

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING METRO)	ORDINANCE NO. 08-1200
CODE CHAPTER 5.10, REGIONAL SOLID)	
WASTE MANAGEMENT PLAN, BY ADDING)	Introduced by Michael Jordan, Chief
PROVISIONS TO IMPLEMENT THE BUSINESS)	Operating Officer, with the concurrence of
RECYCLING REQUIREMENT)	David Bragdon, Council President

WHEREAS, on July 24, 2008, the Metro Council adopted Ordinance No. 07-1162A, For the Purpose of Adopting the Regional Solid Waste Management Plan, 2008-2018 Update (RSWMP), which when it is effective on October 22, 2008, will provide the Portland metropolitan area with policy and program direction for the next decade;

WHEREAS, on July 24, 2008, the Metro Council adopted Ordinance No. 08-1183A, For the Purpose of Amending Metro Code Title V, Solid Waste, to Add Chapter 5.10, Regional Solid Waste Management Plan, to Implement the Requirements of the 2008-2018 Regional Solid Waste Management Plan, which will take effect on October 22, 2008;

WHEREAS, ORS Chapter 459 requires Metro to prepare a Waste Reduction Program for the region and to submit the Waste Reduction Program to the Oregon Department of Environmental Quality for approval;

WHEREAS, Metro has included the Waste Reduction Program in the RSWMP;

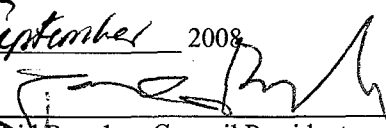
WHEREAS, Metro identifies the specific enforceable components of the Waste Reduction Program through changes to the Metro Code;

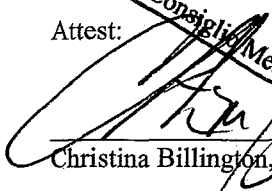
WHEREAS, the Metro Council adopted Ordinance No. 08-1198, For the Purpose of Amending the Regional Solid Waste Management Plan, 2008-2018 Update, to Include a Business Recycling Requirement, thereby identifying the Business Recycling Requirement as an enforceable component of the Waste Reduction Program; and

WHEREAS, the Metro Council hereby approves of the amendments to Metro Code Chapter 5.10 Regional Solid Waste Management Plan, attached hereto as Exhibit A, made pursuant to the RSWMP to implement the Business Recycling Requirement; now therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

Metro Code Chapter 5.10, is amended as set forth in the attached Exhibit A.

ADOPTED by the Metro Council this 24th day of September 2008

 David Bragdon, Council President

Attest:

 Christina Billington, Recording Secretary

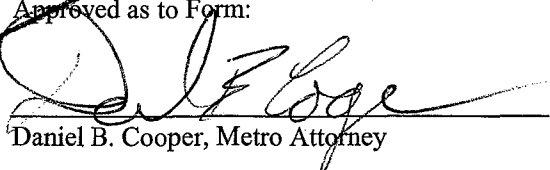
Approved as to Form:

 Daniel B. Cooper, Metro Attorney

Exhibit A
Metro Code Chapter 5.10 Amendments

5.10.010 Definitions

For the purpose of this chapter the following terms shall have the meaning set forth below:

(a) "Alternative Program" means a solid waste management service proposed by a local government that differs from the service required under Section 5.10.230.

(b) "Business" means any entity of one or more persons, corporate or otherwise, engaged in commercial, professional, charitable, political, industrial, educational, or other activity that is non-residential in nature, including public bodies and excluding businesses whose primary office is located in a residence.

(c) "Business Recycling Service Customer" means a person who enters into a service agreement with a waste hauler or recycler for business recycling services.

~~(bd)~~ "Compliance" and "comply" shall have the meaning given to "substantial compliance" in this Section.

~~(ee)~~ "Compost" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

~~(df)~~ "DEQ" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

~~(eg)~~ "Director" means the Director of Metro's Solid Waste and Recycling Department.

~~(fh)~~ "Local Government" means any city or county that is within Metro's jurisdiction, including the unincorporated areas of Clackamas, Multnomah, and Washington Counties.

~~(gi)~~ "Local Government Action" means adoption of any ordinance, order, regulation, contract, or program affecting solid waste management.

(j) "Person" shall have the meaning assigned thereto in Metro Code Section 1.01.040.

(k) "Recyclable Material" shall have the meaning assigned thereto in Metro Code Section 5.01.010

(l) "Recycle" or "Recycling" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

| (m) "Residence" means the place where a person lives.

| ~~(hn)~~ "RSWMP" means the Regional Solid Waste Management Plan adopted by the Metro Council and approved by the DEQ.

| ~~(io)~~ "RSWMP Requirement" means the portions of the RSWMP that are binding on local governments as set forth and implemented in this chapter.

| ~~(jp)~~ "Standard Recyclable Materials" means newspaper, ferrous scrap metal, non-ferrous scrap metal, used motor oil, corrugated cardboard and kraft paper, aluminum, container glass, high-grade office paper, tin/steel cans, yard debris, mixed scrap paper, milk cartons, plastic containers, milk jugs, phone books, magazines, and empty aerosol cans.

| (q) "Source Separate" or Source Separated" or "Source Separation" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

| ~~(kr)~~ "Substantial compliance" means local government actions, on the whole, conform to the purposes of the performance standards in this chapter and any failure to meet individual performance standard requirements is technical or minor in nature.

| ~~(ls)~~ "Waste" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

| ~~(mt)~~ "Waste Reduction Hierarchy" means first, reduce the amount of solid waste generated; second, reuse material for its originally intended purpose; third, recycle or compost material that cannot be reduced or reused; fourth, recover energy from material that cannot be reduced, reused, recycled or composted so long as the energy recovery facility preserves the quality of air, water and land resources; and fifth, landfill solid waste that cannot be reduced, reused, recycled, composted or from which energy cannot be recovered.

| ~~(nu)~~ "Waste Reduction Program" means the Waste Reduction Program required by ORS 459.055(2)(a), adopted by the Metro Council as part of the RSWMP, and accepted and approved by the DEQ as part of the RSWMP.

| ~~(ov)~~ "Yard Debris" shall have the meaning assigned thereto in Metro Code Section 5.01.010.

Business Recycling Requirement

5.10.310 Purpose and Intent

The Business Recycling Requirement provides an opportunity for businesses to work with local governments to provide recycling education, to create a consistent standard throughout the Metro region, and to increase recycling. A significant increase in business

recycling will assist the Metro region in achieving waste reduction goals.

5.10.320 Implementation Alternatives for Local Governments

(a) By February 27, 2009, local governments shall comply with this title by implementing the Business Recycling Requirement as follows:

(1) (a) Adopt the Business Recycling Requirement Model Ordinance; or

(b) Demonstrate that existing local government ordinances comply with the performance standard in Section 5.10.330 and the intent of this title; and

(2) (a) Establish compliance with the Business Recycling Requirement Model Ordinance or local government ordinance; or

(b) Enter into an intergovernmental agreement with Metro that provides for Metro to establish compliance for the local government.

(b) The local government shall provide information related to the local government's implementation of the Business Recycling Requirement at the Director's request or as required by the administrative procedures.

5.10.330 Business Recycling Requirement Performance Standard

(a) The following shall constitute the Business Recycling Requirement performance standard:

(1) Businesses shall source separate all recyclable paper, cardboard, glass and plastic bottles and jars, and aluminum and tin cans for reuse or recycling;

(2) Businesses and Business Recycling Service Customers shall ensure the provision of recycling containers for internal maintenance or work areas where recyclable materials may be collected, stored, or both; and

(3) Businesses and Business Recycling Service Customers shall post accurate signs where recyclable materials are collected, stored, or both that identify the materials that the Business must source separate for reuse or recycling and that provide recycling instructions.

(b) Local governments shall establish a method for ensuring compliance with the Business Recycling Requirement.

(c) Local governments may exempt a Business from some or all of the Business Recycling Requirement if:

- (1) The Business provides access to the local government for a site visit; and
- (2) The local government determines during the site visit that the Business cannot comply with the Business Recycling Requirement.

5.10.340 Metro Enforcement of Business Recycling Requirement

Upon a request by a local government under Section 5.10.320 to enter into an intergovernmental agreement, Metro shall perform the local government function to ensure compliance with the Business Recycling Requirement as follows:

(a) Provide written notice to a Business or Business Recycling Service Customer that does not comply with the recycling requirement. The notice of noncompliance shall describe the violation, provide an opportunity to cure the violation within the time specified in the notice, and offer assistance with compliance.

(b) Issue a citation to a Business or Business Recycling Service Customer that does not cure a violation within the time specified in the notice of noncompliance. The citation shall provide an additional opportunity to cure the violation within the time specified in the citation and shall notify the Business or Business Recycling Service Customer that it may be subject to a fine.

(c) Assess a fine to a Business or Business Recycling Service Customer that does not cure a violation within the time specified in the citation. The notice of assessment of fine shall include the information required by Metro Code Section 5.09.090. Metro shall serve the notice personally or by registered or certified mail. A Business or Business Recycling Service Customer may contest an assessment by following the procedures set forth in Metro Code Section 5.09.130 and 5.09.150.

5.10.350 Metro Model Ordinance Required

Metro shall adopt a Business Recycling Requirement Model Ordinance that includes a compliance element. The Model Ordinance shall represent one method of complying with the Business Recycling Requirement. The Model Ordinance shall be advisory and local governments are not required to adopt the Model Ordinance, or any part thereof, to comply. Local governments that adopt the Model Ordinance in its entirety shall be deemed to have complied with the Business Recycling Requirement.

STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 08-1200, FOR THE PURPOSE OF AMENDING METRO CODE TITLE V, SOLID WASTE, TO IMPLEMENT THE BUSINESS RECYCLING REQUIREMENT OF THE 2008-2018 REGIONAL SOLID WASTE MANAGEMENT PLAN

Date: August 18, 2008

Prepared by: Marta McGuire

PURPOSE

The Metro Council's approval of this Ordinance would amend Metro Code to implement the Business Recycling Requirement of the 2008-2018 Regional Solid Waste Management Plan (Ordinance No. 08-1198).

BACKGROUND

For two decades, the Metro region has primarily used the "opportunity" model for recycling in the business sector. Under this model, local governments ensured that haulers would provide recycling collection services to their commercial customers, but did not require those customers to recycle.¹ Metro and local governments provided educational materials and technical assistance to businesses to help them recycle. Over the past eight years, Metro and local governments supported the opportunity model by spending more than \$3.5 million to encourage more business recycling by providing free education and technical assistance through the Recycle At Work program.

Clear progress has been made as a result of these efforts, but businesses still dispose of more than 100,000 tons of recyclable paper and containers annually. After Council discussions, public outreach, and research and analysis, staff developed two program options for boosting business recycling: 1) Voluntary Business Recycling Standards; and 2) Required Business Recycling.

In November 2007, after reviewing the costs and benefits of potential approaches and input from Metro's Policy Advisory Committee (MPAC) and the Metro Solid Waste Advisory Committee (SWAC), Metro Council directed staff to develop a required business recycling program for formal consideration. The proposed program, Business Recycling Requirements (BRR), would require local governments to require businesses to recycle all types of recyclable paper and certain containers such as plastic bottles, aluminum cans and glass (see Exhibit A to Ordinance No. 08-1200).

Metro councilors and staff met with local business associations and elected officials to explain the proposal (see Attachment 1, Stakeholder Feedback Summary). Between February and August 2008, more than 300 business representatives and elected officials participated in the meetings. Overall, participants indicated that education and incentives are the best way to encourage businesses to recycle, but that requirements may be needed to make recycling a priority.

The proposed BRR Ordinance was presented to SWAC and MPAC in June and July 2008. SWAC recommended approval of the ordinance by a 9-7 vote, with two abstentions. MPAC recommended approval of the ordinance by a 10-3 vote. Those in favor believed that the program is a step in the right direction and that compliance would not be difficult. Those opposed would prefer more education and were concerned with required programs in general.

¹ The City of Portland enacted recycling requirements for businesses in 1996.

Feedback from the stakeholder outreach and advisory committees has been incorporated into the BRR Ordinance. The major provisions of the ordinance are as follows:

- Local governments must adopt code language to implement the Business Recycling Requirement by February 27, 2009.
- The requirement specifies that businesses shall ensure the provision of containers for recycling; post signs and instructions on how to recycle; and recycle paper and certain containers such as plastic bottles, aluminum cans and glass.
- Local governments will be responsible for establishing a method to ensure business compliance with the recycling requirement, or enter into an intergovernmental agreement with Metro to perform the compliance duties on their behalf.
- Local governments may provide exemptions to businesses for circumstances beyond their control.

SUMMARY OF BUSINESS RECYCLING REQUIREMENTS CODE LANGUAGE

Following is a summary of the proposed code provisions to implement the Business Recycling Requirement:

5.10.010 Definitions: This section contains definitions specific to Chapter 5.10.

5.10.310 Purpose and Intent: This section provides the background on the purpose of the requirement.

5.10.320 Implementation Alternatives for Local Governments: This section contains the implementation options of the Business Recycling Requirement for local governments, including adopting code language to implement the requirement or demonstrating their existing code complies.

5.10.330 Business Recycling Requirement Performance Standard: This section outlines the performance standard of the business recycling requirement, including the recycling requirement, compliance element and exemptions provision.

5.10.340 Metro Enforcement of the Business Recycling Requirement: This section contains the Metro compliance program and procedures if a local government opts to have Metro perform enforcement of the requirement on its behalf.

5.10.350 Metro Model Ordinance Required: This section recognizes the Business Recycling Requirement model ordinance as one method of complying with the requirement.

