



Funding Mechanisms for Solid Waste

June 30, 2017 FINAL

Part 1. Update Current Funding Mechanisms

Overview and Recommended Focus Areas for Part 2 Research

As the Department of Ecology was updating the State Solid Waste Plan, local governments and other stakeholders expressed concerns regarding how to strengthen the state’s funding system for solid waste management. To help address those concerns, the Department of Ecology contracted with Cascadia Consulting Groups to research potential options. This research is divided into three parts. This paper reports on Part 1, updating information on existing funding mechanisms. It also lays the ground work for ideas to research for Part 2. Part 3 will make recommendations based on research findings and stakeholder input.

Cascadia Consulting Group (Cascadia), with input from FCS GROUP and Abbe and Associates, identified, reviewed, and summarized 27 solid waste funding mechanisms currently used in Washington State into an Excel-based spreadsheet (included as an attachment). Of these, 10 mechanisms are used at the state level, 15 at the local level, and 2 are or could be implemented at either the state or local level. A description of key information and criteria collected for each funding mechanism is presented in the *Matrix Spreadsheet* section on page 7. Appendix 1 includes a discussion of additional background issues that are important to understand when considering funding mechanisms, including those listed in the matrix spreadsheet. Of the reviewed mechanisms, Cascadia identified 19 current funding mechanisms that have potential to address funding and stability concerns, in some cases with adjustments. In Part 2, the Cascadia team will research and add potential funding mechanisms from outside of Washington State to the spreadsheet and develop a full list of potential funding mechanisms for the Department of Ecology.

Research included a literature review and stakeholder survey, which are described in *Research Methodology* on page 11 along with a high-level summary of survey results. Appendix 2 contains a list of the funding mechanisms that Cascadia reviewed in detail based on those identified in the initial literature review and the stakeholder survey. The survey instrument and individual stakeholder survey comments are presented in Appendix 3.

Research Themes and Recommended Focus Areas for Part 2

Cascadia reviewed the matrix of current funding mechanisms and stakeholder survey responses to identify gaps and focus areas that will benefit from additional research in Part 2 (listed in Table 1 below; Cascadia will focus on the large gaps). Overall, the following themes emerged from the Part 1 research; relevant considerations from stakeholders are noted in *italics*.

To request ADA accommodation, call Ecology at 360-407-6900, Relay Service 711, or TTY 877-833-6341.

System components without transactions that can easily be converted into fee-for-service activities and that do not correlate with tonnages generated are a large or moderate-to-large funding concern and would benefit from focused research in Part 2. These elements include:

- Education, outreach, and waste reduction.
- Moderate risk waste collection, transport, and disposal, along with operations and infrastructure for active MRW facilities. *Note that charging a fee could discourage residents from using proper disposal methods.*
- General administration and planning.
- Litter clean-up and education. *The Litter Tax on the sale of items that commonly become litter is not necessarily directly proportional to the amount of litter collected using Litter Tax funds; moreover, a portion of the Litter Tax was redirected between 2009 and 2017.¹*
- Illegal dumping and other enforcement. *The violators cannot always be identified; jurisdictions may not be able to set fines high enough to cover investigation and cleanup.*
- Monitoring, maintenance, and remediation of inactive facilities—*when post-closure funds are insufficient, either because not enough was saved pre-closure or because required post-closure activities increased after the facility had already closed.*

In contrast, fee-for-service system components that are associated with regular transactions are less of a concern and do not require focused research in Part 2. These include:

- Garbage collection, transport, and disposal along with operations and infrastructure for active facilities—adequate when the collection system charges rates to cover these costs. *However, public infrastructure financing poses a concern: approximately 10 percent of solid waste collection tax revenues are estimated to have historically been used for solid waste infrastructure loans while the remaining 90 percent funded other types of public infrastructure loans; moreover, solid waste collection tax revenues have been redirected away from the Public Works Trust Fund since 2011.²*
- Some recycling and organics collection, transport, and processing along with operations and infrastructure for active facilities—adequate when the collection system charges rates to cover these costs without relying on commodity sales, which can fluctuate. *However, similar to garbage infrastructure, recycling and organics infrastructure also has public infrastructure financing concerns.*
- Permitting and permit-based enforcement—adequate when permit fees have been set to cover these costs.
- Contract administration—adequate when contracts include sufficient administrative fees.

¹ Washington State Legislature, HB 1060 - 2015-16, “Directing state investments of existing Litter Tax revenues under chapter 82.19 RCW in material waste management efforts without increasing the tax rate,” 2015, <http://app.leg.wa.gov/billsummary?BillNumber=1060&Year=2015>.

² Cascadia Consulting Group, “Solid Waste Management Cost Flows in Washington State,” 2007, <https://fortress.wa.gov/ecy/publications/SummaryPages/1607013.html>.

Washington State Legislature, RCW 82.18.040 (Solid Waste Collection Tax: Collection of tax—Payment to state).



Collection rates must sustainably cover costs for all waste streams as total waste decreases and as more waste moves from garbage to recycling and composting, so Part 2 will include a discussion of setting sustainable utility rates.

- Rates must be able to cover recycling and composting costs; calculating rates solely on garbage quantities is expected to pose funding challenges first as recycling and composting increase and, second, when commodity prices for recyclable materials are low.
- Rates should sufficiently cover fixed costs-- those that do not decrease in direct proportion with tonnage decreases, such as the cost of household pick-up by a collection vehicle (which is more related to the number and distance between households than whether the vehicle picks up 5 pounds or 50 pounds per household).

State-level funding—such as the Hazardous Substance Tax, the Solid Waste Collection Tax, and the Litter Tax—supports local programs but risks being redirected to other uses:

- State-level funding supports grants that are a key source of funding for local governments, particularly for rural and Eastern Washington communities.
- State-level funding sources risk being redirected to other uses, especially during economic downturns—even when the original legislation dedicated funding to specific solid waste system components. While pressures may lessen as the economy improves, the state legislature’s need for additional education funding to comply with the McCleary decision may continue both to place pressure on existing state-level solid waste funds and to limit the creation of new sources of state-level solid-waste funding for the foreseeable future.

While not addressed by this current research effort, opportunities to reduce costs, such as by switching to every-other-week garbage collection, may exist to extend the reach of current funding sources.

Summary of Current Funding Mechanisms

Table 1 summarizes current funding mechanisms and focus areas to address in the Part 2 research. The more extensive matrix of current funding mechanisms is included as a separate attachment.



