



**METRO**

600 NE Grand Ave.  
Portland, OR 97232-2736

**MINUTES OF THE METRO SOLID WASTE AND RECYCLING COMMITTEE (SWAC) MEETING**

Metro Regional Center, Council Chambers  
Thursday, May 24, 2007

**Members / Alternates Present:**

Councilor Kathryn Harrington  
Mike Hoglund  
Glenn Zimmerman  
Lori Stole  
Jeff Murray  
Janet Malloch  
Paul Edwards

Dean Kampfer  
Ray Phelps  
Mike Miller  
Dave White  
Anita Largent  
Vince Gilbert  
Wade Lange

Dave Garten  
JoAnn Herrigel  
Mike Leichner  
Matt Korot  
Theresa Koppang  
Tom Badrick

**Guests and Metro staff:**

Janet Matthews  
Larry Harvey  
Steve Apotheker  
Segeni Mungai  
Brad Botkin  
Jeff Gage  
Doug Anderson  
Scott Klag

Wendy Fisher  
Easton Cross  
Meg Lynch  
Kevin Six  
Jim Watkins  
Marv Fjordbeck  
Matt Tracy  
Fred Schwarz

Heidi Rahn  
Tom Chaimov  
Bryce Jacobson  
Joel Sherman  
Susan Moore  
Marta McGuire  
Julie Cash  
Gina Cubbon

**I. Call to Order and Announcements.....Councilor Kathryn Harrington**

- Councilor Harrington opened the meeting at 10:00 a.m.; attendees introduced themselves.
- Approval of minutes: No changes or corrections were requested. Matt Korot of the City of Gresham moved to accept the minutes as written; Anita Largent (Clark County)seconded the motion; the Committee voted unanimously to approve.

**II. Solid Waste & Recycling Director’s Update.....Mike Hoglund**

- Mr. Hoglund directed attention to the agenda packet attachment regarding new Solid Waste Rates (effective September 1, 2007). The rate increased by \$1.28 per ton due largely to CPI increases, and loss of tonnage affecting fixed costs. The rate remains lower than that of some previous years, he noted. Letters notifying haulers of the change will be sent out soon.
- Council’s first reading of the Enhanced Dry Waste Program Ordinance will be Thursday, June 7; the second reading is scheduled for June 21, at which time Council may take action. The program will be discussed again at the June MPAC meeting.
- Diesel retro-fit program: Mr. Hoglund thanked the participants of this workgroup. The final meeting will be held in June; implementation and funding strategy is being developed. The item may be coming to the SWAC in July as an informational / discussion item.
- Regarding the Disaster Debris Management Plan, Mr. Hoglund explained that in the event of any type of regional disaster (e.g., floods, fires, wind storms, earthquakes and also man-made disasters)

Metro is responsible for ensuring that related debris is collected and recycled / disposed properly and safely. The Plan is being developed; sites need to be identified for temporary storage of disaster debris, processing options, IGAs written, and other details such as cost-tracking need to be fleshed-out. An RFP has been sent out; development of the Plan will likely take six or seven months. A presentation of the Plan will be given at an upcoming SWAC meeting.

### **III. Options for Increasing Business Recycling.....Marta McGuire, Heidi Rahn**

At last month's meeting, Marta McGuire and Heidi Rahn of the Department's Waste Reduction & Outreach Division presented background about why more work is needed in the collection of recycling from the region's business sector, Councilor Harrington reminded the group. This meeting's presentation focused on the details of the proposed programs. (PowerPoint slides attached.)

Existing programs are not expected to meet the 2009 recovery goal, Ms. Rahn began.. Businesses in the Metro region throw away approximately 100,000 tons of paper and containers annually: Oregon is becoming a leader in sustainability practices, and many businesses are stepping up to the challenge, but there is room – and need – for improvement. Ms. Rahn asked that as the SWAC members look at the program options, they consider not only the difficulty and costs associated with each program, but the savings and recovery opportunities.

Ms. McGuire's presentation discussed the three options:

1. Metro could require that businesses separate paper, glass, etc. Inspections would be made randomly to ensure no more than 10% recoverables in the trash. If businesses have trouble meeting the requirements, a recycling specialist would help out, and the business would have three months in which to improve. Failure to participate would result in fines up to \$500.
2. State-ordered program. In this option, the Metro Council would petition the EQC to conduct findings and possibly order mandatory business recycling. That action, Ms. McGuire noted, would not be guaranteed to be taken.
3. Business Recycling standards. Metro would adopt a 90% recycling target for business-generated paper and containers. Local governments would develop new programs or enhance current programs, and create best management practices to achieve the 90% recovery of paper and containers.

Councilor Harrington asked that the difference between Option 1 and 3 be explained; Ms. McGuire replied that the main difference is that Option 3 puts the responsibility on local governments. Metro has \$100,000 budgeted to help fund local government programs, but that amount is to be split between the jurisdictions.

More essential than the actual numbers shown in the presentation, said the City of Gresham's Matt Korot, is that all the jurisdictions are in relatively the same place. The aggregate is more important than the individual numbers, he stressed.

Ms. Rahn continued the presentation with a section on anticipated outcomes for each of the three options. Option 3, she pointed out, is the least certain to capture all the needed tonnage, though it would still be a noticeable improvement. The impact of any of the proposed programs on businesses would be minimal on a day-to-day basis, and could prove to decrease costs by leaving less garbage for which to pay. When polled, businesses supported standardized collection, education, required recycling, and recognition for recycling. They fairly uniformly rejected the thought of raising garbage rates to encourage recycling.

Tom Chaimov, of the Department's Financial Management & Analysis Division gave a short discourse on how "system costs" are defined, and the idea that businesses who choose to recycle more (and dispose less) will save money. The numbers, he said, are based upon work done by Metro together with local governments and solid

waste industry representatives in 2005. At that time, business recycling, mandatory recycling of C&D, and landfill bans were all being considered and compared to decide which path to take to reach the 2009 recovery goal. Since that time, the model used has been refined, looking at gross costs with more specificity. Yes, Mr. Chaimov continued, it will likely cost money for businesses to add a new service, but the cost will be balanced by paying for less garbage having to be disposed.

Ms. McGuire explained a handout, which compared all the program options (attached).

In further questions, Theresa Koppang of Washington County said that a \$500 fine for not recycling enough seems disproportionate: The County's fine for operating a business without a license is only \$100. Vince Gilbert of East County recycling commented that the programs seem to grossly underestimate the amount of enforcement needed for the number of businesses involved. He suggested adding an incentive, such as tax relief. Far West Fiber's Jeff Murray explained that as the region gets closer to its goal, the value of the materials may decrease relative to the market.

Mr. Korot cautioned against focusing too much on the financial estimates, adding that he thought the haulers and local jurisdictions were all committed to providing the necessary infrastructure so that every business could have access to recycling. It's really a question, he said, of what the Metro Council needs from local jurisdictions to see that businesses take advantage of the service.

Councilor Harrington stated that overall tons recovered needs to increase, and a program needs to be implemented to do that. "Those of us around this table, we don't get to just poke holes at options. We have to come up with a solution," she pointed out. She thanked the members for their comments, and said there is further work to be done in a meeting regarding the option details, and subsequent SWAC meeting. The Council, she concluded, is depending on SWAC to come up with a way to meet the mandated recovery goal.

