	$7,000	$2,000	($4,000)
Chelan	Central	Rural	$7,000	$2,000	($3,000)
Clallam	Southwest	Rural	$8,000	$2,000	($4,000)
Island	Northwest	Suburban	$10,000	$3,000	($5,000)
Kittitas	Central	Rural	$2,000	$1,000	($1,000)
Lincoln	Eastern	Rural	$1,000	$0	$0
Walla Walla	Eastern	Rural	$4,000	$1,000	($2,000)

Senate Bill 5022

Concerning the Management of Certain Materials to Support Recycling and Waste and Litter Reduction
Enacted - 2021 Session
Companion – HB 1118
SB 5022, effective as of July 25, 2021, is a result of the recommendations from the legislatively directed Washington Ecology report that evaluated and assessed the amount and types of plastic packaging sold into the state, as well as its management and disposal. [24] Published in September 2020, the report lists 10 policy recommendations, eight of which required legislative policy action. In response to the recommendations, SB 5022 addresses reductions in plastic in a number of distinct ways.

Registration and Reporting are required for producers of beverages sold in plastic containers, plastic trash bags, and household cleaning and personal care products in plastic containers.

The bill requires producers of beverage containers and trash bags to provide an annual report in 2023 that includes amounts of virgin and postconsumer recycled (PCR) plastic content, by resin type, that are sold or distributed in Washington. The same requirements begin in 2026 for household cleaning and personal care product containers and in 2029 for producers of wine in 187mL beverage containers and dairy milk.

Additionally, labeling is required for plastic trash bags. Producers must begin including information about the producer on the packaging of products sold or distributed in Washington in 2023.

Minimum Post-Consumer Recycled Content Requirements were established for plastic beverage containers, trash bags, and household cleaning and personal care products in plastic containers. The amount of PCR plastic content increases over a period of several years, based on the category of container and trash bags, ranging from 10% to 50% PCR.

The bill gives Ecology the authority to adjust, review, and determine future minimum PCR requirements beginning in 2024, based on market conditions, recycling rates, and other specified factors. Products that are otherwise regulated by federal law are not subject to the PCR requirements of this bill. Technical feasibility is also considered in Ecology's ability to grant temporarily exclusion from the minimum PCR requirements due to health and/or safety requirements of federal law. Penalties may be levied on producers by Ecology (and are calculated based on amounts in pounds in aggregate of virgin, PCR, and other plastic used by the producers at a rate of 20 cents per pound below the amount needed to achieve minimum PCR requirements).

Stakeholder Advisory Committee was established by a third-party facilitator selected by the Department of Commerce and Ecology. The committee was tasked with making further

recommendations related to this bill and the facilitator was required to submit a report with committee recommendations by December 2021.

Expanded Polystyrene (EPS) is prohibited from being sold or distributed into the state, including void filling packaging products (beginning June 2023); portable containers designed for cold storage (beginning June 2024); and food service products (beginning June 2024).

Single-Use Food Service Products (utensils, straws, condiment packaging, and beverage cup lids) may only be provided to customers who affirm they want it. Exempted facilities include senior nutrition programs and health care providers as well as those under the purview of the Departments of Corrections and Children, Youth, and Families, to the extent 'operationally feasible'. Exemptions for lids may be made in circumstances that include hot beverages, delivery services or pick-up, drive-through service, or certain large music and sports venues.

Preemption of Local Authorities prohibits local government from implementing PCR requirements for those products addressed in this bill but allows them to implement purchasing standards greater than those called for in SB 5022. While this is a policy impact to local governments, it does not create a system fiscal impact under our model.

Other Provisions of the bill:

- Require Ecology to develop a workload analysis for billing producers for oversight of the PCR portion of the law.
- Allow Ecology to conduct audits and investigations that contribute to the surety of compliance with PCR requirements.
- Establish a Recycling Enhancement Account (REA) for penalties levied against PCR requirement violations that will be used by Ecology to provide grants to local governments for supporting local solid waste and financial assistance programs.
- Establish a Recycled Content Account for producers' fees and penalty payments in order to cover implementation, administration, and enforcement of PCR requirements.
- Allow Ecology to contract with a research university or consultant to study plastic resin markets, market conditions, and data needs and tracking, due in May 2029.
- Negate the requirement for the codes for plastics 1-7 be included inside the 'chasing arrows' symbol on plastic bottles and rigid plastic containers.

Ecology is conducting rulemaking for this law, which may clarify some of the definitions and the process for producers to meet PCR minimum requirements. The rule is scheduled to be adopted in late 2023 and any changes will take effect starting in 2024.

The policy does not include any specific requirements for local governments.

Local System Impacts

There are no projected changes in service levels, material flows, or annualized system fiscal impact.

Service Level Impact

No change in local government service is projected as a result of this policy.

Material Flow Impact

Though there is expected to be a reduction in volume stemming from the reduced amount of polystyrene in the disposal stream, it is not likely to result in a significant reduction of disposal tonnage considering the low weight of expanded polystyrene. In addition, since a substitute product will likely result in similar disposal rates, it is unclear whether disposal tons will be positively or negatively impacted or remain unchanged.

The impact to disposal rates from the potential reduction in use of service ware is unknown but is assumed to be small given the size of these materials.

Annualized System Fiscal Impact

Local governments will not receive direct revenue or be subject to costs as a result of this law.

Ecology is authorized to collect civil penalties for violations of the PCR requirements, the polystyrene ban, and food service ware upon request. A Recycled Content Account is created for the payments to Ecology to cover Ecology's costs of implementing, administering, and enforcing PCR requirements. In addition, a Recycling Enhancement Account (REA) is created for penalties from PCR requirement violations and expenditures from the REA must be used by Ecology to provide grants to local governments for supporting local solid waste and financial assistance programs. However, the agency does not anticipate issuing significant penalties so additional grant funding is unlikely.

Until producers are registered with Ecology and report their plastic resin usage, the revenue from non-compliance cannot be included in modeling. Further, the amounts collected from non-compliance will vary from year to year and cannot be projected lacking trend data for modeling. Additionally, impact from one-time, short-term grants cannot be effectively modeled. As a result, the local government impact, by way of the REA distributions, cannot be estimated.

The reduction in EPS in the disposal stream is expected to be met with an equal or greater weight of substitute product. The reduction in service ware is assumed to be too small to impact tonnage. As such, it is unclear whether disposal tons will be impacted positively or negatively or remain unchanged.

Key Issues

The law's mandatory minimum recycled content requirements for plastic packaging will drive demand for additional plastics sourced from residential and commercial recycling programs in Washington and nationally. Meeting the demand created by minimum recycled content laws requires increasing the supply of plastics collected and sorted for recycling. High demand does not automatically translate to an increase in collection and recycling (or recycling rates) because recycling collection programs – the supply side of the equation – are driven by a different set of policies, including access to recycling or mandatory recycling, EPR, and beverage container deposits (bottle bills). As such, policies that drive supply and demand are best pursued in tandem. The law may drive additional educational efforts and policy to expand recycling programs, services, and infrastructure to provide sufficient feedstock to meet PCR requirements.

Senate Bill 5040

Enhancing Litter Control Along State Highways

Enacted - 2021 Session

Passed in 2021, SB 5040, enhancing litter control along state highways, requires Ecology to contract with Department of Transportation to schedule litter prevention messaging and coordination of litter emphasis patrols with the Washington State Patrol. Local governments may initiate and apply to Ecology for reimbursement of litter clean-up activities on state highway ramps located within the jurisdiction of the local government. This is an amendment to an existing law to allow additional services to be reimbursed, but it does not require new or enhanced services, nor does it increase the amount of funding available for reimbursement.

Local System Impacts

Material Flow Impact

While reducing litter is important for social and environmental reasons, it represents a negligible impact to material flows.

Service Level Impact

Local governments may now apply for assistance on state highway ramps for litter cleanup activities.

Annualized System Fiscal Impact

There is no financial impact to local solid waste systems.

Senate Bill 5126

Concerning The Washington Climate Commitment Act

Enacted - 2021 Session

Passed in 2021, Senate Bill 5126, concerning the Washington climate commitment act, instructs Ecology to implement a greenhouse gas (GHG) emission cap and "invest" program to reduce GHG emissions consistent with statewide emission limits. Covered entities must purchase greenhouse gas emissions allowances through auctions hosted by Ecology or through the secondary market. The overall allowances issued each year are reduced to support Washington state in meeting its GHG emission reduction targets.

Waste-to-energy facilities are the only type of covered entity that is part of a solid waste system, and therefore relevant to this analysis. Compliance requirements for waste to energy facilities commence in 2027.

Local System Impacts

Fiscal impact is limited to the City of Spokane, as the owner and operator of the only MSW waste to energy facility in the state of Washington, and the other regional solid waste system member jurisdictions within Spokane County that use the facility. There are no material flow or service level impacts associated with this law.

Material Flow Impact

There is no material flow impact of this law.

Service Level Impact

There are no service level impacts of this law.

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs / savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs / savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

Fiscal impact is limited to the City of Spokane, since they own and operate the only MSW waste to energy facility required to comply with the Climate Commitment Act, and the jurisdictions in Spokane County that use the facility.

Figure 9. Fiscal Impact Inputs and Formulas, SB 5126

Fiscal Impact Inputs: 2018 GHG Emissions for Spokane WTE Facility: 98,851 MTCO2e [25] Low-cost Projection: 2027 Price Floor: $23.60/MTCO2e[25] High-cost Projection: 2027 Price Ceiling: $86.59/MTCO2e[25]
Fiscal Impact Formulas: Low Fiscal Impact: 2018 GHG Emissions for Spokane WTE Facility multiplied by Low-cost Projection High Fiscal Impact: 2018 GHG Emissions for Spokane WTE Facility multiplied by High-cost Projection Medium Fiscal Impact: Average of Low and High Fiscal Impact

Based on these assumptions, the annualized fiscal impact for the City and County of Spokane is projected to be $2.33 million to $8.56 million per year.

Table 27. Annualized Fiscal Impact, SB 5126*

City	County	Region	Type	Low	Medium	High
Spokane	Spokane	Eastern	Urban	$2,333,000	$5,447,000	$8,560,000

* Impact is shared by the City of Spokane and jurisdictions in the County that utilize the facility

Senate Bill 5345

Establishing A Statewide Industrial Waste Coordination Program

Enacted - 2021 Session

This law creates an industrial waste coordination program to provide expertise, technical assistance, and best practices to support local industrial symbiosis projects. The program must facilitate the exchange of wasted resources such that they can be used by another company or sector.

A competitive industrial symbiosis grant program is established to provide grants for research, development, and deployment of local waste coordination projects. Eligible grant projects include:

- existing industrial symbiosis efforts (public or private);
- emerging industrial symbiosis projects (public or private);
- research on product development using a specific waste flow;
- feasibility studies to evaluate potential biobased resources; and
- feasibility studies for publicly owned utilities to become multiutility operations or potential collaborative symbiosis projects.

Commerce is responsible for development of the method and criteria for grant award allocations.

Local System Impacts

The law creates a competitive grant program for public and private sector organizations with individual grants not to exceed $500,000. No change is anticipated in service level given the industrial focus. Material flow impact is contingent on the programs awarded. There are no costs to cities and counties for the program.

Service Level Impact

No changes in local system services are projected as a result of this law.

Material Flow Impact

No significant changes in material flows are projected from this law. No material flow impacts are expected in the first five years, given that these grants will mostly be to support research and development. Based on the projects that were awarded grants in 2022, the only potential change to material flows that would impact city and county systems is a reduction in the amount of fly ash from the waste to energy facility disposed of in the monofil ash landfill in Klickitat County.

Annualized System Fiscal Impact

This law creates no costs to local solid waste systems and may or may not provide revenue. The competitive industrial symbiosis grant program resulted in four grants in 2022. Individual grant awards were offered up to $250,000 each.

Key Issues

As new projects are awarded grants in coming years, new assessments can be completed to evaluate changes to material flows. Over the long term, the public sector may receive indirect benefits from this program.

House Bill 1663

Reducing Methane from Landfills

Enacted - 2022 Session

This law works to reduce methane emissions by establishing methane concentration limits and requiring owners and operators of landfills to: monitor surface emissions, report on various data points influencing emissions, and/or install gas collection equipment at landfills that meet specified criteria.

Monitoring, Reporting and Gas Collection Equipment

The owner or operator of a municipal solid waste landfill with a gas collection and control system must conduct instantaneous or integrated surface monitoring of the landfill surface according to the requirements specified. Owners or operators of landfills with less than 450,000 tons of waste in place must submit an annual waste in place report.

Each owner or operator of either an active municipal solid waste landfill having greater than or equal to 450,000 tons of waste in place or a closed municipal solid waste landfill having greater than or equal to 750,000 tons of waste in place must calculate the landfill gas heat input capacity. If the calculated landfill gas heat input capacity is less than 3.0 million British thermal units per hour recovered, the owner or operator must submit an annual landfill gas heat input capacity report. If the calculated landfill gas heat input capacity is greater than or equal to 3.0 million British thermal units per hour recovered; the owner or operator must either comply with other requirements of the law, or demonstrate, after four consecutive quarters, there is no measured concentration of methane 200 parts per million by volume or greater using the instantaneous surface monitoring procedures specified.

If there is no measured concentration of methane of 200 parts per million by volume or greater from the surface of a closed or inactive municipal solid waste landfill, landfill owners or operators may submit required documentation and be approved to no longer have to submit reports required by the Act.

The owner or operator of any municipal solid waste landfill that has a calculated landfill gas heat input capacity greater than or equal to 3.0 million British thermal units per hour recovered that has not demonstrated that there is no measured concentration of methane of 200 parts per million or greater, must install a gas collection and control system and conduct surface emissions monitoring.

Local System Impacts

The Act increases costs to city and county solid waste systems. There are no material flow or service level impacts associated with this bill.

Material Flow Impact

There is no material flow impact of this law.

Service Level Impact

There are no service level impacts of this law.

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs / savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs / savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

The U.S. Environmental Protection Agency's (EPA) Landfill Methane Outreach Program (LMOP) data was used to identify landfills in the state that meet waste-in-place requirements, or that are anticipated to meet waste in place requirements within five years.[26] The data also was used to determine whether a gas collection system is currently installed, and its approximate age, to assist in calculating the fiscal impact of the requirements. The analysis assumes that all landfills meeting the waste-in-place requirements also generate a minimum of 3.0 million British thermal units per hour of landfill gas and therefore are required to have a landfill gas collection system installed. Twenty-three active and closed landfills were identified as needing to comply with one or more aspects of the law[19]. Figure 10 below details fiscal impact inputs and formulas used to calculate the costs associated with:

- installing new landfill gas collection systems,
- upgrades for landfills with existing gas collection systems in place that were installed 10 or more years ago, and
- annual landfill surface monitoring costs.

[19] Only two active landfills in Washington State were identified as exempt from requirements due to having less than 450,000 tons of waste-in-place. Neither landfill is anticipated to meet waste-in-place requirements in the next five years.