PART 1. UPDATE CURRENT FUNDING MECHANISMS

Washington State Department of Ecology | Funding Mechanisms for Solid Waste

Table 1. Summary of Funding Sources and Part 2 Focus Areas

Solid Waste System Component	Current Sources	Focus Areas to Address in Part 2
Components with Large Gaps		
Moderate Risk Waste: <ul style="list-style-type: none">Collection, transfer, transport, disposal, and processingCapital improvements and equipment (or debt service for financed purchases)Operations, maintenance, or monitoring of active facilities	<ul style="list-style-type: none">Collection rates and tip fees, utility/administrative fees, taxesFees on garbage accountsHazardous Substance Tax (HST) via Coordinated Prevention Grants (CPG) (safe disposal of MRW)Product stewardship (currently, programs are limited to computers, televisions, mercury-containing lights statewide as well as and pharmaceuticals in certain counties)	<ul style="list-style-type: none">Alternative utility modelsFunding options not based on waste quantities generatedFunding options particularly for counties with lower incomes than the state average and consist mainly of rural areas that create higher curbside collection costsProduct stewardship models from elsewhere
Monitoring, maintenance, and remediation of inactive facilities (e.g., closed landfills)	<ul style="list-style-type: none">Collection rates, tip fees, and surchargesLandfill maintenance and closure accounts (established from rates and fees)	<ul style="list-style-type: none">Funding options when closure accounts are expendedFunding options particularly for counties with lower incomes than the state averageFunding options to address monitoring and remediation requirements that have increased unexpectedly after closure

Table 1. Summary of Funding Sources and Part 2 Focus Areas

Solid Waste System Component	Current Sources	Focus Areas to Address in Part 2
Components with Moderate to Large Gaps		
Education, outreach, or technical assistance for recycling, organics, MRW	<ul style="list-style-type: none"> Collection rates, tip fees, and surcharges Per-account and household-based fees HST via CPG (recycling, composting, MRW) Product stewardship (limited) 	<ul style="list-style-type: none"> Funding options not based on waste quantities generated Funding options particularly for counties with lower incomes than the state average
Waste reduction programs (for example, programs may address reducing material use in manufacturing and packaging, reuse and sharing, other programs to prevent the generation of solid waste)	<ul style="list-style-type: none"> Collection rates, tip fees, and surcharges Per-account and household-based fees HST via CPG (waste reduction programs) 	<ul style="list-style-type: none"> Funding options not based on waste quantities generated Funding options particularly for counties with lower incomes than the state average
Litter/illegal dumping clean-up and prevention	<ul style="list-style-type: none"> Litter tax Collection rates, tip fees, and surcharges HST via CPG (enforcement) Penalties 	<ul style="list-style-type: none"> Funding options not based on waste quantities generated Alternatives to or supplements for CPG and Litter Tax funding Funding options particularly for counties with lower incomes than the state average or with remote areas for illegal dumping Alternative Litter Tax and product stewardship models from elsewhere

PART 1. UPDATE CURRENT FUNDING MECHANISMS

Washington State Department of Ecology | Funding Mechanisms for Solid Waste

Table 1. Summary of Funding Sources and Part 2 Focus Areas

Solid Waste System Component	Current Sources	Focus Areas to Address in Part 2
General administration and planning	<ul style="list-style-type: none"> Collection rates, tip fees, and surcharges Administrative and planning fees levied on haulers HST via CPG (planning) 	<ul style="list-style-type: none"> Funding options not based on waste quantities generated Alternatives or supplements for CPG funding Funding options particularly for counties with lower incomes than the state average
Permitting and enforcement	<ul style="list-style-type: none"> Permit fees Penalties Collection rates, tip fees, and surcharges HST via CPG (enforcement) 	<ul style="list-style-type: none"> Alternative permit and penalty fee models from elsewhere Alternatives or supplements for CPG funding Funding options that take into account different enforcement requirements (such as size and environmental risk) for different facilities.
Components with Limited Gaps		
Garbage, recycling, or organics: <ul style="list-style-type: none"> Collection, transfer, transport, disposal, and processing Capital improvements and equipment (or debt service for financed purchases) Operations, maintenance, or monitoring of active facilities 	<ul style="list-style-type: none"> Collection rates; tip and processing fees; commodity revenues; and utility and administrative fees and taxes Fees through solid waste districts HST via CPG (recycling and composting) Product stewardship (limited) Public Works Trust Fund (limited to loans for infrastructure) 	<ul style="list-style-type: none"> Guidelines for setting sustainable rates Alternative utility models Funding options for recycling and composting Funding options particularly for counties that are more distant from recycling markets, have lower incomes than the state average, and have rural areas that create higher curbside collection costs Product stewardship models from elsewhere Funding options for infrastructure investments



Matrix Spreadsheet of Current Funding Mechanisms

The Cascadia team identified, reviewed, and summarized solid waste funding mechanisms currently used in Washington State into an Excel-based spreadsheet. Key information and criteria for each funding mechanism were developed for the following categories:

- Mechanism name and type
- Who is implementing the mechanism
- Components of the waste system that are funded
- Financial strength and stability
- Environmental and social sustainability
- Feasibility

Each field included in the Excel spreadsheet, as well as key evaluative criteria for each spreadsheet field, is described in more detail in Table 2.

Table 2. Funding Mechanism Matrix Fields

Matrix Field	Description
Overview	
Mechanism name	Formal name of the mechanism (or if common name, if applicable).
Mechanism short description	Short description of the mechanism, including an overview of who pays, on what basis, and for what end use.
Data sources	Websites, reports, or other references used to obtain information about the funding mechanism.
Who pays?	<p>Indicates which of the following pays either indirectly or directly under the funding mechanism:</p> <ul style="list-style-type: none">• Consumer (at purchase)• Disposer (during disposal)• Collector/hauler/processor/facility• Manufacturer/retailer• Other (describe) <p>For example, curbside collection fees are an example of a funding mechanism that is paid directly by the disposer.</p>

Table 2. Funding Mechanism Matrix Fields

Matrix Field	Description
Funding type	<p>Categorize the funding mechanism type as one of the following:</p> <ul style="list-style-type: none"> • User fee • Extended producer responsibility (EPR) or product stewardship program • Other waste-related fee (including permits) • Waste-related tax • Excise, sales, or manufacturing tax/fee • Commodity sales • Enforcement fine/penalty • Grants and loans • Non-waste funds
Who is using the mechanism?	
Jurisdictions where used and applicability of the mechanism (list)	<p>Example list of jurisdictions where the mechanism is used. In addition, specify:</p> <ul style="list-style-type: none"> • The region where used: Western Washington, Eastern Washington, another U.S. state, outside of the United States • The population size category of jurisdictions where used: large (greater than 250,000 residents), medium (50,000 to 250,000), and small (less than 50,000)
Example entities (descriptive)	Description of the entity (e.g., city, hauler) that uses the mechanism, including partners, if applicable.
Applicability of mechanism	<p>Description of the applicability of the mechanism by the following:</p> <ul style="list-style-type: none"> • Urban, rural, or both • Type of entity (city, county, state, collector/hauler, processing facility, retailer/manufacturer, other)
Components funded	
Waste streams funded	Notes whether the mechanism funds garbage, recycling, organics processing, or moderate risk waste. For each funded waste stream, indicates whether the majority of funding from the mechanism is used on that waste stream (“primary”) or not (“secondary”).