Discussion continued. Compost Oregon's Glenn Zimmerman said he hadn't realized the local governments could be penalized under the options; he might support a version of Option 3 with more education staff. It feels too soon to have to resort to a mandatory program. Ms. Rahn responded that while a large number of businesses are doing a good job of recycling, the main concern is the 14% who simply don't participate. More education specialists won't make any difference to those businesses, many (including some large chains) won't even talk to them.

Mr. Hogle said he appreciated the group's comments, and a meeting will be set-up to look at system costs further. The real cost benefit analysis, however, is not the system costs, it's the environmental and energy savings. If the system costs decrease, that's a bonus, he concluded.

Fleshing out the enforcement issue, Ms. McGuire reiterated that the first step would be further education, followed by fines only if necessary.

Other suggestions included:

- Ask businesses why they're not recycling.
- \$100,000 isn't enough. The education factor is crucial, and because of high turnover in businesses, repeated visits are necessary.
- Governments and non-profits should be included under the umbrella of "businesses."
- Mr. White commented that the business community should be included in the discussion.

A technical review meeting notice will be sent out to SWAC members and other parties interested in details on participation and cost estimates. An examination of the cost model will be included.

**IV. United Haulers Association – Supreme Court Ruling ..... Marv Fjordbeck**

Metro Senior Attorney Marv Fjordbeck explained a recent Supreme Court Ruling that he said was "...the single most important solid waste case in the last ten years." It allows local municipalities to develop their own solid waste systems. The decision, upholding a lower court ruling, dealt with the issue of solid waste flow control by local government. The plaintiffs (a trade association and haulers) alleged that local flow control ordinances violated the Commerce Clause (the ordinance in question restricted waste from being taken across state lines, and required haulers to be permitted to collect and deliver waste). The decision of the Court, Mr. Fjordbeck said, was very pro-government, distinguishing local governments from private industry. If the public benefits of a law outweigh the burden on business, that law is almost always upheld, he noted. In the case of solid waste, issues such as public safety, environmental impacts, and recycling all factor in. Because of these, and other public benefits (including revenue generation), local government cannot be held as competing or discriminating against private businesses. The case (included in the Agenda Packet) lifts any cloud or uncertainty about Metro's authority to control flow, Mr. Fjordbeck concluded.

There were no questions from the members or gallery.

**V. Other Business and Adjourn..... Councilor Harrington**

Councilor Harrington announced that there would be no SWAC meeting in August.

Janet Matthews reported that the schedule for the draft RSWMP to be reviewed at a Council work session has been pushed back a few weeks. This also postpones the period of public comment, though that may still begin sometime in June. She will send out a revised schedule.

Mr. Hoglund said that an RFP for the waste transport contract will be released in the Fall. CH2M Hill has written a report comparing the various modes of transportation (barge, rail, truck) and the criteria for judging proposals. Council will review the report at their May 29 work session.

Tom Badrick (Legacy Health System) announced that Legacy won six of the 17 environmental excellence awards given out regionally. He thanked the local governments, haulers, "everyone" involved.

The Councilor adjourned the meeting at 11:40 a.m.

Prepared by:

Gina Cubbon  
Administrative Secretary  
Metro Solid Waste & Recycling Department

gbc  
Attachments: Increased Business Recycling presentation  
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# Draft

## Options for Increasing Business Recycling

May 2007

Prepared by: Marta McGuire and Heidi Rahn  
Metro Solid Waste & Recycling Department  
Waste Reduction & Outreach Division

### **INTRODUCTION**

Many elements of an effective business recycling system are already in place, including access to recycling services with garbage collection, free education and technical assistance, plenty of processing capacity for business recyclables, and stable material markets. Too many businesses, however, are not participating in the recycling system or maximizing the capture of recyclable materials.

Metro Council recognizes this impediment, and has directed staff to develop program options to increase business recycling.

This paper describes the region's current business recycling system, and details two proposals to change to the system to increase participation in business recycling programs. Information contained in these pages should assist interested parties and policymakers in understanding the problem, the proposed program options, and the potential implications of the approaches.

### **BACKGROUND**

Businesses hold the greatest potential for increasing recovery in the region. Business waste, excluding organics and multi-family residential, comprises more than 45 percent of the region's total disposed waste. Approximately 25 percent of the garbage that businesses throw away is fully recyclable paper and containers.<sup>1</sup>

The business sector continues to generate more recyclable materials. The projected increase in generation of recyclable paper and containers in the business sector from 2005 to 2009 is 17 percent, or an additional 80,000 tons of material (see Appendix A).

Under state law, haulers are required to provide recycling services to businesses that want to recycle, but businesses are not required to recycle except in the City of Portland. Portland currently requires businesses to recycle at least 50 percent of their wastes. To reach the state-mandated 64 percent regional waste reduction goal, a 90 percent recycling rate for business-generated paper and containers is needed. Because Metro is accountable for the waste reduction goal, Metro Council will consider new policy direction to boost business recycling levels in the region.

Two approaches Metro could take to achieve this significant boost in business recycling are: 1) require all local jurisdictions in the region to implement mandatory business recycling, as Portland has done; or 2) set a 90 percent standard for paper and container recycling from the business sector, applicable to each of the region's jurisdictions responsible for solid waste collection.

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<sup>1</sup> Oregon Department of Environmental Quality, 2005 Waste Composition Preliminary Field Sort Data for Commercial Loads.

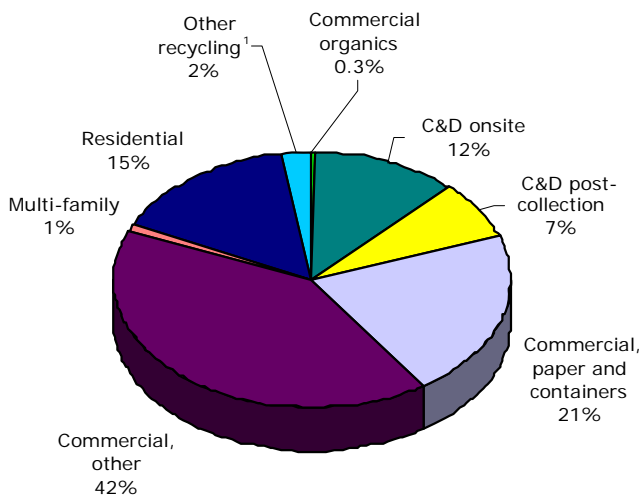
To explore options for increased business recycling under the guidance of the Regional Solid Waste Management Plan, Metro convened work groups and conducted stakeholder outreach from 2003 to 2007. Appendix B highlights the activities conducted and associated reports developed to date.

Overall, stakeholders agreed that business recycling efforts could be improved. A 2006 public survey of more than 400 residents revealed that more than 90 percent of the respondents felt businesses should be required to recycle to help meet the regional waste reduction goal.<sup>2</sup> However, some respondents viewed a regulatory approach as a contingency strategy if and when incentives and education failed to increase participation and recovery levels. When Metro surveyed the business community in February 2007, nearly 600 businesses provided input on the effectiveness of various strategies to increase recycling. More than 70 percent of businesses thought a standardized collection system throughout the region and increased education and assistance would be most effective, while 49 percent thought recycling requirements would be effective<sup>3</sup>

### **CURRENT BUSINESS RECYCLING**

Along with being the largest generator, the business sector is also the largest source of recovered material in the region. In 2005, more than 865,000 tons of source-separated recyclables were collected from businesses, which was 63 percent of the total materials recovered throughout the region (see Figure 1).