Figure 10. Fiscal Impact Inputs and Formulas, HB 1663

Fiscal Impact Inputs: Landfill Age (EPA Landfill Methane Outreach Program Data)[26] Landfill Waste-in-Place (EPA Landfill Methane Outreach Program Data)[26]Landfill Tons Per Acre[20] Cost per Acre for Landfill Gas Collection Systems for Low, Medium, and High Impact Scenarios: $31,200, $43,680, $56,160[21] Cost Reduction Factor for Project 10+ years old: 50%[22] Annual Landfill Surface Emissions Monitoring Cost: $80,040[23] Amortization Period: 20 years[24] Interest Rate: 5%[25]
Fiscal Impact Formulas: Landfill Acres Filled: Landfill Waste in Place multiplied by Landfill Tons Per Acre Landfill Gas Collection System Cost: Landfill Acres Filled multiplied by Cost per Acre for Landfill Gas Collection Systems for Low, Medium, and High Impact Scenarios Annual Landfill Gas Collection System Cost: Landfill Gas Collection System Cost amortized over the Amortization Period at the Interest Rate Total Annual Cost: Annual Landfill Gas Collection System Cost + Annual Landfill Surface Emissions Monitoring Cost

The estimated costs of implementing this law statewide are between $3.7 and $5.2 million. The cost primarily is driven by the number of landfills needing to comply with the law in each region or jurisdiction. Costs were highest in the Southwest region where 10 landfills that are impacted by the law are located. Costs were lowest in the Eastern region where only three landfills are impacted by the law. These costs may be passed on to users through increased tip fees or absorbed by the landfill owner as an operating cost. Costs are only presented in cities and counties in which landfills

[20] Average calculated based on the acres per ton for each Washington state landfill with publicly available factsheets through EPA's Facility Level Information on Greenhouse Gases Tool (Flight). [26]
[21] Estimates in data source adjusted to 2021 dollars. [41]
[22] RRS estimated based on amortization period of 20 years. To account for the cost of upgrades for landfills with existing gas collection systems in place that were installed 10 or more years ago, it is assumed that upgrades equivalent to 50% of a landfill gas collection system are required. This assumption was made as it is assumed that older gas collection systems will need to be upgraded to come into compliance with the requirements of the Act.
[23] EPA estimates adjusted to 2021 dollars. Based on EPA estimates of the incremental cost of enhanced surface monitoring compared to baseline surface monitoring in 2025 and reported in 2012 dollars.[42]
[24] RRS estimate.
[25] RRS estimate.

are located, though the fiscal impact of those landfill cost increases may be absorbed in other parts of the state.

Table 28. Annualized Fiscal Impact by Region and Jurisdiction Designation, HB 1663

Region	Low	Medium	High
Central	$1,070,000	$1,300,000	$1,540,000
Rural	$990,000	$1,220,000	$1,460,000
Suburban	$0	$0	$0
Urban	$80,000	$80,000	$80,000
Eastern	$490,000	$560,000	$630,000
Rural	$380,000	$440,000	$490,000
Suburban	$110,000	$130,000	$140,000
Urban	$0	$0	$0
Northwest	$850,000	$1,060,000	$1,270,000
Rural	$0	$0	$0
Suburban	$0	$0	$0
Urban	$850,000	$1,060,000	$1,270,000
Southwest	$1,320,000	$1,560,000	$1,800,000
Rural	$490,000	$590,000	$690,000
Suburban	$90,000	$100,000	$110,000
Urban	$740,000	$870,000	$1,010,000
Grand Total	$3,730,000	$4,480,000	$5,240,000

Annualized System Fiscal Impact As Applied To Representative City Systems

Representative city system fiscal impacts include all costs using the impacts and formulas described in Figure 10 applied to the city's system. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see annualized system fiscal impact scope section for additional detail.

Costs are attributed to a city when the city is listed as the owner of an active or closed landfill. Four of the twelve representative cities each own one active or closed landfill that must comply with the requirements. The EPA data set utilized reports that all landfills owned by cities have a gas collection system installed.

The City of Tacoma's landfill has the highest costs among the cities because the closed landfill is in need of a new gas collection system, and due to the significant acreage of the landfill. The City of Richland has the lowest cost since, according to EPA data, a new landfill gas collection system was

installed in 2022 and therefore the only new costs are associated with surface emissions monitoring. Zeros in the table below represent no landfills present in the city.

Table 29. Annualized System Fiscal Impact as Applied to Representative City Systems, HB 1663

City	County	Region	City Type	Low	Medium	High
Seattle	King	Northwest	Urban	$0	$0	$0
Spokane	Spokane	Eastern	Urban	$0	$0	$0
Tacoma	Pierce	Southwest	Urban	$300,000	$380,000	$470,000
Vancouver	Clark	Southwest	Urban	$0	$0	$0
Bellingham	Whatcom	Northwest	Urban	$0	$0	$0
Marysville	Snohomish	Northwest	Urban	$0	$0	$0
Richland	Benton	Central	Urban	$80,000	$80,000	$80,000
Leavenworth	Chelan	Central	Suburban	$0	$0	$0
Port Angeles	Clallam	Southwest	Suburban	$90,000	$100,000	$110,000
Walla Walla	Walla Walla	Eastern	Suburban	$110,000	$130,000	$140,000
Wenatchee	Chelan	Central	Suburban	$0	$0	$0
Winthrop	Okanogan	Central	Suburban	$0	$0	$0

Annualized System Fiscal Impacts As Applied To Representative County Systems

Representative County system impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs. System impacts include costs to county ratepayers and the private sector, as well as the county itself. Yakima has the highest costs among counties because it owns two landfills, and both require new landfill gas collection systems. Zeroes in the table below represent no impact for the county.

Table 30. Annualized System Fiscal Impact as Applied to Representative Counties, HB 1663

County	Region	County Type	Low	Medium	HIGH
Pierce	Southwest	Suburban	$550,000	$670,000	$790,000
Spokane	Eastern	Suburban	$0	$0	$0
Cowlitz	Southwest	Rural	$380,000	$470,000	$560,000
Kitsap	Northwest	Suburban	$240,000	$270,000	$310,000
Skagit	Northwest	Rural	$0	$0	$0
Yakima	Central	Rural	$640,000	$840,000	$1,030,000
Chelan	Central	Rural	$0	$0	$0
Clallam	Southwest	Rural	$90,000	$100,000	$110,000
Island	Northwest	Suburban	$0	$0	$0
Kittitas	Central	Rural	$90,000	$100,000	$100,000
Lincoln	Eastern	Rural	$0	$0	$0
Walla Walla	Eastern	Rural	$110,000	$130,000	$140,000

Key Issues

Funds from the Climate Commitment Account may help fund the installation of gas collection devices and gas control systems, as well as monitoring and reporting of methane emissions.

Numbers could be refined by calculating landfill gas generated per hour as well as with additional detail on the landfills to refine cost estimates.

House Bill 1799

Concerning Organic Materials Management
Enacted - 2022 Session
Companion: SB 5731

This law established organic materials management goals and requirements for local governments and businesses and addresses product degradability labeling requirements for manufacturers and retailers. It also required this study.

State Organic Materials Management Goals were established to reduce landfill disposal of organic materials by 75%, based on 2015 baseline data, by 2030. An additional goal was set to reduce the amount (volume) of edible food disposed by 20%, based on 2015 baseline data, to be recovered for human consumption by 2025. These state goals are in addition to the food waste reduction goals established in 2019 (in HB 1114).

Organic Materials Management Requirements for Business require Ecology to determine which cities and counties preparing solid waste plans must provide food waste and organic waste service providers for businesses by July 2023. The law specifies that businesses (such as grocery stores, restaurants, and schools) must arrange for collection of organic materials and food waste based on the amount of material generated in a week:

- January 2024, businesses generating at least eight cubic yards of organic and food waste per week
- January 2025, businesses generating at least four cubic yards of organic and food waste per week
- January 2026, businesses generating at least four cubic yards of solid waste per week

Businesses will not be required to arrange for collection if service for both organic materials and food waste is not available or if there is no capacity to process additional organics and curbside material in their jurisdiction. There are no statutory requirements defined for local governments for the business requirements portion of the law. The statute gives local health departments the option to enforce these business requirements, but it does not require it. Health departments may not charge businesses a fee for the administration or enforcement of the requirements.

Local Government Organic Material Collection and Management Requirements state that, beginning January 1, 2027, in each city or county that implements a local solid waste plan, source-separated organic solid waste collection services must be provided at least either biweekly or 26 weeks annually to all residents and non-residential customers that generate at least 0.25 cubic yards of organic material per week. They must also provide for management of collected organic materials. Jurisdictions will be exempt from requirements based on criteria such as population, waste generation,

available capacity to collect more organic material, and economic feasibility of collection and processing. Collection service and management requirements do not apply in:

- counties and cities with a population less than 25,000;
- counties and cities with a population between 25,000 and 50,000 and that do not offer curbside organic material collection services anywhere as of July 1, 2022;
- counties or cities with a population density of less than 75 people per square mile and are located in an unincorporated part of the county;
- counties and cities that disposed of less than 5,000 tons of solid waste in the most recent year;
- counties not planning under the Growth Management Act or who are planning under the Growth Management Act, but outside of the designated urban growth areas; and
- counties and cities that receive a renewable waiver from Ecology applicable to all or part of a jurisdiction.

The law gives Ecology rule writing authority to establish waivers to exempt jurisdictions from organic material collection requirements and broadly implement the provisions of law.

Local Development Regulations and Organic Materials Management Facility Siting requires cities and counties that are planning under specific rules to allow for the siting of organic materials management facilities in the areas designated in county solid waste plans to meet needed capacity identified in the plan.

Local Government Compost Procurement Requirements, Plans, and Ordinances require counties and cities with at least 25,000 residents or where organic material collection services are provided to adopt a compost procurement ordinance. The required use of compost products in projects can be exempted for specific reasons, including health, safety, quality, and price. Cities and counties with said ordinance must develop a plan to communicate it to residents to encourage their adoption of similar decision-making. A report detailing the amount of organic material diverted from the landfill, and the amount, source, and cost of compost purchased must be submitted to Ecology every two years beginning in December 2024 by those with a compost procurement ordinance.

Civil and Criminal Liability Standards for Food Donations are expanded to apply to permitted food establishments, good-faith donations of expired food for human consumption, and donated food and grocery products that meet safety and safety-related labeling standards.

Washington Center for Sustainable Food Management is established as part of Ecology to serve the purpose of coordinating statewide food waste reduction.

Funding Programs for Organic Materials Management explicitly includes composting and organic materials management facilities as public works projects by the Public Works Board from the

Public Works Assistance Account. Further, it expands the grant funds under the Sustainable Farms and Fields Grant Program to now make eligible the purchase of compost spreading equipment, scientific studies on crop residue, and efforts to support farm use of anaerobic digester digestate. The Department of Agriculture must establish a compost reimbursement program for farming operations in Washington State for the purchase and use of compost products that were not generated by the farming operations. The purpose of these programs is to create a market for the compost created through expanded collection programs.

Product Degradability Labeling Requirements in Chapter 70A.455 RCW are amended to require compostable products to meet ASTM standards for compostability, and to amend the use of specific colors and designs to indicate compostable film bags and foodservice products. Ecology is given responsibility for enforcement of the labeling requirements and, in collaboration with cities and counties, must provide education and outreach to retail establishments, consumers, and suppliers about product degradability labeling requirements. Ecology, cities, and counties may issue penalties to those who violate labeling requirements. Penalties are credited to the State General Fund.

Local System Impacts

State Organic Materials Management Goals, Local Government Organic Material Collection and Management Requirements and Organic Materials Management Requirements for Business were the only parts of the bill deemed to have a significant impact on city and county solid waste systems. These requirements were evaluated for city and county material flow impact, service level impact, and annualized fiscal impact. The bill reduces organics sent to disposal, increases access to residential and non-residential sectors to organics collection and processing, and is projected to increase systemwide costs that are required to comply and do not already have residential and non-residential curbside collection services for food and yard waste.

While there will be costs associated with tracking and reporting compost procurement, they are estimated to be minor relative to the estimated overall system costs and therefore were not included in the analysis. However, costs associated with tracking and reporting compost procurement are costs that will be borne by local governments.

Material Flow Impact

Statewide, this law will result in the diversion of 30,000 to 100,000 tons per year of organics in 2027 from residential and non-residential sources (Table 31).

Table 31. Statewide Material Flow Impact, HB 1799 (TPY)

Material Type	Low	Medium	High
MSW Disposed	(30,000)	(50,000)	(100,000)
Total Organics Diverted from Disposal	**30,000**	**50,000**	**100,000**
Residential	10,000	20,000	40,000
Non-Residential	20,000	30,000	60,000

Projections in the table above were derived by using state waste disposal and composition data for residential and commercial sectors, and pounds per capita per year of food waste disposed for each sector was developed and multiplied by the population for each jurisdiction.[14] Low, medium, and high capture rates were utilized to determine the impact of the law on the collection of food waste for organics recovery for both residential and non-residential sectors. Rates were informed by data from Seattle, King County and Snohomish.[26] Policy exemption criteria were applied to remove impacts from communities exempt from the law, as well as communities providing curbside food waste collection service prior to the law being passed.

The addition of residential yard waste diverted was deemed negligible and not modeled as only three jurisdictions required to comply with the law did not have existing residential curbside collection service for yard waste. As the focus of business requirements are related to food waste, increase in diversion of yard waste from non-residential sources was deemed negligible and not modeled.

Service Level Impact Assumptions

The Act will result in an increase in the number of households, businesses, and other non-residential customers with food waste collection services.

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal.

[26] Seattle estimates its 2019 food capture rate from all sectors to be 56%.[26] King County's commercial sector realized a 20% food waste capture rate in 2018, and King County's single family residential sector realized an 18% food waste capture rate, a 27% food waste capture rate from curbside organics collection and source separated drop off for the King County, Seattle, and Snohomish region.[26]

The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

Figure 10 below describes the fiscal impact inputs and formulas for calculating system costs from implementing residential and commercial requirements. Prior to calculating impact, policy exemption criteria were applied to remove impacts from communities exempt from the law, as well as communities providing curbside food waste collection service prior to the law being passed.

Figure 11. Fiscal Impact Inputs and Formulas for Implementing Residential and Commercial Requirements, HB 1799

Residential **Fiscal Impact Inputs:** Jurisdiction Population[23] Statewide Food Waste Disposal per Capita: 115 lbs./year[14] Food Waste Collection and Processing Costs: Based on Service Provider type (UTC or Muni/Contract)[27] Food Waste Diversion Rate for Low, Medium, and High Impact Scenarios: 15%, 23%, 50%[28] MSW Tip Fee: 2021 Tip Fees by County[16] Revenue Portion of MSW Tip Fee: 28.37%[29]
Fiscal Impact Formulas: Food Waste Disposal by Jurisdiction: Statewide Food Waste Disposal per Capita multiplied by Jurisdiction Population Food Waste Disposal Reduction: Food Waste Disposal by Jurisdiction multiplied by Food Waste Diversion Rate Food Waste Collection and Processing: Food Waste Disposal Reduction multiplied by Food Waste Collection and Processing Costs Disposal Revenue loss: Food Waste Disposal Reduction multiplied by MSW Tip Fee multiplied by Revenue Portion of MSW Tip Fee Disposal Cost Savings: Food Waste Disposal Reduction multiplied by MSW Tip Fee
Commercial **Fiscal Impact Inputs:**

[27] Please see the following section of this report for additional detail: Calculation of Included Variables, Residential and Commercial Collection, Processing, and Disposal Costs.
[28] Rates were informed by data from Seattle, King County and Snohomish. Seattle estimates its 2019 food capture rate from all sectors to be 56%.
[29] See Calculation of Included Variables, Disposal Revenue Loss section of report.

Jurisdiction Population[23] Food Waste Disposal by County[30] Food Waste Collection and Processing Costs[31] Food Waste Diversion Rate for Low, Medium, and High Impact Scenarios: 15%, 23%, 50%[32] MSW Tip Fee: 2021 Tip Fees by County[16] Revenue Portion of MSW Tip Fee: 28.37%[33]
Fiscal Impact Formulas: Food Waste Disposal by Jurisdiction: Food Waste Disposal by County / County Population multiplied by Jurisdiction Population Food Waste Disposal Reduction: Food Waste Disposal by Jurisdiction multiplied by Food Waste Diversion Rate Food Waste Collection and Processing: Food Waste Disposal Reduction multiplied by Food Waste Collection and Processing Costs Disposal Revenue loss: Food Waste Disposal Reduction multiplied by MSW Tip Fee multiplied by Revenue Portion of MSW Tip Fee Disposal Cost Savings: Food Waste Disposal Reduction multiplied by MSW Tip Fee

The Act results in increased system costs for each region, and all of the representative counties and cities, and urban, suburban, and rural jurisdictions. The annual system fiscal impact statewide is projected to be $50 million-$55 million. Non-residential sector requirements are projected to comprise the majority of the costs ($32.8 million-$36.7 million) whereas the cost for residential sector requirements is projected to be $17.5 million-$18.8 million. Costs to implement non-residential requirements is significantly higher than residential requirements as most jurisdictions do not have non-residential programs for the collection of food waste in place, whereas many jurisdictions do have curbside collection of either food or yard waste in place. Disposal revenue loss is projected to cost $1.75 million, a disposal savings of $6 million is realized, and $58 million in system costs is due to collection and processing of the organics. The figure below details annualized system fiscal impact by sector and cost type. Other costs reflect costs associated with organics collection and processing.