PART 1. UPDATE CURRENT FUNDING MECHANISMS

Washington State Department of Ecology | Funding Mechanisms for Solid Waste

Table 2. Funding Mechanism Matrix Fields

Matrix Field	Description
System components funded	<p>Notes which of the following system components the funding mechanism supports:</p> <ul style="list-style-type: none"> • Collection, transfer, transport, disposal, and processing • Capital improvements and equipment (or debt service for financed purchases) • Operations, maintenance, or monitoring of active facilities (active landfills, other disposal sites, recycling, composting, and moderate risk waste facilities) • Monitoring, maintenance, and remediation of inactive facilities (e.g., closed landfills) • Education, outreach, or technical assistance • Waste reduction programs • Litter/illegal dumping clean-up and prevention • General administration and planning • Permitting and enforcement • Other expenditures (such as the Public Works Trust Fund, city taxes, or the general fund) <p>For each funded system component, indicate whether the majority of funding from the mechanism is used on that system component (“primary”) or not (“secondary”).</p>
Pass-through funding (if any)	<p>Note pass-through funding, if any. For example, the Washington State Hazardous Substance Tax is deposited into various accounts managed by the state, such as the Local Toxics Control Account, before being distributed to end uses such as through Coordinated Prevention Grants that local governments use to fund their recycling, composting, moderate risk waste, and enforcement activities.</p>
Financial strength and stability	
Funding base	<p>A description of the unit on which the funding mechanism is based. For example, curbside collection fees are based on the number of customers, frequency of collection, and (depending on the rate structure) the volume of garbage collected. Other examples of funding bases include property square footage, business revenue, and number of permitted landfills.</p>
Funding base level	<p>A qualitative assessment of the size (narrow, moderate, or broad) of the funding base. In general, a funding mechanism that can apply to the general population (e.g., a property tax applied on all households) is broad, while a mechanism that applies to only a subset of materials or a small number of customers is narrow.</p>

Table 2. Funding Mechanism Matrix Fields

Matrix Field	Description
Correlation of the funding base in relation to...	<p>Indicates whether the funding base is correlated, somewhat correlated, or not at all correlated to each of the following:</p> <ul style="list-style-type: none"> • Garbage quantities • Total waste quantities (including composting and recycling) • Commodity prices <p>“Correlated” means the funding base increases or decreases directly in proportion to changes in the other variable; “somewhat correlated” indicates that the funding base is likely to increase or decrease with the other variable, but the relationship is not as direct; and “not correlated” means that the funding base is not affected by changes to the other variable.</p>
Adequacy for purpose	<p>A description of the adequacy of the funding mechanism for the system components it is intended to fund. Adequacy is based on both the <i>strength</i> (amount of funding available, which typically depends on setting fees and rates appropriate) and <i>stability</i> (consistency despite changes in garbage quantities, waste generation, and commodity prices) of the funding mechanism.</p>
Dedication of the source to solid waste	<p>Indicates whether the funding mechanism is fully or partially dedicated to the solid waste system. The funding mechanism is considered fully dedicated if legislation enabling the funding source specifies that a set amount or portion of the funding must go to the solid waste system. Partially dedicated indicates that the waste system is listed in legislation as a recipient of funding but that the amount of the allocation is not defined.</p>
Environmental and social sustainability	
Environmental sustainability	<p>For each mechanism, categorizes whether the mechanism supports environmental sustainability as one of the following: incentive, no impact, disincentive, or mixed. Includes a description of how and what the mechanism incentivizes, such as:</p> <ul style="list-style-type: none"> • Recycling, organics processing, and waste prevention • Proper waste disposal; not littering or dumping • Feedback to manufacturers (e.g., incorporating end-of-life costs) • Other environmental standards
Equity, environmental justice, and social justice	<p>A description of the impact of the mechanism on equity, environmental justice, and social justice. Elements to consider for each mechanism include:</p> <ul style="list-style-type: none"> • Who pays under this mechanism, and is the burden on those who are able to pay and those who benefit fairly? • Are there different costs and impacts to urban versus rural customers, or based on where the material is to be disposed versus where it was generated? • Does this mechanism have geographically disproportionate impacts on the prevalence of littering, illegal dumping, or toxic wastes disposed?

Table 2. Funding Mechanism Matrix Fields

Matrix Field	Description
Feasibility	
Administrative complexity	<p>A rating of the administrative complexity as high, moderate, or low. In general, factors that add complexity include the need for tracking and reporting systems, the method by which material fees are assessed, and how and from whom payments are collected.</p> <p>Include notes that provide context for the administrative complexity rating; in particular, indicate what particular elements of the funding mechanism either add to or reduce complexity.</p>
Feasibility rating	<p>A rating of the feasibility of implementing a mechanism as high, moderate, or low.</p> <p>Include notes that provide context for the feasibility rating related to political and technical considerations, particularly which elements of the funding mechanism are likely to face political or technical barriers. For mechanisms that are already in place across Washington state, the feasibility rating is noted as “high” since no additional work is needed to implement the mechanism.</p>

Research Methodology

To identify and assess current funding mechanisms used in Washington State and potential new mechanisms, Cascadia reviewed previously published papers and conducted a web-based survey of solid waste system stakeholders. More details on each of the research methods are provided in the sections that follow.

Literature Review

Cascadia reviewed the following existing documents previously written or commissioned by the Department of Ecology to compile current funding mechanisms used in Washington:

- *Financing Solid Waste for the Future: Background Paper for Beyond Waste* ([2004](#))
- *Solid Waste Management Cost Flows in Washington State* ([2007](#))
- *Revenue Sources to Fund Recycling, Reuse, and Waste Reduction Programs* ([2011](#))

Cascadia included all mechanisms reported as used in the Washington (either statewide or by individual jurisdictions) in the funding mechanisms matrix. Funding mechanisms used elsewhere in the United States or internationally will be added in Part 2.