**Figure 1. Amounts Recovered by Generator Source<sup>4</sup>**



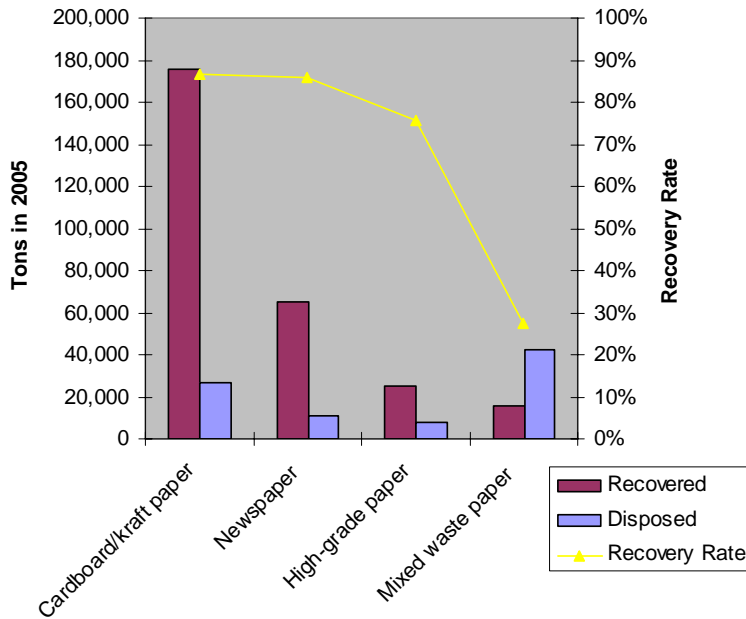
Current recovery rates vary for paper and containers. Overall, the average recovery rate is 76 percent for recyclable paper and 42 percent for recyclable containers (see Appendix A). Cardboard and Kraft paper were recovered at a rate of 87 percent in 2005, while mixed waste paper was recovered at a rate of 27 percent (see Figure 2).

<sup>2</sup> Cogan Owens Cogan, Interim Waste Reduction Plan Public Comment Report prepared for Metro, June 2006.

<sup>3</sup> Portland State University Community Environmental Services, Metro Recycle at Work Campaign and Assistance Survey, prepared for Metro, May 2007.

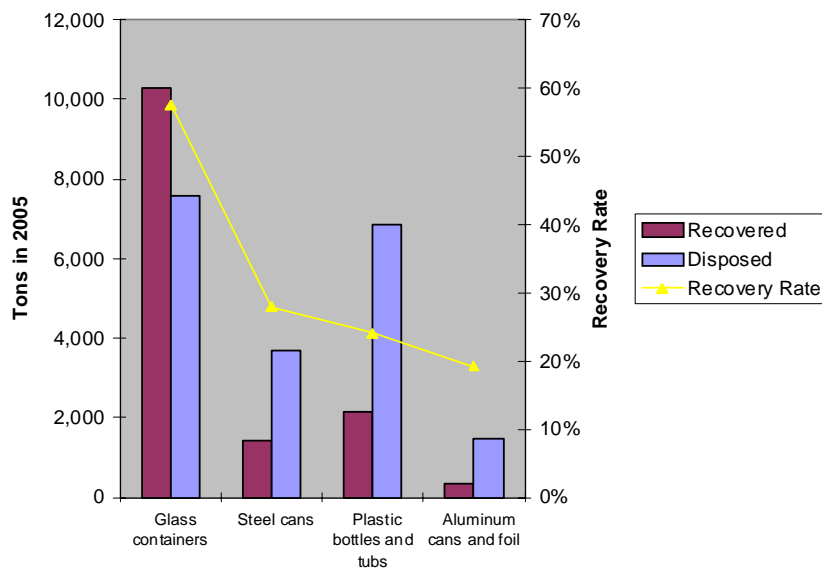
<sup>4</sup> Oregon Department of Environmental Quality 2005 Recovery Survey, Oregon Department of Environmental Quality 2005 Waste Composition Study.

**Figure 2. Paper Recovery and Disposal**



Businesses in the region are recovering between 19 and 58 percent of recyclable containers generated; aluminum cans and foil are recovered at the lowest rate. (See Figure 3.)

**Figure 3. Container Recovery and Disposal of Containers from the Business Sector<sup>5</sup>**



**Recovery Rates by Jurisdiction**

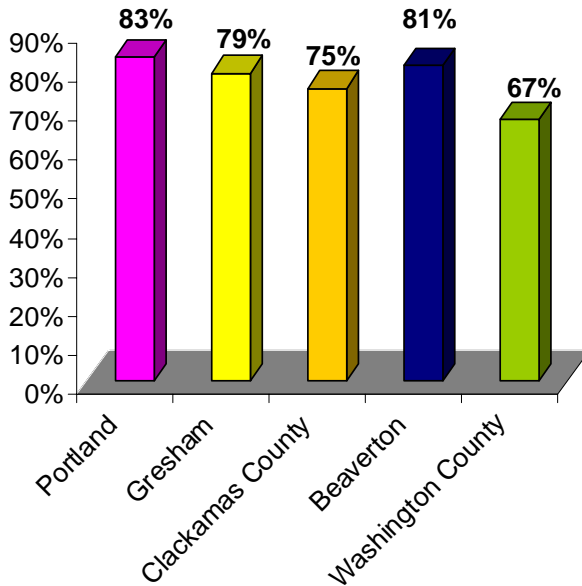
Based on a 2007 survey of businesses, current recycling rates by jurisdiction vary between 67 percent and 83 percent.<sup>6</sup> Overall, businesses in the region are recycling more than 65 percent of

<sup>5</sup> Oregon Department of Environmental Quality, 2005 Recovery Survey, Oregon Department of Environmental Quality, 2005 Waste Composition Study, Metro program analysis (unpublished), 2007.

<sup>6</sup> Metro, Business Recycling Survey, 2007.

paper and containers. City of Portland reached the highest recycling rate, 83 percent. Washington County's 67 percent recycling rate indicated the biggest opportunity for improvement.

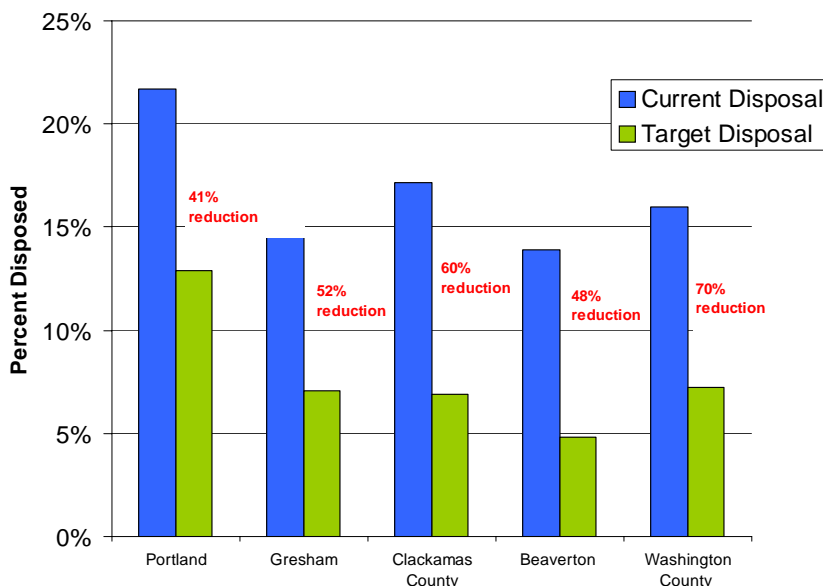
**Figure 4. Recycling Rates for Paper and Containers by Jurisdiction<sup>7</sup>**



### Measuring Progress

A business waste composition study was conducted by Metro in April 2007 to determine the amount of paper and containers remaining in the business waste stream. The study set a baseline for current disposal base rates for these materials by jurisdiction and the needed reduction to meet a 90 percent recycling rate (see Figure 5). The results of the study will enable Metro to measure progress in paper and container recycling as a result of new programs.

