

Chapter 9 Responsible Disposal

Close-up.



CHRIS JORDAN
Running the Numbers
An American Self-Portrait
Cell Phones, 2007
60"x100"

This chapter presents the strategy and actions for improving management and operational effectiveness over the next six years. The strategy and actions are in response to challenges and opportunities described in **Chapter 4** and **Chapter 5**, and are summarized in **Appendix 5**. The Utility's **Goal 3** is:

“Manage Olympia’s waste system responsibly. Discarded materials are collected, processed and disposed of reliably, with minimal impact on environmental and public health and worker safety.”

The City’s 1991 Waste Management Plan focused on this goal, and major efficiency and management improvements have been made since then (see **Chapter 5**). In the next six years, Waste ReSources will continue adjusting its operations in line with this goal, with a new focus on ensuring that materials collected for recycling are actually recycled back into the flow of manufacturing, processing and sale.

Strategy 3.1

Ensure That Recyclable Materials Are Actually Recycled and That Operations Are Effective

For many reasons, some of the material that is collected for recycling ends up being disposed of as garbage because it is “contaminated.” For example, most buyers of recycled paper report enough contamination (with milk cartons and plastic) that a large percentage of recyclable paper still goes to the landfill after processing. Glass is also an issue in paper recycling, since broken glass can contaminate the paper in mixed recycling collected in a “single stream” as in Olympia.

Other potentially recyclable material is never collected because:

- Markets do not exist – for example plastic film, hard plastics and textiles.
- There is no convenient or cost-effective way to collect or recycle them – for example steel and iron products, batteries, fluorescent lights and electronic equipment.

This strategy aims to ensure that more of these recyclable or potentially recyclable materials actually end up being recycled for use in other products and materials. Specifically, the target is to add two other materials to the curbside collection system. Additional materials would be collected at a drop-off location; for example, fluorescent light bulbs, metal, textiles and batteries.

This strategy also aims to continue improving the Utility's overall management and operational effectiveness. A key action is to prepare a contingency plan for waste management in local emergencies such as flooding and ice or snow storms.

The options selected for implementation are:

1. Explore the feasibility of collecting additional recyclable materials at curbside; for example, additional hard plastics, plastic film and other metals.
2. Establish a centrally located drop-off collection center for additional materials, products and/or reusable materials.
3. Re-evaluate single-stream recycling for residential customers. (With current technology, single-stream recycling results in contamination of recyclable paper with glass shards; however Olympia's single-stream system is more convenient for customers and allows for more operational efficiency. New technology may solve the contamination problem.)
4. Require recyclers and haulers to report to the City on the types and quantities of recycled materials they collect. (This data is reported to Washington State Department of Ecology by county, not by city, so Olympia can only estimate tonnage.)
5. Perform a statistically valid study of Olympia's waste disposed as garbage at the WARC in coordination with Thurston County's four-year waste sort cycle.
6. Prepare a contingency plan for waste management in local emergencies.
7. Consider other system efficiency and effectiveness improvements in the City and countywide waste management system. Examples include equipping collection vehicles with Global Positioning System (GPS) technology, and continuing to evaluate the feasibility of charging customers by actual weight as new technology is developed.



A convenient drop-off center could increase recycling of additional products and materials.

Options 1–7 were evaluated against three criteria: potential to reduce quantity or toxicity of waste, feasibility and customer acceptance. Results are shown in **Table 9.1** and summarized below.

	Reduces Quantity or Toxicity	Feasibility/ Practicality	Customer Acceptance	TOTAL
Option 1	♻️	♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	9
Option 2	♻️	♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	9
Option 3	♻️	♻️ ♻️	♻️ ♻️ ♻️	6
Option 4	♻️	♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	9
Option 5	♻️	♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	9
Option 6	♻️	♻️ ♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	10
Option 7	♻️	♻️ ♻️ ♻️	♻️ ♻️ ♻️ ♻️ ♻️	9

Another option was considered but not evaluated:

8. Change to modified single-stream collection for recycled materials and separated glass. Glass could be collected every other week, or by self-haul to a collection center. (This option was replaced by Option 3, re-evaluate single-stream recycling.)