Stakeholder Engagement—Survey Responses

Cascadia engaged solid waste system stakeholders through a web-based survey conducted December 7-23, 2016. The Department of Ecology sent invitation emails to the State Waste Plan Listserv; local jurisdiction recycling coordinators, environmental health directors, and moderate risk waste coordinators; members of the Waste 2 Resources Advisory Committee; and Ecology Waste 2 Resources staff members. In addition, the Washington State Recycling Association (WSRA) included a notice of the survey in its email newsletter. The survey asked respondents about the following topics:

- New and innovative mechanisms that have been implemented or considered but not implemented.
- Most pressing gaps in funding and funding mechanisms.
- Additional resources (e.g., other jurisdictions or utilities) for research on innovative funding mechanisms.

Overall, 127 respondents participated in the survey. Cascadia included questions regarding demographics to assess whether respondents represented the range of solid waste system stakeholders. A summary of survey results is provided below. Verbatim responses, excluding contact information and information that could identify individual respondents, are attached as Appendix 3.

To obtain additional input regarding solid waste collection rates regulated by the Washington Utilities and Transportation Commission (WUTC), Cascadia interviewed the Assistant Director for Water and Transportation at the WUTC. Information from this interview on WUTC-regulated collection rates is incorporated into the summary in the Rate Models section of Appendix 1.³

Respondent Demographics

Respondents represented a broad cross-section of the solid waste industry by geography, organization type, solid waste material, and solid waste system component. Percentages sum to more than 100 percent because respondents were invited to select all responses that applied to them.

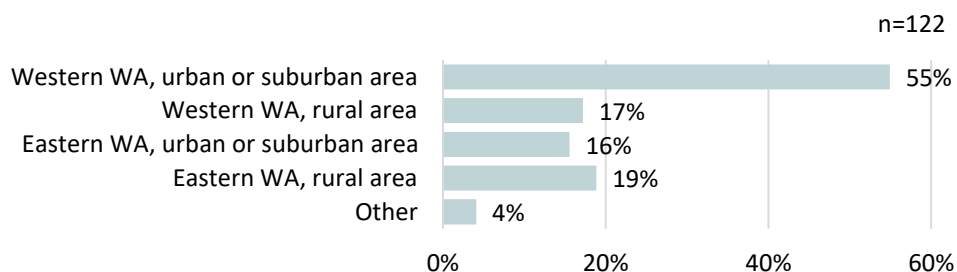
Figure 1 shows the distribution of survey respondents across Eastern and Western Washington as well as across urban/suburban and rural areas. The majority of respondents (70%) said they work in (or live in, for members of the public) Western Washington. Approximately two-thirds (68%) said they work in an urban or suburban area, and about one-third (35%) said they work in a rural area. Respondents who selected “Other” indicated that they worked in all areas of the state, out of state, or on projects at a national or global scope.

³ Interview with Danny Kermode, Assistant Director for Water and Transportation, Washington Utilities and Transportation Commission, December 2016.

PART 1. UPDATE CURRENT FUNDING MECHANISMS

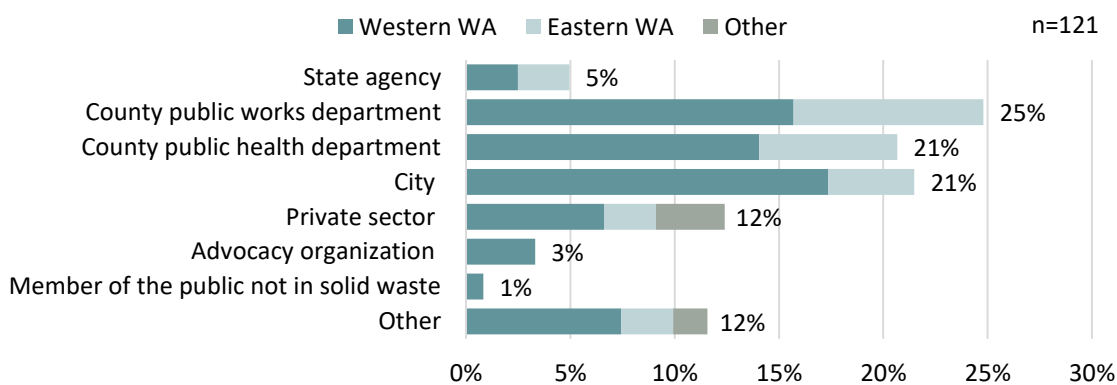
Washington State Department of Ecology | Funding Mechanisms for Solid Waste

Figure 1. Survey Respondents' Area of Work by Geographic Area and Population Density



The types of organizations that survey respondents worked for or represented are shown in Figure 2. Two-thirds (67%) of respondents worked for a county or city public health or public works department in solid or household hazardous waste. Respondents who selected “Other” described themselves as members of solid waste industry associations, federal employees, city or county public health employees *not* in solid waste, water and resource conservation department employees, and university staff.

Figure 2. Organization Types Represented by Survey Respondents

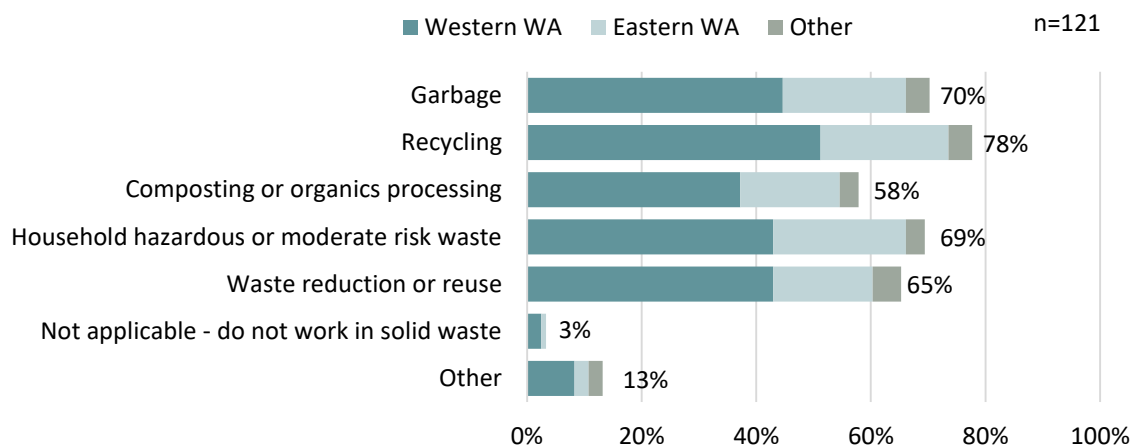


Most respondents reported working on multiple waste types. As shown in Figure 3, three-quarters (75%) of respondents reported working on recycling. Each of the other major material type areas (garbage, composting or organics processing, household hazardous or moderate risk waste, or waste reduction or reuse) were represented by at least half of respondents. Other areas noted by respondents included product stewardship and upstream materials management (design for recyclability and reuse), program management, public health, construction and demolition materials, industrial and industrial hazardous waste, water quality, and government relations.