ANALYSIS/INFORMATION

1. Known Opposition:

- The Wilsonville Chamber of Commerce adopted a resolution in opposition to the Business Recycling Requirement. The resolution cites that sufficient progress has been made on the statewide level and that emphasis should be placed on prevention, reuse and aggressive educational outreach efforts by local governments.
- At the July 2008 MPAC meeting, the representatives from Washington County, Lake Oswego and Oregon City voted against recommending the ordinance. Members of the Washington County Board of Commissioners have stated that adoption of the ordinance is beyond Metro's authority and impinges on local control of garbage collection.

2. Legal Antecedents:

Ordinance No. 07-1162A, (For the Purpose of Adopting the Regional Solid Waste Management Plan, 2008-2018 Update), adopted July 2008; Ordinance No. 08-1183A, (For the Purpose of Amending the Metro Code Title V, Solid Waste, to Add, Chapter 5.10, Regional Solid Waste Management Plan, to Implement the Requirements of the 2008-2018 Regional Solid Waste Management Plan), adopted July 2008; Metro Charter; Metro Code Title V Solid Waste; and ORS Chapters 268 and 459.

3. Anticipated Effects:

In July 2007, staff presented Metro Council with a white paper on required business recycling and an alternative program (see Attachment 2). This section presents highlights from the white paper and reviews the anticipated effects of the proposed Business Recycling Requirement on business operations, local governments, recycling commodity markets and the environment.

Generator Effects

The City of Portland's experience with required 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 operations and recycling programs. For most businesses, the program would require employees to recycle additional items in existing 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 could save money by reducing garbage container size or collection frequency.

Local Government Effects

Local governments responsible for local waste reduction planning and education have been major stakeholders in identifying and evaluating program options since discussions began in 2003. Metro has informed local solid waste management staff of the resources that would be involved in implementing the Business Recycling Requirements. Elected officials have been informed through presentations to local councils and boards, and through the MPAC and SWAC discussion.

The program requires a one-time demand on local government staff and elected officials to adopt the ordinance. Additional staff time will be required for education, compliance and reporting. Recycle at Work education and technical assistance services will continue to be provided to the business community by those jurisdictions currently receiving direct program funding from Metro. If the Business Recycling Requirements and accompanying local ordinances are enacted, total Metro funding to support these services will equal \$1 million in fiscal year 2008-09.

Local Market Effects

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

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 the mills' total paper mill requirements; the rest of the paper must be shipped in from outside the region.²

Plastics: There is a demand of 5.5 million pounds per month for mixed rigid plastic and commingled bottles and containers from buyers that purchase material from Oregon.³ The business sector in the Metro region generated 9,000 tons of plastic containers in 2005, while recycling only 24 percent.

Glass: Approximately 64,000 tons of glass are purchased annually in Oregon, but the capacity exists to purchase more.⁴ 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.⁵ 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.

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.⁶

Environmental Effects

The Business Recycling Requirements will result in an estimated 80,000 tons of new recovery of paper and containers each year. This newly recovered material will serve as manufacturing feedstock in most instances and supply local mills. As shown in Table 1, the recyclable paper and containers diverted from landfill disposal and recovered will result in a reduction in greenhouse gases, energy consumption and natural resource savings.

Table 1. Environmental Effects of Business Recycling Requirements*

Action	Quantity	Equivalent to...
Reduce greenhouse gases by	218,000 MTCE (Metric tons of carbon equivalent)	Keeping 42,000 cars off the road for a year
Reduce energy consumption by	1.3 trillion BTU (British thermal units)	The energy used by 15,000 average households during a year
Reduce tree extraction	80,000 tons	1.2 million trees a year

*These benefits are projected by the National Recycling Coalition Environmental Benefits Calculator.

The net economic value of the environmental benefits of the Business Recycling Requirement is estimated to be \$10.22 million for 80,000 tons of new recovery. The largest factor contributing to the environmental benefits is the reduction of 218,000 tons of greenhouse gas emissions (valued at \$36 per ton of carbon dioxide equivalent). Many of the environmental benefits would be shared beyond Metro's jurisdictional boundary and extend to communities where recycled commodities are remanufactured into products.

² Andover International Associates, Market Opportunities for Additional Tonnage of Scrap Paper from Businesses in the Metro Region, June 2003.

³ Moore & Associates, Inc., Feasibility of Adding Plastic Containers and Film to Curbside Recycling, prepared for Metro, November 2005.

⁴ Hammond, Steve, Owens Illinois Glass Market Report, Association of Oregon Recyclers, April 2006.

⁵ Oregon Department of Environmental Quality, Container Glass Recycling, 1998. <http://www.deq.state.or.us/wmc/solwaste/glass.html>

⁶ 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>

4. Budget/Fiscal Impacts:

In November 2007, staff presented a detailed cost-analysis to the Metro Council on the proposed program as a follow-up to the white paper (see Attachment 3). This section highlights the main budget and fiscal impacts and provides a cost comparison to other programs.

Budget Impact

Budget Item	Cost
FY 08-09 Local government assistance	\$400,000 (annual)
FY 10-11 Program evaluation	\$75,000

The program includes an annual increase of \$400,000 to support local government implementation of the expanded education and compliance components of the Business Recycling Requirements. The additional funds are included in the FY 08-09 budget and will be distributed to local governments based on the number of employees in the jurisdictions that adopt the ordinance. The program includes an option to local governments to enter into an agreement with Metro to perform the compliance duties on their behalf. If the demand for assistance exceeds current staff work load, additional Regulatory Affairs staff may need to be budgeted in future fiscal years. An evaluation to measure the program's progress is proposed for FY 10-11 at a cost of \$75,000. Future evaluations may occur on a two-year schedule, depending on the program performance.

Fiscal Impact

The diversion of 80,000 tons of recyclables, as a result of this program, is projected to increase the unit (per-ton) cost of disposal across the region by about \$2.56 per ton⁷, as summarized below (see Attachment 3 for a full analysis).

Some unit cost impacts occur because there is less waste overall from which to collect regional disposal charges (e.g., the Regional System Fee). Such universal effects occur anytime waste is diverted from disposal to recycling. A projected 96¢ increase in the Regional System Fee would be an example of this type of effect.

Other unit cost increases result from shifts of tonnage away from specific disposal facilities, such as Metro's two transfer stations, or from tonnage shifts that impact contractual payment terms between two parties. The agreements between Metro and Waste Management for disposal at Columbia Ridge Landfill, and between Metro and Allied/BFI to operate Metro South and Central are examples of the latter. An increase of \$1.25 per ton is expected due to these facility-specific or contract-specific effects.

The remaining 36¢ per ton increase stems from recovery through the Regional System Fee of the \$475,000 of program-specific costs noted above.

Summary of Unit (per-ton) Cost Impacts

Universal impacts	\$ 0.96
Facility- and contract-specific	\$ 1.25
Budgeted program costs	<u>\$ 0.36</u>
<i>TOTAL:</i>	<i>\$ 2.57 per ton</i>

⁷ Cost projections have been updated from the 2007 cost analysis to reflect the current Regional System Fee rates and the revised program design.

Cost Per Ton and Program Comparison

The per-ton program costs of Business Recycling Requirement (BRR) compare favorably to existing waste reduction programs, such as Enhanced Dry Waste Recovery Program (EDWRP) and Regional System Fee credits (see Table 2) because of the relatively low cost of administration for the tons recovered and the collection, recycling and disposal system infrastructure is largely already in place to provide the needed services.

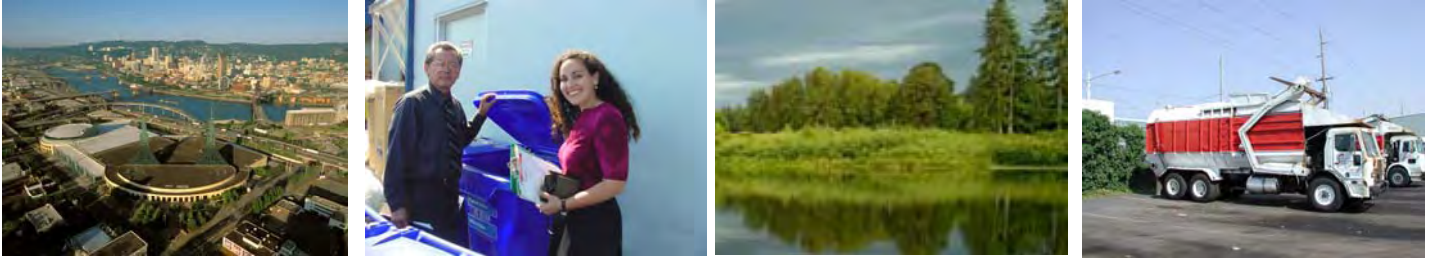
Table 2. Program Cost Impact Comparison*

	<u>Tons Recovered</u>	<u>Equivalent cost per ton recovered</u>
<i>Existing Programs</i>		
Bottle Bill	35,000	\$34
Commercial Organics	12,000	\$48
RSF Credits	30,000	\$52
EDWRP	42,250	\$89
<i>Prospective Program</i>		
Biz Recycling Require.	80,000	\$36

*Full analysis and underlying assumptions are provided in Attachment 3.

RECOMMENDED ACTION

The Chief Operating Officer recommends approval of Ordinance No. 08-1200.



Metro | *People places. Open spaces.*

Proposed Business Recycling Requirements Stakeholder Feedback Summary

Updated: August 18, 2008

BACKGROUND

Businesses generate almost half of the region's garbage and each year dispose more than 100,000 tons paper and containers that could otherwise be recycled. Over the past eight years, Metro and its local government partners have invested \$3.5 million to encourage more business recycling by providing free technical assistance. Now, Metro is considering mandatory recycling of paper and containers for all businesses in the region.

Metro explored options for increasing business recycling by convening public/private work groups and conducting stakeholder outreach from 2003 to 2007. More than 1,000 people provided advice on approaches for increasing business recycling.

The proposed program, Business Recycling Requirements, would make it mandatory for local businesses to recycle all types of paper and certain containers such as plastic bottles, aluminum cans and glass. If the Metro Council approves this proposal as currently drafted, all local governments in the region would be responsible for formally adopting these business recycling requirements by February 27, 2009.

STAKEHOLDER OUTREACH

In an effort to solicit input on the proposed program, Metro councilors and staff conducted meetings with local business associations and elected officials. Metro staff coordinated outreach efforts with the City of Portland, which was expanding its commercial recycling program at the same time.

Between February and August 2008, councilors and staff met with 14 business groups and seven elected councils and boards (Table 1). The outreach efforts were supported by article submissions in local chamber newsletters, a survey and a web page. The program also received coverage in the Oregonian and other local publications.

The outreach efforts attracted a wide array of business representatives from across the region. More than 300 business representatives and elected officials participated in the meetings, and 110 surveys were completed at the meetings and online.

Table 1. Stakeholder Outreach Summary

Organization	Outreach Format	Date
Building Owners and Managers Association	Breakfast forum	Feb. 6
Wilsonville Chamber of Commerce Governmental Affairs Committee	Membership meeting	Feb. 6
Oregon Lodging Association Board Members	Special meeting	Feb. 13
Westside Economic Alliance	Membership meeting	Feb. 20
Lake Oswego Chamber Governmental Affairs Committee	Membership meeting	Feb. 21
Recycling Advocates	Membership meeting	Feb. 29
Clackamas County Board of Commissioners	Work session	Feb. 26
Gresham Chamber of Commerce Governmental Affairs Committee	Membership meeting	Feb. 28
Wood Village City Council	Work session	March 11
Oregon City Chamber of Commerce Economic Development Committee	Membership meeting	March 13
North Clackamas Chamber of Commerce	Membership meeting	March 17
Milwaukie City Council	Work session	March 18
Lake Oswego City Council	Work session	April 1
Hillsboro Chamber Public Policy Committee	Membership meeting	April 2
Wilsonville Chamber of Commerce	Lunch forum	April 9
Hillsboro City Council	Work session	April 15
Sustainable Business Network	Lunch forum	April 16
Forest Grove Chamber of Commerce	Lunch forum	May 19
Beaverton City Council	Work session	July 21
Beaverton Chamber of Commerce	Membership meeting	August 7
Multnomah County Board of Commissioners	Board meeting	August 7

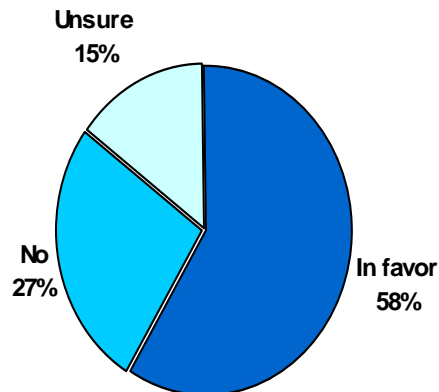
KEY FINDINGS

Overall, participants agree that business recycling efforts can be improved. Both elected officials and business representatives expressed support for the overall objective of the program.

Although participants support increasing business recycling through expanded education and economic incentives, support for a regulatory approach varied. Some viewed a

regulatory approach as a contingency strategy if economic incentives and education fail to increase participation, while others felt a mandate was necessary to make recycling a priority for businesses. This was reflected both in the meetings and in the survey responses. As shown in Figure 1, survey results show that 58 percent of the respondents support required recycling, while 27 percent did not and 15 percent were unsure (see Attachment A for full survey).

Figure 1. Business Support for Proposed Requirements



Source: Proposed Business Recycling Requirements Survey, Metro, August 2008.

Key items identified by the participants during the meeting discussions and in survey comments included:

- Recycling is a benefit to businesses. Practicing waste reduction attracts customers, and employees want to recycle.
- Education and economic incentives are the best way to encourage businesses to recycle. Some businesses, however, will not make it a priority unless it is mandatory.
- Education efforts should be tailored to the needs of businesses and should be directed at the owner, manager and employee level. Educational materials should also be available for multi-tenant businesses and janitorial companies. Recycling messages need to be simple and consistent across the region.
- Government regulation should be used only if education and economic incentives fail to increase participation.
- Regulations should be implemented gradually. Six months is a sufficient amount of time for businesses to improve their recycling programs to meet the requirements. Consider delaying fines until after the requirements have been in effect for one year.