**Figure 5. Paper and Containers Waste Composition and Targets to Achieve 90% Recovery**



<sup>7</sup> Metro, Business Recycling Survey, 2007.



## **INCREASED BUSINESS RECYCLING: PROPOSED PROGRAMS**

Metro Council directed staff to develop program options for increased business recycling. With technical analysis and input gathered from stakeholders, two approaches are being proposed for consideration: 1) require all local jurisdictions in the region to implement mandatory business recycling, as Portland has done; or 2) set a 90 percent standard for paper and container recycling from the business sector applicable to each of the region's jurisdictions responsible for solid waste collection. The proposed programs are outlined in the following pages.

### **Program #1: Mandatory Business Recycling**

**Program goal:** Achieve a 90 percent recycling rate for paper and containers from businesses to help reach the region's 64 percent waste reduction goal.

**Target generators:** Small, medium and large businesses, institutions and public agencies. Approximately 56,000 businesses in the region fall into this category.

**Target materials:** Cardboard, mixed paper, and mixed containers (glass, plastic bottles, aluminum cans).

**Program description:** Businesses in the region would be required to separate paper and containers for recycling. No more than 10 percent of recyclable materials would be allowed in garbage. Random business inspections would be conducted to encourage participation, and violators would be referred to a recycling specialist. Education, technical assistance, and warnings would precede the enforcement. Implementation of the requirements would be supported by \$100,000 for increased education and resources. Fines would be used as a last resort.

**Enforcement measures:** Government enforcement staff or a Metro contractor would conduct random business inspections. Any business disposing of a "significant amounts" of recyclable materials, defined as 10 percent by volume determined by visual inspection, would be subject to the following:

1. A warning by the enforcement officer and referral to a regional recycling specialist. The business in violation will receive a visit by a recycling specialist to provide education and assistance for setting up a recycling program. The recycling specialist will follow up with the business to ensure that a recycling program for paper and containers is implemented.
2. If a recycling program for paper and containers is not implemented within 90 days of the original inspection, a fine of up \$500 will be issued by the enforcement officer for noncompliance.

Metro would hire up to 2.0 FTE as enforcement staff to complete random business inspections, issue warnings and penalties. Two enforcement staff positions would complete approximately 8,400 inspections per year<sup>8</sup>.

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<sup>8</sup> City of Seattle Recycling Program, Seattle Public Utilities, 2007.

### **Adoption process:**

Option 1: Metro would adopt an ordinance to require local jurisdictions to adopt business recycling requirements. Metro would develop a model ordinance outlining requirements for business recycling. Each jurisdiction in the Metro region would use the model to adopt business recycling requirements.

Option 2: Under Oregon Revised Statute 459A.065, Metro Council would request Environmental Quality Commission (EQC) action to determine if a mandatory business recycling program is necessary to meet the regional recovery goal. Based on findings, EQC could mandate the program in the tri-county watershed.

**Regional compliance:** Local governments that do not adopt business recycling requirements would not receive per capita and Recycle at Work program funding.

**Evaluation:** To determine progress towards the 90 percent target, Metro would conduct annual evaluations and analyze waste composition and disposal data.

### **Implementation timeline:**

- FY 2006-2007: Baseline evaluation completed.
- FY 2007-2008: Metro and local governments adopt requirements.
- FY 2008-2009: Requirements take effect July 1, 2008. Outreach campaign and expanded Recycle at Work efforts to support roll-out. Enforcement staff hired.
- FY 2009-2010: Evaluate program effectiveness and determine if program revisions are needed.

## **Program #2: 90 Percent Business Recycling Standard**

**Program description:** Metro would set a 90 percent recycling standard for business paper and container recycling applicable to each of the region's jurisdictions responsible for solid waste collection. Data from a baseline evaluation of the business waste stream would determine how much additional recovery is needed in each jurisdiction to reach the 90 percent target. Local governments would develop new or enhanced business recycling programs to achieve the target rate. Metro would provide a list of best practices as options for new programs, and \$100,000 would be distributed among local governments to assist with program implementation. Local programs would be reviewed annually to determine progress and assess whether additional action is needed.

**Targeted materials:** Cardboard, paper and mixed containers (glass, plastic bottles and steel and aluminum cans).

**Targeted generators:** Small, medium and large businesses, institutions and public agencies. Approximately 56,000 businesses in the region fall into this category.

**Baseline evaluation:** A business waste study was conducted by Metro in Spring 2007 to determine the amount of paper and containers that remain in the business waste stream. The study set a baseline for current disposal rates for these materials by jurisdiction. Local

governments would use these data to determine the needed reduction to meet a 90 percent recycling rate and help ascertain their level of effort.

**Best management practices:** Local jurisdictions would identify best management practices for increasing business paper and container recovery (see Appendix E). The practices selected would be further defined in the program application submitted to Metro.

**Adoption process:** Metro would adopt an ordinance that sets a 90 percent standard for business paper and container recycling applicable to the region's jurisdictions. The ordinance would require local governments to develop new or enhanced programs to achieve this target and establish an annual program review process.

Local governments would submit a program plan to Metro that demonstrates how their program would generate the needed level of recovery. The plan would contain a description of the proposed program and implementation strategy that would include, as appropriate, the following:

- A clear project purpose and goal statement.
- The specific business best management practices to be implemented..
- Baseline information on current recovery rates and services.
- A clear description of intended results (effectiveness).
- Technical feasibility.
- Economic feasibility.
- Funding request.

**Regional compliance:** Local governments that do not submit and implement program plans would not receive per capita and Recycle at Work program funding.

**Evaluation:** Metro would conduct annual evaluations, using business waste composition data, to determine progress toward the 90 percent target. The evaluation results and local program plans would be reviewed annually. At the conclusion of the second year of the program, any jurisdiction that has not made significant progress toward meeting the 90 percent standard would undergo a formal review process, reporting on their program efforts and results to Metro's Chief Operating Officer, Metro Council and the Metro Policy Advisory Committee. Metro Council would determine whether there has been good faith effort and substantial compliance or whether additional action is needed.

**Implementation Timeline:**

- FY 2006-2007: Baseline evaluation completed.
- FY 2007-2008: Metro adopts standards. Local governments develop and implement new programs. Metro provides financial and technical assistance for program implementation.
- FY 2008-2009: Evaluate program effectiveness.
- FY 2009-2010: Evaluate program effectiveness, and for any jurisdiction not making significant progress in meeting the standard, conduct a formal review process.

## **ANALYSIS OF POTENTIAL PROGRAM IMPACTS**

This section reviews the estimated impacts on business recovery levels, operations, local markets, program costs and environmental benefits resulting from the implementation of proposed programs.