PART 1. UPDATE CURRENT FUNDING MECHANISMS

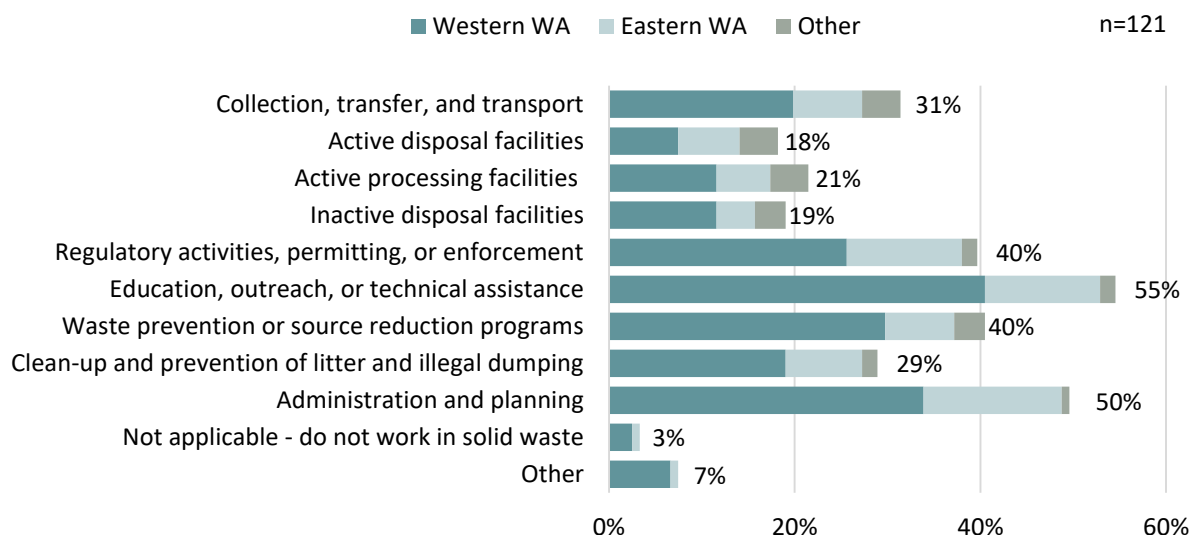
Washington State Department of Ecology | Funding Mechanisms for Solid Waste

Figure 3. Solid Waste Types with which Respondents Work



Finally, the survey asked respondents to indicate which components of the overall waste system they worked on. Figure 4 shows which solid waste system components respondents reported working on. Approximately half of respondents reported working on education, outreach, or technical assistance (52%) and administration and planning (48%). Other common areas of work included waste prevention or source reduction (39%), regulatory activities such as permitting and enforcement (38%), and collection, transfer, and transport (30%). Other solid system components in which respondents reported working included engineering, utility billing, water quality, and grant or contract administration.

Figure 4. Solid Waste System Components in which Respondents Work



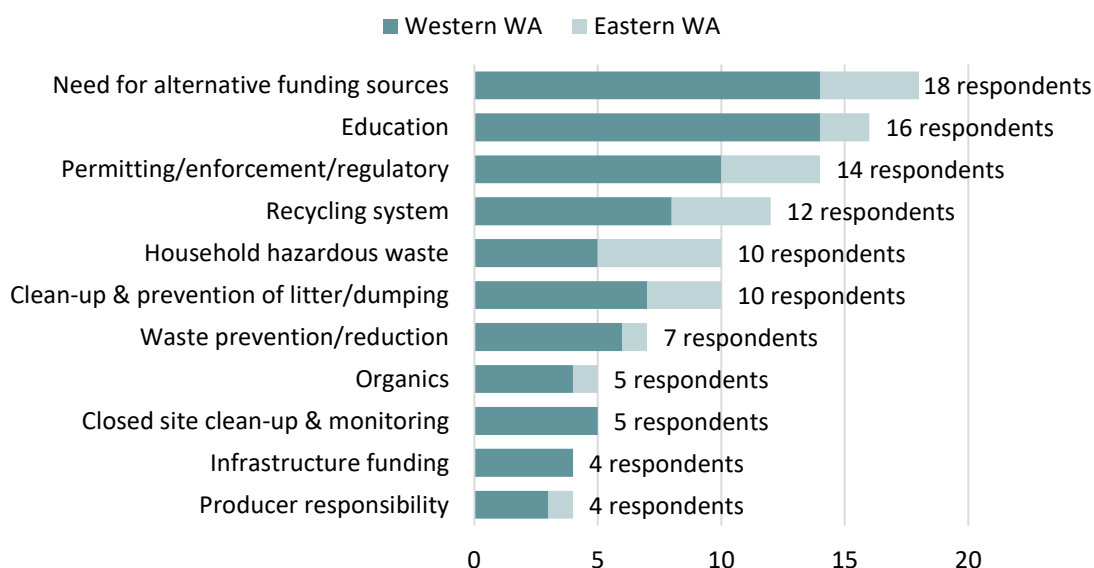
In general, the organization types, solid waste types, and solid waste system components in which respondents worked were similarly distributed among respondents working in Eastern and Western Washington. Key differences were:

- A larger percentage of Eastern Washington respondents (74%) worked on household hazardous or moderate risk waste than those in Western Washington (64%).
- A smaller percentage of Eastern Washington respondents (55%) worked on waste reduction or reuse (64% in Western Washington).
- A larger share of respondents in Western Washington (60%) report working on education, outreach, and technical assistance than those in Eastern Washington (39%).
- A smaller share of Western Washington respondents (24%) work on clean-up and prevention of litter and illegal dumping than Eastern Washington respondents (45%).

Respondent-identified Funding Gaps

Cascadia asked each survey respondent to answer the following question: “What parts of the solid waste system do you see as having major gaps in funding now or in the foreseeable future?” In reply, 75 respondents provided comments. Figure 5 shows areas with funding gaps highlighted by more than four survey respondents. Respondents noting a need for alternative funding sources primarily cited cuts in Coordinated Prevention Grant (CPG) funding and other grant funding, an overreliance on grant funding, or the instability and insufficiency of disposal-based funding.