NEXT STEPS

Metro Council is scheduled to review the proposed Business Recycling Requirements on September 11th and 18th. To learn more about the proposal, visit:

www.oregonmetro.gov/businessrequirements. For free recycling assistance and resources for your workplace, visit www.RecycleAtWork.com or call (503) 234-3000.

Attachment A: Proposed Business Recycling Requirements Survey Response Summary

1. What type of business are you in?		
Answer Options	Response Percent	Response Count
Office-related such as financial, medical, or professional service	52.0%	53
Personal services such as hairdresser or plumber	2.0%	2
A retail store selling goods	2.9%	3
Restaurant, fast food, or grocery	4.9%	5
School, library, or educational institution	5.9%	6
Hotel or motel	0.0%	0
Hospital or medical clinic	8.8%	9
Manufacturer	2.9%	3
Wholesaling or warehousing business	2.9%	3
Government agency	5.9%	6
Non-profit organization	11.8%	12
	Other (please specify)	8
	<i>answered question</i>	102
	<i>skipped question</i>	8

2. What materials do you currently recycle?		
Answer Options	Response Percent	Response Count
Cardboard	90.7%	98
Office paper	92.6%	100
Newspaper	85.2%	92
Magazines, catalogs, phone books	81.5%	88
Plastic bottles	73.1%	79
Aluminum cans	78.7%	85
Steel cans	38.9%	42
Glass bottles	63.9%	69
	Other (please specify)	22
	<i>answered question</i>	108
	<i>skipped question</i>	2

3. Do you think businesses in the region should be required to recycle paper and containers?		
Answer Options	Response Percent	Response Count
Yes	58.9%	63
No	27.1%	29
Unsure	14.0%	15
Comments: <ul style="list-style-type: none"> ▪ YES! ▪ How could you enforce this? Unless you lock trash bins, anyone could throw recyclables in the trash. ▪ Use public award notifications that businesses can post. ▪ Make stronger voluntary program first. ▪ But encourage them with incentives. ▪ Education should do the trick. ▪ What a shame it needs to be a requirement! ▪ Reward system. ▪ Yes, if voluntary compliance is tried with renewed vigor and it still doesn't work. ▪ My company's recycling program is handled by someone other than me. ▪ The mandatory aspect is concerning. Just an example of poor communications & partnerships. ▪ I think they would recycling-I think they want to....I don't think a hard mandate is necessarily the best idea. ▪ This is a hostile idea to businesses, not very measurable, & will have unintended consequences. ▪ As long as the charge is nominal to get small business booked in. Education is also key. ▪ I don't like the idea of mandating it, but I don't understand why more businesses aren't recycling. It's so easy! ▪ Absolutely NO mandatory recycling. ▪ More could be done to teach recycling, should not be mandatory yet. How will code enforcement officers be paid? ▪ Not sure if this will do anything other than cost us for what we already do. If you use a cleaning service, will you be fined if THEY dump recyclable bins into general trash? How to monitor? ▪ I think there needs to be more specific info on the cost added with this service. 		21
<i>answered question</i>		107
<i>skipped question</i>		3

4. Does six months provide adequate time for your business to get its recycling program in compliance with the proposed requirements?		
Answer Options	Response Percent	Response Count
Yes	79.6%	82
No	6.8%	7
Unsure	13.6%	14
Comments: <ul style="list-style-type: none"> ▪ Already done ▪ Already doing it. ▪ Already recycling ▪ We already do it. ▪ No mandatory. ▪ I don't think that requiring recycling would be effective. Incentives and awareness of recycling programs would be much more effective. 		6
		<i>answered question</i> 103
		<i>skipped question</i> 7

5. Has your waste hauler offered to provide your business with recycling services?		
Answer Options	Response Percent	Response Count
Yes	52.0%	53
No	10.8%	11
Unsure	37.3%	38
Comments: <ul style="list-style-type: none"> ▪ Not a proactive ""ask"" from the waste haulers. ▪ Probably because we recycle a lot. ▪ Home-based. ▪ My apartment complex has recycling. ▪ We have a large mixed recycling bin but nothing for glass. ▪ Seasonal businesses, we don't currently have regular trash service. 		6
		<i>answered question</i> 102
		<i>skipped question</i> 8

6. Are you aware of the free technical assistance and resources provided by the Recycle at Work program?		
Answer Options	Response Percent	Response Count
Yes	52.9%	54
No	47.1%	48
		<i>answered question</i> 102
		<i>skipped question</i> 8

7. Would you like a Recycling Specialist to follow up with your organization to provide free resources and assistance?

Answer Options	Response Percent	Response Count
Yes	21.3%	20
No	78.7%	74
	<i>answered question</i>	94
	<i>skipped question</i>	16

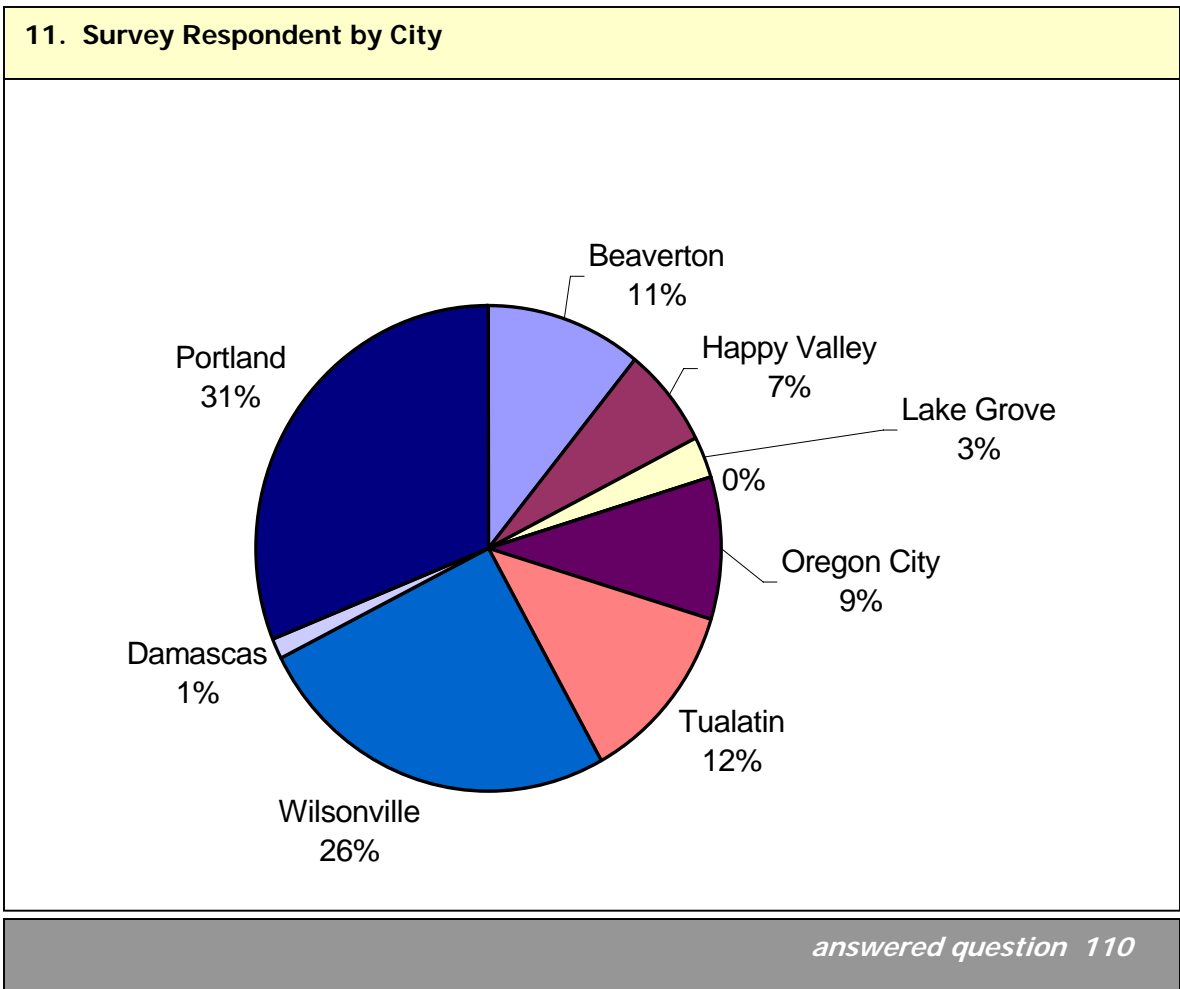
8. Do you have any questions you'd like us to answer for you regarding the proposed recycling requirements?

Answer Options	Response Percent	Response Count
Yes	9.8%	9
No	90.2%	83
Questions: <ul style="list-style-type: none"> ▪ RE: E-waste 1) get co's to reduce their waste, help my clients w/recycling resources (I'm a professional organizer). ▪ Don't feel that Metro should be requiring property owner to enforce recycling if tenant does own trash disposal service. ▪ Would Metro consider a partnership w/businesses to get out into schools & work w/recycling in schools & looking into ways that we can support each others efforts & educate ourselves? (This was clearer in my head than when I actually wrote it out!) ▪ Shred-It takes our paper recycling from our locations. Are they recycling this paper? ▪ I have a business that has no need to recycle. My biggest waste is the gas I burn. ▪ We haul our cardboard to local facility-office cleaning crew handles the rest. Hopefully "mandatory" won't give recycling a bad name. ▪ Is there a way to get schools set up with a composting program. 		8
	<i>answered question</i>	92
	<i>skipped question</i>	18

9. Please provide your contact information so we may follow up with your request for assistance and/or any questions you may have.

Answer Options	Response Percent	Response Count
Name	95.4%	62
Title	83.1%	54
Organization	90.8%	59
Phone	83.1%	54
Email Address	81.5%	53
	<i>answered question</i>	65
	<i>skipped question</i>	45

10. Please share any additional comments you may have regarding the proposed Business Recycling Requirements.	
	Response Count
<p>Comments:</p> <ul style="list-style-type: none"> ▪ This program should be national! ▪ Businesses and individuals need to get moving and recycle some more. ▪ I think mandated recycling is important. Our company has only very recently started doing any recycling, and it only happened because myself & co-worker made it a priority. Before I was employed here, I didn't realize businesses that don't recycle still existed! People need to push. ▪ We have a RecycleWorks Award. Great work - keep it up! ▪ We should dialog with manufacturers and get them to make products that lend themselves toward being recycled (eg: cradle to cradle manufacturing). Thank you much. ▪ I am very much in favor of recycling but I don't think you should require recycling. Business has economic incentive to do so-it lowers the garbage bill. Education is the key-educate business, show how it is economically better to recycle & they'll do it. There is enough government regulation without a recycling requirement. If you require recycling-make it apply only to large businesses with over a certain # of employees or waste. ▪ Recycling Rocks! ▪ Let's find a way to help get education out there instead of a hard mandate (with financial consequences) on businesses....tenants only have so much control over their waste programs. ▪ Your target is arbitrary. ▪ As a chamber, we would be happy to partner with Metro to educate our businesses. ▪ I wasn't aware that shredded paper wasn't recyclable. ▪ #8, unless you have ideas on what else we might recycle. ▪ The answers I gave are primarily for our home. The guild is made up of individual artists and currently we have no location for recycling. ▪ I'm just a tenant in the executive suites, so I don't have a lot to do with recycling. ▪ You have not provided the regulations which are enforced on a business for this program. Please do not propose a program without complete regulations which will be enforced on a business. We are not interested on a proposal which does not give full information to the subject of your plan(a business).We are in Wahington County and we have Waste Management in Forest Grove. ▪ Perhaps a gradual/stepped method of charging fees. ▪ Need boxes for recycling & info on segregating shredded paper from other recyclables. ▪ No need to legislate. educate instead. ▪ Very glad to hear about the potential for Styrofoam. ▪ Is there an alternative recycle outside of Metro or can I have this in any color as long as I want black. ▪ Very interesting 1st-time info. I would think it's better to require education w/fines than recycling w/fines. ▪ Recycling is vital for our state and our world. However, I believe much more could be done to motivate before we have to regulate it. ▪ Why does glass have to be separate from paper & plastic? ▪ An interesting idea for businesses would be to provide shred-boxes at a competitive price that would be serviced by waste haulers... By the way, the new recycling containers provided by WM are great! ▪ Don't waste your money on this attempt to impose more regulation on business. ▪ Already working with someone on Recycle At Work. Thanks! 	
<i>answered question</i>	28
<i>skipped question</i>	82



Options for Increasing Business Recycling White Paper

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METRO
PEOPLE PLACES • OPEN SPACES

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Options for Increasing Business Recycling

SUMMARY

Strong collaboration among Metro, local governments and service providers has ensured an array of programs and services are available to encourage business recycling. Too many businesses, however, are under performing or not utilizing current services at all. Without a significant increase in business recycling, the region will be unable to meet the state-mandated 64 percent waste reduction goal.

Metro Council recognized this impediment in 2003, and directed staff to develop program options to increase business recycling. 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, and each of the region's jurisdictions responsible for solid waste collection would determine how to achieve the target.

INTRODUCTION

This paper describes the region's current business recycling system, and details two proposals to increase business performance and participation in 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.

PROBLEM STATEMENT

Businesses in this region have easy access to an effective recycling system. This system includes recycling services with garbage collection, free education and technical assistance, plenty of processing capacity for business recyclables, and stable material markets. While many businesses are participating in the recycling system, at least 14 percent do not recycle or only recycle cardboard. As a result, more than 114,000 tons of recyclable resources (paper and containers) from this sector are disposed annually.