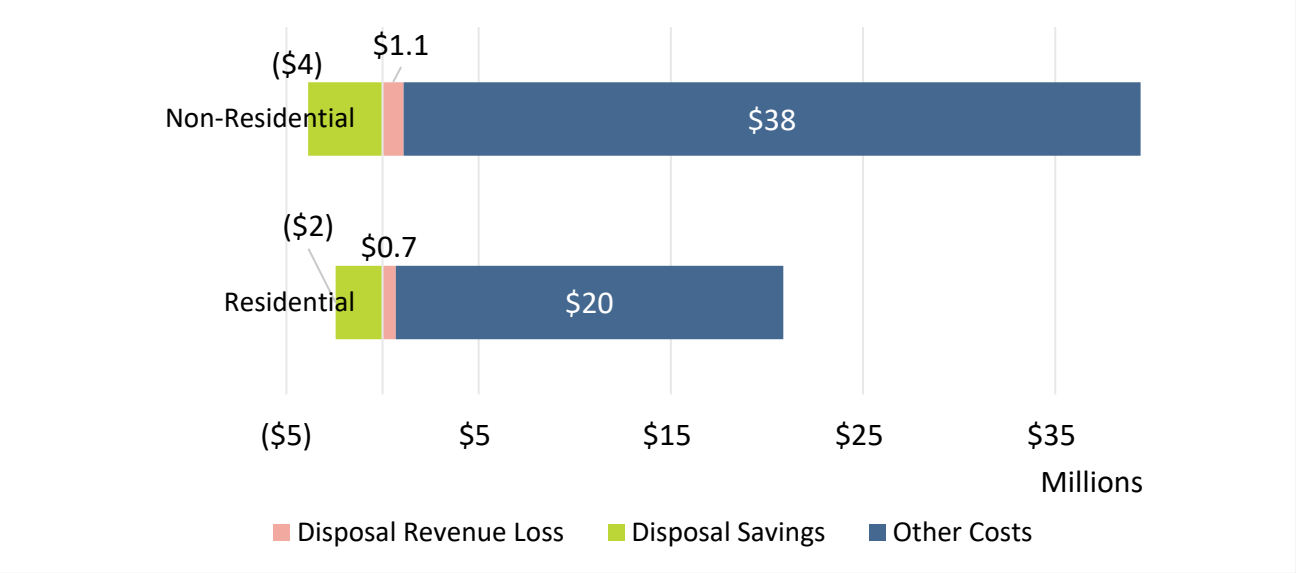
[30] Commercial edible and inedible food waste disposed statewide is 206,163 tons per year according to the 2020-2021 Waste Characterization Study. Food waste tons per year disposed by county is the state tons of food waste disposed multiplied by the percent of food waste generated by county according to EPA Commercial Food Waste Excess Opportunity Map estimates of tons per year of food waste generated for commercial businesses covered under HB 1799.

[31] Please see the following section of this report for additional detail: Calculation of Included Variables, Residential and Commercial Collection, Processing, and Disposal Costs.

[32] King County's commercial sector realized a 20% food waste capture rate in 2018, and King County's single family residential sector realized an 18% food waste capture rate, a 27% food waste capture rate from curbside organics collection and source separated drop off for the King County, Seattle, and Snohomish region [38][43]

[33]See Calculation of Included Variables, Disposal Revenue Loss section of report.

Figure 12. Statewide Annualized System Fiscal Impact Detail by Sector for the Medium Impact Scenario, HB 1799



The only impact in rural areas is in the non-residential sector, since there are exemptions from the residential requirements related to population thresholds.

Table 32. Annualized System Fiscal Impact by Region and Jurisdiction Designation, HB 1799

Region	Residential - Low	Residential – Medium	Residential - High	Non-Residential - Low	Non-Residential - Medium	Non-Residential - High	Residential and Non-Residential - Low	Residential and Non-Residential - Medium	Residential and Non-Residential - High
Central	**$40,000**	**$70,000**	**$130,000**	**$2,390,000**	**$2,350,000**	**$2,280,000**	**$2,430,000**	**$2,430,000**	**$2,420,000**
Suburban	($10,000)	($10,000)	($30,000)	$410,000	$390,000	$370,000	$400,000	$380,000	$340,000
Urban	$50,000	$80,000	$160,000	$1,980,000	$1,960,000	$1,910,000	$2,030,000	$2,050,000	$2,080,000
Rural	$0	$0	$0	$0	$0	$0	$0	$0	$0
Eastern	**$2,930,000**	**$2,900,000**	**$2,840,000**	**$4,710,000**	**$4,590,000**	**$4,300,000**	**$7,640,000**	**$7,500,000**	**$7,160,000**
Suburban	($10,000)	($10,000)	($20,000)	$720,000	$700,000	$660,000	$710,000	$690,000	$650,000
Urban	$2,940,000	$2,910,000	$2,860,000	$2,920,000	$2,850,000	$2,670,000	$5,860,000	$5,760,000	$5,530,000
Rural	$0	$0	$0	$1,070,000	$1,040,000	$970,000	$1,070,000	$1,050,000	$980,000
Northwest	$3,960,000	$3,910,000	$3,800,000	**$20,720,000**	**$20,030,000**	**$18,310,000**	**$24,680,000**	**$23,940,000**	**$22,100,000**
Suburban	$0	$0	$0	$3,240,000	$3,130,000	$2,880,000	$3,240,000	$3,140,000	$2,880,000
Urban	$3,960,000	$3,910,000	$3,800,000	$17,480,000	$16,900,000	$15,430,000	$21,440,000	$20,810,000	$19,230,000
Rural	$0	$0	$0	$0	$0	$0	$0	$0	$0
Southwest	**$11,850,000**	**$11,530,000**	**$10,740,000**	**$8,860,000**	**$8,590,000**	**$7,900,000**	**$20,720,000**	**$20,120,000**	**$18,660,000**
Suburban	$1,180,000	$1,140,000	$1,040,000	$990,000	$960,000	$890,000	$2,170,000	$2,100,000	$1,940,000
Urban	$10,670,000	$10,390,000	$9,700,000	$7,870,000	$7,630,000	$7,010,000	$18,550,000	$18,020,000	$16,720,000
Rural	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grand Total	**$18,780,000**	**$18,410,000**	**$17,510,000**	**$36,680,000**	**$35,560,000**	**$32,790,000**	**$55,460,000**	**$53,980,000**	**$50,310,000**

Annualized System Fiscal Impact as Applied to Representative City Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 11 applied to the population of the city analyzed. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see Annualized System Fiscal Impact Scope section for additional detail. For residential requirements, 'no impact' is listed for cities where curbside collection of food waste is already offered. For commercial requirements, no impact is listed for counties with similar requirements in place. Counties may have '0' if the unincorporated areas and cities within the counties all are either considered exempt or not impacted. Please note that the high policy impact scenarios have the lowest system costs as greater diversion results in disposal costs savings.

Table 33. Annualized System Fiscal Impact as Applied to Representative Cities, HB 1799

City	Residential - Low	Residential - Medium	Residential - High	Non-Residential - Low	Non-Residential - Medium	Non-Residential - High	Residential and Non-Residential - Low	Residential and Non-Residential	Residential and Non-Residential
Seattle	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Spokane	No Impact	No Impact	No Impact	$1,540,000	$1,500,000	$1,400,000	$1,540,000	$1,500,000	$1,400,000
Tacoma	No Impact	No Impact	No Impact	$1,200,000	$1,150,000	$1,030,000	$1,200,000	$1,150,000	$1,030,000
Vancouver	No Impact	No Impact	No Impact	$1,000,000	$980,000	$920,000	$1,000,000	$980,000	$920,000
Bellingham	No Impact	No Impact	No Impact	$1,000,000	$970,000	$880,000	$1,000,000	$970,000	$880,000
Marysville	($10,000)	($20,000)	($40,000)	$500,000	$490,000	$460,000	$490,000	$470,000	$420,000
Richland	$10,000	$20,000	$30,000	$380,000	$380,000	$370,000	$390,000	$400,000	$400,000
Leavenworth	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Port Angeles	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Walla Walla	$0	($10,000)	($10,000)	$310,000	$310,000	$290,000	$310,000	$300,000	$280,000
Wenatchee	($10,000)	($10,000)	($30,000)	$410,000	$390,000	$370,000	$400,000	$380,000	$340,000
Winthrop	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt

Annualized system fiscal impacts as applied to Representative County systems impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs. It also includes impacts to county ratepayers and the private sector. For residential requirements, 'no impact' is listed for counties where curbside collection of food waste already is offered. For commercial requirements, no impact is listed for counties with similar requirements in place. Counties may have '0' if the unincorporated areas and cities within the counties all are either considered exempt or not impacted. Please note that the high policy impact scenarios have the lowest system costs as greater diversion results in disposal costs savings.

Table 34. Annualized System Fiscal Impact as Applied to Representative Counties, HB 1799

County	Residential – Low	Residential –Medium	Residential –High	Non-Residential – Low	Non-Residential – Medium	Non-Residential – High	Residential & Non-Residential Low	Residential & Non-Residential – Medium	Residential & Non-Residential – High
Pierce	($320,000)	($530,000)	($1,060,000)	$4,370,000	$4,190,000	$3,730,000	$4,050,000	$3,660,000	$2,670,000
Spokane*	No Impact	No Impact	No Impact	$2,620,000	$2,550,000	$2,370,000	$2,620,000	$2,550,000	$2,370,000
Cowlitz	$1,220,000	$1,220,000	$1,200,000	$250,000	$240,000	$240,000	$1,470,000	$1,460,000	$1,430,000
Kitsap	No Impact	No Impact	No Impact	$1,210,000	$1,180,000	$1,120,000	$1,210,000	$1,180,000	$1,120,000
Skagit	Exempt	Exempt	Exempt	$350,000	$340,000	$320,000	$350,000	$340,000	$320,000
Yakima	$20,000	$40,000	$80,000	$1,070,000	$1,060,000	$1,040,000	$1,090,000	$1,100,000	$1,120,000
Chelan	($10,000)	($10,000)	($30,000)	$410,000	$390,000	$370,000	$400,000	$380,000	$340,000
Clallam	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Island	$3,970,000	$3,930,000	$3,840,000	$330,000	$320,000	$290,000	$4,300,000	$4,250,000	$4,120,000
Kittitas	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Lincoln	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt

*RRS analysis concluded that there is no impact for residential requirements in unincorporated areas of Spokane County, and all Spokane County cities are either exempt from requirements or curbside food waste collection is currently offered.

Key Issues

An upfront investment in infrastructure will be needed to cover items such as carts, collection vehicles, and either new or upgrades to existing organics processing facilities. It is assumed that this cost will be passed on to customers which could potentially result in higher collection and processing costs. To account for this, the highest (third quartile) collection and processing costs were utilized for low, medium, and high scenarios for residential requirements. Commercial requirements assume that commercial organics are collected from establishments when the containers only 10% full. A 10% fill rate was utilized as a means of demonstrating increased costs of collection and processing to fund new infrastructure.

Covered businesses have not been identified by the state and therefore exempt businesses have not been excluded from this analysis of commercial food waste generation. Estimates can be further refined by the identification of covered businesses and applying associated food waste generation rates.

Legislation Not Enacted

House Bill 2360

Establishing The Sharps Waste Stewardship Program
Introduced - 2019 Session

This bill would have established a stewardship program for sharps manufacturers to collect and dispose of material from consumers. The program would have required sharps producers to provide waste containers and prepaid mail-back materials upon request and at no cost to a sharps user or their household member or caregiver; and to other specified types of locations, such as pharmacies and doctors' offices, as well as to public agencies for distribution and use.

At a minimum, a program would have ensured:

- each city or town had at least one sharps collection site, plus at least one additional sharps collection site for every 20,000 residents; and
- sharps collection sites in each city were geographically distributed to provide reasonably convenient and equitable access to all residents.

Local System Impacts

The bill increases access to safely dispose of sharps, and increases the tons of sharps that would be safely disposed. As no existing city or county program has been identified that this policy would supplant, fiscal impact on cities and counties is unknown.

Service Level Impact

The bill would have increased convenience of safe disposal, specifically ensuring adequate collection sites and the convenience of pre-paid mailers. The extent of the increase is unknown.

Material Flow Impact

As Ecology estimates that less than 200 tons of sharps are discarded as trash each year, the bill would have had no significant impact on tons sent for disposal, recycling, or composting.

Annualized System Fiscal Impact

No sharps recovery programs offered by cities and counties have been identified and therefore cost savings from implementing the program cannot be estimated. As no local government program for sharps collection is currently in place that a product stewardship program would supplant, the bill is deemed to have no local system fiscal impact.

Key Issues

The greatest benefit of a sharps product stewardship program is risk reduction for collection and material recovery facility workers being harmed by sharps. The majority of these facilities are privately owned and operated. The fiscal impact of this risk reduction has not been modeled.

House Bill 2429

Concerning Certain Expanded Polystyrene Products
Introduced - 2020 Session
Companion: SB 6213

If passed, this bill would have prohibited the sale or distribution of certain expanded polystyrene products in or into Washington State beginning June 1, 2023. The restriction would have covered:

- food service products, including clamshell containers, cups, and plates;
- void-filling packaging products such as packing peanuts; and
- portable containers used for cold storage, subject to some exceptions.

Covered products did not include containers for raw, uncooked meat, fish, poultry, seafood, vegetables, fruit, or egg cartons.

Beginning June 1, 2023, manufacturers in violation of the prohibition on the sale and distribution of restricted products would be subject to a fine of $250 per day, per violation, not to exceed $1,000 for each repeat offense.

The impact of this bill was not modeled since the passed SB 5022 contains a similar, more comprehensive polystyrene ban.

House Bill 2656

Reducing the Waste Associated with Single-Use Food Service Products
Introduced - 2020 Session
Companion: SB 6627

This bill would have restricted the sale or provision of plastic food service products beginning January 1, 2022 in certain cities and counties, and beginning as late as January 1, 2030 in other cities and counties. It would provide for delayed effective dates and waivers for certain categories of restricted plastic food service products. It would also have required customers to request single-use straws, utensils, and plastic condiment packaging in order for a retail establishment to provide those items to a customer.

The bill would also add requirements for counties updating solid waste management plans after 2020. They would have been required to include an assessment of the logistical and economic feasibility of the development and use of infrastructure that would allow for the widespread commercial composting of organic materials, including compostable food service products, by 2030. This requirement would have been null and void if adequate funding (not requiring matching funds) were not provided to each county to meet these requirements at least one year prior to each county's next required solid waste plan update.

Notably, the bill would have also established a $0.01 fee for single-use non-recyclable or non-compostable food service product, and up to $0.01 fee per single-use recyclable food service product. Fees would be remitted by producers and deposited in a Plastic Waste Reduction Account and be used for administering, implementing, and enforcing requirements related to single-use food service products (state level) and for local government solid waste financial assistance, including for the development of plans and infrastructure to support the statewide provision on composting infrastructure.

Local System Impacts

In the bill's fiscal note package, Ecology estimated that the single-use food service fee would have generated $61 million in the 2023-2025 timeframe. While Ecology could use some of that funding to provide financial assistance to local governments and develop composting infrastructure, it Is unclear how and where the funds would be distributed. As a result, RRS was unable to model the impacts either regionally or by representative city or county. The bill also requires local governments to include an assessment of the logistical and economic feasibility of the development and use of infrastructure for the widespread commercial composting of organic materials, including compostable food service products. However, this requirement only applies if adequate funding is available from the state, thus there would be no net fiscal impact.

Service Level Impact

No change in city and county solid waste services offered to residents and the non-residential sector is anticipated as a result of this policy. Though counties and cities could get funded to assess

adding infrastructure to increase commercial composting, it is not assumed the assessment would lead to additional infrastructure and services by 2027.

Material Flow Impact

While it is anticipated that the policy, if passed, would have reduced single-use foodservice product waste, no data could be found on the amount of specifically targeted single-use foodservice packaging currently generated. Impact on material flows has therefore not been estimated.