Figure 5. Top Funding Gaps Identified by Respondents



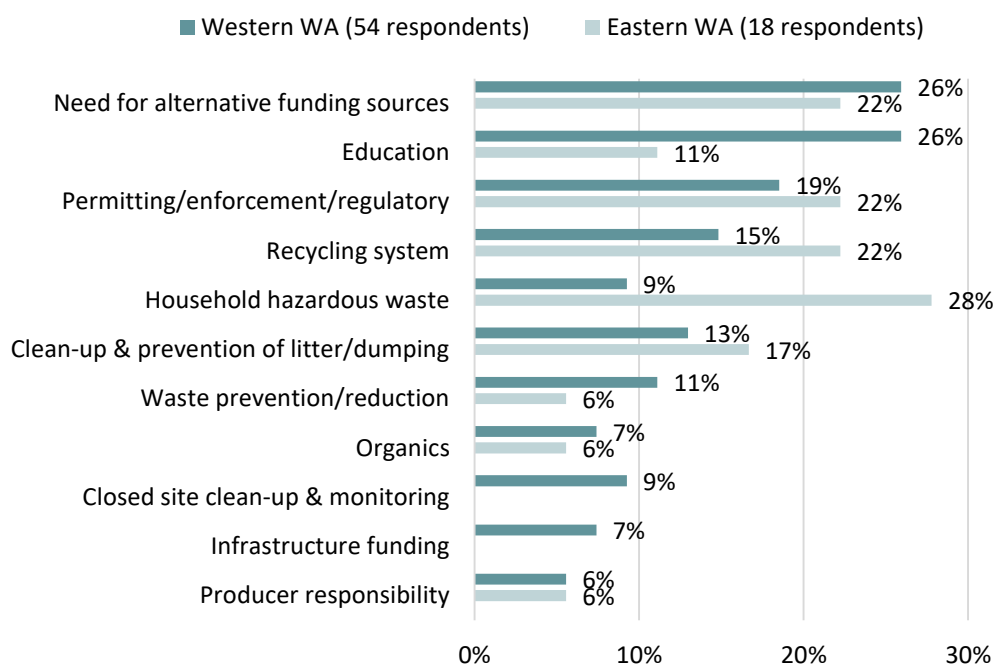
In general, Eastern Washington respondents were more concerned about recycling and household hazardous waste funding than those working in Western Washington. Western Washington respondents were more concerned about education. Western Washington respondents were also more concerned about closed site clean-up and monitoring and funding for waste system infrastructure. The percentage

PART 1. UPDATE CURRENT FUNDING MECHANISMS

Washington State Department of Ecology | Funding Mechanisms for Solid Waste

of respondents who cited the top funding gaps for a given region (Eastern or Western Washington) is shown in Figure 6.

Figure 6. Top Funding Gaps by Percentage of Respondents



When asked about funding mechanisms for individual system components that could address current and potential future gaps, respondents continued to emphasize current gaps in their responses. One major theme emerged in the respondent comments: **a high reliance on Coordinated Prevention Grants (CPG)**. Respondents cited use of CPG funds to support a portion of nearly all system components. Many respondents also noted that recent cuts to available CPG funding have resulted in insufficient funding for the system components. When describing funding mechanisms for system components (see next section for more detail), a larger portion of respondents working in Eastern Washington cited CPG or other grants as part of their existing system component funding, suggesting greater reliance on grant funding in this region. Overall, 63 percent of Eastern Washington responses concerned CPG or other grant funding, compared to 25 percent from respondents who work in Western Washington. For other types of funding mechanisms such as tip fees, several respondents recognized and noted that funding based on disposal volumes is unsustainable, but they did not suggest alternatives.

Although not mentioned in the survey responses, Washington State budget allocations show that the Solid Waste Collection Tax has historically been deposited into the Public Works Trust Fund (which funds public infrastructure improvements) but has not been reserved for solid waste.⁴ Instead, Public Works Trust Fund money can be used for any type of public infrastructure, notably drinking water and wastewater.⁵ Analysis of spending on solid waste management in 2005 estimated that approximately 10

⁴ Washington State Legislature, RCW 82.18.040 (Solid Waste Collection Tax: Collection of tax—Payment to state).

⁵ Washington State Legislature, Chapter 43.155 RCW (Public Works Projects).



PART 1. UPDATE CURRENT FUNDING MECHANISMS

Washington State Department of Ecology | Funding Mechanisms for Solid Waste

percent of Solid Waste Collection Tax revenues are used for solid waste infrastructure.⁶ Since 2011, the Solid Waste Collection Tax has been fully redirected away from the Public Works Trust Fund to the state's General Fund.⁷ For fiscal years 2016–2018, half of revenues from the Solid Waste Collection Tax will be deposited into the Education Legacy Trust Account, and half will continue to be deposited in the General Fund. Because funds deposited in the Public Works Trust Fund are not reserved to the type of infrastructure that created the revenues, some solid waste infrastructure projects have received funding from the Public Works Trust Fund even during this period of redirection.

Starting in 2009, funding redirections of the Litter Tax forced Ecology to suspend litter programs such as a prevention campaign and survey, litter hotline, and efforts related to secured load requirements.⁸ Agency work on waste reduction and recycling was also reduced with the funding cuts. The main funding redirection of \$5 million per biennium to state park maintenance was supposed to end in fiscal year 2017 (HB 1060).⁹ However, as of this writing, draft budgets for FY 2017-19 are still diverting this money to State Parks.

Respondent-identified Funding Mechanisms

Cascadia received 74 funding mechanism suggestions from 40 different respondents covering the range of solid waste system components. Of the funding mechanisms suggested, about 1 in 5 were not currently in use (that respondents knew of). Proposed funding mechanisms not yet in use are included in research under Part 2.

Though already in use for collection and recycling of some toxic or hard-to-handle products in Washington (e.g., computers, televisions, and mercury-containing lighting statewide and pharmaceuticals in limited counties), product stewardship and extended producer responsibility programs were a mechanism commonly noted by respondents for a range of system components, particularly for collection and recycling.

The remainder of comments from survey respondents addressed funding mechanisms already in use by specific jurisdictions or organizations. Many comments also described funding gaps for waste system components rather than funding mechanisms.

Based on the survey responses, we observed that **jurisdictions lacked reliably dedicated funding sources for nearly all system components**, except solid waste handling (excluding moderate risk waste), permitting, and litter. Respondents reported system components such as education, enforcement, waste reduction, and moderate risk waste collection as typically lacking fully dedicated funding. Funding for these components include solid waste handling sources (such as collection, tip, or hauler contract fees) as well as city general funds and grants that have many allowable uses. Even for components with dedicated funding sources, the level of “dedication” can vary, such as when the state legislature

⁶ Cascadia Consulting Group, “Solid Waste Management Cost Flows in Washington State,” 2007, <https://fortress.wa.gov/ecy/publications/SummaryPages/1607013.html>.