**Table 1. Key Outcomes from Proposed Programs**

<b>Anticipated Outcome</b>	<b>Program #1: Mandatory Recycling</b>	<b>Program #2: 90% Business Standard</b>
New Recovery	<ul style="list-style-type: none"> <li>• 80,000 tons</li> </ul>	<ul style="list-style-type: none"> <li>• 35,000 to 80,000 tons</li> </ul>
Generator Impact	<ul style="list-style-type: none"> <li>• Minimal impact on day-to-day business operations.</li> <li>• Potential for recyclables sales revenue.</li> <li>• Business savings with smaller garbage container size.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal impact on day-to-day business operations.</li> <li>• Potential for recyclables sales revenue.</li> <li>• Business savings with smaller garbage container size.</li> </ul>
System Cost	<ul style="list-style-type: none"> <li>• No net cost increase. \$4 million savings.</li> </ul>	<ul style="list-style-type: none"> <li>• No net cost increase. \$2.7 million to \$4 million savings.</li> </ul>
Environmental Benefits	<ul style="list-style-type: none"> <li>• Would save 71 metric tons of carbon equivalent.</li> <li>• Would save more than 1.7 trillion BTUs of energy – enough to power nearly 17,000 homes for one year.</li> <li>• Would reduce greenhouse gas emissions equivalent to nearly 54,000 cars driving one year</li> <li>• Would save the equivalent of nearly 1.4 million trees a year, almost 1.4 Forest Parks.</li> </ul>	<ul style="list-style-type: none"> <li>• Would save 30 metric tons of carbon equivalent.</li> <li>• Would save 715 billion BTUs of energy – enough to power nearly 7,000 homes for one year.</li> <li>• Would reduce greenhouse gas emissions equivalent to 23,000 cars driving one year</li> <li>• Would save the equivalent 600,000 trees a year, or just over half of the trees in Forest Park.</li> </ul>
Local Markets	<ul style="list-style-type: none"> <li>• Stable markets</li> <li>• Sufficient processing capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Stable markets</li> <li>• Sufficient processing capacity</li> </ul>

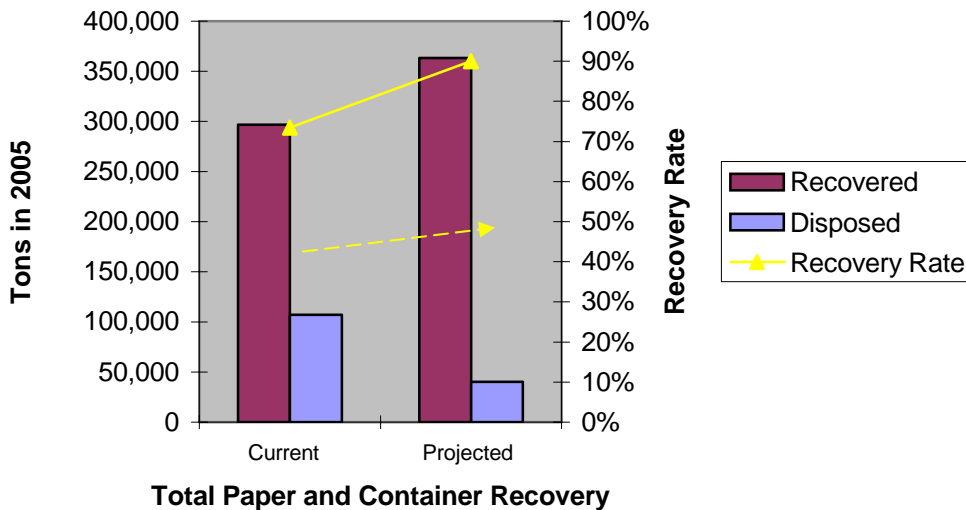
### **Recovery Potential**

The projected recovery as a result of the proposed programs is identified in Figure 5.

The current recovery rate for paper and containers is 77 percent. The mandatory recycling program is projected to achieve a 90 percent recycling rate for paper and containers, capturing an additional 80,000 tons. This projected recovery is based on capture rates from municipalities that have achieved 90 percent recycling rate as a result of mandatory programs.<sup>9</sup>

<sup>9</sup> Moore & Associates, Inc., Impact of Mandatory Recycling Ordinances and Disposal Bans on Commercial Fiber Recycling, prepared for Metro, April 2003.

**Figure 5. Projected Business Paper and Container Recovery<sup>10</sup>**



Under the business standards program, local governments would have a range of options to choose from for developing new or enhanced programs to achieve the 90% target. It is difficult to project the potential recovery because it is unknown what new or enhanced program local governments would implement. At a minimum, the new or enhanced local programs would recover an additional 35,000 tons by 2009, achieving an 81% recycling rate (see Figure 5; Recovery Rate dashed line).

**Generator Impacts**

The City of Portland’s experience with mandatory business recycling requirements, adopted in 1996, indicates that increased business recycling would have a minimal impact on day-to-day business operations. The impact would range, based on a business’ current operation and recycling program. For most businesses, the program would require employees to recycle additional items in current recycling containers. For other businesses, the program may require businesses to change their level of garbage service and acquire additional recycling containers.

Generator garbage rates should not be impacted significantly. Franchised garbage rates include recycling services and are structured to encourage recycling, with different levels of services based on container size. Businesses that recycle more can save money by reducing garbage container size or collection frequency. Businesses may also get paid for recycling paper, depending on the quantity and quality of the material to be recycled.

**Local Markets**

Given the strength of domestic and international demand and the range of marketing options, the long-term indicators for successful marketing of business-generated paper and containers are positive.

<sup>10</sup> Oregon Department of Environmental Quality, 2002 Recovery Survey, Oregon Department of Environmental Quality, 2002 Waste Composition Study, Metro program analysis (unpublished), 2005.

## Paper

There are six paper mills located in Oregon that have the combined capacity to produce 10.5 million pounds of recycled-content newsprint, corrugated cardboard, and toilet and facial tissue a day.

The paper mills in Oregon can use more paper from the Portland metropolitan region to produce new products. The newspaper, corrugated cardboard, magazines and office paper collected for recycling in the Metro region provide less than 11 percent of their total paper mill requirements; the rest of the paper must be shipped in from outside the region.<sup>11</sup>

Recent energy upgrades at local recycling plants and paper mills are reducing energy costs, increasing capacity for paper recycling, and improving product quality. The Energy Trust of Oregon, Inc., is providing financial incentives through its Production Efficiency program to SP Newsprint and Blue Heron Paper Company. Energy costs at SP Newsprint will be reduced by \$2.7 million annually, while energy consumption will go down 55 million kilowatt hours. An additional 90 tons of recycled pulp will be produced each day by SP Newsprint, increasing its demand for local paper.<sup>12</sup>

Blue Heron plans to increase its paper recycling capacity by 100 tons per day with the upgrades. In addition, over 100 million-kilowatt hours of electricity will be saved each year along with 63,744 tons of greenhouse gases.<sup>13</sup>

These projects are in line with Metro Council's goals for environmental health and economic vitality. The upgrades improve the global competitiveness of the local mills as they are able to provide more job security and job growth opportunities. They also reduce waste and emissions, while increasing the demand for recyclable paper in the Portland metropolitan region.