Annualized System Fiscal Impact

Annualized fiscal impact on cities and counties is predicted to create minor cost savings associated with reduction of disposal of single-use foodservice products. Given the current generation of single-use food service products is unknown, fiscal impact has not been estimated. Furthermore, given the uncertainty in the potential uses of the grant funding that would have been generated utilizing the single-use food service product fee, the impact to specific local systems could not be estimated.

House Bill 2722

Concerning Minimum Recycled Content Requirements
Vetoed - 2020 Session
Companion: SB 6645

Introduced in January 2020, HB 2722 passed the House and Senate, but was vetoed by the Governor on April 3, 2020. SB 5022, containing similar requirements, passed in the 2021 session. This bill would have:

- established a minimum post-consumer recycled content (PRC) requirements for plastic containers of certain beverages sold, offered for sale, or distributed in Washington;
- required that beverage manufactures annually report the type and amount of virgin plastic and post-consumer recycled plastic used for these beverages;
- established penalties for beverage manufactures who fail to meet minimum post-consumer recycled content requirements; and
- required annual reporting of pounds of all resin used (virgin and post-consumer recycled content) by the beverage manufacturer that sold, offered for sale, or distributed plastic beverage container in Washington. Ecology would have been required to post this information on their website.

The plastic beverage containers included in this bill were specified as between two ounces and one gallon and beverages covered included all beverage intended for human or animal consumption. Baby formula was specifically excluded. Additional exclusions included refillable beverage containers, medical products, and bladders or pouches that contain wine.

Recycled content requirements for containers covered by this bill would have increased over time. The minimum post-consumer recycled content would have started with 10% from 2021 through 2024, 25% from 2025 to 2029, and ultimately would have had to meet 50% by 2030.

Every other year beginning in 2021, or at the petition of the beverage manufacturing industry not more than annually, Ecology would have been required to consider whether the minimum recycled content requirements should be waived or reduced. This determination was to be based on many factors, including market conditions, availability, the carbon footprint of transporting recycled resin, etc. Ecology would have also had the authority to grant extensions to manufacturers that made significant gains, but still failed to meet the requirements.

This bill would have created a Recycling Enhancement Fee Account to house collected fees. Expenditures from the account were to be used by Ecology only for providing funding to Ecology's Recycling Development Center for the purpose of furthering the development of recycling infrastructure in Washington.

Local System Impacts

The analysis did not identify any local system impacts. For a full description of the policy, see the analysis of HB 5022, which contains similar provisions.

Material Flow Impact

No change in material flows is projected as a result of this legislation.

Service Level Impact

No change in local government service is projected as a result of this legislation.

Annualized System Fiscal Impact

There is no fiscal impact to local solid waste and recycling systems.

Senate Bill 5219

Concerning the Management of Plastic Packaging Materials
Introduced - 2021 Session
Companion: HB 1488

These two similar pieces of legislation – SB5219 and HB 1488 – were introduced in 2021. They would have required producers of plastic packaging to meet minimum standards for postconsumer recycled content (PRC) on average for the total amount of plastic packaging sold, offered for sale, or distributed in Washington.

- July 1, 2023, through December 31, 2026 — no less than 15% postconsumer recycled plastic;
- January 1, 2027, through December 31, 2030 — no less than 25% postconsumer recycled plastic; and
- on and after January 1, 2031 — no less than 50% postconsumer recycled plastic.

Beginning in 2021 and every other year thereafter (or as frequently as annually, if requested by the plastic packaging industry), Ecology would have been required to consider whether the minimum postconsumer recycled content requirements should be reduced. Such changes could be reflective of market consideration, recycling capacity, and other factors.

Starting in March 2022, this legislation would have required plastic packaging producers to report, in pounds and by resin type, the amount of virgin plastic and post-consumer recycled plastic used for plastic packing sold, offered for sale, or distributed in Washington State in the previous calendar year. Then, beginning July 1, 2023, any producer that didn't meet the minimum content requirements would be subject to an annual fee. The legislation stipulated that Ecology could not assess a fee of more than $200 per ton and stipulated maximum revenue ranges through time.

Ecology must also publish an annual report containing an annual estimate of the revenue to be raised by the fee, the amounts and quantities of plastic packaging subject to the fee, and the number of producers currently and expected to be in compliance with the Act.

Also, Ecology would have been required to establish a stakeholder advisory committee to help develop rules governing the distribution of funds. This committee would include five members appointed by the Washington Association of County Solid Waste Managers and five members appointed by the Washington State Association of Local Public Health Officials.

Ecology would have been required to adopt rules to implement the fee that would not exceed $200 per ton. Ecology could lower fees for producers that achieve partial compliance. The fee structure includes as follows:

- from July 1, 2023, through December 31, 2026, the fee would be estimated to raise no less than $40 million per biennium and no more than $60 million per biennium;
- from January 1, 2027, through December 31, 2030, the fee would be estimated to raise no less than $30 million per biennium and no more than $50 million per biennium; and
- on and after January 1, 2031, the fee would be estimated to raise no less than $20 million per biennium and no more than $40 million per biennium.

25% of the funds raised by the fee would be used for grants to owners or operators of material recovery facilities. The primary purpose of these grants was to improve the capability of material recovery facilities to sort and otherwise manage plastic packaging.

75% of the funds would be distributed to cities and counties for developing and implementing:

- actions or investments to improve recycling infrastructure and the recyclability of plastic packaging through curbside recycling programs;
- depots or collection points for plastics not effectively collected or processed through curbside programs; and
- solid waste planning, management, regulation, enforcement, technical assistance, and public education.

Expenses for Ecology to implement and enforce this law were to come from the Waste Reduction, Recycling, and Litter Control account.

Local System Impacts

If enacted, this legislation would have increased recycling in the state by providing grant funding for new recycling infrastructure. The legislation specifies that 25% of the funds raised by the fee would be used for grants to owners or operators of material recovery facilities. The analysis estimates that this would result in more types of plastic packaging being accepted in the recycling system. The other 75% of grant funds distributed to cities and counties were accounted for as revenue in the fiscal analysis. Those funds were not estimated to change service level or material flows, but rather help offset other system costs. Outreach and education to improve curbside programs and reduce contamination as well as depots are likely areas for local government to spend the funds.

Service Level Impact

The grants to owners or operators of material recovery facilities would result in more types of plastic packaging being accepted in the recycling system.

Material Flow Impact

The grants to owners or operators of material recovery facilities would result in an additional 14,000 to 28,000 tons per year of plastic packaging being recovered. This additional tonnage is a result of more types of plastic packaging being accepted in the recycling system.

Table 35. SB 5219/HB 1488 Statewide Material Flow Impact (TPY)

MATERIAL TYPE	LOW RECOVERY	MEDIUM RECOVERY	HIGH RECOVERY
MSW Disposed	(14,000)	(21,000)	(28,000)
Commingled Recyclables (Residential)	14,000	21,000	28,000

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

It was calculated that $15 million-$25 million per year would be collected as a result of the bill. 25% of this ($3.75 million-$6.25 million) would be allocated for grants to owners or operators of material recovery facilities.

Figure 13. Fiscal Impact Inputs and Formulas, SB 5219/HB 1488

Fiscal Impact Inputs: Estimated Funding per Year: $15M, $20M, $25M Regional Recycling Rate: Values ranging from 12%-59% applied to each corresponding jurisdiction [15] Statewide Plastic Packaging Disposal: 121,173 tons [14] Population by Jurisdiction [23] Increase in Plastics Recycling Tonnages: 10%, 15%, 20%[34] MSW Tip Fee: 2021 Tip Fees by County [16] Revenue Portion of MSW Tip Fee: 28.37%[35]
Fiscal Impact Formulas: Disposed Plastic Packaging by Jurisdiction: Statewide Plastic Packaging Disposal multiplied by (Population by Jurisdiction / Total Population) Current Recycled Plastic Packaging by Jurisdiction: Disposed Plastic Packaging by Jurisdiction / (1 – Regional Recycling Rate) multiplied by Regional Recycling Rate Disposal Revenue loss: Current Recycled Plastic Packaging by Jurisdiction multiplied by Increase in Plastics Recycling Tonnages multiplied by MSW Tip Fee multiplied by Revenue Portion of MSW Tip Fee Disposal Cost Savings: Current Recycled Plastic Packaging by Jurisdiction multiplied by Increase in Plastics Recycling Tonnages multiplied by MSW Tip Fee Additional Funding by Jurisdiction: Estimated Funding Per Year multiplied by (Population by Jurisdiction / Total Population) Fiscal Impact: Disposal Revenue loss + Disposal Cost Savings + Additional Funding by Jurisdiction

Annualized system fiscal impact statewide is projected to be a revenue increase of $12.55 million-$21.34 million. Below is the annualized statewide system fiscal impact detail using the medium impact scenario.

[34] RRS estimated impact of MRF grants. Based on an estimated $250 of grant funding per additional ton of plastic packaging per year.

[35] Please see Calculation of Included Variables, Disposal Revenue Loss for more detail on the data source.

Figure 14. Statewide Annualized System Fiscal Impact Detail (Medium Impact Scenario), SB 5219/HB 1488

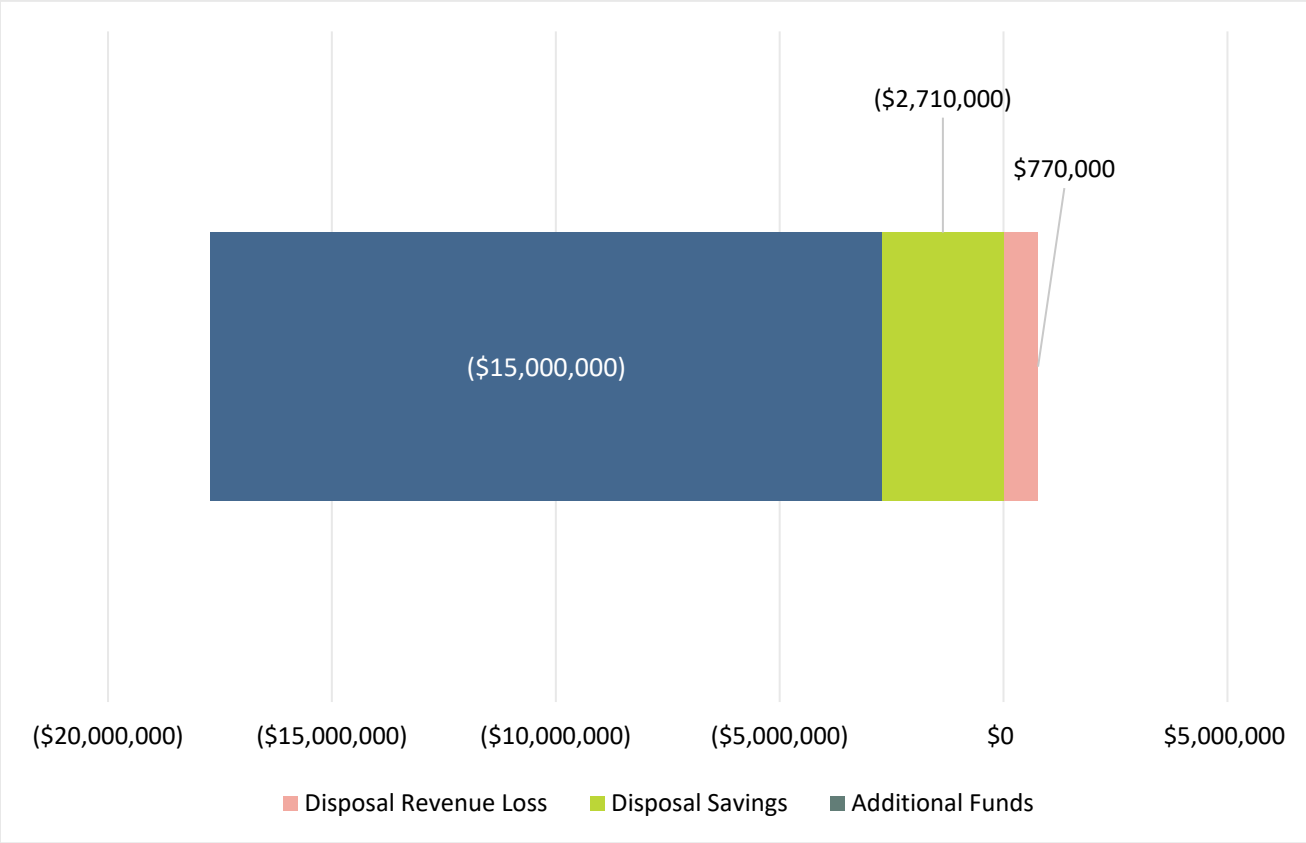


Table 36. Annualized System Fiscal Impact by Region and Jurisdiction Designation, SB 5219/HB 1488

Region	Low	Medium	High
Central	**($1,030,000)**	**($1,380,000)**	**($1,720,000)**
Suburban	($310,000)	($420,000)	($520,000)
Urban	($360,000)	($480,000)	($600,000)
Rural	($360,000)	($480,000)	($600,000)
Eastern	**($1,480,000)**	**($1,980,000)**	**($2,480,000)**
Suburban	($360,000)	($480,000)	($600,000)
Urban	($630,000)	($840,000)	($1,050,000)
Rural	($490,000)	($660,000)	($830,000)
Northwest	**($6,430,000)**	**($8,710,000)**	**($11,000,000)**
Suburban	($1,490,000)	($2,020,000)	($2,550,000)
Urban	($4,670,000)	($6,330,000)	($7,990,000)
Rural	($270,000)	($360,000)	($460,000)
Southwest	**($3,610,000)**	**($4,880,000)**	**($6,140,000)**
Suburban	($870,000)	($1,180,000)	($1,480,000)
Urban	($2,300,000)	($3,110,000)	($3,920,000)
Rural	($440,000)	($590,000)	($740,000)
Grand Total	**($12,550,000)**	**($16,950,000)**	**($21,340,000)**

Annualized System Fiscal Impact as Applied to Representative City Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 13 applied to the population of the city analyzed. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see Annualized System Fiscal Impact Scope section for additional detail.

Table 37. Annualized System Fiscal Impact as Applied to Representative City Systems, SB 5219/HB 1488

City	County	Region	City Type	Low	Medium	High
Seattle	King	Northwest	Urban	($1,256,000)	($1,705,000)	($2,154,000)
Spokane	Spokane	Eastern	Urban	($350,000)	($469,000)	($588,000)
Tacoma	Pierce	Southwest	Urban	($376,000)	($511,000)	($646,000)
Vancouver	Clark	Southwest	Urban	($300,000)	($404,000)	($507,000)
Bellingham	Whatcom	Northwest	Urban	($149,000)	($201,000)	($254,000)
Marysville	Snohomish	Northwest	Urban	($115,000)	($156,000)	($196,000)
Richland	Benton	Central	Urban	($91,000)	($122,000)	($152,000)
Leavenworth	Chelan	Central	Suburban	($4,000)	($5,000)	($6,000)
Port Angeles	Clallam	Southwest	Suburban	($33,000)	($44,000)	($56,000)
Walla Walla	Walla Walla	Eastern	Suburban	($51,000)	($68,000)	($86,000)
Wenatchee	Chelan	Central	Suburban	($52,000)	($70,000)	($87,000)
Winthrop	Okanogan	Central	Suburban	($1,000)	($1,000)	($1,000)

Annualized System Fiscal Impact as Applied to Representative County Systems

Representative county system impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs. It also includes impacts on county ratepayers and the private sector.

