Solid Waste Management Plan (SWMP)
Stakeholder Recommendations for the Residential Program

Following are the residential stakeholder recommendations, grouped by theme and intent. The recommendations fall into two general groups: 1) expanding recycling opportunities and 2) motivating sustainable behavior. Two recommendations – advocating for an expanded bottle bill and supporting the transition to alternative fuels and new fuel technology are already underway and so are not listed in the background information presented below.

I. Expanding Recycling Opportunities

Adopt food waste collection, composted with yard debris. Increase yard debris to weekly collection, in conjunction with collection of organics

Currently, yard debris service is provided every other week but weekly service would be necessary with the advent of food waste collection. Implementation is contingent on local processing capacity being available.

Currently, there is no compost facility in the region that can accept a mixed waste stream of yard debris and food waste. Commercial food waste is being sent to Cedar Grove facilities in Washington State. It would not be feasible to send the residential material to the Cedar Grove. It could take 1-3 years to site and build a facility in the Metro region.

New rules from the state DEQ are expected to increase the requirements for yard debris composting facilities. The cost of processing yard debris is expected to increase, making it more on par with the cost of processing food waste. Some of the anticipated cost increases are already being realized. Upgrading the facilities to meet these new requirements would allow them to also process food waste. Some local processors have recently signaled their intent to upgrade in anticipation of composting a mixed organic waste stream. The DEQ is expecting to adopt the rules in 2008 and facilities will need to be in compliance by 2010.

Establish roll carts for recycling

This would involve switching from the current two bin system for curbside recycling to larger roll carts for collection of mixed recyclables. Glass would still be collected separately and new materials, specifically plastic tubs, could be added. The benefits from shifting to roll carts include customer convenience, higher volumes of material collected, dryer material for sorting, expanded materials collected and improvement in worker health and safety. This program change has been successful in other communities in the Metro region such as Beaverton and Lake Oswego and is supported by local processors.

The change to roll carts may also result in an increase in contamination. In the past year, the state Department of Environment Quality (DEQ) completed a study comparing roll cart and bin systems for quantity of materials set out and associated contamination. The results included:

DEQ data: roll carts vs. bins		
	Pounds/customer/yr	Observed Contamination
Roll cart systems	765	10%
Bin systems	593	2.5%

The results for Portland may differ due to the maturity of the recycling program, the high level of participation and recovery, and the impact of education and outreach efforts. For example,

Beaverton recently made the switch to roll carts and their initial sort indicates a contamination level of only 4%.

Preliminary estimates for the rate changes from switching to recycling roll carts indicate an increase of $1.20/month for customers with 32-gallon can garbage service (currently paying $20.60/month).

The following table shows the estimated incremental rate increases associated with implementing components of the full suite of changes with roll cart service for recycling, yard debris and food waste, and with weekly collection of organics.

Estimated Customer Monthly Rate Changes*			
Based on current 32-gallon can cost of $20.60			
Material	***Frequency***	***Container***	***Estimated Rate Change***
recycling	weekly (NC)	Change to Roll cart	$ 1.20
yard debris	EOW (NC)	Change to Roll cart	$ 1.40
yard debris	Change to weekly	Roll cart	$ 2.45
yard debris + food waste (increase materials)	weekly	Roll cart	$ 0.55
Estimated total impact			**$ 5.60**

*Assuming weekly garbage service

The estimated contributions these changes would make toward reaching the 75% recycling goal are outlined below.

	New tons	Residential recycling rate % impact	Overall recycling rate % impact
Curbside YD/FW roll carts*			
30% capture	4,020	0.8%	0.4%
60% capture	8,040	1.5%	0.6%
Curbside mix roll carts			
30% capture	8,775	1.6%	0.7%
60% capture	17,550	3.2%	1.5%

*assuming 25% participation rate
Overall figures are based on projected generation growth for 2009

When the city moves to weekly yard debris/organics collection, concurrently move to every-other-week trash collection

With the expanded recycling opportunities described above, many residents would likely find they don't need garbage collection every week. EOW garbage service compliments these other changes and helps to reinforce a waste prevention ethic. Implementation would be tied to the roll out of the weekly yard debris and food waste collection service. Other cities that use an EOW trash collection system include Bellingham (60% subscription level), Olympia (100%), and Vancouver, WA (14%).

Switching to this service would also provide customers a way to offset the rate increases estimated for the expanded roll cart program described above. Preliminary analysis suggests that switching to EOW garbage service would reduce this rate impact by more than half.

Continue recycling events such as Master Recycler and Plastics Round-Up, and develop other special collection events

OSD currently funds neighborhood cleanup events and these could be expanded to include more non-curbside materials such as plastics, Styrofoam and e-waste. The events also provide a forum for

broader public education around waste prevention and reuse. The convenience of local neighborhood based collection events coupled with the outreach opportunities they offer is a value-added expansion for the residential program services.

II. Motivating Sustainable Behavior

Recognize that public education is <u>the</u> critical success factor

- *Initiate a sticker program that says "No recyclables in this can!" (As food waste collection is implemented this can be expanded to include: "No recyclables or compostables in this can.")*
- *Implement and maintain a central website for re-use and recycle.*
- *Recognize that education is the key to waste reduction. Education targets should include packaging, junk mail, and other items that put a significant volume of material into the waste stream.*

Effective public education is critical not only to support any change in curbside services but also for emphasizing the importance of waste prevention. OSD has recognized the need to develop innovative approaches and has begun to rely on strategies from Community Based Social Marketing to improve the delivery and resonance of its messaging.

Some new directions identified by the stakeholder group include building a stronger neighborhood emphasis and working with new partners such as churches, community groups, homeowners associations, etc. More attention needs to be focused on low participation sectors as well to galvanize interest and participation.

