

Comprehensive Solid Waste Management Plan Decision Matrix: Collection & Processing and Waste Prevention & Recycling

	Topic	Question	Background
1	Mandates General	Should the county and the cities consider mandates in order to increase recycling?	<p>Mandates that restrict the disposal of specific materials have proven effective in increasing recycling. Mandates can be legislated at the local, state, or federal level, or implemented through city collection contracts.</p> <p>Mandates are used effectively in many jurisdictions as a tool to increase recycling, reduce climate change, and conserve resources. Mandates are implemented after sufficient infrastructure is in place, there has been extensive education and promotion, and incentives have been used to encourage the desired behavior.</p> <p>The successful diversion of residential yard waste from disposal exemplifies the effective use of all four tools. First, an infrastructure was created to make it easy to separate yard waste from garbage. Curbside collection programs were implemented in phases across the county, easy-to-use wheeled collection containers were provided to residents, and private-sector businesses began turning the collected yard waste into compost for building healthy soils. Promotions were used to inform residents of the availability of curbside collection as the service was phased in. Educational campaigns were launched to teach citizens how to compost yard waste from their own yards for use as a soil amendment. Because the cost of collecting yard waste for composting was less than the cost of disposal in the garbage, residents had an incentive to subscribe to yard waste collection service. Many cities provided an additional incentive by including yard waste collection as part of their basic package of collection services at the curb. Finally, mandates were passed by the cities and the county to prohibit residents from disposing of yard waste in the garbage.</p>
2	Mandates Require curbside collection	Should county and the cities mandate curbside collection of: <ul style="list-style-type: none"> • garbage? • recyclables? • organics? 	While all residents have access to curbside garbage collection and most have access to curbside collection of recyclables and organics, not all cities, nor the county, require that residents use the service. Requiring customers to pay for these services would somewhat decrease self-haul traffic at transfer facilities and would increase recycling rates.
3	Mandates Prohibit disposal of recyclables	Should disposal in the garbage of recyclables that are accepted in the curbside recycling program be prohibited?	Considerable amounts of the standard curbside recyclables – glass and plastic containers, tin and aluminum cans, mixed waste paper, newspaper, and cardboard – while easily recyclable, are still present in the waste disposal stream.
4	Mandates Prohibit disposal of food waste	Should disposal in the garbage of food scraps and food-soiled paper be prohibited?	Increased recycling of food scraps and food-soiled paper could boost single-family recycling significantly. Food scraps and food-soiled paper made up over 40 percent of the waste disposed by single-family residents in 2011. Since 1993, disposal of yard waste in the curbside garbage container has been prohibited.

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			Infrastructure is in place for single-family; would require additional multi-family and non-residential infrastructure.
5	Curbside collection Provide space	What specific actions should the county and the cities take to ensure there is adequate, conveniently located space for garbage, recycling and organics containers for multi-family and non-residential buildings?	<p>Providing sufficient space for safe and efficient collection is integral to providing services to all residents and businesses in King County.</p> <p>Possible actions include:</p> <ul style="list-style-type: none"> • Assess current code requirements • Amend and enforce codes as needed • Perform on-site assessments at multi-family and non-residential buildings of space, container capacity, frequency of collection, and signage
6	Curbside collection Food waste collection for multi-family	Should collection of food scraps and food soiled paper to be provided to multifamily residents county-wide?	<p>Food scraps and food soiled paper provide the greatest opportunity for increasing multi-family recycling.</p> <p>Minimal infrastructure is currently in place.</p>
7	Collection standards Common standards	Should the county and the cities adopt common collection standards including collection frequency, container types/sizes, fee structures, and materials collected?	<p>Throughout King County, individual city contracts for collection of garbage, recyclables, and organics differ in a number of aspects including container sizes offered, collection frequency, and fee structures. Cities have entered into contracts with the collection companies at different times and then renewed contracts as they have expired. Each time a contract is negotiated and renewed, the city may make adjustments to their services such as changing the range of materials being collected, the collection frequency, container types or sizes, fee structures, and more. Changes to services may also be negotiated for in-place contracts. The varying collection standards among cities that have resulted from these changes over time have led to inconsistencies in regional education and messaging, confusion among customers, and difficulties in measuring and potentially attaining region wide goals.</p> <p>Establishing progressive minimum collection standards countywide would 1) help to increase overall recycling rates, 2) lead to more efficient operations by standardizing services, and 3) clarify what or how materials are collected through more consistent messaging region wide.</p>
8	Collection standards Rural areas – Vashon	Should Vashon be exempt from the collection standards?	Vashon Island is exempt from the current minimum collection standards. Historically, a high percentage of Vashon/Maury Island residents have chosen to self-haul garbage and recyclables to the division's Vashon Recycling and Transfer Station; however, the number of households subscribing to garbage service has increased over time. Waste Connections, the company providing garbage collection service on Vashon/Maury Island, offers subscriptions to recyclables collection services, but organics collection is not available.