Table 38. Annualized System Fiscal Impact as Applied to Representative Counties, SB 5219/HB 1488

County	Region	County Type	Low	Medium	High
Pierce	Southwest	Suburban	($1,590,000)	($2,170,000)	($2,740,000)
Spokane	Eastern	Suburban	($650,000)	($870,000)	($1,090,000)
Cowlitz	Southwest	Rural	($170,000)	($220,000)	($280,000)
Kitsap	Northwest	Suburban	($440,000)	($600,000)	($750,000)
Skagit	Northwest	Rural	($210,000)	($280,000)	($350,000)
Yakima	Central	Rural	($380,000)	($500,000)	($630,000)
Chelan	Central	Rural	($120,000)	($160,000)	($200,000)
Clallam	Southwest	Rural	($130,000)	($170,000)	($220,000)
Island	Northwest	Suburban	($150,000)	($200,000)	($250,000)
Kittitas	Central	Rural	($70,000)	($90,000)	($110,000)
Lincoln	Eastern	Rural	($20,000)	($20,000)	($30,000)
Walla Walla	Eastern	Rural	($90,000)	($130,000)	($160,000)

Senate Bill 5286

Establishing a Statewide Organic Waste Management Goal

Introduced - 2021 Session

SB 5286 was introduced in 2021 and did not pass. The proposed bill established a goal to divert and reduce not less than 50% of organic waste by weight from landfill disposal by 2025, and to divert and reduce not less than 90% of organic waste by weight from landfill disposal by the end of 2030, relative to June 30, 2021. All local city and county governments with populations of 50,000 or more would have been required to ensure that their comprehensive solid waste management plans incorporated organics diversion approaches to achieve these goals.

SB 5286 was not modeled given its similarities to HB 1799 that passed in 2022. Please see the summary of HB 1799 for more information.

House Bill 1896

Providing for Responsible Environmental Management of Batteries

Introduced - 2022 Session

Had it passed, this 2022 legislation would have created an EPR program for batteries. Manufacturers of a broad range of rechargeable and alkaline batteries and battery containing products would have been responsible for the complete lifecycle of their products. The bill entails four areas of focus:

Battery labeling requirements would have been applied to producers and retailers who sell, distribute, or offer for sale any of the following battery types: portable batteries, medium-format batteries, large-format batteries, and battery-containing products containing a battery designed or intended to be removed from the product.

A **battery stewardship organization** would have been created, and manufacturers and retailers would have been required to participate in and fund it. The battery stewardship organization would have been required to submit a plan to Ecology for approval, ensuring it includes performance goals, program funding, battery collection and management, and education and outreach. The battery stewardship organization would have been required to submit reports to Ecology that included financial audits and statements, operation and logistical information, and specific statistics regarding program operations. Civil penalties may have been imposed for non-compliance. The organization would have been required to provide battery disposal locations.

Large format batteries would have been evaluated by Commerce to determine opportunities and challenges for end-of-life management.

Local System Impacts

The legislation would have increased access to recycle and/or safely dispose of batteries, increase the tons of batteries recycled and/or safely disposed, and reduce costs to cities and counties that had battery recycling/safe disposal programs in place prior to the policy going into effect.

Service Level Impact

The legislation would result in increased access to residents and others to collect safely discard batteries. Specific convenience and access criteria were not included in the legislation; these instead would be proposed in the plan prepared by the stewardship organization and approved by Ecology.

Material Flow Impact

Enactment of the legislation would yield an increase in the collection of batteries. In 2021, 1,175 tons of batteries were recovered from residential and commercial sectors in the state of Washington, according to Ecology.

Given the relatively small quantities of batteries in the waste stream, approximately 2,500 tons disposed statewide each year, the impact on the waste stream of a battery stewardship program was not modeled.

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

The legislation would create cost savings for city and county solid waste systems compared to what they are currently paying for battery collection, recycling, and/or safe disposal. While service levels would increase throughout the state, savings only resulted in jurisdictions reporting having recovered batteries in 2021, as those were the only local systems experiencing costs.

Figure 15. Fiscal Impact Inputs and Formulas, HB 1896

Fiscal Impact Inputs: 2021 Battery Recycling Tonnage by County [[27] Battery Recycling Cost per Ton: $1,700 [36]
Fiscal Impact Formulas: Fiscal impact: 2021 Battery Recycling Tonnage by County multiplied by Battery Recycling Cost per Ton

The annualized system cost savings statewide are estimated to be $2 million. Impact is primarily seen in counties, not cities, with the exception of Seattle as it is the only representative city collecting batteries. 'No impact' means no cost savings were realized as no collection programs were in place in 2021. Cost savings in suburban areas are high in Northwest and Southwest regions due to existing battery collection programs in place in King County, a northwest suburban county, and Pierce County, a southwest suburban county.

[36] RRS estimate based on industry data.

Table 39. Annualized Fiscal Impact by Region and Jurisdiction Designation, HB 1896

Region	Estimated System Impact
Central	($9,100)
Suburban	($2,700)
Urban	No Impact
Rural	($6,400)
Eastern	($5,600)
Suburban	($3,800)
Urban	No Impact
Rural	($1,800)
Northwest	($569,000)
Suburban	($505,000)
Urban	($51,000)
Rural	($14,000)
Southwest	($1,413,900)
Suburban	($1,411,500)
Urban	No Impact
Rural	($2,400)
Total	($1,999,000)

Annualized System Fiscal Impact as Applied to Representative City Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 15. Seattle is the only one of the representative cities to have previously experienced battery disposal costs, and therefore the only representative city system with estimated cost savings.

Annualized System Fiscal Impact as Applied to Representative County Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 15. Pierce County, the representative county with the highest population, is estimated to have the highest cost savings in addition to having an existing battery collection program.

Table 40. Annualized System Fiscal Impact as Applied to Representative City Systems, HB 1896

Name	City	County	Region	City Type	Estimated System Impact
Seattle	City	King	Northwest	Urban	($51,000)

Table 41. Annualized System Fiscal Impact as Applied to Representative County Systems, HB 1896

Name	Region	County	Estimated System Impact
Pierce	Southwest	Suburban	($1,313,000)
Spokane	Eastern	Suburban	($3,800)
Cowlitz	Southwest	Rural	No Impact
Kitsap	Northwest	Suburban	($5,100)
Skagit	Northwest	Rural	($6,600)
Yakima	Central	Rural	No Impact
Chelan	Central	Rural	($3,500)
Clallam	Southwest	Rural	($1,600)
Island	Northwest	Suburban	($400)
Kittitas	Central	Rural	($3,000)
Lincoln	Eastern	Rural	No Impact
Walla Walla	Eastern	Rural	No Impact

Key Issues

One of the greatest benefits of increased collection points for batteries is the reduced risk of fires in collection vehicles, transfer stations, and material recovery facilities as a result of lithium-ion batteries. Risk reduction has not been modeled, but this is a potential savings.

House Bill 1932

Concerning the Recyclability of Products and Packaging
Introduced – 2022 Session
Companion: SB 5658

HB 1932 and SB 5658 were introduced in 2022 and did not pass. The proposed legislation would have mandated post-consumer recycled content in plastic items offered for sale, sold into, or distributed into the state, and would have required producer reporting of products and their corresponding level of recycled content. If passed, this legislation would have also established 'truth in labeling' requirements that outlaw deceptive or misleading claims about recyclability of the product or packaging. It would have designated the use of the 'chasing arrows' symbol only to materials that are readily recyclable across the state, as defined by Ecology. To determine the criteria for which materials are readily recyclable in the state, this legislation also called for a material characterization study every five years that would identify what material types and forms are actively recovered, how these materials are collected or processed, and their end markets.

Local System Impacts

This legislation is not expected to result in an increase in local system costs. Potential impacts of the truth in labeling elements of the legislation have not been estimated due to a lack of sufficient data, studies or examples of potential impacts.

Material Flow Impact

No significant changes in material flows are projected from this legislation.

Service Level Impact

No changes in local government services are projected as a result of this legislation.

Annualized System Fiscal Impact

While it is assumed that 'truth in labeling' would result in reduced recycling contamination, no data, studies or examples were found to document the potential resulting reduction in contamination. System fiscal impact has therefore not been modeled. This legislation is not projected to increase costs to city and county solid waste and recycling systems.

House Bill 2003

Relating to Renewing Washington's Recycling System and Reducing Waste
Introduced - 2022 Session
Companion: SB 5697

HB 2003 and SB 5697 were introduced in 2022 but were not enacted into law. The intention of these bills was to shift the responsibility for packaging and paper products (PPP) at the end of their useful life from cities and counties to the producers of this material, creating an EPR for PPP program.

EPR for PPP legislation has the potential to create significant cost savings to city and county solid waste and recycling systems by shifting costs associated with the management of these materials upstream to the producers. Similar legislation has been widely used in the EU since the early 1990s and is implemented in most Canadian Provinces. In 2021 and 2022 four states (California, Colorado, Maine, and Oregon) passed EPR for PPP legislation with some variance in the scope of materials covered and the policy approach.

The legislation proposed in Washington state included a broad scope of materials in order to capture material that is likely to be managed as part of a local recycling program, including packaging, single-use items used to facilitate product consumption, and paper products.

In addition, the legislation included provisions requiring the producer responsibility organization(s) (PRO) to fully fund the collection and processing of recyclables (set out in a statewide list by the PRO), including reimbursing city and county services and education. In the case where local governments continue to provide recycling services, it is expected that the service cost would be reimbursed by producers. While diversion costs may increase due to increased diversion volume, those costs would be covered by a PRO. In the case where cities and counties do not currently provide recycling services to residents, or chooses not to, a PRO will be required to provide collection and services, typically through a UTC certificated company or contracted service provider.

Local System Impacts

The legislation is projected to provide significant cost savings to city and county solid waste and recycling systems. Implementing the legislation would increase access to residential recycling, increase the tons of recyclables diverted from disposal, and result in cost savings statewide and for all representative city and county systems modeled.

To model potential city and county impact, it is assumed that all cities and counties achieve a 70% recycling rate, based on the successes in other jurisdictions. For example, in British Columbia, 50-57% of residential PPP was collected for recycling in 2013, before the launch of the industry-run EPR program. This recycling rate increased to 78.1% by 2018 and 85.8% in 2020.

The most significant impact is based on the difference in recycling rates before and after the policy goes into effect. Cost savings to the city and county systems are based on the costs paid for recycling prior to implementation of EPR for PPP. The increased service level represents new access to recycling anticipated through expansion of recycling services driven by the EPR for PPP program targets.

Service Level Impact

Given that convenience drives recycling, increased accessibility is anticipated. Those with poor service may see curbside and/or depot enhancements. Convenience criteria are typically established either through rulemaking or included in the PRO plan.

Material Flow Impact

With EPR for PPP, the State would see an increase in recycling of the target materials, and diversion of this material from disposal, as well as improvements in the downstream management of the materials.

Table 42. HB 2003/SB 5697 Statewide Material Flow Impact

Material Type	Tons Per Year
MSW Disposed	(210,000)
Recyclables	210,000

Annualized System Fiscal Impact

NOTE: The data presented in the following tables and figures reflect costs as positive values and savings in (parenthesis). All fiscal impacts are calculated to reflect costs/savings estimated in the local solid waste and recycling system, including collection, processing, transportation and disposal. The costs/savings may be borne by local government, ratepayers, or the private sector. Please see Annualized System Fiscal Impact Scope section for additional detail.

To calculate the fiscal impact on each jurisdiction, the cost each jurisdiction currently is paying for recycling was modeled and this was added to the impact of reduced waste disposal due to recycling additional tons of PPP. Figure 15 below details fiscal impact inputs and formulas.

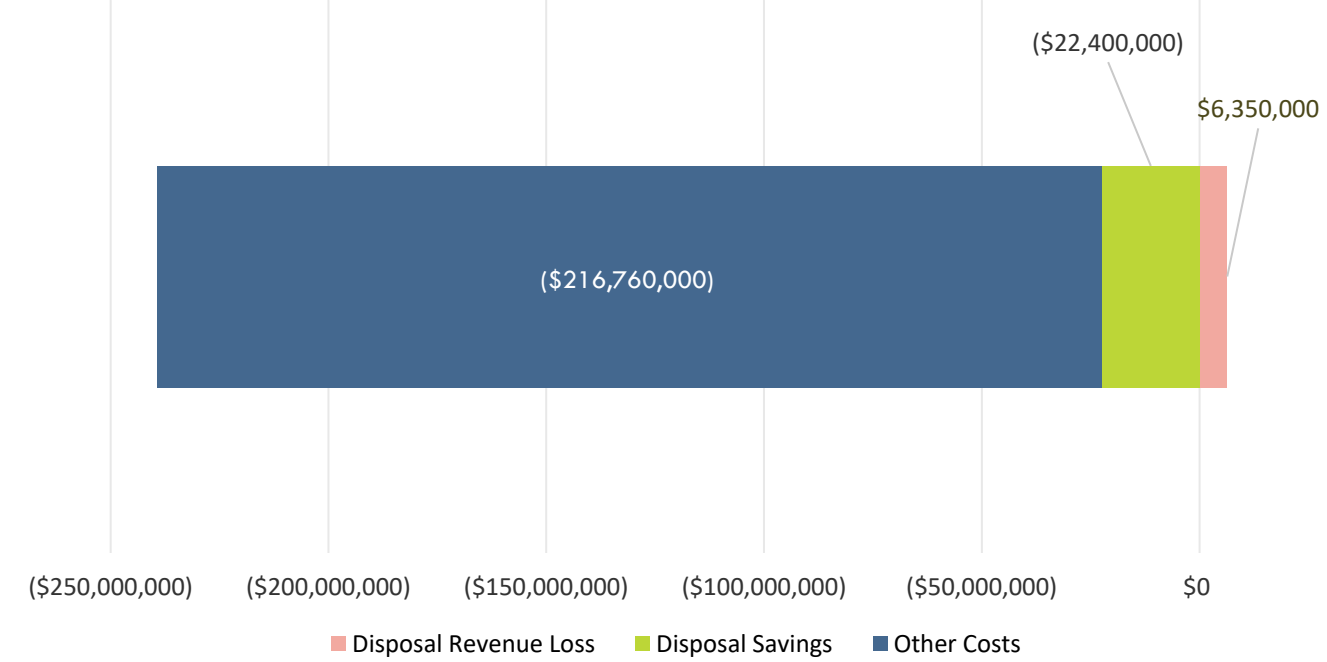
Figure 16. Fiscal Impact Inputs and Formulas, HB 2003/SB 5697

Fiscal Impact Inputs: Current PPP Recycling Rate [[15][37] Statewide PPP Recycling: 525,000 tons [[15][38] Statewide PPP Recycling Rate: 49% [[15][39] Single Housing Units by Jurisdiction [[23] Post EPR Recycling Rate: 70%[40] MSW Tip Fee: 2021 Tip Fees by County [[16] Revenue Portion of MSW Tip Fee: 28.37%[41] Recycling Collection and Processing Costs: Based on Service Provider type (UTC or Muni/Contract) and cost range (Low: first quartile, Medium: median, High: third quartile)[42] Recycling Outreach Costs: $3.58 per single unit household[43]
Fiscal Impact Formulas: PPP Generation per Housing Unit: (Statewide PPP Recycling / Statewide PPP Recycling Rate) / Total Housing Units PPP Generation by Jurisdiction: PPP Generation Per Housing Unit multiplied by Single Housing Units by Jurisdiction Current PPP Recycling by Jurisdiction: PPP Generation by Jurisdiction multiplied by Current PPP Recycling Rate New EPR PPP Tons: PPP Generation by Jurisdiction multiplied by (Post EPR Recycling Rate - Current PPP Recycling Rate) Recycling Outreach Cost Savings: Recycling Outreach Costs multiplied by Single Housing Units by Jurisdiction Disposal Savings: New EPR PPP Tons multiplied by MSW Tip Fee Disposal Revenue loss: New EPR PPP Tons multiplied by MSW Tip Fee multiplied by Revenue Portion of MSW Tip Fee Fiscal impact: Disposal Revenue loss – Disposal Savings – Current PPP Recycling by Jurisdiction multiplied by Recycling Collection and Processing Costs – Recycling Outreach Cost Savings

[37] Capture rates by region presented in the report for the Northwest Stewardship Council were applied to each County, then adapted to correspond to the regional definition utilized in the cited report.
[38] Capture rates by region presented in the report for the Northwest Stewardship Council were applied by to each County, then adapted to correspond to the regional definition utilized in the cited report.
[39] Capture rates by region presented in the report for the Northwest Stewardship Council were applied by to each County, then adapted to correspond to the regional definition utilized in the cited report.
[40] RRS estimate.
[41] Please see Calculation of Included Variables, Disposal of Revenue Loss section of the report.
[42] Please see Calculation of Included Variables, Residential and Commercial Collection, Processing, and Disposal Costs section of the report for additional detail.
[43] Average Washington state city education budget according to 2019 survey conducted by The Recycling Partnership.[44]

Statewide projected cost savings are expected to range from $176M-$268M. Below is detail of the fiscal impact to cities and counties statewide, utilizing the medium impact scenario.