OSD experience and research indicate that certain education techniques are more effective than others. Key success factors include multifaceted contact (printed materials, interactions with experts or champions, internet based information, email, TV, etc); hauler (driver) interaction and communication with customers; door-to-door contact, particularly in low participation neighborhoods. Generally, direct mail is not so effective.

The sticker recommendation is inspired by an earlier sticker campaign to reduce the amount of yard debris disposed by Portland residents. It included a media campaign and prizes for customers who successfully kept yard debris out of their garbage.

OSD maintains a comprehensive website with information about reuse and recycling, as does Metro. Metro's Recycling Information Center (RIC) is probably the more effective central source of information and Portland residents are often directed there by OSD staff.

Establish consumer incentives to decrease garbage. A system of incentives should include:

- *Increased differential between large and small cans.*
- *Increased public education about less-than-weekly garbage collection options.*

The current rates, while graduated in a "pay as you throw" model, are based generally on cost of service (COS). Because it doesn't cost much more to service a 32 gallon trashcan than it does a 90 gallon roll cart, the difference in rates is not proportional to can size. Under the existing rates, costs drop per gallon as can size goes up. To provide some incentive for reducing garbage service, the rates are adjusted so that larger container service subsidizes that for the mini-can which is set below COS. This cross subsidy is calculated to make haulers "whole" based on the mix of service levels in their territories

Current Customer Service Levels		
Garbage Service Level	**2006-07 Rate**	**Customers at this level**
Weekly		
20-gallon mini	$17.90	11%
32-gallon can	$20.60	41%
32-gallon cart	$21.95	22%
60-gallon cart	$26.65	12%
90-gallon cart	$31.05	4%
Monthly		
32-gallon	$12.05	5%

A more aggressive differential would require imposing a premium on the larger can sizes. Under the current system this would create a windfall to the hauler and provide a perverse incentive for reducing can size. Instead, premiums would need to be returned to the City by the hauler and collected in a separate fund. These funds would be used to provide hauler incentives for switching customers to less frequent service and/or smaller can size. The premium calculations would need to take into effect differences among hauler territories and the mix of customer service levels.

Considering a system of more aggressive pay-as-you-throw rates raises some customer equity concerns. Are the customers with larger or extended families being penalized unfairly? Is it feasible for them to divert more recycling or reduce generation to avoid the higher cost of garbage service?

Establish incentives and/or requirements for waste reduction strategies and goals in hauler franchise agreements

- *Establish reasonable expectations for haulers to participate as educators.*

The existing set of franchise agreements with 29 residential waste haulers is up for review by the City in 2007. While the franchise agreements are the appropriate mechanism for implementing hauler incentives, the administrative rules are the primary tool for implementing hauler requirements. Some of these might include:

1) Hauler feedback to customers – regular, consistent feedback to customers about proper preparation and set out of recyclable and compostable materials was identified by the stakeholders as critical in any switch to roll cart service for these items.

2) Waste reduction targets – this concept calls for providing haulers with discounts in franchise fees for meeting specified waste reduction targets (e.g. decrease in number of tons disposed, number of customers switched to EOW or smaller can service). This concept needs more exploration. To implement effectively, it would require rigorous, reliable and verifiable reporting. Also, providing hauler incentives may not translate into customer behavior change.

Establish retailer incentives and requirements for recyclability. A system of retailer incentives and requirements should include:

- *Product stewardship initiatives. (An example was provided of paint stores taking back used paint cans.)*
- *Extension of the Styrofoam ban.*

City Council directed OSD to look at the product stewardship concept, also referred to as Extended Producer Responsibility (EPR), in the development of the SWMP. In fact, the City Operations stakeholder group produced recommendations for how the city as a large purchaser should require

manufacturer take-back in its procurement practices. In working with retailers in Portland, the city could explore ways to promote similar activity through partnerships with retailers, pilot projects and advocacy. Further assessment of the possibilities is needed. One forum for exploring project development is through city participation in the Northwest Product Stewardship Council.

The existing ban on polystyrene foam applies to take-out food containers. Some possible areas to extend the ban include:

- Retail sales of service ware – plates, cups, etc
- Extending ban to non-profit organizations
- Packaging – block, peanuts
- Other PSF products – coolers, craft products, etc

Establish retailer requirements for packaging.

- *Require a "sticker" on non-recyclable packaging.*
- *Implement a surcharge on non-recyclable packaging.*
  The surcharge should be phased in at a later point, after the sticker program is established.

The stakeholders were concerned about the packaging residents must manage that is not recyclable in the curbside program. Currently that would include such items as PSF (block foam and peanuts), rigid plastic packaging (other than bottles) and plastic film. Some of these may be captured in expanded curbside roll cart service and neighborhood collection events. Additional retail requirements may be necessary to capture other non-recyclable packaging that is not captured through the curbside program.

Make compostable food take-out containers mandatory
Phase-in a program, over a reasonable period, that is compatible with area processors

Several types of packaging currently available would meet this requirement including paper, sugar cane-derived products and other fiber based products.

Concerns have been raised about the use of new plastic PLA containers. In a home compost environment, conditions may not be optimal for achieving complete degradation. These containers also have the potential for triggering cross contamination both in the compost waste stream and in the recyclable materials. Under an expanded curbside program, it can be confused for recyclable plastic and become a troublesome contaminant. Conversely, residents may confuse regular plastic with the PLA and place non-compostable items in with food waste.

Making this requirement "compatible with area processors" should help to address some of the contamination concerns. Cedar Grove Composting, for example, strictly regulates what service ware or containers may be included. Items are only allowed after successful testing in their compost process. Currently, they do not permit either compostable service ware or bags in the residential food waste they receive.