The regional Recycle at Work program, which Metro began in partnership with local governments in 2000, provides a wide range of free resources and technical assistance to help businesses with recycling. Despite the services provided by Recycle at Work, some businesses still choose not to recycle or utilize the services. Lack of business entry for Recycle at Work specialists and information on businesses needing help with recycling are the major barriers to the delivery of Recycle at Work services. New programs are needed to overcome these barriers and improve business recycling efforts.

To help reach the state-mandated 64 percent regional waste reduction goal, businesses must recycle an additional 80,000 tons of paper and containers. This requires a 90 percent recycling rate for paper and containers, rather than the 80 percent paper and container recycling rate that exists today.

SUMMARY OF PROGRAM OPTIONS

To explore options for increasing business recycling, Metro convened work groups and conducted stakeholder outreach from 2003 to 2007. More than 1,000 people provided input on the proposed program options. Appendix A highlights the outreach activities conducted and associated reports developed to date.

Because Metro is accountable for the waste reduction goal, Metro Council will consider new policy direction to increase business recycling levels in the region. Two approaches Metro could take to achieve this significant boost in business recycling are:

Option #1: Mandatory Business Recycling Program- This program would require all local jurisdictions in the region to implement mandatory business recycling, as recommended by the Regional Solid Waste Management Plan Contingency Plan Work Group. Businesses would be required to separate paper and containers for recycling.

Option #2: Business Recycling Standards- This program would 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. Local governments would be responsible for developing new or enhanced programs to achieve a higher level of recovery. Each local government would be individually accountable to meet the target, similar to land-use planning requirements.

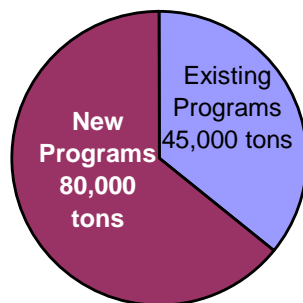
Both the proposed programs address the need to increase the capture of recyclables and increase the delivery of the Recycle at Work services.

CURRENT BUSINESS RECYCLING

Business Recovery

Businesses are currently recycling over 300,000 tons of paper and containers annually. In order to achieve the 64 percent waste reduction goal, the business sector must recycle an additional 125,000 tons of paper and containers by 2009. Existing business recycling programs are expected to yield 45,000 tons, while a new program must capture an additional 80,000 tons and meet a 90 percent recycling rate for business-generated paper and containers¹.

Figure 1. Additional Business Recovery Projected for 2009



¹ Source: Oregon Department of Environmental Quality, 2005 Recovery Survey, Oregon Department of Environmental Quality, 2005 Waste Composition Study, Metro program analysis (unpublished), 2007.

Recovery rates vary for business-generated paper and containers. Overall, the average recovery rate in 2005 was 76 percent for recyclable paper and 42 percent for recyclable containers. 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). Businesses in the region are recovering between 19 and 58 percent of recyclable containers generated; aluminum cans and foil are recovered at the lowest rate². (See Figure 3.)

Figure 2. Business Paper Recovery and Disposal

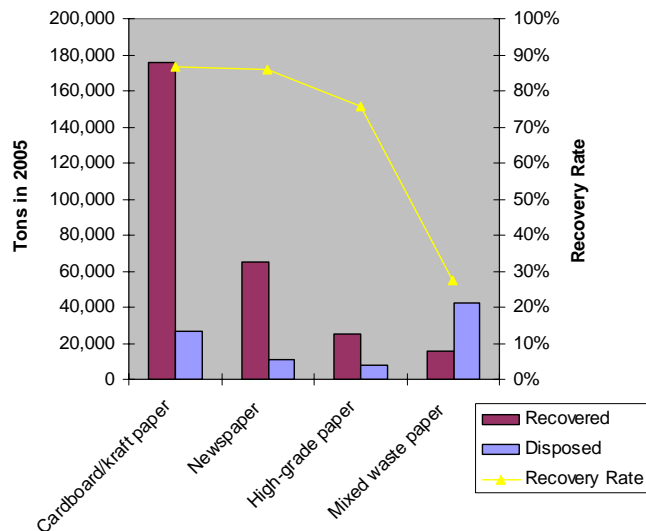
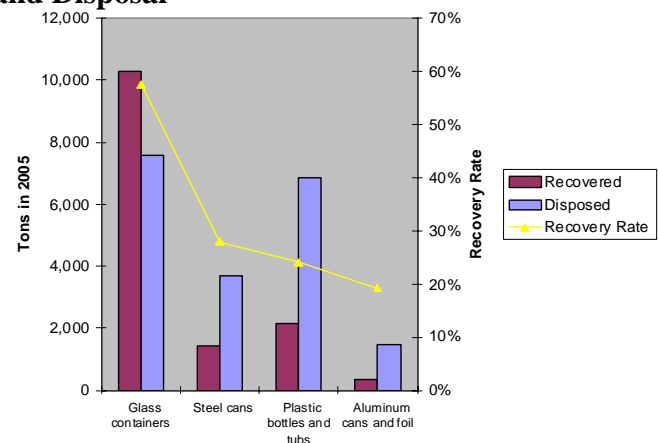


Figure 3. Business Container Recovery and Disposal



Current Programs

The region's business recycling program includes recycling services with garbage collection, free education and technical assistance, plenty of processing capacity for business recyclables, and stable material markets. However, many businesses are under performing and not utilizing current services. There are a number of perceived barriers to recycling by the business community including:

- Time
- Cost
- Lack of knowledge
- Convenience
- Employee communication
- Space
- Corporate norms and policies

In many instances, people are busy and recycling may not be a priority given time constraints at work. Some businesses are concerned that there will be increased costs associated with recycling. In franchised jurisdictions, recycling is included in the rates. With recycling, businesses have the potential to reduce overall collection cost with increased recycling and also have the potential for recyclables sale revenue. The lack of information on what is recyclable or how to train employees can also prevent a business from recycling as much as they can. Additionally, if it is not convenient to

² Oregon Department of Environmental Quality, 2005 Recovery Survey, Oregon Department of Environmental Quality, 2005 Waste Composition Study, Metro program analysis (unpublished), 2007.

recycle, employees will often not take time out to make it happen. Businesses may also perceive they have container space constraints in their building that will prevent them from starting a program. Finally, businesses are not aware of how to best communicate recycling practices with their employees, janitorial staff, or property manager, which can be a perceived barrier to making a change.

Recycle at Work is a collaborative effort between Metro and local governments and was designed to address specific barriers to recycling by providing the following resources:

- Assisting with program set up through free on-site technical assistance catered to the specific business' needs.
- Ensuring recycling bins are in convenient location.
- Identifying solutions to space constraints.
- Assisting with communication to employees including training, signage, and prompts to improve recycling knowledge and reminders.
- Assisting businesses in understanding the garbage and recycling bill, services available, and how to communicate with the hauler.
- Providing free desktide and central area recycling collection containers
- Communicating with haulers, janitorial staff, property managers, and decision-makers.
- Providing tools to assist with waste reduction and sustainable purchasing efforts.
- Providing on-going accessibility to a recycling specialist.

The program began in 2000 and more than 10.0 FTE serve as recycling specialists and provide the Recycle at Work services to the business community. More than 1,000 businesses receive on site technical assistance from recycling specialists annually. More than 30,000 desktide recycling containers have been distributed since 2003. Annual outreach campaigns target specific business sectors with key messages and strategies to increase recycling participation.

Partnerships with business trade organizations, business media, and sustainability groups are strategic components of the program's marketing plan. Recognition of business efforts takes place on a local level and has been an effective tool for recruitment in specific jurisdictions. Partners, award recipients, and other businesses that participate in the Recycle at Work program have given high scores to the quality of assistance received. Participants have also increased their recycling at much greater rates than businesses that have not utilized the program's resources³.

Despite the free services provided by Recycle at Work, some businesses still choose not to recycle or utilize the services. The primary barriers to the delivery of Recycle at Work services are lack of business entry for recycling specialists and information on businesses needing assistance improving their recycling efforts. New programs are needed to address these barriers and increase the effectiveness of Recycle at Work services.

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

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

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. See Appendix B for program development background. The proposed programs are outlined in the following pages.

Program Option 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: Local government enforcement staff or a Metro staff (under terms of an intergovernmental governmental agreement) 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.

Enforcement staff would complete random business inspections, issue warnings and penalties. Two enforcement staff positions would complete approximately 8,400 inspections per year⁴.

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

⁴ City of Seattle Recycling Program, Seattle Public Utilities, 2007.

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 could request Environmental Quality Commission (EQC) action to determine if a mandatory business recycling program is necessary to meet the regional waste reduction 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 Option 2: Business Recycling Standards

Program description: Metro would set a 90 percent 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 this 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 C). 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.

Figure 4. Key Outcomes from Proposed Programs

Anticipated Outcome	Program #1: Mandatory Recycling	Program #2: Business Recycling Standards
New Recovery	<ul style="list-style-type: none"> • 80,000 tons 	<ul style="list-style-type: none"> • 35,000 to 80,000 tons
Generator Impact	<ul style="list-style-type: none"> • Minimal impact on day-to-day business operations. • Potential for recyclables sales revenue. • Business savings with smaller garbage container size. 	<ul style="list-style-type: none"> • Minimal impact on day-to-day business operations. • Potential for recyclables sales revenue. • Business savings with smaller garbage container size.
Environmental Benefits	<ul style="list-style-type: none"> • Greenhouse gas emissions savings of 218,000 tons of carbon dioxide equivalent. • GHG emissions reductions equivalent to nearly 42,000 cars driving one year • +1.3 trillion BTUs of energy savings – enough to power nearly 15,000 homes for one year. • Save the equivalent of nearly 1.2 million trees a year, almost 1.2 Forest Parks. 	<ul style="list-style-type: none"> • Greenhouse gas emissions savings of 95,000 tons of carbon dioxide equivalent. • GHG emissions reductions equivalent to 18,500 cars driving one year. • 600 billion BTUs of energy savings– enough to power nearly 6,500 homes for one year. • Save the equivalent 500,000 trees a year, or about half of the trees in Forest Park.
Local Markets	<ul style="list-style-type: none"> • Market demand for paper and containers • Sufficient processing capacity 	<ul style="list-style-type: none"> • Market demand for paper and containers • Sufficient processing capacity

Recovery Potential

The 2007 recovery rate for business-generated paper and containers is 80 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 implemented mandatory programs.⁵

⁵ Moore & Associates, Inc., Impact of Mandatory Recycling Ordinances and Disposal Bans on Commercial Fiber Recycling, prepared for Metro, April 2003.

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 percent 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.

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 could 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 Government Impacts

Under mandatory business recycling, requirements would be formally adopted at the regional and local level. Cities and counties responsible for solid waste collection would adopt the requirements through an ordinance. See Appendix D for list of jurisdictions that would require legislation. Metro would provide a model ordinance for use by local governments. The legislation process would require staff time on the local level to file the staff report and present the ordinance to their elected bodies. Local staff may see an increase in demand for recycling assistance from the business community. There would be no additional staff time required for program reporting and monitoring.

The business standards program would require significantly more staff time than the adoption of requirements. Staff time at the Metro level would be required to administer the program including fund distribution, review and approval of program plans and review of annual reports. At the local level, additional staff time would be needed to develop and implement the new programs.

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.

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.⁶

⁶ Andover International Associates, Market Opportunities for Additional Tonnage of Scrap Paper from Businesses in the Metro Region, June 2003.

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.⁷

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.⁸

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.⁹ 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.¹⁰ 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.¹¹ 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.

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.¹²

⁷ Energy Trust of Oregon, Inc., SP Newsprint reaps multiple benefits from energy upgrade, June 7, 2006.

⁸ Energy Trust of Oregon, Inc., Blue Heron Paper creates jobs, builds competitiveness by saving energy, Feb. 4, 2005.

⁹ Moore & Associates, Inc., Feasibility of Adding Plastic Containers and Film to Curbside Recycling, prepared for Metro, November 2005.

¹⁰ Hammond, Steve, Owens Illinois Glass Market Report, Association of Oregon Recyclers, April 2006.

¹¹ Oregon Department of Environmental Quality, Container Glass Recycling, 1998.

<http://www.deq.state.or.us/wmc/solwaste/glass.html>

¹² 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>

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.

This section addresses the *economic* costs that would be borne by waste generators within the region as a result of implementing the Business Recycling Program. “Economic costs” refer to money payments for goods and services such as collection of recyclables and disposal of waste. “Economic costs” do not capture external (environmental) benefits of the program, such as improvements in health due to reduced air emissions. Environmental benefits are addressed in a later section.

For analytical purposes, economic effects on two groups are examined: the businesses targeted by this program, and all other regional generators—single family, multi-family, construction/demolition projects, *etc.*—that are not targeted by this program.

Unless specifically noted in the text that follows, all cost and tonnage figures are region-wide totals.

Program Costs

The costs associated with the proposed programs will be discussed in three parts:

1. *Financial Impacts of Recycling (Universal vs. Specific)*. An explanation of general concepts to distinguish between impacts that are universal to any recycling program and those impacts that arise due to specific implementation details;
2. *Affected Parties (Targeted Generators vs. Other Generators)*. Which costs impact the targeted generators and which affect others in the system;
3. *Comparison With Other Programs*. A comparison of the Business Recycling costs and outcomes to a selection of other existing and future waste reduction programs. Net economic benefits as well as net environmental benefits are addressed in this section.

Cost figures in the discussion that follows are couched in terms of the *change* in cost relative to the status quo. For example, as always, doing nothing different is always an option. By definition, the *change* in cost of doing nothing is zero. The cost of the two business program options (standards vs. mandatory) are presented in terms of the change in costs relative to doing nothing. In this case, cost impacts are highly dependent on the number of tons recovered. Throughout, the analysis is based on 80,000 new tons of recovery; fewer tons recovered would mean lower total cost impact, roughly proportional to the number of tons recovered.