⁷ Washington State Legislature, RCW 82.18.040 (Solid Waste Collection Tax: Collection of tax—Payment to state).

⁸ Washington State Department of Ecology, “Budget & Program Overview 2015-2017,” December 2015, <https://fortress.wa.gov/ecy/publications/SummaryPages/1501007.html>.

⁹ Washington State Legislature, HB 1060 - 2015-16, “Directing state investments of existing Litter Tax revenues under chapter 82.19 RCW in material waste management efforts without increasing the tax rate,” 2015, <http://app.leg.wa.gov/bills/summary?BillNumber=1060&Year=2015>.



redirected Litter Tax receipts to fund State Parks. In addition, dedicated funding does not necessarily provide adequate funding: several respondents noted that existing permitting fees were inadequate to support compliance with mandates, ongoing monitoring activities, and enforcement activities.

Appendix 1: Background Discussion

When considering funding sources and mechanisms for solid waste, it is helpful to understand a few background topics:

- The difference between **fees and taxes**.
- **Coordinated Prevention Grants**, a major source of funding for local governments to support activities not related to waste handling.
- Options for counties to establish **solid waste disposal districts**.
- Considerations when developing **rate models**.

Fees and Taxes

Authorization and allowable uses for funding depend on whether the funding source is a fee or a tax. Fees have more restricted uses but are easier to assess while taxes have more flexible uses but are more difficult to obtain authorization for. Taxes fund general benefits to a broad population, while fees fund specific and particular benefits to those who pay the fees.

A fee is a charge imposed for the primary purpose of recouping costs of providing a service to the payer. If an excess portion of the fee is used to pay for something other than costs related to the service on which the fee is applied, the excess portion is a tax. A charge imposed by the government is considered a tax if it has the primary purpose of raising revenue, with funds used for general government services.

In *Covell v. Seattle* (1995), the Washington State Supreme Court described three key factors that determine the legality of fees:

- The primary purpose must be regulatory in nature.
- The money collected must be used only for the authorized regulatory purpose.
- There must be "a direct relationship between the fee charged and the service received by those who pay the fee or between the fee charged and the burden produced by the fee payer."

Coordinated Prevention Grants

Coordinated Prevention Grants (CPG) are grants distributed by the Washington State Department of Ecology to help local governments develop, implement, and enforce solid and hazardous waste management plans and projects. CPG funding typically comes from the Local Toxics Control Account (LTCA), which is funded by the Hazardous Substance Tax on the first possession in the state of substances such as petroleum products, pesticides, industrial chemicals, and acids. The Washington State Legislature sets the exact disbursement of LTCA funds to CPG every two years. For the 2017–2019 biennium, the proposed CPG funding is \$10 million in the Governor's Budget, down from \$15 million in 2015–2017 and \$28 million in 2013–2015. Hazardous Substance Tax collection levels decreased between

2013 and 2017, and the Legislature used a portion of these funds to support Ecology staff and programs that had previously been paid for by the General Fund.¹⁰ Occasionally CPG funding comes from other sources; for example, funding in 2015–2017 came from the State Building Construction Account.¹¹

The grants are split across two different areas: 80 percent of the available CPG funding goes to **solid and hazardous waste planning and implementation**; and the remaining 20 percent is used to fund **solid waste enforcement** projects. Grants for both planning/implementation and enforcement projects are funded on a combination of formula grants and competitive applications, with the maximum potential award by county (or city, for those that are not signatories on a countywide plan) determined by formula.

For the planning and implementation grants (80% of CPG funding), each county is eligible for a base funding amount plus an amount determined on a per-capita basis.¹² Cities that have an approved independent solid waste management plan are eligible for a funding amount equal only to the per-capita determination; they are not eligible for the base funding amount. Ecology uses official population estimates from the state's Office of Financial Management to determine the per-capita amount. CPG reimburses up to 75 percent of eligible costs; recipients must contribute a minimum of 25 percent cash or in-kind match.

Eligible enforcement projects (20% of funding) can include both direct enforcement activities and educational programs that facilitate enforcement for the applying jurisdictions.¹³ Enforcement award amounts are set in the same manner as planning and implementation grants (described above), but both the base amount and per-capita addition are lower. County health departments use CPG to fund solid waste enforcement staff to monitor and oversee facilities, conduct facility inspections, respond to illegal dumping complaints, and provide technical assistance on hazardous waste handling and disposal.

Historically, Washington jurisdictions—particularly smaller counties and cities—have relied on CPG funds for a significant portion of their local recycling and hazardous waste programs.¹⁴ CPG funds have been used to help local governments pay for new recycling containers, processing equipment such as balers and conveyers, new trucks, and education programs.

Solid Waste Disposal Districts

State law (Revised Code of Washington 36.58.100) authorizes the establishment of a solid waste disposal district by any county with a population of less than 1 million residents. A solid waste disposal district authorizes the levy and collection of an excise tax on residents and businesses who live or

¹⁰ Washington State Office of Financial Management (Budget Division), "Report to the Legislature: Washington State Model Toxics Control Act Accounts," November 2016, (www.ofm.wa.gov/reports/MTCA_ReportNov2016.pdf).

¹¹ Department of Ecology, "Waste 2 Resources Program Funding Opportunities: Coordinated Prevention Grants (CPG)," <http://www.ecy.wa.gov/programs/swfa/grants/cpg.html> (Accessed January 2017).

¹² Department of Ecology, "2015-2017 Coordinated Prevention Grant Guidelines," <https://fortress.wa.gov/ecy/publications/SummaryPages/1507003.html> (Accessed January 2017).

¹³ Department of Ecology, "2015-2017 Coordinated Prevention Grant Guidelines," <https://fortress.wa.gov/ecy/publications/SummaryPages/1507003.html> (Accessed January 2017).

¹⁴ http://www.ecy.wa.gov/services/fs/2016_ECY_461_Suplmntl_Budget_FINAL_v2.pdf, August 2015: p. 7. CPG provides 31 percent of funding for local recycling and hazardous waste programs (excluding the largest counties).

operate in the district to provide for and fund solid waste services. A solid waste disposal district may also collect disposal fees based on weight or volume at disposal sites or transfer stations.

Solid waste disposal districts may provide for all aspects of solid waste disposal; however, a solid waste disposal district does not authorize the jurisdiction to engage in collection for residential or commercial garbage. Solid waste disposal districts are also authorized to:

- Levy a property tax within the district for a one-year period for operating or capital purposes when authorized by its electors (registered voters who reside in the district); levy authority must be renewed annually.
- Issue general obligation bonds for capital projects.
- Issue revenue bonds to fund other disposal activities.