## Plastics

There is a demand of 5.5 million pounds per month in total for mixed rigid plastic and commingled bottles and containers from buyers that purchase material from Oregon.<sup>14</sup> The business sector in the Metro region generated 9,000 tons of plastic containers in 2005, while recycling only 24 percent (see Appendix A).

## Glass

Approximately 64,000 tons of glass are purchased annually in Oregon, but the capacity exists to purchase more.<sup>15</sup> Oregon's main glass recycling facility, the Owens-Brockway plant in Portland, manufactures new glass products using local materials. Excess or unsorted glass is shipped to glass plants in California and other states.<sup>16</sup> Plants in Seattle and in California have the potential to use additional container glass from Oregon. Recycled glass products include bottles, containers, fiberglass insulation, aggregate substitute, reflective highway paint and sandblasting material.

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<sup>11</sup> Andover International Associates, Market Opportunities for Additional Tonnage of Scrap Paper from Businesses in the Metro Region, June 2003.

<sup>12</sup> Energy Trust of Oregon, Inc., SP Newsprint reaps multiple benefits from energy upgrade, June 7, 2006.

<sup>13</sup> Energy Trust of Oregon, Inc., Blue Heron Paper creates jobs, builds competitiveness by saving energy, Feb. 4, 2005.

<sup>14</sup> Moore & Associates, Inc., Feasibility of Adding Plastic Containers and Film to Curbside Recycling, prepared for Metro, November 2005.

<sup>15</sup> Hammond, Steve, Owens Illinois Glass Market Report, Association of Oregon Recyclers, April 2006.

<sup>16</sup> Oregon Department of Environmental Quality, Container Glass Recycling, 1998.  
<http://www.deq.state.or.us/wmc/solwaste/glass.html>

## Metals

Global demand for recycled metals continues to increase. The Steel Recycling Institute notes that the recycling rate for steel increased to 75.7 percent in the United States in 2005; the highest rate for any material. This reflects a five-percentage point increase in the recycling rate and the highest rate ever recorded in the United States. Seventy six million tons of domestic steel scrap was charged into furnaces, both in the United States and abroad, to make new steel products.<sup>17</sup>

Schnitzer Steel's Oregon operation receives scrap metal from sources located throughout the Pacific Northwest. It recently purchased a shredder that will nearly double the operation's metal shredding capacity, currently 250,000 tons per year, to approximately 480,000 tons per year.

## **System Cost**

Adding more businesses that recycle would cause both increases and decreases in the overall “system cost” of providing solid waste services. Avoided disposal costs and sales of recyclable materials would be the main direct fiscal benefits of increasing business participation in recycling. Increases in costs to the system would stem mainly from collection services provided to new recycling customers, in-house recycling efforts, and government program costs, such as for enforcement, evaluation, and coordination and oversight. On balance, the financial benefits of increased business recycling outweigh the projected costs, with the majority of those net benefits accruing to the businesses that increase their recycling the most.

The main drivers influencing the changes in system cost are as follows:

Costs: More businesses will subscribe to recycling services; hence, collection companies will have more customers to serve, and the total cost of providing collection services will increase. Increased costs depend primarily on the number of businesses that sign up for new recycling services.

Savings: With more recyclables being separated out by business generators, less waste will go to a landfill, reducing landfilling cost. In addition, recyclables have a value to recyclers, so any increase in source separation should generate a revenue opportunity for the solid waste system. Hence, the amount of new recycling determines system savings.

Just as the two proposed approaches—mandatory vs. the 90 percent business recycling standard—would achieve different recycling results, the two approaches would cause impacts of different magnitudes on system costs. The mandatory approach, assumed to increase the number of business accounts regionwide by almost 10% and increase recycling by 80,000 tons per year, is projected to save up to around \$4.1 million annually in 2009 system costs. The 90% recycling standard projects only 35,000 tons of new recycling and a modest 1% increase in participation, which would reduce annual system costs by around \$2.7 million; however, if all the jurisdictions met the 90% standard and recycled 80,000 additional tons per year, then the annual system savings would be similar to those under a mandatory program.

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<sup>17</sup> Steel Recycling Institute, Steel Recycling in the U.S. Continues its Record Pace in 2005, April 25, 2006. <http://www.recycle-steel.org/PDFs/2005Release.pdf>

Table 2 summarizes the projected changes in system cost of the mandatory and 90 percent business recycling standard programs. Table 3 shows the anticipated distribution of system cost changes on generators, including those that do not participate (“disposers”).

**Table 2. Enhanced Business Recycling Projected Annual System Cost Changes**  
(\$ millions / yr. in 2009)

<b>Mandatory Recycling</b>		<b>90% Business Recycling Standard</b>	
Reduced costs from not landfilling	(\$3.6)	Reduced costs from not landfilling	(\$1.6)
Increased collection costs*	\$3.0	Increased collection costs*	\$0.5
Sales of recyclables**	(\$4.4)	Sales of recyclables**	(\$1.9)
Other increased costs***	<u>\$0.9</u>	Other increased costs***	<u>\$0.3</u>
<i>Net change in system cost</i>	<i>(\$4.1)</i>	<i>Net change in system cost</i>	<i>(\$2.7)</i>

\* Collection costs include operations and container purchases for new participants.

\*\* Material sales at \$55/ton. 35,000 tons for 90% business recycling standard program; 80,000 tons for mandatory.

\*\*\* Other costs include program evaluation, enforcement, and in-house generators' cost.

**Table 3. Enhanced Business Recycling Distribution of System Cost Changes**  
(\$ millions / yr. in 2009)

<b>Mandatory Recycling</b>		<b>90% Business Recycling Standard</b>	
Current participants	(\$0.7)	Current participants	(\$0.3)
New participants	(\$3.7)	New participants	(\$2.6)
Haulers	\$0.4	Haulers	\$0.2
Other	<u>\$0.0</u>	Other	<u>\$0.0</u>
<i>Net change in system cost</i>	<i>(\$4.1)</i>	<i>Net change in system cost</i>	<i>(\$2.7)</i>

### **Environmental Benefits**

The environmental benefits calculator produced by the National Recycling Coalition in coordination with the Environmental Protection Agency and ICF Consulting was used to quantify the environment benefits of the proposed program, based on the tonnages of materials recycled. The calculator is based on per-ton figures for energy use and emissions estimated in several recent lifecycle analysis studies. Environmental benefits were calculated for trees saved, improved air quality and energy savings and are detailed below.

**Trees Saved.** Achieving a 90 percent recycling rate for paper has the potential to recover more than 60,000 tons of paper, which would save the equivalent of nearly 1.4 million trees. If the lower tonnage scenario for business recycling is assumed (35,000 tons recovered), the program would recover more than 26,000 tons of paper, which would save the equivalent of nearly 600,000 trees.



**Air emissions.** Recycling 60,000 tons of paper reduces air emissions equivalent to that produced by nearly 54,000 cars driving one year. Recycling 26,000 tons of paper reduces air emissions equivalent to more than 22,000 cars driving in one year. However, the airshed that benefits from these reduced emissions is not entirely coincident with the Metro region, but rather with the location of the paper mills, which are spread throughout the Pacific Northwest and overseas.

**Energy Savings.** Achieving a 90 percent recycling rate for paper and containers would save more than 1.7 trillion British Thermal Units (BTU's) of energy, enough to power nearly 17,000 homes for one year. If the lower tonnage scenario for the business program is assumed, the program would save more than 715 billion BTU's of energy, enough to power nearly 7,000 homes for one year.