Financial Impacts of Recycling: Universal vs. Specific

The financial impacts of recycling can be grouped into two categories: 1. Impacts that arise anytime garbage is diverted to recycling; and 2. Impacts that arise in response to the specific program at hand. For example, any waste diverted to recycling will avoid the costs associated with disposal and could generate revenue as a valuable market commodity. These effects are universal and independent of the specific program or action that caused the recycling to occur. Program-specific impacts, on the other hand, can be attributed to a particular program. Examples of program-specific impacts are the public cost of enforcing new requirements, program oversight, and changes in collection service for the targeted generators. Appendix E shows a breakdown of the universal vs. program-specific costs for mandatory business recycling.

One source of program-specific costs bears special discussion, costs that are fully internalized by the generator. Unlike avoided disposal costs and recyclable material sales, whose magnitudes can be relatively well known, internalized costs are problematic to quantify.

Take the bottle bill as one well-known program that has both associated market costs that are relatively easy to quantify as well as internalized generator costs that are difficult to know. Easy-to-estimate market costs include avoided disposal costs (tons x tip fee) and material sales (tons x sales price). Sources of hard-to-quantify costs include, for example, the value of the consumer's time and transportation resources to sort out bottles at home and (usually) drive them back to the grocery store for deposit redemption. Additionally, floor space almost always has a value, or opportunity cost. Most homeowners reserve space in the kitchen and/or garage for container storage, at perhaps a seemingly small cost; however, across all homeowners in the region, the total value of that floor space is significant. And, while not a generator consideration per se, grocers give up business floor space for empty bottle storage and redemption machines.

More commonly than not, it becomes impractical to try to place a dollar value on these non-point-sources of cost. Nevertheless, internalized generator costs are real and can be substantial. In the case of business standards or requirements, there certainly will be internalized generator costs, ranging from making office space changes, to appointing a corporate recycling coordinator, to making capital and staff-time investments in reconfiguring recycling areas and internal business practices. The next section quantifies market cost effects and attempts to characterize the internalized cost effects of the business recycling program.

Affected Parties: Targeted Generators vs. Other Generators

This section addresses the *economic* costs that would be borne by waste generators within the region as a result of implementing the Business Recycling Program. "Economic costs" refer to money payments for goods and services such as collection of recyclables and disposal of waste. "Economic costs" do not capture external (environmental) benefits of the program, such as improvements in health due to reduced air emissions. Environmental benefits are addressed in a later section.

For analytical purposes, economic effects on two groups are examined: the businesses targeted by this program, and all other regional generators—single family, multi-family, construction/demolition projects, *etc.*—that are not targeted by this program. Unless specifically noted in the text that follows, all cost and tonnage figures are region-wide totals.

Business Generators

The change in the cost to business participants stems from three basic sources: (1) internal implementation and management (see discussion above), (2) changes in garbage and recycling services provided by haulers, and (3) changes in the per-ton cost of disposal due to diversion of 80,000 tons to source-separated recycling. The latter also includes changes in Metro's rates to recover Metro's new costs for the Business Recycling Program.

- *Internal Implementation and Management Costs.* As discussed above, internalized costs are generally difficult to quantify. Metro staff estimates that businesses that need to make improvements to their internal recycling systems in response to a new program may spend a minimum of \$1 million (in aggregate) annually for those improvements. This conservative estimate is based on anecdotal reports from a few businesses that currently have recycling procedures in place. Some other businesses who have not yet fully developed their recycling processes believe that \$1 million per year may be too low, perhaps by an order of magnitude. Changes in internal business costs would need to be internalized. Within estimation error, this cost is not expected to vary significantly under the standards vs. the mandatory program.

▪ *Collection Costs.* Assuming that the targeted businesses set aside an extra 80,000 tons of new recyclables, then their cost for collecting recyclables will increase by about \$7.4 million per year, as more collection time will be required to pick up the additional recyclables. At the same time, collection costs for garbage will decrease slightly, perhaps by as much as \$1.2 million, for those 15% or so of businesses that can reduce the frequency of their garbage service due to better recycling. Overall, the net \$6.2 million annual collection cost increase will be largely offset by about \$6.7 million in avoided disposal costs (\$4.7 million in tip fees) and revenue (\$2 million) from sales of additional recyclables. The small (\$530,000) net decrease over the status-quo cost of providing collection services represents only a fraction of a percent change in total solid waste service costs (out of perhaps \$150 million per year), and almost certainly would not of itself warrant a rate adjustment by local governments. Hence, not counting fiscal impacts of tonnage diversion discussed in the next bullet, Metro staff estimates that all businesses combined would pay about the same, on average, for collection with or without a new business recycling program.¹³ Disposal costs, on the other hand, are almost certain to rise, as discussed next.

▪ *Disposal Costs.* The per-ton cost of disposal (tip fee) is projected to rise for three reasons: (i) the diversion of waste from disposal facilities will raise Metro’s contract rate at Columbia Ridge landfill by approximately 90¢ per ton; (ii) diversion leaves less tonnage from which to recover fixed costs, with a 35¢ per ton effect at the transfer stations and 85¢ on the Regional System Fee; and (iii) staff assumes that Metro’s cost of the Business Recycling Program—including revenue sharing to pay for the cost of program elements implemented by local governments—will be recovered by an increase in the Regional System Fee of 46¢. If these changes are recovered through Metro’s standard rate model, they mean a \$1.25 increase in the tonnage charge component of the tip fee (90¢+35¢), and a \$1.31 increase in the Regional System Fee (85¢+46¢). In addition, private facilities will have similar cost effects and, if past is precedent, will match Metro’s prices, making these disposal increases a region-wide event. Due to these changes, totaling \$2.56/ton, participants in the Business Recycling Program will see a \$1.84 million increase in the cost of disposing of waste that continues to be landfilled.

The following table summarizes the cost effects described above.

Table 1. Total Change in Costs for Business Recycling Program Participants

Cost Component	Net Cost
Internal management	\$1,000,000 *
Collection	(530,000)**
Disposal	1,843,000
Total	\$ 2,313,000

* See discussion above regarding uncertainty in internalized costs

** Collection services net of material sales revenue & avoided disposal cost on recycled materials.

▪ *Effect on Garbage Bill.* A number of factors influence how these net cost increases would impact a specific business’s bill from its garbage hauler. Individual businesses will experience different impacts because business size varies, as do waste generation characteristics, solid waste service levels and service providers (hauler). In addition, rate-setting processes are not uniform among jurisdictions in the region. With those caveats, Metro staff believes that most businesses should expect a rate increase of less than 2% given the cost assumptions above, mainly due to the increase in per-ton

¹³ These figures do not reflect any increase in hauler-provided education for customers, which could be significant during the early phase of implementation.

charges for disposal. Those few businesses that significantly reduce their need for disposal may even enjoy an overall decrease in their bill for solid waste services; however, other businesses that, because of space limitations or the characteristics of their waste, cannot reduce their need for disposal (e.g., restaurants) may experience an increase higher than 2 percent.

Other Generators (Single Family, Multi-Family, Construction, etc.)

As indicated in the “Disposal Costs” bullet above, tip fees could rise throughout the region by approximately \$2.56 per ton. All generators would be affected by this change in disposal costs, including generators who do not participate in the Business Recycling Program. Metro staff estimates that increased disposal costs for these generators would run approximately \$1.54 million per year.

Cost Comparison of Business Recycling with Other Programs

In order to make the numbers in the previous section useful for decision-making, the Business Recycling Program costs can be compared with the cost and performance of other programs. The following table shows a comparison of key costs and statistics for the prospective Business Recycling and Enhanced Dry Waste Recovery (“EDWRP”) programs versus several existing waste reduction programs, including the well-known Bottle Bill program, and Metro’s Regional System Fee Credit Program, and Food Waste Composting Program.

Table 2. Comparison of program-related cost impacts for several waste reduction initiatives.

	Tons Recovered	Cost Changes due to...			Equivalent cost per ton recovered
		Tonnage Diversion *	Govt. Oversight & Enforcement **	Service Changes***	
Existing Programs		<i>costs shared among all generators</i>		<i>costs borne by target generators</i>	
Bottle Bill	35,000	\$1,205,000	\$0	unknown	\$34
Commercial Organics	12,000	\$438,000	\$140,000	unknown	\$48
RSF Credits	30,000	\$1,558,000	\$10,000	\$0	\$52
Prospective Programs					
Enhanced Biz Recycling	80,000	\$2,772,000	\$607,000	(\$530,000)	\$36
EDWRP	42,250	\$1,358,000	\$0	\$2,407,000	\$89

* The per-ton cost of disposal rises as fixed costs are recovered from fewer disposed tons and as Metro’s contract disposal price increases with diminishing tonnage. Tonnage diversion alone accounts for about \$35/ton recovered, regardless of the of the waste reduction program specifics (except for RSF credits, which historically have cost more--\$52/ton recovered--due to the operating subsidy).

** Government costs include locally- & regionally-administered education and outreach, enforcement, coordination, and associated overhead. The magnitude of these ongoing government costs is less well-known, typically representing amalgamation of many fractional FTE. Some local governments also may choose to supplement this, e.g., through franchise fees, to support their businesses’ recycling.

*** This column includes costs related to changes in collection services, but does not include systems improvements costs (internalized), whose estimation is highly uncertain, as they are dependent on generators’ behavior, local governments’ rate setting, and haulers’ operational choices.

A note on internalized costs: Table 2 includes no estimate of internalized costs caused by the respective programs, as quantitative estimates are so uncertain as to be marginally useful for decisionmaking. That said, Table 3 tries to characterize the order of magnitude of the various internal systems costs for each program.

Table 3. Annual internalized cost estimates for the programs shown in Table 2.

Program Name	Sources of Internalized Generator Costs	Order of Magnitude
Bottle Bill	Homeowner space, time	\$1 to \$10 million
Commercial Organics	Restaurant or grocer space, time	\$0 to \$100,000
RSF Credits	None. Disposal-oriented program.	\$0
Enhanced Biz Recycling	Space improvements, staff time	\$1 to \$10 million
EDWRP	None. Disposal-oriented program.	\$0

Program Benefits

Economic Benefits

Avoided disposal costs and sales of recyclable materials would be the direct economic benefits accruing to businesses participation in recycling. 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. These savings are included as revenue offsets to the direct collection costs calculations described in the previous section.

Environmental Benefits

Additional benefits can be calculated by evaluating the external environmental costs and benefits associated with the handling and disposal of waste that are not counted in the price/cost of the activity. These benefits are calculated in terms of trees saved, improved air quality and energy savings and monetized into savings by material. These types of benefits are for the public at large and some may go beyond the Metro boundary.

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 1.2 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 500,000 trees.

Air emissions. Recycling 60,000 tons of paper reduces air emissions equivalent to that produced by nearly 42,000 cars driving one year. Recycling 26,000 tons of paper reduces air emissions equivalent to more than 18,500 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 1.3 trillion British Thermal Units (BTU's) of energy, enough to power nearly 15,000 homes for one year. If the lower tonnage scenario for the business program is assumed, the program would save more than 600 billion BTU's of energy, enough to power nearly 6,500 homes for one year.

The environmental benefits are monetized by material for the recovery of 80,000 additional tons of paper and containers. Table 4 shows the tons by material type, unit value and total savings.

Table 4. Monetized Environmental Benefits by Material for 80,000 tons

	2005	Unit	Total
Recyclables	Tons	Value	Value
Newspaper	6,135	\$163	\$1,002,234
Mixed waste paper	28,275	\$129	\$3,648,579
Cardboard/kraft paper	26,201	\$141	\$3,683,992
High-grade paper	4,876	\$100	\$486,039
Glass containers	5,405	\$19	\$101,020
Steel cans	2,346	\$50	\$118,176
Aluminum cans and foil	1,123	\$621	\$697,804
Plastic bottles and tubs	5,639	\$86	\$484,325
Total	80,000	\$128	\$10,222,169

Source: TRACI, Decision Support Tool, Environmental Protection Agency, 2007.

The largest factor contributing to the environmental benefits is the reduction of 218,000 tons of greenhouse gas emissions (valued at \$36 per ton of carbon dioxide equivalent).

CONCLUSION

Achieving the state-mandated waste reduction goal for this region requires new programs targeting commercially-generated waste. This proposal outlined two approaches for achieving higher levels of business recycling. 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
- Environmental benefits

Key Distinctions 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
- Staffing for enforcement program
- 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. Public surveys have indicated support for business recycling requirements from both households and businesses. Mandatory business recycling programs around the nation perform better than voluntary programs. The implementation of a regional mandatory program is anticipated to recover an additional 80,000 tons of paper and containers.

Local government partners, with the exception of City of Portland, favor the Business Recycling Standards program. This approach would provide flexibility among the jurisdictions to meet the targets by using programs that would work best in the various communities. However, it is difficult to determine if a much higher level of recovery can be achieved with this approach. The Business Standards program is expected to achieve a minimum of 35,000 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.

July 2007

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

Outcome: Analyze program options. Review SWAC recommendation and determine direction for formal program development.

July 2007

Metro Policy Advisory Committee Review (scheduled for 7/25/07)

Outcome: Review proposed programs and make recommendation to Metro Council.

Fall 2007

Metro Council Communication and Direction

Outcome: Councilor Harrington will present her recommendation to Metro Council for consideration. Council may select program for formal development.

APPENDIX A

Business Recycling Policy Development History

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) mandatory business recycling options.

- **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.

- **Local Government Business Recycling Meetings**

August 2006 to January 2007

Metro staff conducted a series of meetings with local government representatives to identify an alternative to a mandatory approach. As a result, staff developed the Business Recycling

standards program that provides a more flexible approach to increasing business recycling performance.