Jurisdictions in Washington that have formed solid waste disposal districts include Whatcom, Lewis, and San Juan counties and Lopez Island (within San Juan County). Examples of funding sources that these jurisdictions use under the authority of the solid waste disposal district are below:

- Whatcom County Disposal District charges an excise tax of \$8.50 per ton on charges paid for solid waste collection by each residential unit and by each business in the district. Whatcom County uses collected funds for overall solid waste management planning, education, and community outreach activities.¹⁵
- San Juan County Disposal District levies a surcharge on the operator of vehicles delivering loads to disposal sites or transfer stations based on vehicle type; this funding goes to the district solid waste fund. Use of the solid waste fund is restricted to waste disposal activities, including, but not limited to, the closure of the Orcas Island Landfill; expenses for selection, study, planning for facilities for handling solid waste and recyclable materials; and construction of any County-owned facilities for handling solid waste and recyclable materials.¹⁶
- Both the San Juan Disposal District and Lopez District are authorized to levy an excise tax on charges paid to certificated haulers for solid waste (garbage only); the charge is a percentage of collection charges billed by haulers and is set by ordinance by the governing bodies of the districts.
- Lewis County Disposal District established inter-local agreements with cities in Lewis County to direct all garbage to the county's transfer station, from which the district receives tip fees. Tip fees are currently transferred to the county's solid waste division to pay for transfer station operations, landfill post-closure activities, and all other solid waste division activities not funded by other sources. Other sources of funding include grants from Ecology, recycling revenues, and funds from other departments for solid-waste-related activities (such as litter clean-up along county-owned roads).¹⁷

¹⁵ Interview with Jeff Hegedus, Whatcom County Solid Waste Management Program (February 2017).

¹⁶ San Juan County Code 8.12.160:

<http://www.codepublishing.com/WA/SanJuanCounty/html/SanJuanCounty08/SanJuanCounty0812.html#8.12.160>
(Accessed January 2017)

¹⁷ Interview with Steve Skinner, Lewis County Solid Waste Services (February 2017).

Rate Models

Solid waste service providers can use a variety of rate models to set customer fees for service. Municipal service providers and private providers contracted to a municipality have greater flexibility in choosing their rate model. Solid waste collectors regulated by the Washington Utilities and Transportation Commission (WUTC) must follow state regulations, particularly the core principle that rates collected from one set of customers cannot be used to subsidize rates for another set of customers (except in very limited circumstances). Cities and counties can also affect rate models by setting service standards and requirements, such as mandatory service, even if they do not set the rate model directly.

In general, service providers can set rates based on varied combinations of flat and variable fees. Fees may be additionally segmented by criteria such as:

- Container type (e.g., roll-offs, dumpsters, carts).
- Customer type (e.g., single-family residential, multifamily, commercial).
- Material stream (e.g., garbage, recycling, organics).

Rather than charging different fees for each material stream collected, some municipal and municipally contracted providers offer “embedded” recycling and/or organics service, which means that the cost of recycling and/or organics collection is bundled in with the cost charged for garbage service. Under this structure, recycling and/or organics collection often appears “free” to the subscriber. WUTC-regulated collectors are prohibited from this rate model—although counties can mandate subscription to recycling and composting service for all who sign up for curbside garbage service.

Variable fees can be levied as an alternative or in addition to flat fees. Variable fees may be based on:

- Volume of service (by container size and/or by number of containers for pick-up).
- Quantity of disposed material (e.g., tonnages).
- Frequency or number of pick-ups; this is a common fee structure for collection of large roll-off containers, for example, instead of a monthly collection fee.

Service providers can use variable fees to incentivize waste reduction and recycling through forms of pay-as-you-throw (PAYT) rate models in which rates vary substantially based on waste volume or quantity. New technology can expand options for charging variable fees by actual service usage; examples include on-board scales that weigh containers when they are collected and radio frequency identification (RFID) tags that allow collection trucks to identify when each container is collected.

Finally, service providers may include a variety of additional fees, such as fees for atypical and harder-to-collect material such as bulky item pick-up (e.g., mattresses, appliances), fees for additional services such as unlocking a gate to reach containers, penalties for contaminated material streams, and administrative fees imposed by a jurisdiction to cover regulatory or contract administration or jurisdictional other solid waste activities.

Factors to consider in setting an appropriate rate model include equity, affordability, desired levels of service, financial incentives for desired behaviors (e.g., recycling over disposal), and stability of revenue.



Appendix 2: List of Current Funding Mechanisms

Mechanism Name
Hazardous Substance Tax (Washington State)
Coordinated Prevention Grants (cities and counties across the state)
Solid Waste Collection Tax (Washington State)
Voluntary Reduction Plan Fee (Washington State)
Hazardous Waste Generation Fee (Washington State)
Litter Tax (Washington State)
Fees on Gross Revenues for Solid Waste Collectors (Washington Utilities and Transportation Commission)
Enforcement penalties for littering and illegal dumping (Washington State and local governments)
Permit Fees for solid waste handling facilities (local governments)
Excise Tax via Solid Waste Disposal District (Counties in Washington State)
Local Hazardous Waste Fee
Administrative Fees, Franchise Fees, Surcharges, and Other Fees in Collection Contracts (Washington State cities and counties)
Administration and Planning Fees Outside Collecting Contracts (Washington State counties)
Performance fees on solid waste contracts
E-Cycle Washington (electronics EPR program)
LightRecycle
Enhanced producer responsibility for pharmaceuticals (Washington State counties)
Core Vehicle Battery Charge (Washington State)
Tire Retailer Fee (Washington State)
Tip Fees
Flow Control Measures (jurisdictions in WA state)
Curbside collection fees (variant: fee-based garbage service with “free” recycling and/or composting)
Curbside collection fees (variant: separate fees for garbage, recycling, and composting with voluntary subscription to recycling/composting)
Curbside collection fees (variant: separate fees for garbage, recycling, and composting with mandatory subscription to recycling/composting)
Sales of Recyclable Commodities, Compost, or Organic Products
Revenue-sharing Agreements with Haulers
Energy Recovery, Landfill Gas, Biogas, Waste to Energy, and Refuse-Derived Fuel



Appendix 3: Stakeholder Survey Instrument and Comments

The following appendix contains:

- The survey instrument
- Verbatim stakeholder comments regarding:
 - Identified gaps in solid waste system funding
 - Funding mechanisms currently in use in Washington or mechanisms that should be researched
 - Other people, organizations, reports, or funding mechanisms to research
 - Other comments, suggestions, and concerns

Note: comments were edited to remove email addresses and phone numbers.