Figure 17. Statewide Annualized System Fiscal Impact Detail (Medium Impact Scenario), HB 2003/SB 5697



The most substantial cost savings, $217 million, are for savings associated with the transfer or reimbursement of costs associated with recycling programs in place prior to the implementation of the policy. This is referred to as 'other costs' in Figure 6 and includes recycling collection, processing, and outreach and education. An estimated $22 million in disposal savings is realized from the diversion of new tons from disposal after the policy is implemented. Disposal revenue loss is reflected at $6.4 million as result of the diversion of new tons from disposal (see methodology for justification).

Table 43 details annualized system fiscal impacts by region. Cost savings are estimated to be highest in regions with a large number of households and that currently have high recycling rates as the costs associated with recycling collection and processing would be paid by producers.

Table 43. Annualized System Fiscal Impact by Region and Jurisdiction Designation, HB 2003/SB 5697

Region	Low	Medium	High
Central	**($18,410,000)**	**($23,230,000)**	**($26,360,000)**
Suburban	($4,650,000)	($6,240,000)	($7,200,000)
Urban	($4,760,000)	($6,600,000)	($7,710,000)
Rural	($9,000,000)	($10,390,000)	($11,450,000)
Eastern	**($23,200,000)**	**($30,520,000)**	**($35,060,000)**
Suburban	($4,580,000)	($6,410,000)	($7,480,000)
Urban	($7,640,000)	($11,350,000)	($13,470,000)
Rural	($10,980,000)	($12,760,000)	($14,110,000)
Northwest	**($74,750,000)**	**($104,130,000)**	**($121,790,000)**
Suburban	($15,660,000)	($23,180,000)	($27,560,000)
Urban	($52,410,000)	($73,150,000)	($85,590,000)
Rural	($6,680,000)	($7,800,000)	($8,640,000)
Southwest	**($59,840,000)**	**($75,010,000)**	**($85,090,000)**
Suburban	($13,230,000)	($17,400,000)	($20,010,000)
Urban	($35,160,000)	($44,300,000)	($50,360,000)
Rural	($11,450,000)	($13,310,000)	($14,720,000)
Grand Total	**($176,200,000)**	**($232,890,000)**	**($268,300,000)**

Annualized System Fiscal Impact as Applied to Representative City Systems

Representative city system fiscal impacts include all costs resulting from services and material flows, using the impacts and formulas described in Figure 16 applied to the population of the city analyzed. The analysis does not distinguish between costs paid by the county in which the city resides, the ratepayer, or the private sector service providers. Please see Annualized System Fiscal Impact Scope section for additional detail. Cost savings are highest in jurisdictions with strong recycling programs in place prior to the policy going into effect. Increased service level is highest in communities with no or low performing programs prior to the policy going into effect.

Table 44. Annualized System Fiscal Impact as Applied to Representative City Systems, HB 2003/SB 5697

City	County	Region	City Type	Low	Medium	High
Seattle	King	Northwest	Urban	($9,610,000)	($15,600,000)	($18,900,000)
Spokane	Spokane	Eastern	Urban	($3,880,000)	($6,240,000)	($7,540,000)
Tacoma	Pierce	Southwest	Urban	($3,120,000)	($5,220,000)	($6,380,000)
Vancouver	Clark	Southwest	Urban	($2,660,000)	($4,350,000)	($5,280,000)
Bellingham	Whatcom	Northwest	Urban	($1,220,000)	($2,010,000)	($2,450,000)
Marysville	Snohomish	Northwest	Urban	($930,000)	($1,600,000)	($1,970,000)
Richland	Benton	Central	Urban	($920,000)	($1,570,000)	($1,920,000)
Leavenworth	Chelan	Central	Suburban	($60,000)	($90,000)	($110,000)
Port Angeles	Clallam	Southwest	Suburban	($420,000)	($670,000)	($810,000)
Walla Walla	Walla Walla	Eastern	Suburban	($520,000)	($850,000)	($1,040,000)
Wenatchee	Chelan	Central	Suburban	($660,000)	($1,000,000)	($1,190,000)
Winthrop	Okanogan	Central	Suburban	($30,000)	($30,000)	($40,000)

Annualized System Fiscal Impact as Applied to Representative County Systems

Representative county system impacts include both impacts of systems in cities within the county and the unincorporated areas of the county. Cities that write their own solid waste management plans, Liberty Lake and Spokane Valley, are not included in Spokane County costs. It also includes impacts on county ratepayers and the private sector.

Table 45. Representative County Annualized System Fiscal Impact, HB 2003/SB 5697

County	Region	County Type	Low	Medium	High
Pierce	Southwest	Suburban	($23,260,000)	($29,090,000)	($32,990,000)
Spokane	Eastern	Suburban	($9,720,000)	($13,200,000)	($15,310,000)
Cowlitz	Southwest	Rural	($2,750,000)	($3,560,000)	($4,080,000)
Kitsap	Northwest	Suburban	($7,730,000)	($9,560,000)	($10,820,000)
Skagit	Northwest	Rural	($3,160,000)	($4,280,000)	($4,970,000)
Yakima	Central	Rural	($6,300,000)	($7,600,000)	($8,510,000)
Chelan	Central	Rural	($2,600,000)	($3,320,000)	($3,760,000)
Clallam	Southwest	Rural	($2,710,000)	($3,380,000)	($3,810,000)
Island	Northwest	Suburban	($3,160,000)	($3,880,000)	($4,380,000)
Kittitas	Central	Rural	($1,820,000)	($2,210,000)	($2,470,000)
Lincoln	Eastern	Rural	($370,000)	($480,000)	($540,000)
Walla Walla	Eastern	Rural	($1,450,000)	($1,930,000)	($2,230,000)

Key Issues

While savings associated with trash route optimization as a result of reduction in trash tonnage is projected, modeling savings associated with reduction of trash collection for newly diverted tons of recyclables was out of scope given the detailed, jurisdiction and/or hauler-specific information on existing routing that would be required to provide meaningful estimates.

It is also projected that jurisdictions that operate recycling drop off programs will experience a loss of revenue with the growth of curbside and other recycling options offered by the PRO through EPR. The revenue loss is likely offset, at least in part, by operational savings. The impact of revenue loss on operational savings is difficult to quantify without more information on the EPR implementation plan.

Senate Bill 5740

Temporary Adjustment to Waste Reduction, Recycling, and Litter Control Account to Increase Funds for State Highway Litter Control Activities

Introduced - 2022 Session

This legislation intended to divert 50% of waste reduction, recycling, and litter control account (WRRLCA) funds to the highway cleanup account for one year and require a 50% reduction in remaining expenditures of the waste reduction, recycling, and litter control account funds. This reduction was to be taken across all of WRRLCA, including the 20% portion that is used by local governments. Part of these funds are allocated to counties via the Community Litter Clean up Grants to clean up litter on county roads. The funding for the competitive Waste Reduction and Recycling Education grants also comes from the 20% portion. This bill would have cut the amount available to local governments in half for one year.

The reduction would also reduce by half the 40% WRRLCA funds used by Ecology's solid waste program to fund work that supports local governments, including litter coordination, data generation and technical assistance for waste reduction and recycling.

Local System Impacts

No significant changes to city and county material flows, service levels, or fiscal impact are projected from this legislation. However, it would have reduced the amount of WRRLCA funds available to local governments by 50%.

Material Flow Impact

No significant changes in material flows are projected from this legislation.

Service Level Impact

No significant changes to service would result from this legislation, though it would have cut clean-up activities in half for one year.

Annualized System Fiscal Impact

City and county solid waste systems would not be significantly impacted financially by this law. However, the WRRLCA grant funds provided to local governments would have been reduced by half for one year.

Senate Bill 5837

Removing Plastic Bags as an Option for Use at Retail Establishments

Introduced - 2022 Session

SB 5837 would have amended Revised Code of Washington (RCW) 70A.530.020 to remove plastic bags as an option for use at retail establishments and events. The proposed amendments would have:

- moved up the date (from January 1, 2026 to 2023) that reusable carryout bags made of film plastic would be restricted from use, with the exception of retail establishments providing a reusable carryout bag made of film plastic to contain or wrap hot food;
- eliminated the 2025 sunset of the $0.08 pass-through charge for compliant paper carryout bags and added a sunset date of December 31, 2022 for the use of compliant plastic film bags; and
- eliminated the 2026 increase in pass-through charge of $0.12 for each compliant bag, while keeping the 2025 legislative reassessment on the amount charged.

Retailers would be required to collect $0.08 of pass-through charge for each compliant carryout bag, both paper and reusable plastic, through December 31, 2025. The pass-through amount is a taxable retail sale and must be itemized on the receipt.

Reusable bags are defined in this bill as having a minimum lifetime of 125 uses, capacity to carry 22 pounds 125 times over a distance of at least 175 feet and be machine washable or made of a material that can be disinfected. If made from plastic film, reusable bags must be made of a minimum thickness of 2.25 mils, be made of 20% post-consumer recycled content, and display in print on the bag the post-consumer recycled content percentage, the thickness, and that the bag is reusable.[28]

Local System Impacts

Senate Bill 5323, Reducing pollution from plastic bags by establishing minimum state standards for the use of bags at retail establishments, became effective in June 2020 and contains some of the same requirements as SB 5837. See the summary of that law for more information on the impacts of this proposal.

Appendix B – Representative City Baseline Operational Costs

Purpose / Approach

Establishing a baseline operational cost enables evaluation and analysis of change in performance after the introduction of new solid waste policies and requirements. This section describes the approach used to determine city baseline costs.

Baseline city costs focus on residential solid waste collection and processing. Components of these costs vary from city to city, as does the degree to which the city has direct oversight and financial responsibility for solid waste operations. Through the baseline analysis, research illuminates where city services differ and how those differences impact operational cost and the city's capability to adapt to future regulation. Using a combination of sources including solid waste rate studies, solid waste characterization studies, solid waste management plans, and city and county budgets, the project team extracted costs of service (collection and processing of residential solid waste) for each of the twelve cities using the 2021 budget year. Costs were adjusted for inflation in cases where cost and rate data were available for non-2021 years only. Where possible, the residential and commercial costs were decoupled. However, due to data limitations this was not always feasible.

After extracting all publicly available data from contracts, reports and studies, the project team confirmed the accuracy of the cost figures through outreach to city staff members in recycling and solid waste offices and incorporated their recommendations whenever possible. In some instances, sufficient data was not available to provide meaningful city-level cost information. The cities of Bellingham and Winthrop were therefore removed from portions of the analysis where the limitations were most hindering.

Assumptions and limitations

1. Cost data from some reports are several years old and only include projected costs rather than actual 2021 costs. There is no clear way to validate whether these projections were accurate without the jurisdictions releasing more up-to-date information. It is noted when cost projections as opposed to actuals are utilized.
2. Some cities do not report costs directly, but instead report at the county level. For these cities, it was assumed that costs per household are relatively uniform across the county, and per household costs were applied to the city's population.

Analysis

Data is organized by city size to be consistent with the presentation of data in other sections of the report. The residential requirement for garbage, recycling, and organic collection has been

designated with “required,” “subscription,” and “not offered” (in cases where the service is not offered to any degree). Where a service is required, residents must participate in curbside collection. Failure to separate their waste by the required streams results in a fine. Where a service is subscription based, residents can opt into the service for an additional cost.

The baseline operational cost was designed to establish a measure against which policy impact on jurisdictions of interest could be evaluated. Because of varying complexities within each city’s business model (and associated costs), comparing cities’ cost on a per household basis was not found to be meaningful. Instead, two relative indicators were applied which provide an integrated framework with which cross-city analysis can occur.

1. “Level of service” is a relative indicator of waste management service offerings and resident access. The measure was determined by the RRS team using a low-medium-high relative scale. A “low” rating is representative of a city that offers few waste services to its residents and/or the services it does offer require an opt-in subscription, which is proven to lead to lower recycling participation rates. A “medium” rating represents a city that offers infrequent service, or does not provide collection for a full range of recyclables and organic materials. A “high” rating is representative of a city that offers more waste services such as curbside food waste collection, and/or the services it offers are offered to all residents or may even be required by municipal or county ordinance.
2. “Capacity to adapt” is a relative indicator of a city’s ability to adapt to a wide range of statewide policies that might create new requirements for standard of service or access. The measure uses a low-medium-high relative scale and was determined by the RRS team to provide a holistic evaluation of a city’s costs, funding sources, management structure (if there is a solid waste department specific to the city), existing infrastructure, and feasibility to scale up. A “high” rating indicates a city has substantial staff and/or infrastructure to adapt to policy changes.

Limitations

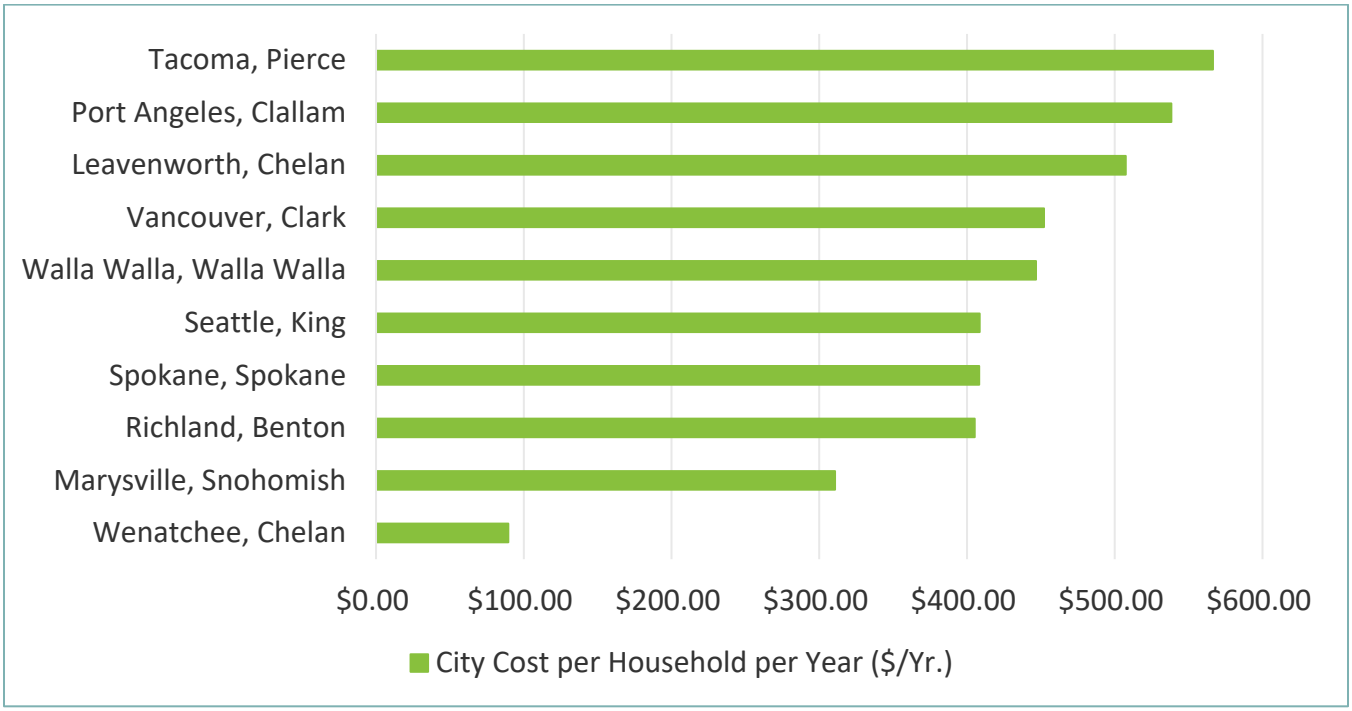
Some limitations were discovered during the research conducted to assess baseline operational costs. These limitations are summarized below and are accompanied with any assumptions that were used to fill in gaps in data.