- **Business Recycling Survey**

February 2007

Metro conducted a study of business recycling practices throughout the region. Five-hundred and seventy-eight random businesses were surveyed and provided input on effective policies to increase business recycling.

- **Metro Solid Waste Advisory Committee**

May – June 2007

Metro's Solid Waste and Recycling staff presented and discussed program options with the Solid Waste Advisory Committee during three Committee meetings and one technical analysis meeting. The Committee voted to recommend Option 2 to Council with the additional request to revisit mandatory business recycling if the 90 percent goal is not achieved within two years of implementation.

- **Metro Council Work Session**

July 2007

Metro's Solid Waste and Recycling staff presented and discussed program options with Metro Council on July 3rd, 2007. Council discussed the need for a regional approach and standardized recycling practices, the level of impact on local governments and businesses, the difference and similarities between the City of Portland's mandatory recycling program, results from mandatory programs across the country, and overall system and environmental costs/benefits. Council would like to get input from MPAC members regarding the preferred option to increase business recycling in the region. Council did not reach a consensus on their preferred program option at this meeting.

APPENDIX B PROGRAM DEVELOPMENT NARRATIVE

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.¹⁴ 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.¹⁵

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.

¹⁴ Cogan Owens Cogan, Interim Waste Reduction Plan Public Comment Report prepared for Metro, June 2006.

¹⁵ Portland State University Community Environmental Services, Metro Recycle at Work Campaign and Assistance Survey, prepared for Metro, May 2007.

APPENDIX C

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.

APPENDIX D Local Government Program Authority and Funding Overview

Local Government Program Authority and Funding Overview

Jurisdiction	Solid Waste Authority	Designated Waste Reduction Planning Agency	Direct Funding	Pass thru Allocation	Option 1: Mandatory Recycling		Option 2: Business Recycling Standards				
					Adopt legislation	Maintain current Recycle at Work services	Maintain current Recycle at Work services	Develop new programs	Implement Program	Year 1 progress report	Year 2 progress report
Clackamas County	X	Clackamas County	X		X	X	X	X	X	X	X
Unincorporated Clackamas County	NA	Clackamas County		X	X			X	X	X	X
Barlow*	X	Clackamas County		X	X			X	X	X	X
Damascus*	X	Clackamas County		X	X			X	X	X	X
Gladstone*	X	Clackamas County		X	X			X	X	X	X
Happy Valley*	X	Clackamas County		X	X			X	X	X	X
Lake Oswego*	X	Clackamas County		X	X			X	X	X	X
Milwaukie*	X	Clackamas County		X	X			X	X	X	X
Estacada*	X	Clackamas County		X	X			X	X	X	X
Molalla*	X	Clackamas County		X	X			X	X	X	X
Oregon City*	X	Clackamas County		X	X			X	X	X	X
Sandy*	X	Clackamas County		X	X			X	X	X	X
West Linn*	X	Clackamas County		X	X			X	X	X	X
Canby*	X	Clackamas County		X	X			X	X	X	X
Wilsonville*	X	Clackamas County		X	X			X	X	X	X
Gresham	X	Gresham	X		X	X	X	X	X	X	X
Wood Village*	X	Gresham		X	X			X	X	X	X
Fairview	X	Fairview	X		X	X	X	X	X	X	X
Troutdale	X	Troutdale	X		X	X	X	X	X	X	X
Portland	X	Portland	X		X	X	X	X	X	X	X
Beaverton	X	Beaverton	X		X	X	X	X	X	X	X
Washington County	X	Washington County	X		X	X	X	X	X	X	X
Unincorporated Washington County	NA	Washington County		X	X			X	X	X	X
Hillsboro	X	Washington County		X	X			X	X	X	X
Tigard*	X	Washington County		X	X			X	X	X	X
Tualatin*	X	Washington County		X	X			X	X	X	X
Forest Grove*	X	Washington County		X	X			X	X	X	X
Banks*	X	Washington County		X	X			X	X	X	X
Cornelius*	X	Washington County		X	X			X	X	X	X
King City*	X	Washington County		X	X			X	X	X	X
North Plains*	X	Washington County		X	X			X	X	X	X
Sherwood*	X	Washington County		X	X			X	X	X	X
Durham*	X	Washington County		X	X			X	X	X	X
Gaston	X	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maywood Park	X	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Definitions and Notes:

Solid Waste Authority: Local government responsible for designing and administering waste reduction programs; regulating and managing solid waste and recycling collection services within their jurisdictional boundaries; and reviewing collection rates and services standards.

Designated Waste Reduction Planning Agency: Local government responsible for designing and implementing the waste reduction programs including Recycle at Work Services. Cities may designate the county agency to implement a program on their behalf.

Direct Funding: Receive direct funding from Metro to implement waste reduction programs.

Pass thru Allocation: Local government is eligible for direct funding from Metro, but designates funding to county to implement waste reduction programs on their behalf.

*Under Option 2, may choose to have designated waste reduction planning agency develop and implement the new program plan and reporting on their behalf.

APPENDIX E

Table E1 below summarizes the costs projected for an 80,000-ton diversion of garbage to recycling due to implementation of a required business recycling. Note that only the figures in the right half of the diagram (labeled “Program-specific”) would be unique to this specific program. All the cost changes in the “Universal” left half are dependent solely on the number of tons diverted to recycling and would occur *regardless of how the tons were diverted from the waste stream*.

TABLE E1. Cost changes unique to the proposed business recycling program (specific), and changes that would occur due to any diversion of tonnage to recycling (universal).

	Universal		Program-specific		
	per-ton	total	per-ton	total	
Internal management	-	-	\$12.50	\$1,000,000	} \$472,300 <i>businesses pay</i>
Solid waste service					
Avoided coll., tfr., transp. disp.	(\$60.00)	(\$4,800,000)	-	-	
Avoided govt. fees	(\$14.00)	(\$1,120,000)	-	-	
Sales of recyclables	(\$24.00)	(\$1,920,000)	-	-	
Collection service	-	-	\$91.40	\$7,312,300	
Tip Fee impacts					} \$3,376,700 <i>all generators pay</i>
Regional programs	\$0.85	\$1,120,000	-	-	
Fixed costs (e.g., scalehouse)	\$0.35	\$462,000	-	-	
Contract payments	\$0.90	\$1,188,000			
Program oversight	-	-	\$0.33	\$441,300	
Enforcement	-	-	\$0.13	\$165,400	
TOTAL		(\$5,070,000)	+	\$8,919,000	= \$3,849,000

Note: Whereas Table E1 is based on an 80,000-ton diversion, for a business program that achieves only 35,000 tons of diversion, e.g., the standards approach, per-ton amounts would remain roughly the same, and the dollar totals would be cut by about half.

APPENDIX F

Frequently Asked Questions

Achieving the state-mandated regional waste reduction goal requires new programs targeting commercially generated waste. Metro Council directed staff to develop business recycling program options. This worksheet provides information about the proposed programs for increasing business recycling.

BACKGROUND

Q: What is the issue?

A: While many businesses recycle, an estimated 14 percent do not recycle or recycle only cardboard. As a result, more than 100,000 tons of recyclable resources (paper and containers) from this sector are disposed of annually. To reach the state-mandated waste reduction goal, businesses must recycle an additional 80,000 tons of paper and containers.

Q: What are the benefits of increasing business recycling?

A: More business recycling sends less garbage to the landfill, conserves energy and natural resources and helps prevent pollution. Recycling 80,000 tons of paper and containers each year saves:

- 71 metric tons of carbon equivalents
- 1.7 trillion BTUs of energy – enough to power nearly 17,000 homes for one year
- Greenhouse gas emissions equivalent to nearly 54,000 cars driving one year
- The equivalent of nearly 1.4 million trees a year-- almost 1.4 Forest Parks.

Q: What are the barriers to business recycling?

A: Many businesses are under-recycling and not utilizing current services. Some reasons include:

- **Lack of business will.** In many instances, recycling is not a business priority. Businesses are busy and recycling isn't part of their business plan.
- **Lack of information/expertise.** Some businesses are confused about what is recyclable. Others are unsure how to communicate and train their staff about proper recycling.
- **Lack of space/convenience.** Businesses may believe space constraints prevent them from recycling. Also, if recycling is not easy or convenient, employees will often not do it.
- **Lack of cost/savings information.** Some businesses are concerned about increased costs if they recycle. (In franchised jurisdictions, recycling is included in the rates.) However, if businesses increase recycling, they may reduce overall collection costs and may increase revenue through the sale of recyclable materials.

Q: What services are currently being offered to businesses?

A: Recycle at Work (RAW) provides free resources and onsite technical assistance customized to each business's needs, including:

- **Program set up.**
- **Space planning**, including identifying solutions to space constraints and ensuring recycling bins are conveniently located.
- **Communication**, including staff training, signage and prompts. RAW also communicates with haulers, janitorial staff, property managers and decision-makers.
- **Invoice interpretation** to help businesses understand their garbage/recycling bill, the services available, and communicate more effectively with their hauler.
- **Containers**, including free deskside and central area recycling collection containers, and other tools.
- **Technical support**, including on-going assistance from recycling specialists.

Q: Who partners with the RAW program?

A: The Recycle at Work program partners with more than 200 businesses, including the Building Owners and Managers Association, Portland Metropolitan Association of Realtors, Portland Business Alliance and several local chambers of commerce.

Q: What are the results of current services and programs?

A: Businesses who have participated in the RAW program have increased their recycling at much greater rates than businesses that do not utilize the program's resources *. Since its inception in 2000, RAW's 10 recycling specialists have:

- Provided onsite technical assistance to more than 1,000 businesses each year. Businesses and business partners have rated RAW highly for the quality of technical assistance.
- Distributed 30,000 deskside recycling containers (since 2003).
- Helped institute local business recognition programs.

[*Further quantified data not available.]

Q: What are current program challenges?

A:

- Lack of access to businesses for Recycle at Work specialists. Many businesses lack firm motivation to recycle ('must do' versus 'nice to do').
- Inconsistent region-wide recycling services.
- Limited information on businesses needing help with recycling are challenges to delivering Recycle at Work services.

PROPOSED PROGRAMS

Q. What are the proposed business recycling program options?

A. There are two proposed options:

- **Option 1: Mandatory Business Recycling Program** - Requires local jurisdictions to implement mandatory business recycling. Businesses would be required to separate paper and containers for recycling. No more than 10 percent of these recyclable materials would be allowed in the garbage. Program comes with a \$100,000 pool of funds from Metro to be shared by jurisdictions for implementation.
- **Option 2: Business Recycling Standards Program** - Sets a voluntary 90 percent standard for paper and container business recycling. Local governments develop new or enhanced programs to achieve this level of recovery and would be accountable for the target and for reporting annual progress. Program comes with a \$100,000 pool of funds from Metro to be shared by jurisdictions for implementation.

Q: What are the main differences between the two programs?

A: Both the proposed programs are expected to increase business recycling and enhance delivery of Recycle at Work services.

Mandatory business recycling:

- recommended by a Council-authorized stakeholder work group.
- creates a consistent, region-wide recycling collection standard.
- is supported by households and businesses.
- would likely perform better than a voluntary approach (based on similar programs around the country).
- would likely achieve a 90 percent business recycling rate and help meet the regional recovery goal.

Voluntary business recycling:

- would likely be supported by most local jurisdictions (City of Portland is a possible exception).
- provides program flexibility within each community.
- is likely to boost recycling from businesses, but not meet recovery goal.

Q: How does the proposed mandatory program differ from the City of Portland's business recycling requirements?

A: The City of Portland's program requires businesses, multi-family residences and construction projects (valued at more than \$50,000) to recycle at least 50 percent of their waste.

- **More recycled paper/containers.** The proposed program requires business to recycle 90 percent of their paper and containers.
- **More enforcement.** The proposed program places more emphasis on enforcement (two enforcement staff positions versus Portland's >.25 enforcement staff).
- **Same penalties.** The penalty for non-compliance is \$500 for both programs. (Portland has issued only one fine since 1996.)

Q: How do the proposed programs affect the local governments?

A:

Mandatory business recycling

- **No additional program development or reporting.** The mandatory program does not place additional program development or reporting requirements on local government. Because the program would be standardized region wide, less local government time would be spent on program development and evaluation. Additional staff time may be needed to coordinate the ordinance adoption.
- **Increased delivery of services.** Currently, local government Recycle at Work staff spend up to 40 percent of their time trying to "get in the door" at businesses. Only about 60 percent of staff time is spent helping businesses improve recycling. Mandatory recycling would increase staff time available to assisting businesses in their recycling efforts.

Voluntary business recycling

- **Increased staff time.** Local governments will have to spend more time developing individual programs, creating plans, tracking progress and reporting results to Metro.

Q: How will increased recycling impact businesses?

A: Minimally. Research from 15 cities, including the City of Portland's mandatory business recycling program (adopted in 1996), indicates that increased business recycling would have a minimal impact on day-to-day business operations.

- For most businesses, either proposed program would require employees to recycle additional items in current recycling containers.
- For some businesses, the program may require businesses to change their level of garbage service and acquire additional recycling containers.

M E M O R A N D U M

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METRO

DATE: November 2, 2007

TO: Metro Councilors

FROM: Michael Hoglund, SWR Director

SUBJECT: Options for Increasing Business Recycling

Enclosed for your review is background material prior to a Council work session on Business Recycling Options November 13, 2007. This material addresses key questions asked by Council and by MPAC.

At the July 3, 2007 Metro Council work session on Options for Increasing Business Recycling, Council members requested further information on the goals, costs and benefits of the two proposed programs. Attached is the additional analysis and case studies prepared by Solid Waste & Recycling Department staff. This memorandum reviews the program options and summarizes the key findings of the new analysis for Council review.