## **CONCLUSION**

The region has many elements of an effective business recycling system in place: access to diverse source-separated recycling options, a free education and technical assistance program for businesses, recovery capacity for business recyclables, and stable material markets. However, businesses still send significant amounts of materials to area landfills that could be recycled.

In order to reach the 64 percent recovery goal, a 90 recycling rate of paper and containers is needed. This proposal outlined two approaches for achieving this goal. There are many common elements and distinctions between the two programs detailed below.

### **Elements Common to Both Programs:**

- Target materials
- Target generators
- \$100,000 in program funding
- Increased efficiency of Recycle at Work program
- Evaluated annually

### **Key Distinction of Mandatory Program:**

- Most likely to achieve higher level of recovery, system cost savings and environmental benefits
- Precedent for achieving 90 percent recycling rate through requirements
- Follows programs developed by City of Portland and City of Seattle
- Creates uniform standards for recycling collection across Metro region
- Metro hires up to 2.0 FTE for inspections and monitoring
- Requires legislation to be adopted by Metro and local governments
- Less flexible in local approach
- Recommended by Regional Solid Waste Management Plan Contingency Plan Work Group stakeholder work group

Both the proposed programs address the need to increase the participation and the capture of recyclables in regional programs. A mandatory approach was recommended by a stakeholder work group and creates a consistent standard for recycling collection across the region. Municipalities across the country have demonstrated that a 90 percent business recycling rate for paper and

containers can be achieved through a mandatory program. Setting a 90 percent recycling standard for local governments provides flexibility among the jurisdictions to meet the targets by using programs that each believes would work best within its community. However, it is difficult to determine if a much higher level of recovery can be achieved with this approach. Overall, the result of either program should be the recovery of an additional 35,000 to 80,000 tons of paper and containers.

### **TIMELINE/NEXT STEPS**

#### **April to June 2007**

Solid Waste Advisory Committee Review

*Outcome: Analyze program options and make recommendation to Metro Council.*

#### **June 2007**

Metro Policy Advisory Committee Review

*Outcome: Analyze program options and make recommendation to Metro Council.*

#### **July 2007**

Metro Council Review and Direction (work session scheduled for 7/3/07)

*Outcome: Analyze program options. Review SWAC and MPAC recommendations and determine direction for formal program development.*

# APPENDIX A

## Projected Material Generation and Recovery

5.21.07

**Table 1 – Required (or Minimum) Material Recycling for Businesses**

**Program description:** Local jurisdictions adopt ordinances that set minimum standards for business recycling. Standards will require the recycling of newspaper, cardboard, mixed office paper and mixed containers.

**Target materials:** Newspaper, cardboard, mixed office paper (mixed and high grade papers) and mixed containers (glass containers, plastic bottles, steel and aluminum cans).

**Target generators:** Commercial including small, medium and large businesses, institutions and public agencies.

**Outcome:** The recovery rate of recyclable paper and containers from businesses will increase from 73% to 90%.

**Assumptions:**

- (1) All businesses (100%) will have paper and container recycling collection programs.
- (2) The increased effort from current recycling businesses and the new recycling business efforts will capture 57% of the recyclable paper and 80% of the mixed containers that were disposed in the baseline year (2002).
- (3) The program will have both active assistance and enforcement components.
- (4) Does not account for the recovery from or disposal of dry business waste that currently goes to the special waste landfills and dirty MRFs.

Material	2005 Generation	2005 Recovery	2005 Disposal	2005 Recovery Rate (1)	Capture Rate from Disposed (2)	Added Recovery due to Program	Generation	Projected Recovery with New Program	Revised Disposal	New Program Recovery Rate	2009 Goal	2009 Likely
											80,000	35,000
Recyclable Paper (3)												
Newspaper	76,119	65,447	10,671	86%	58.3%	6,225	76,119	71,672	4,447	94%	7,465	3,266
Mixed waste paper (4)	57,984	15,889	42,095	27%	58.3%	24,554	57,984	40,443	17,541	70%	29,447	12,883
Cardboard/kraft paper	202,550	175,881	26,668	87%	58.3%	15,566	202,550	191,437	11,113	95%	18,655	8,162
High-grade paper	33,220	25,190	8,030	76%	58.3%	4,684	33,220	29,874	3,346	90%	5,617	2,458
<b>Total Paper</b>	<b>369,872</b>	<b>282,407</b>	<b>87,465</b>	<b>76%</b>	<b>58.33%</b>	<b>51,018</b>	<b>369,872</b>	<b>333,426</b>	<b>36,447</b>	<b>90.1%</b>	<b>61,184</b>	<b>26,768</b>
Containers												
Glass containers	17,895	10,302	7,593	58%	80.0%	6,074	17,895	16,377	1,519	92%	7,285	3,187
Steel cans (5)	5,120	1,431	3,689	28%	80.0%	2,951	5,120	4,383	738	86%	3,539	1,548
Aluminum cans and foil	1,849	356	1,492	19%	80.0%	1,194	1,849	1,550	298	84%	1,432	626
Plastic bottles and tubs (6)	9,008	2,170	6,838	24%	80.0%	5,470	9,008	7,640	1,368	85%	6,560	2,870
<b>Total Containers</b>	<b>33,872</b>	<b>14,260</b>	<b>19,612</b>	<b>42%</b>	<b>80.0%</b>	<b>15,690</b>	<b>33,872</b>	<b>29,950</b>	<b>3,922</b>	<b>88.4%</b>	<b>18,816</b>	<b>8,232</b>
<b>Total Paper and Containers</b>	<b>403,745</b>	<b>296,667</b>	<b>107,077</b>	<b>73%</b>	<b>62.3%</b>	<b>66,708</b>	<b>403,745</b>	<b>363,375</b>	<b>40,369</b>	<b>90.00%</b>	<b>80,000</b>	<b>35,000</b>

**Notes**

1. Recovery Rate is defined as Recovery/Generation.
2. Capture Rate is the percentage of disposed tons that the new program will recover.
3. Recovery tonnage for specific recyclable paper grades is not accurate because they include other papers.  
For example, both Newspapers and Cardboard include 20% or more of high-grade and mixed papers.
4. Mixed waste paper includes magazines.
5. Steel and aluminum can recovery was reported separately by the Oregon Department of Environmental Quality in 2005.
6. Tubs are included with bottles.

## APPENDIX B

# Business Recycling Policy Development

### Progress to Date:

- **Regional Solid Waste Management Plan (RSWMP) Contingency Plan Work Group**  
*August- December 2003*  
A stakeholder work group was convened to evaluate strategies to increase progress toward the regional recovery goal.
- **RSWMP Contingency Plan Report**  
*December 2003*  
A summary report was prepared on the work group's recommended Contingency Plan, which comprised four strategies to increase recovery in the construction and demolition, business and organics sectors.
- **Local Government Outreach and Summary Report**  
*February 2004*  
Individual meetings were held with eight jurisdictions in the Metro region to discuss the Contingency Plan and next steps. A report summarizing the feedback that was gathered and recommended next steps was released following the meetings.
- **Metro Policy Advisory Committee**  
*March 2004*  
Metro staff presented the Contingency Plan to the Metro Policy Advisory Committee (MPAC) for consideration on March 10, 2004. MPAC supported the next steps outlined by Metro staff to further develop select contingency strategies, including mandatory business recycling and C&D processing requirements.
- **Council Liaison Briefing**  
*May 2004*  
Staff met with Council Liaisons Park and Monroe to gather feedback on the Contingency Plan. The councilors recommended staff conduct additional outreach and analysis on Contingency Strategy #3 (mandatory business recycling) and combine the evaluation of Contingency Strategies #1 and #2 (C&D and dry waste processing requirements).
- **RSWMP Contingency Plan Resolution**  
*May 2004*  
Metro Council adopted a resolution to formally acknowledge the RSWMP Contingency Plan and direct staff to conduct additional outreach and analysis on select contingency strategies.
- **“Let’s Talk Recycling” Business Outreach**  
*August-November 2004*  
In coordination with local governments, Metro hosted two breakfast forums and made several presentations to solicit input on options to increase business recycling including mandatory requirements at business chamber meetings.