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9	Collection standards Rural areas – Skykomish	Should Skykomish be exempt from the collection standards?	The Skykomish area is exempt from the current minimum collection standards. The Skykomish area is remote and sparsely populated. Residents of Skykomish and some residents in surrounding unincorporated areas receive curbside garbage collection service from the Town of Skykomish. Skykomish does not collect curbside recyclables or organics. Customers may self-haul garbage and recyclables to the division's drop box facility located in Skykomish; however, separate organics collection is not provided at the facility.
10	Collection standards Rural areas – Snoqualmie Pass	Should Snoqualmie Pass be exempt from the collection standards?	The Snoqualmie Pass area is exempt from the current minimum collection standards. The Snoqualmie Pass area is very sparsely populated. Residential garbage collection is available from Waste Management of Ellensburg in Kittitas County. Curbside recycling is not available; however, the division does provide drop box collection for the standard curbside recyclable materials. Organics collection is not available.
11	Collection standards Cart size	Should the county and the cities adopt a common standard for recycling and organics cart size?	The size of the recycling collection cart can affect recycling success. Larger carts generally lead to higher recycling rates. As more materials are identified for commingled recycling, and food scraps are added to the yard waste cart, recyclables carts should get larger and the size of garbage can should become smaller. Areas where most residential customers use smaller recycling carts have shown lower recycling rates. When larger carts are provided as a standard the recycling rate has increased.
12	Collection standards Collection frequency	Should the county and the cities adopt a common standard for collection frequency of recyclables and organics? Should the county and the cities adopt a standard of every week organics collection and every-other-week garbage collection?	Adjustments to the frequency of curbside collection for garbage, recyclables, and organics can influence recycling and disposal behaviors and reduce collection costs and truck traffic. Garbage collection across King County typically occurs on a weekly basis. This collection schedule has been driven, in part, by the presence of food scraps and other organics in the garbage that rapidly decompose and have the potential to lead to environmental or public health concerns. With separate weekly collection of organics, there is an opportunity to provide every-other-week garbage collection to benefit ratepayers and to create a more environmentally sustainable system. One city in King County (Renton) and several others in western Washington have successfully implemented every-other-week garbage and weekly organics.
13	Collection standards Embed cost of organics collection	Should the cost of curbside collection of organics be included in the basic garbage rate for single-family residents?	Embedding the cost of organics collection in the curbside garbage collection fee provides an incentive for residents to reduce disposal and maximize use of the recycling options for which they are paying. The average pounds of garbage disposed per household in cities which have embedded the cost of organics is lower than the average for the rest of King County.

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			<p>Note that the 2001 <i>Comprehensive Solid Waste Management Plan</i> specifies that recycling should be included as part of the basic garbage rate for residents in most of King County. King County enacted a service-level ordinance (KCC 10.18) that includes this requirement for unincorporated areas, except Vashon Island, Skykomish, and Snoqualmie Pass, and the WUTC required collection companies to develop tariffs that spread the cost and availability of recycling to all residential garbage customers. These tariffs and service-level requirements also apply to cities that have not opted out of the WUTC regulatory structure.</p>
14	<p>Collection standards Materials collected</p>	<p>Should the county and the cities adopt common standards for materials to be collected in the curbside recycling program? If so, what materials?</p>	<p>The county recommends collecting the following materials in the curbside recycling program:</p> <ul style="list-style-type: none"> • Newspaper, cardboard, mixed paper, poly-coated paper, paper drink cups, and aseptic containers • Plastic bottles, jugs, and tubs • Plastic plant pots, plastic trays and clamshells, and plastic drink cups • Tin cans, aluminum cans, aerosol cans • Glass bottles and jars • Aseptic packaging • Small scrap metal <p>Materials for more discussion:</p> <ul style="list-style-type: none"> • Shredded paper • Block Styrofoam • Small appliances and home electronics not covered by Washington's current product stewardship laws
15	<p>Curbside collection Shredded paper</p>	<p>In which cart should shredded paper go – recycling or organics – and how should it be prepared? Should the system be different for residential collection and non-residential collection?</p>	<p>There are problems associated with both collecting and processing this material and information given to customers is inconsistent. Some customers have been instructed to place shredded paper in clear plastic bags or paper bags for collection in the recycling cart, and some have been instructed to layer shredded paper in their organics cart. Finely shredded (cross-cut) paper fibers cannot be recycled at all, making them a nuisance at processing facilities. Shredded plastic, such as credit cards, is a frequent contaminant in shredded paper.</p>
16	<p>Curbside collection Comingled recycling</p>	<p>Should the system of comingled recycling be reconsidered for some materials?</p>	<p>While the conversion to comingled collection made recycling easier for consumers and resulted in increased recycling, it presents some challenges for the recovery and processing facilities. One of the challenges is cross-contamination of materials as they are sorted and separated. This is a problem particularly for the paper stream, where</p>