Achieving the state-mandated waste reduction goal for this region is dependent on new programs to increase business recycling. In order to reach the 64 percent waste reduction goal, businesses must recycle an additional 80,000 tons of business paper and containers. Metro Council recognized this impediment, and directed staff to develop program options for consideration. In July, staff presented two approaches for Metro Council consideration:

- **Option #1: Mandatory Business Recycling Program-** This program would require all local jurisdictions in the region to implement mandatory business recycling. This would require businesses to recycle only paper and containers.
Recovery projection: 80,000 tons of paper and containers
- **Option #2: Voluntary Business Recycling Standards-** This program would 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. Local governments would be responsible for developing new or enhanced programs to achieve a higher level of recovery. Each local government would be individually accountable to meet the target, similar to land-use planning requirements. *Recovery projection: 35,000 tons-80,000 tons of paper and containers*

Although the program options have common goals, the costs, benefits, and local government implications vary greatly between the two programs. The key points of the new analysis highlight the shared goals and major differences and are detailed below.

Business Recycling Program Options Goals

Both of the proposed programs aim to achieve the regional waste reduction goal, while addressing Metro Council's goals and objectives, and the prioritized values of the Metro Policy Advisory Committee and the Solid Waste Advisory Committee. Specific goals and objectives include:

1. Meet the regional solid waste reduction goal of 64 percent by 2009.
2. Achieve a 90 percent recycling rate for paper and containers (80,000 additional tons).
3. Reduce energy consumption and reliance on virgin materials.
4. Supply quality products to recycling markets.
5. Align with Metro Council's Objective 2.3: The region's waste stream is reduced, recovered and returned to productive use, and the remainder has a minimal impact on the environment.
6. Address current business recycling obstacles including lack of entry to businesses by recycling specialists, lack of information on who is not recycling, and inconsistent standards throughout the region.
7. Address stakeholder values beyond cost and tons recovered, including environmental benefits, ease of implementation and consistency with the waste reduction hierarchy.

Business Recycling Program Options Cost

The cost analysis examines the financial impacts of recycling (universal and specific), affected parties and comparison with other programs. Table 1 summarizes the costs projected for an 80,000-ton per year diversion of garbage to recycling due to implementation of mandatory business recycling. Universal costs are dependent solely on the number of tons diverted to recycling and would occur *regardless of how the tons were diverted from the waste stream*. Program-specific costs would be unique to this specific program and include program management, enforcement and collection services costs.

Table 1. Annual Program Cost Summary

Universal costs:	(\$5,070,000)
Program-specific costs:	<u>\$8,919,000</u>
Total	\$3,849,000

Cost changes associated with different tonnage diversion would vary proportionally. For example, if the Voluntary Business Recycling Standards approach achieved 35,000 tons of new recovery, then the above totals would be reduced by about half. See Attachment A for complete cost analysis.

Effects on the Business Garbage Bill

Translating these costs to the effects on the garbage bill indicates that most businesses could expect a service charge increase of less than two percent, mainly due to the increase in per-ton charges for disposal. Local business case studies that evaluate the service charge impacts under the proposed programs are highlighted in Attachment B. It is important to note that while some businesses may see a slight service cost increase, others may see disposal costs decrease as they recycle more.

Cost Comparison of Business Recycling Options with Other Programs

The proposed business recycling options maintains a lower cost per ton when compared to several existing waste reduction programs as detailed in Table 2.

Table 2. Annual Program Cost Impact Comparison

	<u>Tons Recovered</u>	<u>Equivalent cost per ton recovered</u>
Existing Programs		
Bottle Bill	35,000	\$34
Commercial Organics	12,000	\$48
RSF Credits	30,000	\$52
Prospective Programs		
Increased Biz Recycling	80,000	\$36
EDWRP	42,250	\$89

Local Government Impact

Designated solid waste planning agencies, which are responsible for local waste reduction planning and education, have been a major stakeholder in the identification and evaluation of program options since discussions began in 2003. Planning agency staff are aware of the resources that would be involved in implementing either of the business recycling program options. Attachment D outlines local government responsibility for solid waste programs and role in new programs.

Mandatory Business Recycling requires a one-time demand on local government staff and elected officials to adopt the ordinance versus Voluntary Business Recycling Standards, which requires on-going program management and evaluation. Under both options, Recycle at Work services would continue to be provided to the business community by those jurisdictions currently receiving direct program funding from Metro.

Under both program options, local governments estimate they will need additional resources. On average, local governments that currently receive Recycle at Work funding estimated a cumulative need for an additional \$400,000 (4 FTE and additional program tools) to implement either program, while recovery results are expected to vary greatly between the two options. See Attachment C for detailed local government impact summary.

Business Recycling Program Options Benefits

As a result of increased business recycling, additional benefits, not counted in economic costs and benefits, accrue to the environment. Metro staff estimates the net environmental benefits of the mandatory business recycling program to be \$10.22 million for 80,000 tons of new recovery collected annually. The Business Recycling Standards program is projected to achieve approximately \$5 million for 35,000 tons (see Attachment A). The largest factor contributing to the environmental benefits is the reduction of 218,000 tons of greenhouse gas emissions (valued at \$36 per ton of carbon dioxide equivalent). Many of the environmental benefits would be shared beyond Metro's jurisdictional boundary and extend to communities where recycled commodities are re-manufactured into products.

Next Steps

At the November 13th Council Work Session, staff will provide an overview of this information and the worksheet will identify the key questions for Council consideration. Council will be asked to provide direction on which program option to develop for formal consideration.

Attachment A
Cost Impact Analysis Excerpted from
White Paper on Options for Increasing Business Recycling
Updated: September 25, 2007

Discussion of Costs

The costs associated with the proposed new business recycling program options will be discussed in three parts:

1. *Financial Impacts of Recycling (Universal vs. Specific)*. An explanation of general concepts to distinguish between impacts that are universal to any recycling program and those impacts that arise due to specific program implementation details;
2. *Affected Parties (Targeted Generators vs. Other Generators)*. A description of costs that impact the targeted generators and costs that affect others in the system;
3. *Comparison with Other Programs*. A comparison of the business recycling costs and outcomes to a selection of other existing and future waste reduction programs. Net economic benefits as well as net environmental benefits are addressed in this section.

Cost figures in the discussion that follows are couched in terms of the *change* in cost relative to the status quo. For example, as always, doing nothing different is always an option. By definition, the *change* in cost of doing nothing is zero. The cost of the two business program options (standards vs. mandatory) are presented in terms of the change in costs relative to doing nothing. In this case, cost impacts are highly dependent on the number of tons recovered. Throughout, the analysis is based on the goal of 80,000 new tons of recovery from businesses; fewer tons recovered would mean lower total cost impact, roughly proportional to the number of tons recovered.

Financial Impacts of Recycling: Universal vs. Specific

The financial impacts of recycling can be grouped into two categories: 1. Universal impacts that arise anytime garbage is diverted to recycling; and 2. Specific impacts that arise in response to the program at hand. Regarding universal costs, any waste diverted to recycling will avoid the costs associated with disposal and could generate revenue as a valuable market commodity. These effects are universal and independent of the specific program or action that caused the recycling to occur. Program-specific impacts, on the other hand, can be attributed to a particular program. Examples of program-specific impacts are the public cost of enforcing new requirements, program oversight, and changes in collection service for the targeted generators.

One source of program-specific costs bears special discussion, costs that are fully internalized by the generator. Unlike avoided disposal costs and recyclable material sales, whose magnitudes can be relatively well known, internalized costs are problematic to quantify.

Take the bottle bill as one well-known program that has both associated market costs that are relatively easy to quantify as well as internalized generator costs that are difficult to know. Easy-to-estimate market costs include avoided disposal costs (tons x tip fee) and material sales (tons x sales price). Sources of hard-to-quantify costs include, for example, the value of the consumer's time and transportation resources to sort out bottles at home and (usually) drive them back to the grocery store for deposit redemption. Additionally, floor space almost always has a value, or opportunity cost. Most homeowners reserve space in the kitchen and/or garage for container storage, at perhaps a seemingly small cost; however, across all homeowners in the region, the total value of that floor space is significant. And, while not a generator consideration per se, grocers provide business floor space for empty bottle storage and redemption machines.

Attachment A

More commonly than not, it becomes impractical to try to place a dollar value on these non-point-sources of cost. Nevertheless, internalized generator costs are real and can be substantial. In the case of business standards or requirements, there certainly will be internalized generator costs, ranging from making office space changes, to appointing a corporate recycling coordinator, to making capital and staff-time investments in reconfiguring recycling areas and internal business practices. The next section quantifies market cost effects and attempts to characterize the internalized cost effects of proposed business recycling options.

Affected Parties: Targeted Generators vs. Other Generators

This section addresses the *economic* costs that would be borne by waste generators within the region as a result of implementing the Business Recycling Program. “Economic costs” refer to money payments for goods and services such as collection of recyclables and disposal of waste. “Economic costs” do not capture external (environmental) benefits of the program, such as improvements in health due to reduced air emissions. Environmental benefits are addressed in a later section.

For analytical purposes, economic effects on two groups are examined: the businesses targeted by these program options, and all other regional generators—single family, multi-family, construction/demolition projects, *etc.*—that are not targeted by this program.

Unless specifically noted in the text that follows, all cost and tonnage figures are region-wide totals.

Business Generators

The change in the cost to business participants stems from three basic sources: (1) internal implementation and management (see discussion above), (2) changes in garbage and recycling services provided by haulers, and (3) changes in the per-ton cost of disposal due to diversion of 80,000 tons to source-separated recycling. The latter also includes changes in Metro’s rates to recover Metro’s new costs associated with these business recycling program options.

- *Internal Implementation and Management Costs.* As discussed above, internalized costs are generally difficult to quantify. Metro staff estimates that businesses that need to make improvements to their internal recycling systems in response to a new program may spend a minimum of \$1 million (in aggregate) annually for those improvements. This conservative estimate is based on anecdotal reports from a few businesses that currently have recycling procedures in place. Some other businesses who have not yet fully developed their recycling processes believe that \$1 million per year may be too low, perhaps by an order of magnitude. Changes in internal business costs would need to be internalized. Within estimation error, this cost is not expected to vary significantly under the business standards vs. the mandatory program.
- *Collection Costs.* Assuming that the targeted businesses set aside an extra 80,000 tons of new recyclables, their cost for collecting recyclables will increase by about \$7.4 million per year, as more collection time will be required to pick up the additional recyclables. At the same time, collection costs for garbage will decrease slightly, perhaps by as much as \$1.2 million, for those 15% or so of businesses that can reduce the frequency of their garbage service due to better recycling. Overall, the net \$6.2 million annual collection cost increase will be largely offset by about \$6.7 million in avoided disposal costs (\$4.7 million in tip fees) and revenue (\$2 million) from sales of additional recyclables. The small (\$530,000) net decrease over the status-quo cost of providing collection services represents only a fraction of a percent change in total solid waste service costs (out of perhaps \$150 million per year), and almost certainly would not of itself warrant a rate adjustment by local governments. Hence, not counting fiscal impacts of tonnage diversion discussed in the next bullet, Metro staff estimates that all businesses combined would pay about the same, on average, for

Attachment A

collection with or without a new business recycling program.¹ Disposal costs, on the other hand, are almost certain to rise, as discussed next.

- *Disposal Costs.* The per-ton cost of disposal (tip fee) is projected to rise for two reasons: (i) the diversion of waste from disposal facilities will both raise Metro’s contract rate at Columbia Ridge landfill by approximately 90¢ per ton and leave less tonnage from which to recover fixed costs, with a 35¢ per ton effect at the transfer stations and 85¢ on the Regional System Fee; and (ii) staff assumes that Metro’s cost of these business recycling program options—including revenue sharing to pay for the cost of program elements implemented by local governments—will be recovered by an increase in the Regional System Fee of 46¢. If these changes are recovered through Metro’s standard rate model, they mean a \$1.25 increase in the tonnage charge component of the tip fee (90¢+35¢), and a \$1.31 increase in the Regional System Fee (85¢+46¢). In addition, private facilities will have similar cost effects and, if past is precedent, will match Metro’s prices, making these disposal increases a region-wide event. Due to these changes, totaling \$2.56/ton, participants in a new business recycling program will see a \$1.84 million increase in the cost of disposing of waste that continues to be landfilled.

The following table summarizes the cost effects described above.

TABLE 1. Total change in costs for business recycling program participants

Cost Component	Net Cost
Internal management	\$1,000,000
Collection	(530,000)**
Disposal	1,843,000
Total	\$ 2,313,000

* See discussion above regarding uncertainty in internalized costs

** Collection services net of material sales revenue & avoided disposal cost on recycled materials.

- *Effect on Garbage Bill.* A number of factors influence how these net cost increases would impact a specific business’s bill from its garbage hauler. Individual businesses will experience different impacts because business size varies, as do waste generation characteristics, solid waste service levels and service providers (hauler). In addition, rate-setting processes are not uniform among jurisdictions in the region. With those caveats, Metro staff believes that most businesses should expect a rate increase of less than 2% given the cost assumptions above, mainly due to the increase in per-ton charges for disposal. Those few businesses that significantly reduce their need for disposal may even enjoy an overall decrease in their bill for solid waste services; however, other businesses that, because of space limitations or the characteristics of their waste, cannot reduce their need for disposal (e.g., restaurants) may experience an increase higher than 2%. See Attachment B for case study examples of how individual businesses could be impacted.

Other Generators (Single Family, Multi-Family, Construction, etc.)

As indicated in the “Disposal Costs” bullet above, tip fees could rise throughout the region by approximately \$2.56 per ton. All waste generators would be affected by this change in disposal costs, including generators

¹ These figures do not reflect any increase in hauler-provided education for customers, which could be significant during the early phase of implementation.