1. Most cities do not track and report costs by service offerings (recycling versus garbage or residential versus commercial) or by revenue stream (rates versus tipping fees).
2. Cities offer different levels of waste services. For instance, Seattle offers curbside garbage, recycling, and organics (including yard and food waste) pickup to all residents (no subscription required). In contrast, Richland offers a subscription service for curbside garbage, recycling, and yard waste, requiring residents to opt-in to the service for an additional cost. The variation in service offerings distorts direct cost comparison across

cities. Instead, a more holistic evaluation of cities' solid waste operations and financial responsibility is required.

3. The costs reported differ in scope when they are reported in a rate study versus an operating budget. Rate studies calculate revenue requirements and then determine the rate to charge customers based on that requirement. Operating budgets reflect the budget available for a particular year to perform public services. These different framings may result in different cost estimates.

Figure 18. Representative City Baseline Solid Waste Operational Costs, Expressed in Dollars per Household per Year[44]



[44] Cities of Bellingham and Winthrop are not included due to insufficient data. Wenatchee costs are much lower as the majority of services are paid for by residents directly to the private sector. Please refer to the Local Government Solid Waste Funding Analysis section of Chapter 2 for additional budget information on representative cities.

Representative City Baseline Operational Costs by Region

Northwest

Seattle. Seattle requires all residents to participate in weekly garbage, recycling, and organics (food and yard waste) collection. The costs of curbside garbage and recycling are rolled into one rate per can size; there are separate rates for organics. Though Seattle contracts out collection and processing of waste materials, they retain the authority to set rates for all customers. This provides the city with more control and flexibility in cases of program requirement changes and new costs. The city has a high level of service as it provides universal access to recycling and organics collection.

Marysville. Although Marysville has a split collection system: the municipality collects garbage, while they contract out mandatory recycling and optional yard waste collection to a private hauler. The cost of garbage and recycling collection is rolled into one rate. Collection is only once a month for all waste streams, which may be one reason that cost per household is lower in Marysville than in other comparable cities. The city does not currently offer curbside food waste collection. Marysville has a medium level of service due to the infrequent service and the optional organics collection.

Table 46. Baseline Operational Costs for the Northwest Region[45]

Name	Seattle (Urban)	Marysville (Urban)
Total Annual Costs (2021)	$150,482,371	$7,990,202
Cost per Household	$409	$311
Housing Units in City (2020)	368,308	25,723
Level of service	High	Medium
Capacity to adapt	High	Medium
Curbside garbage?	Yes, required	Yes, required
Curbside recycling?	Yes, required	Yes, required
Curbside yard waste?	Yes, combined with food waste	Yes, offered
Curbside food waste?	Yes, required	Not offered
Garbage collector	Private	Municipality
Recycling collector	Private	Private
Organics collector	Private	Private
Transfer station owner/ operator?	Municipality	Private
Disposal (landfill or WTE) operator	Private	Private
MRF owner	Private	Private
Data Source	Residential Recycling Costs and Savings under EPR for Packaging and Paper in Seattle, Eunomia [[29]	Solid Waste Utility Rate and Cost-of-Service Study, Draft Report 2022 by FCS Group [[30]
Relevant assumptions	Adjusted 2020 values to 2021 with inflation	N/A

Southwest

Port Angeles. In 2021, Port Angeles terminated its collection contract with a private hauler. Prior to termination, they split revenues from service rates. In March 2022, the city took over curbside collection of waste, recycling, and yard waste and processing services. Residents have to opt-in to waste services, only a 90-gallon cart is offered for waste and recycling, and curbside yard or food waste collection is not offered. Given the shift from contracted to municipal-run operations, Port Angeles may be in a better position to address changes in waste management as required by new

[45] City of Bellingham not included due to insufficient data.

policy. The city has a medium level of service because service is opt-in, and because no organics collection is offered.

Tacoma. While only garbage collection is required for Tacoma residents, the city does offer opt-in service for curbside collection of recyclables, yard waste, and food waste; the city operates its own collection department. Garbage and recycling collection happen on alternating weeks from food and yard waste collection. Education around recycling and material reuse are major components of Tacoma's solid waste management plan. Tacoma's level of engagement with solid waste management gives them a high "level of service" ranking.

Vancouver. In Vancouver, residential garbage collection is mandatory, while recycling and yard waste collection is offered as a subscription service. Rates, primarily representative of collection contractor fees and pass-through disposal fees, are set by the city and paid directly by the resident to the contracted hauler, with an included 20.9% embedded utility tax. The city's solid waste operations are funded through a city/franchise fee, paid monthly by the hauler to the City of Vancouver, that is also embedded into the rate. Recycling proceeds are split between the private processor, a subsidiary of the hauler, Vancouver, and Clark County. Since the burden of operations is largely placed on the private hauler, Vancouver has a medium "level of service."

Table 47. Baseline Operational Costs for the Southwest Region.

Name	Port Angeles (Suburban)	Tacoma (Urban)	Vancouver (Urban)
Total Annual Costs (2021)	$5,150,096[46]	$52,288,516	$1,987,751
Cost per Household	$538	$566	$452.14
Housing Units in City (2020)	9,567	82,309	81,809
Level of service	Medium	High	Medium
Capacity to adapt	Low-Medium	High	High
Curbside garbage?	Yes, offered	Yes, required	Required. Subscription directly with hauler (costs not reflected in municipal budget)
Curbside recycling?	Yes, offered	Yes, offered	Subscription offered directly with hauler (costs not reflected in municipal budget)
Curbside yard waste?	Yes, offered	Yes, offered	Subscription offered directly with hauler (costs not reflected in municipal budget)
Curbside food waste?	Not offered	Yes, offered	Not offered
Garbage collector	Municipality	Municipality	Contract[47]
Recycling collector	Municipality	Municipality	Contract[47]
Organics collector	Municipality	Municipality	Contract[47]
Transfer station owner	Municipality	Municipality	Private
Disposal (landfill or WTE) operator	Private	Private	Private
MRF owner	Private	Private	Private

[46] Port Angeles' costs were adjusted from predicted 2019 cost.
[47] Service is contracted by the municipality as opposed to being provided directly by municipal staff.

Name	Port Angeles (Suburban)	Tacoma (Urban)	Vancouver (Urban)
Data Source	FCS Group Rate Study from 2014[31]	Residential Recycling Costs and Savings under EPR for Packaging and Paper in Tacoma, Eunomia [[32]	2021-2022 City of Vancouver Operating Budget [[33]
Relevant assumptions	2014 study predicted 2019 costs, adjusted for inflation to estimate 2021 costs	2020 costs adjusted for inflation for 2021	

Central

Wenatchee. Wenatchee's cost data were estimated based on county-level figures taken from the Chelan County Solid Waste Management Plan from 2022. It should be noted that the city decided to close their Solid Waste Fund, which constituted revenue received from residential customers until mid-2014. The city contracts with a private company for municipal solid waste service. The company now bills residential customers directly and uses the revenue to support their operations. Because service costs are paid directly to a private company, the city's waste operational costs (public costs) are significantly lower than other cities. The full cost of service, including public and private costs, would be substantially higher than the $90 per household per year paid by the City of Wenatchee for solid waste services. Garbage, recycling, and yard waste collection are all offered as an opt-in subscription with the company, making the "level of service" low.

Richland. The City of Richland's cost data come from the Annual Comprehensive Financial Report 2021. Revenues from rates are deposited into the city's Solid Waste Fund to cover the cost of service. Revenues are calculated in proportion to households serviced and 2021 rates for garbage and recycling. The City of Richland's Solid Waste Division collects and disposes of garbage, recycling, and yard waste for its residents. All services are opt-in subscription, which is why the city received a medium ranking for level of service.

Leavenworth. Leavenworth cost data came from the City of Leavenworth Comprehensive Water, Sewer, Solid Waste, Stormwater Utility Rate Studies from 2018. Revenues from Leavenworth's 2018 rate study predict the 2021 costs and revenues. Leavenworth, through their contract with a private company, offers curbside trash and recycling pickup to all residents. The city also offers yard waste pickup, but only twice a year. This puts the city at a medium "level of service."

Table 48. Baseline Operational Costs for the Central Region.[48]

Name	Wenatchee (Suburban)	Richland (Urban)	Leavenworth (Suburban)
Total Annual Costs (2021)	$1,306,617	$10,343,972	$613,952
Cost per Household	$90[49]	$405	$507
Housing Units in City (2020)	14,594	25,524	1,210
Level of service	Medium	Low-Medium	Medium
Capacity to adapt	Low	Low-Medium	Low-Medium
Curbside garbage?	Yes, offered	Yes, subscription	Yes, offered
Curbside recycling?	Yes, offered	Yes, subscription	Yes, offered
Curbside yard waste?	Yes, subscription	Yes, subscription	Yes, offered twice a year
Curbside food waste?	Not offered	Not offered	Not offered
Garbage collector	Private	Municipality	Private
Recycling collector	Private	Municipality	Private
Organics collector	Private	Municipality	Municipality
Transfer station owner	Private	Municipality owns and operates	Private
Disposal (landfill or WTE) operator	Private	Private	Private
MRF owner	Private	Private	Municipality
Data Source	Chelan County Solid Waste Management Plan 2022[34]	City of Richland Annual Comprehensive Financial Report 2021[35]	City of Leavenworth Comprehensive Water, Sewer, Solid Waste, Stormwater Utility Rate Studies 2018[36]
Relevant assumptions	Figures for Chelan County were scaled by		2018 report predicting 2021 costs

[48] The City of Winthrop is not included due to insufficient data.

[49] This cost does not include the service cost paid by residents directly to the private company as the purpose of the representative city baseline operational cost analysis is to understand the cost directly paid by the city for solid waste services.

Name	Wenatchee (Suburban)	Richland (Urban)	Leavenworth (Suburban)
	Wenatchee's percentage of county population		

Eastern

Walla Walla. The City of Walla Walla's cost data comes from a 2018 financial planning study, which predicts 2021 costs based on historical costs. Walla Walla's Sanitation Division manages residential garbage collection, while it contracts with a private hauler for recycling collection, which is collected every other week. Residential yard waste is offered on a subscription basis from March 1 through November 30. The city has a high "level of service" because it offers all residents garbage pickup, offers recycling every other week, and offers a subscription for yard waste.

Spokane. The City of Spokane's cost data comes from a case study conducted by Eunomia Research and Consulting using data for the year 2020. The City of Spokane requires all residents to pay for recycling collection services. Accordingly, the costs of curbside garbage and recycling are rolled into one rate-per-can size. While the city manages collection of garbage, recyclables, and organics they contract with a private company to process and compost food and yard waste. The city has a high "level of service" because it offers all residents curbside trash and recycling pickup and offers residents a subscription-based service for pickup of food waste and yard waste.

Table 49. Baseline Operational Costs for the Eastern Region

Name	Walla Walla (Suburban)	Spokane (Urban)
Total Annual Costs (2021)	$6,062,172[50]	$40,801,896
Cost per Household	$447	$408
Housing Units in City (2020)	13,571	99,938
Level of service	High	High
Capacity to adapt	Low-Medium	Medium-High
Curbside garbage?	Yes, offered	Yes, offered
Curbside recycling?	Yes, offered	Yes, required
Curbside yard waste?	Yes, subscription	Yes, subscription
Curbside food waste?	Not offered	Yes, subscription
Garbage collector	Municipality	Municipality
Recycling collector	Contract[47]	Municipality
Organics collector	Municipality	Municipality
Transfer station operator	Private	Private
Disposal (landfill or WTE) operator	Municipality owns and operates	Municipality
MRF operator	Private	Private
Data Source	City of Walla Walla Landfill and Sanitation Cost of Service and Financial Planning Study (2018) [[37]	Residential Recycling Costs and Savings under EPR for Packaging and Paper in Spokane, Eunomia [[29]
Relevant assumptions	2018 prediction of 2021 costs	2020 costs adjusted for inflation for 2021

50 Walla Walla's costs represent 2021 costs predicted in 2018.

Glossary

Term/Acronym	Definition
Access	Generally defined by how a household or business engages a county's solid waste system to manage waste (i.e., MSW, recyclables, yard debris, HHW). Access to waste services typically occurs at or near the property ("curbside") or at a solid waste facility where a household transports or "self-hauls" their waste. Self-haul facilities may include transfer stations, drop-off centers, and drop boxes. Curbside collection service provides the highest level of access to waste services because it is the most convenient for a household. Self-haul facilities do provide access to waste services, but they are less accessible compared to curbside collection.
AWC	Association of Washington Cities
Capture rate	See 'recovery rate'
Cascadia	Cascadia Consulting Group
CLCP	Community Litter Cleanup Program (grants)
Commercial	Any property intended for business operations such as office buildings, shops, retail malls, and hotels.
Commercial Container	A detachable receptacle (normally designed to hold at least one cubic yard) from which materials are collected by mechanically lifting the receptable and emptying the contents into a collection vehicle.
Construction and Demolition (C&D)	Materials resulting from the alteration, construction, rehabilitation, or repair of any human-made structure, including but not limited to houses, buildings, industrial or commercial facilities, and roadways.
Cost Scale – Low, Medium, High	Low, medium, and high costs are set at the 1st quartile, median, and 3rd quartile of the applicable cost data.
Curbside Collection	A service provided to households and businesses for the disposal of refuse, recycling, and yard debris. Residents in some areas may be mandated to provide or receive this service. In other areas, residents may have a choice to sign up if available (e.g., subscription).
Curbside Collection Recyclables	Refers to curbside collection of source-separated recyclables for recycling.
Curbside Collection Yard Debris	Refers to source-separated curbside collection of yard debris for composting or other forms of organics processing.

Term/Acronym	Definition
Deposit Return System (DRS)	A surcharge is placed on a product when purchased and a rebate is provided when the product is returned to a designated site for recycling; also known as Bottle Bills.
Drop Box	An unstaffed receptacle at a permanent location into which refuse, recycling, or yard debris can be deposited.
Drop-off Station	A site where self-haul waste is sorted and collected in preparation for transport to a transfer station, processing, or landfill. Drop-off stations serve as small-scale transfer stations designed to provide access to self-haul customers. Drop-off stations do not generally accept waste from a private waste hauling company.
Ecology (ECY)	Washington State Department of Ecology
Enterprise Fund	A self-supporting government account that is mainly funded by fees charged to external users (such as collection or tipping fees) that pay for goods or services provided to those users (such as solid waste management services).
Environmental Justice (EJ)	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
Extended Producer Responsibility (EPR)	EPR programs require manufacturers and importers of covered products to fund the cost of collection and recycling and to manage the handling of recovered materials. They shift the financial costs of managing products at the end of their useful life from individual disposers and the public sector to product manufacturers.
FCS	FCS GROUP
Food Waste	Includes but is not limited to excess, spoiled, or unusable food and includes inedible parts commonly associated with food preparation such as pits, shells, bones, and peels. "Food waste" does not include dead animals not intended for human consumption or animal excrement.
Hazardous Substance Tax (HST)	The HST is a 0.7% tax on the wholesale value of taxable hazardous substances (petroleum products, pesticides, and certain chemicals) that is levied on the first possessor in Washington State.
Household	A household consists of all the people who occupy a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters – that is, when the occupants do not live with any other persons in the structure and there is direct access from the outside or through a common hall.