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		<p>If so, which materials?</p> <ul style="list-style-type: none"> • Container glass • Paper • Plastic bags • Other 	<p>materials such as plastic milk jugs end up in the baled paper. Plastic bags sometimes catch in and jam the sorting machinery at MRFs, and they can blow around and cause litter problems. In the case of glass, even small amounts of contamination in the sorted material can reduce the quality and affect the potential end use of the recycled glass. These problems illustrate a fundamental conflict between the benefits of commingled recycling (it makes collection easier and leads to increased recycling) and the need for the MRFs and end users to minimize the costs of handling these materials.</p>
17	Curbside collection Plastic bags	Should plastic bags be collected in commingled curbside recycling?	Plastic bags are prevalent in the waste stream, particularly the residential stream, but curbside collection in the commingled cart may not be the best option. Plastic bags are problematic when they reach the MRF catching in and jamming sorting machinery. Take-back programs provided at the retailers would be an option for source separated collection.
18	Mandates Plastic bags	Should the county and cities ban single-use plastic bags at retail stores?	The county and many cities encourage consumers to reduce the use of disposable shopping bags in favor of reusable bags. The cities of Seattle, Issaquah, Shoreline, and Mercer Island have enacted plastic bag bans.
19	Curbside collection Electronics and fluorescents	Should products for which there are product stewardship programs – in particular TVs, computers, monitors, and fluorescent bulbs and tubes – be collected in the curbside recycling program?	<p>Convenient product stewardship programs are in place for these materials, while collection at the curb is complicated. These materials tend to break easily and contain potentially hazardous materials that must be safely disposed</p> <p>Some cities offer collection of small appliances and home electronics not covered by Washington's current product stewardship laws. For appropriately sized products that do not contain hazardous materials, curbside collection is a viable and efficient option.</p>
20	Curbside collection Polystyrene foam	Should polystyrene foam be collected in the curbside recycling program? If so, how?	Polystyrene foam includes clamshell containers for take-out foods and blocks of plastic that are used to package many electronics and other goods. These materials are difficult to collect curbside because they are light and bulky, can break easily into small pieces, mix with other materials causing contamination, and are difficult to process at the MRFs. Although there are challenges to collecting polystyrene foam curbside, the City of Des Moines began offering its single family residents this service in 2012. Residents are asked to put block polystyrene foam (not packing peanuts) in a clearly labeled plastic bag and place it next to their curbside recycling cart. This allows the polystyrene foam to be handled separately from the commingled recyclables.

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21	Mandates Polystyrene foam	Should the county and cities ban polystyrene foam take-out containers?	The cities of Issaquah and Seattle have banned the use of polystyrene foam containers for take-out.
22	Curbside collection Bulky materials	Should the cities, the county, and the haulers prioritize exploring options to increase the efficiency and reduce the price of curbside collection of bulky items? If so, how?	An ongoing issue with collection is finding an efficient and cost-effective way to handle bulky waste – larger, individual items that do not fit in a garbage can or recycling cart. Bulky collection is available in most areas, but is not widely used due to the cost (average about \$65 to \$75 per item).
23	Collection standards Bulky materials	Should bulky collection be incorporated into the collection standards?	Some cities have incorporated the cost of bulky collection into the regular curbside collection fees, making it more affordable and efficient.
24	Mandates Sharps	Should sharps be banned from collection at the curb and from disposal at transfer stations?	<p>Sharps are medical products, such as hypodermic needles, scalpel blades, and lancets, which require special handling to ensure their safe collection, transfer, and disposal. Without proper containment, sharps can pose a safety hazard to workers through potential exposure to blood-borne pathogens or other disease-causing agents.</p> <p>Currently, home-generated sharps are accepted with the garbage at the curb and at division transfer facilities if contained in a marked, two-liter polyethylene terephthalate (PET) bottle. PET bottles that contain the sharps can break during handling. An additional problem is customers putting bottles containing sharps into recycling. Both the Centers for Disease Control and the U.S. Environmental Protection Agency have withdrawn support for the PET method of containment because of the exposure risks to workers.</p> <p>There are a variety of alternative methods for the proper management of sharps. Many health care providers and pharmacies will take back used sharps in pre-approved containers, there are mail-in programs available, and the division provides special containers for disposal at transfer facilities where space exists.</p>
25	Collection standards Non-residential recycling	Should cities include recyclables collection as part of their non-residential collection service and embed the cost of the service in the garbage fee?	<p>Cities that provide recycling as part of their basic collection services for non-residential customers provide a financial incentive for businesses to recycle and make recycling more convenient. While including recycling service in the garbage fee requires all businesses to pay for the service, it does not require that those businesses use the service that the city contractor provides.</p> <p>There is a fundamental difference in how the WUTC regulates residential and non-residential collection of recyclable materials. Recyclables generated by the non-</p>