- **“Let’s Talk Recycling” Summary Report**

*January 2005*

The summary report was prepared and released detailing the feedback collected from more than 70 business representatives on mandatory recycling and alternative approaches to increasing business recycling.

- **RSWMP Public Involvement Summary Report**

*January 2005*

The summary report was prepared and distributed on the public input collected from the “Let’s Talk Trash” series of public meetings conducted in support of the Regional Solid Waste Management Plan Update.

- **Business Recycling Budget Amendment**

*April 2005*

In response to feedback gathered at the “Let’s Talk Recycling” forums for increased education, the FY 05-06 Waste Reduction budget was increased by \$200,000 for the business assistance program.

- **Waste Reduction Program Comparison**

*January 2005-December 2005*

Staff were directed to conduct an alternative analysis to compare the projected performance of select program options using a uniform set of evaluation criteria. Programs evaluated included the strategies identified by the Contingency Plan Work Group and from public involvement activities. Based on the results of the analysis, Metro Council directed staff to develop two of the proposed programs: 1) a mandatory dry waste recovery program and 2) minimum standards for business recycling.

- **Waste Reduction Program Cost Work Group**

*December 2005*

To develop the cost component of the Waste Reduction Program Comparison, Metro convened a group of key external stakeholders, chosen by Metro for their specific expertise in the solid waste industry. The group identified and estimated the costs associated with five potential new regional waste reduction programs.

- **Interim Waste Reduction Plan Public Comment Report**

*June 2006*

During Spring 2006, Metro invited public comment on the draft Waste Reduction Plan through an online survey. More than 400 people provided input on the Plan, either through the online survey or in writing. The survey asked respondents to show their level of support for various strategies related to solid waste management. A summary report was prepared and distributed at the conclusion of the survey.

## APPENDIX C

### PROGRAM DEVELOPMENT BACKGROUND

As the entity responsible for achieving state-mandated waste reduction goals in the tri-county region, Metro works with its local government partners to accomplish these goals. In 2003, the Contingency Plan Work Group found that the tri-county watershed would be unlikely to meet its recovery goal without increased recovery efforts in the business sector. Existing programs would only recover 36 percent of the tons needed to meet the business recovery goal.

To explore options for increased business recycling under the guidance of the Regional Solid Waste Management Plan, Metro formed the Contingency Plan Work Group in 2003. This group, comprising local governments, businesses, construction industry representatives, haulers, dry waste recovery facilities and landfill operators, reviewed several program options for increasing recycling. The group determined that requiring businesses to recycle would be the option most likely to help the region attain its recovery goal for the business sector.

Based on the work group's recommendation, additional input was solicited on the proposed program from governments and businesses. Outreach included business breakfast forums, business association presentations, special meetings, and online surveys. Overall, stakeholders agreed that business recycling efforts could be improved.

A 2006 public survey of more than 400 residents revealed that more than 90 percent of the respondents felt businesses should be required to recycle to help meet the regional waste reduction goal.<sup>18</sup> However, some respondents viewed a regulatory approach as a contingency strategy if and when incentives and education failed to increase participation and recovery levels. When Metro surveyed the business community in February 2007, over 700 businesses provided input on the effectiveness of various strategies to increase recycling. Over 70 percent of businesses thought a standardized collection system throughout the region and increased education and assistance would be most effective, while 49 percent thought recycling requirements would be effective.<sup>19</sup>

Support for business requirements at the local government level varied. Instead of recycling requirements, staff recommended that jurisdictions individually be held to recovery goals. This approach would provide flexibility among the jurisdictions to meet the targets by using programs that each felt would work best within its community.

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<sup>18</sup> Cogan Owens Cogan, Interim Waste Reduction Plan Public Comment Report prepared for Metro, June 2006.

<sup>19</sup> Portland State University Community Environmental Services, Metro Recycle at Work Campaign and Assistance Survey, prepared for Metro, May 2007.

## APPENDIX D

### Recycle at Work Program Background

Regional efforts to recover business waste are coordinated through the Business Waste Reduction Initiative. The initiative aims to develop and implement programs to meet the recovery goal and encourage behavior change in the business sector. Immediate emphasis is on recovery, with long-term emphasis given to waste prevention and buying recycled products.

The Recycle at Work program (formerly the Commercial Technical Assistance Program) began in 2000, as a component of a new focus on business waste reduction. The Recycle at Work program is a collaborative effort among several cities and counties in the Portland metropolitan area. The program is funded by Metro and implemented by an intergovernmental work group (the Business Recovery Work Group) comprising Metro, Oregon Department of Environmental Quality, and local government staff. Although the basic structure of the program is consistent throughout the participating regions, each jurisdiction implements the program differently to accommodate its unique composition of businesses, marketing opportunities and internal programs.

The program provides \$600,000 to the seven jurisdictions in the Metro region to provide technical assistance to businesses on recycling, waste prevention and buying recycled-content materials. Each jurisdiction hires or contracts out staff (called “recycling specialists”) to provide on-site personalized service to businesses. All businesses, institutions and government facilities are eligible to receive technical assistance through the program.

Recycle at Work specialists can assist businesses with a wide range of projects, from giving a single presentation to developing a comprehensive waste reduction and recycling program. During site visits, specialists assess how the business is doing in its recycling, waste prevention and buy recycled efforts, and then provide the business with recommendations and resources to make improvements. The specialists conduct subsequent follow-up visits to identify the improvements the business has made.

## APPENDIX E

### Proposed Best Management Practices for Business Recycling

#### Awareness

1. New businesses are identified from business licenses or business list (in accordance with Recycle at Work Intergovernmental Agreement).
2. Haulers provide list of accounts to local government and indicate businesses that are:
  - a) Not recycling anything with the hauler;
  - b) Not set up for a targeted material (i.e., do not have a container for glass).
3. Survey of business awareness of recycling services, practices, and assistance.
4. Increase baseline level of direct mail contact with businesses.

#### Service

1. Adopt comprehensive and uniform recycling service levels and material preparation for all business customers. Include commingling.
2. Provide deskside boxes to all businesses that want them through door-to-door.
3. Provide other central collection containers and stickers.

#### Financial incentive

1. Summarize current rates for different garbage levels in jurisdiction. Increase the charge on higher levels of garbage generation to provide greater incentive to recycle.
2. Tie franchise fee to hauler recycling rate or number of customers that are recycling with them.

#### Mandatory

1. Adopt and enforce mandatory recycling.
2. Enforce existing mandatory recycling rules.

#### Innovation

1. Innovative practice that local government believes will achieve goals.