Term/Acronym	Definition
Household Hazardous Waste (HHW)	Household hazardous waste. Includes any item that may harm the environment or human health, such as paints, stains, cleaning chemicals, pesticides, automobile products, etc.
Interlocal Agreement (ILA)	Refers to an agreement between two local governments, such as a city and a county.
Jurisdiction	Referring to a territory or activity of interest, including both counties and cities.
Large City	100,001 or more people
Large County	500,001 or more people
Litter Tax	The Litter Tax (chapter 82.19 RCW) is an excise tax of 0.015% on the value of products deemed likely to become litter. Examples of taxed products include fast food packaging, tobacco products, soft drinks, beer and wine, newspapers, and containers made from various materials; the taxable products list has not been adjusted since the law was first created in 1971.
LSWFA	Local Solid Waste Financial Assistance (grants)
Material Recovery Facility (MRF)	Material recovery facilities are facilities that process recyclable materials.
Medium City	50,001-100,000 people
Medium County	100,001-500,000 people
MRF-shed	Includes all communities that feed recyclables into a single MRF.
MRW	Moderate-risk waste includes household hazardous waste (HHW) and small quantity generator (SGQ) wastes from businesses.
Municipal Solid Waste (MSW)	Commonly known as trash or garbage. It includes non-hazardous disposable materials.
Municipality	A town or district that has a local government.
Non-residential	Any property not designed for people to live in.
Pay-As-You-Throw (PAYT)	Variable rate pricing policy whereby a customer is charged for the amount of trash they throw out rather than a flat rate.
Permanent HHW Facility	A fixed facility rather than a HHW collection event.
PPP	Packaging and paper product.
PPG	Public Participation Grants

Term/Acronym	Definition
Producer Responsibility Organization (PRO)	An organization that assumes the responsibilities of an obligated party as outlined in government regulations regarding the collection and recycling of products.
Recovery Rate	The amount of material that is not discarded in landfill or waste-to-energy, divided by the total amount generated.
Recyclables	Materials or products that can be used again after being treated or processed.
Representative Jurisdictions	In lieu of analyzing every city and county across the state, data from a predetermined set of 12 cities and 12 counties was modeled to determine provision of services and fiscal impacts from policies. Representative cities include the cities of Bellingham, Leavenworth, Marysville, Port Angeles, Richland, Seattle, Spokane, Tacoma, Vancouver, Wenatchee, Winthrop, and Walla Walla. Representative counties included in the modeling of policy proposal impacts include Chelan, Clallam, Cowlitz, Island, Kitsap, Kittitas, Lincoln, Pierce, Skagit, Spokane, Yakima, Lincoln, and Walla Walla.
RRS	Resource Recycling Systems
Rural	Rural: areas outside of cities/towns with low population density (<100 people per square mile). The rural designation is based on population criteria from RCW 82.14.370 used to identify counties for rural area assistance.
Self-haul	Waste that is hauled to a transfer or disposal facility by someone other than a private waste hauling company, or by someone whose primary business is not waste hauling.
Self-haul Facility	A drop-box, drop-off center, transfer station, or disposal facility that receives self-haul waste.
Self-haul Recyclables	Refers to source-separated collection of recyclables at a self-haul facility for recycling.
Self-haul Yard Debris	Refers to source-separated collection of yard debris at a self-haul facility for composting or other forms of organics processing.
Service Offered	Residents have the option to opt into the service for “free.” Cost of service is included in other items, such as recycling costs being included in garbage fees.
Service Required	Residents must participate in service. Failure to do so results in a fine.
Service Subscription	Residents may opt into the service for an additional cost.
Small City	A city with fewer than 50,000 people.
Small County	A county with fewer than 100,000 people.

Term/Acronym	Definition
Small Quantity Generators (SQGs)	Businesses that generate fewer than 220 pounds of moderate risk waste in any month. Ecology further defines SQGs as businesses in Washington that generate fewer than 220 pounds of dangerous waste, or fewer than 2.2 pounds of certain kinds of highly toxic waste, in any month. SQGs may accumulate up to 2,200 pounds (or up to 2.2 pounds of waste regulated at the 2.2 pound limit).
Solid Waste Collection Tax (SWCT)	The SWCT is a 3.6% excise tax on collection charges for solid waste disposal. It is charged on garbage only; materials collected for recycling, composting, or salvage, as well as hazardous or toxic wastes, are not subject to the tax.
Stewardship Organization (SO)	An organization comprised of interested partners responsible for oversight of a specified producer/product's impact on the environment and human health and safety. Used to describe a not-for-profit corporation or organization that is appointed by a producer to act as an agent on behalf of the producer to administer a product stewardship program.
Sustainable Rate Structures	Sustainable rate structures must balance the relatively fixed costs of providing service – such as providing a container, conducting education and outreach, and account administration – with the variable usage costs, such as tip fees for disposing or processing waste.
Suburban (City)	Any city in the state that has a population less than 50,000. This definition is unique to this study and is generally based on the US Census Bureau definition for an urban cluster. Urban clusters are defined as urbanized areas containing at least 2,500 and fewer than 50,000 people. Because some cities and towns in Washington have fewer than 2,500 people, the minimum population criteria for an urban cluster are not applied in this analysis.
Suburban (County)	County with 100 or more people per square mile.
Transfer Station	A site where refuse, recyclables, yard debris, and other waste types are collected and sorted in preparation for processing or landfill.
Urban	Any city in the state that is not rural and has a population of at least 50,000. For the fiscal impact analysis in Chapter 5, urban also refers to unincorporated areas of counties that are not rural and have a population of at least 50,000. This definition is unique to this study.
Utilities and Transportation Commission (UTC)	The Washington Utilities and Transportation Commission provides regulatory oversight of solid waste haulers that provide collection services in state-regulated service areas. The UTC does not regulate collection services within cities and towns that provide collection services or contract for such service.

Term/Acronym	Definition
Utility Fund	A self-supporting government account that is mainly funded by fees charged to external users (such as collection or tipping fees) that pay for goods or services provided to those users (such as solid waste management services).
Utility Tax	Taxes levied on the gross operating revenues earned by private and public utilities from operations within the City limits, including the City's own municipal utilities. Utilities on which taxes are levied include electric, water, sewer, solid waste, storm water, ambulance, gas, brokered natural gas, telephone and cable TV. These taxes represent a stable revenue source but can be impacted by a number of different factors, including the economy, technology, utility rate changes, weather and other fluctuations that impact a utility's ability to generate revenue.
WACSWM	Washington Association of County Solid Waste Managers
Wasted Food	Food that is disposed of that is still edible.
White Goods	Large home appliances such as refrigerators and washing machines.
WRRED	Waste Reduction, Recycling, and Education (grants)
Yard Debris	Decomposable waste materials generated by yard and lawn care and includes leaves, grass trimmings, brush, wood chips, and shrubs.

Appendix C – References

Works Cited

[1] Washington State Legislature, "Cities and Towns—Miscellaneous Provisions, Chapter 35.21 RCW." Accessed: Jun. 07, 2023. [Online]. Available: https://app.leg.wa.gov/RCW/default.aspx?cite=35.21

[2] Washington State Legislature, "Counties Solid Waste Disposal, Chapter 36.58 RCW." Accessed: Jun. 07, 2023. [Online]. Available: https://app.leg.wa.gov/RCW/default.aspx?cite=36.58

[3] "Revised Code of Washington (RCW) 70.95. (Now Chapter 70A.205 RCW)."

[4] "Kitsap County Solid Waste Division Solid Waste Cost of Service and Rate Study," Oct. 2021. Accessed: Mar. 22, 2023. [Online]. Available: https://www.kitsapgov.com/pw/Documents/SolidWaste_COS_RateStudy%202021.pdf

[5] King County Solid Waste Division, "King County Rate Restructure Study (2021)." Accessed: Jun. 07, 2023. [Online]. Available: https://kingcounty.gov/es-es/-/media/king-county/depts/dnrp/waste-services/garbage-recycling-compost/solid-waste-planning-monitoring/comprehensive-solid-waste-management-plan/swd-rate-study-2021.pdf

[6] "Comprehensive Solid Waste and Moderate Risk Waste Management Plan for Spokane County," Jul. 2022, Accessed: Mar. 16, 2023. [Online]. Available: https://www.spokanecounty.org/DocumentCenter/View/44215/Spokane-County-SWMP?bidId=

[7] "Skagit County Solid Waste Rate Study Skagit County SW Rate Study Report Skagit County Solid Waste Rate Study Report," 2018, Accessed: Mar. 16, 2023. [Online]. Available: https://www.skagitcounty.net/PublicWorksSolidWaste/Documents/Skagit%20County%20SW%20Rate%20Study%20Draft%20Report%20Ver2.1.pdf

[8] "Tacoma-Pierce County Solid and Hazardous Waste Management Plan: 2021-2040," 2021, Accessed: Mar. 16, 2023. [Online]. Available: https://www.piercecountywa.gov/DocumentCenter/View/119112/SHWMP-FINAL?bidId=

[9] Washington Department of Ecology, "Solid Waste in Washington State Waste: 24th Annual Status Report," 2015. Accessed: Jun. 06, 2023. [Online]. Available: https://apps.ecology.wa.gov/publications/documents/1707007.pdf

[10] "Final Bill Report E2SSB 5397," 2019. Accessed: Mar. 20, 2023. [Online]. Available: https://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bill%20Reports/Senate/5397-S2.E%20SBR%20FBR%2019.pdf

[11] Government of the District of Columbia, "District of Columbia Residential Recycling Program: 2017-2018 Benchmarking, Trends, and Goals." Accessed: Jun. 07, 2023. [Online]. Available: https://zerowaste.dc.gov/sites/default/files/dc/sites/zerowaste/Residential%20Recycling%20Report%202017-2018.pdf

[12] G. L. and E. (EGLE) Michigan Department of Environment, "Statewide Recycling Quality Improvement Program: Collaborative Effort Between the Recycling Partnership and Michigan EGLE."

[13] Recycling Partnership, "Recycling Contamination Reduction Kit Case Studies."

[14] Cascadia Consulting Group, "2020-2021 Washington Statewide Waste Characterization Study Final Report," 2021. Accessed: Jan. 07, 2023. [Online]. Available: https://apps.ecology.wa.gov/publications/SummaryPages/2107026.html

[15] S. Edwards, S. Grushack, C. Harrington-Smith, and J. Carhart, "Improving recycling in Washington through producer responsibility policy: Costs and benefits," Feb. 2021. Accessed: Mar. 21, 2023. [Online]. Available: https://www.eunomia.co.uk/reports-tools/improving-recycling-in-washington-through-producer-responsibility-policy/

[16] Washington Department of Ecology, "Municipal Solid Waste Tipping Fees per Ton, 2021."

[17] Washington State Legislature, "Final Bill Report SBH 1652." Accessed: Jun. 07, 2023. [Online]. Available: https://app.leg.wa.gov/billsummary?BillNumber=1652&Initiative=false&Year=2019

[18] L. Watson Director and L. Scher, "Washington Paint Stewardship Program 2021 Annual Report," 2021. Accessed: Mar. 21, 2023. [Online]. Available: https://www.paintcare.org/wp-content/uploads/docs/wa-annual-report-2021.pdf

[19] US Environmental Protection Agency, "Paint Products Stewardship Initiative." Accessed: Jun. 07, 2023. [Online]. Available: https://www.epa.gov/evaluate/paint-products-stewardship-initiative#:~:text=In%20the%20United%20States%20each,than%20any%20other%20hazardous%20waste.

[20] PaintCare, "Washington Paint Stewardship Program Plan, Revision Submitted 2021," 2021. Accessed: Jun. 06, 2023. [Online]. Available: https://ecology.wa.gov/DOE/files/cc/cc42c151-50cb-4a19-ab7d-e929c2a37139.pdf

[21] PaintCare, "Oregon Paint Stewardship Program 2021 Annual Report", Accessed: Jun. 07, 2023. [Online]. Available: https://www.paintcare.org/wp-content/uploads/docs/or-annual-report-2021.pdf

[22] Washington Department of Ecology, "2018 Recycling Facility Data."

[23] Washington Office of Financial Management, "Washington Office of Financial Management, 2021 Population Estimates." https://ofm.wa.gov/tags/population-estimates#:~:text=As%20of%20April%201%2C%202021,larger%20cities%20across%20the%20state. (accessed Jun. 07, 2023).

[24] "Plastic Packaging in Washington Assessing Use, Disposal, and Management," Oct. 2020. Accessed: Mar. 22, 2023. [Online]. Available: https://apps.ecology.wa.gov/publications/SummaryPages/2007024.html

[25] Washington State Department of Ecology, "Final Regulatory Analyses for Chapter 173-446 WAC, Climate Commitment Act Program."

[26] US EPA, "EPA Landfill Methane Outreach Program (LMOP) Landfill and Project Database." https://www.epa.gov/lmop/lmop-landfill-and-project-database (accessed Jun. 07, 2023).

[27] Washington Department of Ecology, "2021 Recycling Facility Data."

[28] *SB 5837 Removing plastic bags as an option for use at retail establishments.* 2021. Accessed: Mar. 26, 2023. [Online]. Available: https://app.leg.wa.gov/billsummary?BillNumber=5837&Year=2021&Initiative=False

[29] Eunomia, "Residential Recycling Costs and Savings under EPR for Packaging and Paper in Spokane," 2021.

[30] FCS Group, "City of Marysville Solid Waste Rate Study, Draft Report," 2022.

[31] FCS Group, "City of Port Angeles Final Report for Comprehensive Water, Wastewater, Solid Waste, and Electric Utilities Rate Study," Feb. 2014. Accessed: Mar. 22, 2023. [Online]. Available: https://www.cityofpa.us/DocumentCenter/View/1249/Cost-of-Services-Final-Report-2014?bidId=

[32] Eunomia, “Residential Recycling Costs and Savings under EPR for Packaging and Paper in Tacoma,” 2021.

[33] W. City of Vancouver, “2021-2022 City of Vancouver Operating Budget.” https://app.powerbigov.us/view?r=eyJrIjoiMWNkYjEwZjMtZmUyMi00ZTE2LTlkZmItNzQ4NWY3ZmViY2U0IiwidCI6ImJmNmQxOWI2LTkyNjYtNDY4Ni1hOTNhLTUwYjUzN2RjNTgzYSJ9 (accessed May 28, 2023).

[34] Chelan County Public Works, “Chelan County Solid Waste Management Plan,” Mar. 17, 2022. https://www.co.chelan.wa.us/files/solid-waste-management/Final%20SWMP%20with%20CROP.pdf (accessed Mar. 16, 2023).

[35] City of Richland, “Annual Comprehensive Financial Report 2021.”

[36] “City of Leavenworth Comprehensive Water, Sewer, Solid Waste Stormwater Utility Rate Studies,” 2018.

[37] “City of Walla Walla Final Report for LANDFILL AND SANITATION COST OF SERVICE AND FINANCIAL PLANNING STUDY,” 2018.

[38] “Historical Estimates of April 1 Population and Housing for the State, Counties, and Cities,” *Washington Office of Financial Management*, 2021. https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates/historical-estimates-april-1-population-and-housing-state-counties-and-cities (accessed Mar. 18, 2023).

[39] The Recycling Partnership (TRP), “2020 State of Curbside Recycling Report,” 2020. Accessed: Feb. 24, 2022. [Online]. Available: https://recyclingpartnership.org/wp-content/uploads/dlm_uploads/2020/02/2020-State-of-Curbside-Recycling.pdf

[40] WM, “WM 2022 Sustainability Report.” Accessed: Jun. 07, 2023. [Online]. Available: https://sustainability.wm.com/report/#

[41] D. Duffy, “Day to Day,” *MSW Today*, Feb. 07, 2019. Accessed: Jun. 07, 2023. [Online]. Available: https://www.mswmanagement.com/landfills/article/13036124/day-to-day

[42] US Environmental Protection Agency, “Appendix C: List of Materials EPA shared with Small Entity Representatives in 2015,” in *Small Business Advocacy Review Panel on EPA’s Planned Proposed Rules Standards of Performance for Municipal Solid Waste Landfills and Review of Emissions Guidelines for Municipal Solid Waste Landfills*, 2015, pp. 2–18. Accessed: Jun. 07, 2023. [Online]. Available:

https://www.epa.gov/system/files/documents/2021-08/appendix-c-sbarpanel-landfills.pdf

[43] King County LinkUp, “Organic Materials Management in King County.” Accessed: Jun. 07, 2023. [Online]. Available: https://kingcounty.gov/~/media/depts/dnrp/solid-waste/linkup/documents/organics-materials-market-assessment.ashx

[44] Recycling Partnership, “West Coast Contamination Initiative Addendum: 2019 West Coast Contamination Initiative Research Report.” Accessed: Jun. 07, 2023. [Online]. Available: https://recyclingpartnership.org/wp-content/uploads/dlm_uploads/2020/04/West-Coast-Contamination-Initiative-Addendum-06.22.20.pdf