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			<p>residential sector are considered to be property and are subject to a different regulatory structure. King County cannot enact ordinances that require commercial garbage collectors to include recyclables collection as part of the non-residential collection service. Cities, on the other hand, may include recyclables collection as part of their non-residential collection service, but cannot prohibit businesses and other non-residential entities from choosing other vendors for this service. So, non-residential customers have the option to take advantage of recyclables collection offered by their service provider or to contract with other collection companies that may pay for the more valuable recyclable materials, such as high-grade office paper.</p>
26	<p>Collection standards Non-residential rate structure</p>	<p>Should the county and the cities develop an incentive-based rate structure for non-residential garbage and organics?</p>	<p>A rate structure based on weight or composition of waste, rather than the size of the container, might increase recycling for some business customers. For example, businesses with large amounts of food scraps generate garbage that is significantly heavier than the garbage generated by businesses without large amounts of food scraps. In Washington, non-residential garbage rates are based on the size of the garbage container. So generators of heavy materials, such as food scraps, pay less than they might if the rates were based on weight, as they are in some jurisdictions across the country. Because a weight-based rate would likely cost more for generators of large amounts of food scraps, it would provide an incentive for increased participation in organics recycling programs. Another strategy is to offer organics collection to businesses at rates less than garbage. A number of cities in King County do this, thereby increasing diversion and reducing their costs.</p>
27	<p>City grants Collection events</p>	<p>Should the cities and the county phase out collection events as enhanced recycling services are added at transfer facilities, curbside collection for bulky items becomes more cost effective and widely available, and product stewardship programs offer more options for recycling?</p>	<p>Currently, many cities use their grant funds to hold recycling collection events. The cities and the county may be able to phase out these collection events and use the funds in other ways that support WPR in their communities. The grant monies can be used to support a number of activities, including:</p> <ul style="list-style-type: none"> • Encouraging and promoting waste reduction • Continuing to implement and improve general recycling programs • Improving opportunities for the collection of specific commodities, such as paper • Improving opportunities for the collection and/or composting of organic materials • Increasing the demand for recycled and reused products • Fostering sustainable development through the promotion of sustainable building principles in construction projects • Managing solid waste generated by public agencies in a manner that

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			<p>demonstrates leadership</p> <ul style="list-style-type: none"> • Broadening resource conservation programs that integrate WPR programs and messages • Providing product stewardship opportunities
28	Green building Common standards	Should the county and the cities adopt common green building policies that support the design of buildings and structures that have less impact on the environment, are energy efficient, and use recycled materials?	Green building programs have been instrumental in promoting C&D recycling and reuse.
29	Green building and C&D Permit incentives	Should the county and the cities enact policies that would expedite the permit process, or otherwise provide permit related incentives, for projects with higher rates of C&D diversion or more green building elements?	Cities and counties around the country are increasing diversion of construction and demolition debris from disposal through a variety of land use and building permit processes.
30	C&D Require use of designated facilities	Should the county and cities mandate that all jobsites use designated/certified C&D processing and transfer facilities for the management of C&D waste generated at the jobsite?	Use of designated sites would ensure that C&D waste and C&D processing residuals are disposed of appropriately. It would also ensure that KC SWD receives the fees necessary to oversee, provide education, and provide enforcement of C&D regulations.
31	C&D Bonds to incentivize diversion	Should the county and cities require contractors and homeowners to pay a bond when applying for their building permits and demolition permits, which specify that a C&D materials diversion report is submitted and that county designated/certified C&D processing facilities and transfer facilities were used?	The bond would be returned once a C&D report is submitted and documentation is made available that designated/certified facilities were used.

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32	C&D Require separation	Should the county and cities require contractors and homeowners to use at least two containers on construction, demolition, or remodeling sites – one for garbage and one for mixed recyclables – and if there is sufficient space, to sort individual recyclables on site?	According to Washington State code (WAC 173-345-040), if a location has a diversion/recycling collection container there must also be a container present for the collection of waste (destined for a landfill).
33	C&D Require diversion	Should the county and the cities mandate that all jobsites meet a specific level of diversion?	This is a popular approach with many cities – San Diego, Santa Monica, and Chicago mandate diversion levels. However, the division is not emphasizing specific jobsite diversion rates as there are a lot of inaccuracies in how they are calculated and high diversion rates are easy to fake.
34	Data Recycling and organics characterization	Should the cities and county standardize the methodology and frequency for characterizing materials set out for recycling and organics collection?	Accurate characterization of what is placed in recycling and organics containers is necessary to assess efforts to reduce contaminants and to calculate true recycling rates.