Table 9.1

Assessment of Options for Strategy 3.1 – Recyclables Actually Recycled and Improved Effectiveness

ASSESSMENT CRITERIA

	Reduction Potential	Feasibility	Customer Acceptance
<p>Option 1 Explore the feasibility of collecting additional recyclable materials at curbside.</p>	<ul style="list-style-type: none"> ■ Adds recycling options – possibly for such items as hard plastics, plastic film and other metals as well as tin and aluminum. ■ Could be utilized by residents and businesses. ■ Reduction potential not known. 	<ul style="list-style-type: none"> ■ Cost to be determined. 	<ul style="list-style-type: none"> ■ Assumed to be high. ■ Frequently requested during City focus groups and Open House.
<p>Option 2 Establish a centrally located drop-off collection center for additional materials, products and/or reusable materials.</p>	<ul style="list-style-type: none"> ■ Adds options for recycling – e.g. fluorescent light bulbs, electronics, metal, packaging, plastic film, textiles, C&D debris. ■ Reduction potential not known. 	<ul style="list-style-type: none"> ■ Centrally located collection site for Olympia residents would add convenience. ■ Could be combined with existing yard waste drop-off site. ■ Could be a private business opportunity. 	<ul style="list-style-type: none"> ■ Frequently requested during focus groups and Open House. ■ Convenient for those who want to self-haul, or have high volume at times.
<p>Option 3 Re-evaluate single-stream recycling for residential customers.</p>	<ul style="list-style-type: none"> ■ Not known. ■ Glass is recyclable, but when mixed with other materials it becomes hard to separate. ■ Single-stream results in collecting more recycling tons. ■ Mixed recyclables containing glass are less valuable than without glass. 	<ul style="list-style-type: none"> ■ Evaluation could be done with current resources. ■ Current operations cannot absorb a second recycling stream. ■ Implementation would require additional staff and equipment. 	<ul style="list-style-type: none"> ■ Separating glass would be less convenient for customers. ■ Separation could be acceptable if customers understand reasons.
<p>Option 4 Require recyclers and haulers to report to the City on the types and quantities of recycled materials they collect.</p>	<ul style="list-style-type: none"> ■ Staff can now only estimate types of materials and tons. Better measurement could lead to better management and indirectly improve reduction potential. ■ Staff views this as a prerequisite to enforce City “ownership” of garbage hauling. However, direct impact on waste reduction or recycling is low. 	<ul style="list-style-type: none"> ■ Means more red tape for recyclers and haulers. ■ Once a process is established, paperwork might be less of a burden. ■ Department of Ecology has offered to gather data specific to Olympia along with its own reporting requirements. Timing might not be helpful for the Utility’s planning. 	<ul style="list-style-type: none"> ■ Probably low among haulers and recyclers. But, general customer base would be unaffected. ■ City could provide an incentive, such as preferred processing status or discount on licensing fee.
<p>Option 5 Perform a statistically valid study of Olympia’s waste disposed as garbage at the WARC in coordination with Thurston County’s four-year waste sort cycle.</p>	<ul style="list-style-type: none"> ■ Considered to be a prerequisite for good management of waste. ■ No direct impact on waste reduction or recycling. 	<ul style="list-style-type: none"> ■ Is costly. Suggest setting up a savings fund with annual contributions. 	<ul style="list-style-type: none"> ■ No direct service effect on customers.
<p>Option 6 Prepare a contingency plan for waste management in local emergencies.</p>	<ul style="list-style-type: none"> ■ No effect on tonnage collected during normal operations. May prevent improper disposal during emergencies. 	<ul style="list-style-type: none"> ■ Preparation of the plan is within current capabilities. ■ Feasibility of implementation is uncertain because the City is dependent on Thurston County’s single transfer facility at the WARC. 	<ul style="list-style-type: none"> ■ Customers would welcome knowing the City is prepared to deal with waste during emergencies.
<p>Option 7 Consider other system efficiency and effectiveness improvements in the City and countywide waste management system.</p>	<ul style="list-style-type: none"> ■ Reduction potential is unknown, but would lead to better service, e.g., installing portable computers with Global Positioning Systems in every collection vehicle. ■ Weight-based rates would be an incentive for customers to reduce waste. 	<ul style="list-style-type: none"> ■ Doable and necessary. ■ Vehicle-mounted scales to accurately measure weight for each customer are currently not sufficiently reliable. 	<ul style="list-style-type: none"> ■ Would probably go unnoticed by most customers. ■ Assumed to be high, but only if scales are reliable.