Attachment A

who do not participate in a business recycling program. Metro staff estimates that increased disposal costs for these generators would run approximately \$1.54 million per year.

Cost Comparison of Business Recycling with Other Programs

In order to make the numbers in the previous section useful for decision-making, the costs of business recycling program options can be compared with the cost and performance of other programs. The following table shows a comparison of key costs and statistics for the prospective Business Recycling and Enhanced Dry Waste Recovery (“EDWRP”) programs versus several existing waste reduction programs, including the well-known Bottle Bill program, and Metro’s Regional System Fee Credit Program, and Food Waste Composting Program.

TABLE 2. Comparison of program-related cost impacts for several waste reduction initiatives.

	Tons Recovered	Cost Changes due to...			Equivalent cost per ton recovered
		Tonnage Diversion *	Govt. Oversight & Enforcement **	Service Changes***	
Existing Programs		<i>costs shared among all generators</i>		<i>costs borne by target generators</i>	
Bottle Bill	35,000	\$1,205,000	\$0	unknown	\$34
Commercial Organics	12,000	\$438,000	\$140,000	unknown	\$48
RSF Credits	30,000	\$1,558,000	\$10,000	\$0	\$52
Prospective Programs					
Enhanced Biz Recycling	80,000	\$2,772,000	\$607,000	(\$530,000)	\$36
EDWRP	42,250	\$1,358,000	\$0	\$2,407,000	\$89

* The per-ton cost of disposal rises as fixed costs are recovered from fewer disposed tons and as Metro’s contract disposal price increases with diminishing tonnage. Tonnage diversion alone accounts for about \$35/ton recovered, regardless of the of the waste reduction program specifics (except for RSF credits, which historically have cost more--\$52/ton recovered--due to the operating subsidy).

** Government costs include locally- & regionally-administered education and outreach, enforcement, coordination, and associated overhead. The magnitude of these ongoing government costs is less well-known, typically representing amalgamation of many fractional FTE. Some local governments also may choose to supplement this, e.g., through franchise fees, to support their businesses’ recycling.

*** This column includes costs related to changes in collection services, but does not include systems improvements costs (internalized), whose estimation is highly uncertain, as they are dependent on generators’ behavior, local governments’ rate setting, and haulers’ operational choices.

A note on internalized costs

Table 2 includes no estimate of internalized costs caused by the respective programs, as quantitative estimates are so uncertain as to be marginally useful for decision-making. That said, Table 3 tries to characterize the order of magnitude of the various internal systems costs for each program.

TABLE 3. Annual internalized cost estimates for the programs shown in Table 2.

Program Name	Sources of Internalized Generator Costs	Order of Magnitude
Bottle Bill	Homeowner space, time	\$1 to \$10 million
Commercial Organics	Restaurant or grocer space, time	\$0 to \$100,000
RSF Credits	None. Disposal-oriented program.	\$0
Enhanced Biz Recycling	Space improvements, staff time	\$1 to \$10 million
EDWRP	None. Disposal-oriented program.	\$0

Benefits of Business Recycling Program Options

Economic Benefits

Avoided disposal costs and sales of recyclable materials would be the main direct economic benefits accruing to businesses participating in the Business Recycling Program. 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. As indicated in the second bullet, "Collection Costs," above, these savings are included as revenue offsets to the direct collection costs calculations described in the previous section. It is by this mechanism that sales revenue becomes an economic benefit accruing to businesses.

Environmental Benefits

Additional benefits, not counted in economic costs and benefits, accrue to the environment. Recycling reduces the need for raw material extraction, processing, and transport, thus reducing air emissions and resource usage. These types of benefits are for the public at large and some will accrue beyond the Metro boundary. The following table shows the results of the monetized environmental benefits if 80,000 tons are recovered.

Table 4. Monetized Environmental Benefits by Material for 80,000 tons

Recyclables	2005 Tons	Unit Value	Total Value
Newspaper	6,135	\$163	\$1,002,234
Mixed waste paper	28,275	\$129	\$3,648,579
Cardboard/kraft paper	26,201	\$141	\$3,683,992
High-grade paper	4,876	\$100	\$486,039
Glass containers	5,405	\$19	\$101,020
Steel cans	2,346	\$50	\$118,176
Aluminum cans and foil	1,123	\$621	\$697,804
Plastic bottles and tubs	5,639	\$86	\$484,325
Total	80,000	\$128	\$10,222,169

Source: TRACI, Decision Support Tool, Environmental Protection Agency, 2007.

The largest factor contributing to the environmental benefits is the reduction of 218,000 tons of greenhouse gas emissions (valued at \$36 per ton of carbon dioxide equivalent for a total savings of \$7.8 million). Additional upstream benefits from using recycled versus virgin materials in the manufacturing process include reduced acidification (sulfur dioxide), eutrophication (nitrogen), and ecological toxicity (chemicals) at an economic value of \$1.3 million. Pollution prevention has a positive impact on human health, which is measured via disability-adjusted life years (DALYs). DALYs account for years of life lost and years lived with disability, adjusted for the severity of the associated unfavorable health conditions. We measured the economic value of improvements in human health to be over \$1 million.

Overall, the reduced need to extract natural resources results in saving nearly 1.2 million trees, air emissions equivalent to taking 42,000 cars off the road, and enough energy to power 15,000 homes for one year.

Business Recycling Program Options - Cost and Benefit Summary

The analysis has outlined the net economic costs that would accrue to generators within the region for 80,000 tons of new business recycling:

- Business Participants: \$2.313 million per year (including \$1 million internalized cost)
- Other Generators: \$1.536 million per year
- Total \$3.849 million per year

Cost changes associated with different tonnage diversion would vary roughly proportionally. For example, if the Business Standards option achieved only 35,000 tons of new recovery, then the above totals would be reduced by about half.

In addition, Metro staff has estimated the net environmental benefits of the program to be \$10.22 million for 80,000 tons of new recovery, or less than \$5 million for 35,000 tons. The environmental benefits would be shared over a wide geographic area that extends beyond Metro's jurisdictional boundary.

Table 5 below summarizes the costs projected for an 80,000-ton diversion of garbage to recycling due to implementation of the mandatory business recycling option. Note that only the figures in the right half of the diagram (labeled "Program-specific") would be unique to this specific program. All the cost changes in the "Universal" left half are dependent solely on the number of tons diverted to recycling and would occur *regardless of how the tons were diverted from the waste stream.*

Table 5. Cost changes unique to the proposed business recycling program (specific), and changes that would occur due to any diversion of tonnage to recycling (universal).

	Universal		Program-specific		
	per-ton	total	per-ton	total	
Internal management	-	-	\$12.50	\$1,000,000	} \$472,300 <i>businesses pay</i>
Solid waste service					
Avoided coll., trf., transp. disp.	(\$60.00)	(\$4,800,000)	-	-	
Avoided govt. fees	(\$14.00)	(\$1,120,000)	-	-	
Sales of recyclables	(\$24.00)	(\$1,920,000)	-	-	
Collection service	-	-	\$91.40	\$7,312,300	
Tip Fee impacts					} \$3,376,700 <i>all generators pay</i>
Regional programs	\$0.85	\$1,120,000	-	-	
Fixed costs (e.g., scalehouse)	\$0.35	\$462,000	-	-	
Contract payments	\$0.90	\$1,188,000	-	-	
Program oversight	-	-	\$0.33	\$441,300	
Enforcement	-	-	\$0.13	\$165,400	
TOTAL		(\$5,070,000)	+	\$8,919,000	= \$3,849,000

Note: Whereas Table 5 is based on an 80,000-ton diversion, for a business program that achieves only 35,000 tons of diversion, e.g., the standards approach, per-ton amounts would remain roughly the same, and the dollar totals would be cut by about half.

Attachment B
Recycle at Work Business Case Studies

Adopting one of the proposed programs to increase business recycling is projected to result in less than a two percent increase on the average garbage and recycling service bill. To understand how businesses of various sizes with different levels of garbage and recycling services will be affected, staff looked at recent recycling improvements at specific businesses that have received Recycle at Work assistance, the price of those changes, and the projected increase in the monthly service bill with the passage of a new program. Costs vary by service frequency, location, and material quantity.

Small Business - New Recycling	
Business Type	Community Park
Employees	2
Location	Unincorporated Washington County
Previous Garbage Service	1-3 yard garbage container serviced once a week
Previous Recycling Service	None
Previous Monthly Price of Service	\$160.96
Change in Service	<i>Added 1-3 yard recycling container serviced once a week</i>
New Materials Recycled	Paper, cardboard, containers
New Monthly Price of Service	\$160.96
Price Change to Increase Recycling	\$0
Projected Monthly Price Increase with proposed Business Recycling Program (<2% due to increased disposal costs)	\$3

Small Business - Enhanced Recycling	
Business Type	Frame Shop
Employees	5
Location	Beaverton
Previous Garbage Service	1 yd garbage container
Previous Recycling Service	90 gallon recycling cart
Previous Monthly Price of Service	\$83.36
Change in Service	<i>Switched garbage and recycling container sizes to 1 yd recycling and 90 gallon garbage</i>
New Materials Recycled	Increased capture of recyclables
New Monthly Price of Service	\$36.00
Price Change	(\$47)
Projected Monthly Price Increase with proposed Business Recycling Program (<2% due to increased disposal costs)	\$0.49

Medium Business - New Recycling	
Business Type	Restaurant
Employees	20+
Location	Beaverton
Previous Garbage Service	4 yd garbage serviced 4 times/week
Previous Recycling Service	None
Previous Monthly Price of Service	\$520
Change in Service	<i>Added commingling container, reduced garbage service to 2 times/week</i>
New Materials Recycled	Paper, cardboard, containers, and glass

New Monthly Price of Service	\$270
Price Change	(\$250)
Projected Monthly Price Increase with proposed Business Recycling Program (<2% due to increased disposal costs)	\$5

Attachment B

Medium Business - Enhanced Recycling	
Business Type	Athletic Club
Employees	40
Location	Sandy
Previous Garbage Service	4 yd garbage serviced 1 time/week
Previous Recycling Service	1 90 gallon cart
Projected Monthly Price Increase	\$266
Change in Service	<i>Added 2 90-gallon carts for commingling, 1 35-gallon for glass; Reduce garbage container size to 3 yd</i>
New Materials Recycled	Paper, cardboard, containers, and glass
New Monthly Price of Service	\$206
Price Change	(\$60)
Projected Monthly Price Increase with proposed Business Recycling Program (<2% due to increased disposal costs)	\$3.33

Large Business - New Recycling	
Business Type	Large businesses usually recycle at least cardboard, thus we do not have a case to share at this time.

Large Business - Enhanced Recycling	
Business Type	Suburban Lifestyle Shopping Center
Employees	88 tenants, 2000 employees
Location	Tualatin/Tigard
Previous Garbage Service	2 Trash compactors pickup 3 times/week
Previous Recycling Service	1 Cardboard-only compactor pickup 3 times/week
Previous Monthly Price of Service	~\$12,000
Change in Service	<i>Added 14 32-gallon glass totes (4 of which are being serviced 2x week) and commingled materials to compactor</i>
New Materials Recycled	Paper, containers, and glass
New Monthly Price of Service	Varies based on tonnage - no additional service fees
Price Change	Unknown, likely decrease
Projected Monthly Price Increase with proposed Business Recycling Program (<2% due to increased disposal costs)	\$223

Notes

Recycling services are included in garbage service rates. In some jurisdictions, businesses may have to pay for recycling separately from garbage due to service levels (e.g. compactor or drop box service).

Although the Recycle at Work technical assistance program has been successful in initiating change at interested businesses, challenges still exist with businesses that will not allow recycling specialists "in the door."

Business Case Studies Perceived Barriers to Recycling

Business Type	Testing Lab
Location	Hillsboro
Perceived Barriers to Recycling	Hauler resistance
Issue	The business explained that the hauler for their business site initially refused to provide them with recycling services. Employees demanded recycling, but it was a challenge to get service.
Business	Multi-Tenant Commercial Property
Location	Forest Grove
Perceived Barriers to Recycling	Cost
Issue	Multi-tenant property managers would like to add recycling to their hauling services, but are deterred by the additional cost for each recycling container. The solid waste hauling rates currently do not include recycling services, thus businesses must pay an additional fee for each recycling container they want to add.
Business	Property Management Co.
Location	Unincorporated Washington County
Perceived Barriers to Recycling	Lack of information, time
Issue	Tenants have requested recycling services, but have met resistance from the property manager. The hauler provided the property manager with unclear information regarding recycling services, rate of service, and the type of material that can be recycled, thus the property manager was unwilling to commit time to initiating change.
Business	Retail Pharmacy
Location	Regional
Perceived Barriers to Recycling	Corporate direction, cost, lack of information
Issue	A third party contractor manages the pharmacy's waste contracts. The contractor has direction from the corporate office of the retail pharmacy not to initiative costly changes and is likely unaware that recycling services are included with the garbage rates in the Metro region. Pharmacy local management has expressed frustration with the lack of recycling services, but defers all changes to their contractor. A letter was sent to the contractor from the Recycle at Work Program Coordinator explaining the rate structure and encouraging recycling at regional stores.
Business	Property Management Co.
Location	Portland, regional
Perceived Barriers to Recycling	Convenience, cost
Issue	A large property management firm hauls their own garbage and contracts out their recycling services. Because they are not paying garbage hauling rates, recycling services are not included and they must pay for additional recycling containers. They did not want to pay for this service and thus, were not recycling. The City of Portland sent an enforcement letter to the firm regarding the City's mandatory recycling requirement. The property management company has since initiated paper recycling, but continues to be unwilling to add bottle and can recycling.

Attachment C

Local Government Impact

Below is a summary on the impact of the proposed program options on local governments. The summary responds to the following questions:

1. Who will conduct the additional work?
2. Are the local governments are ready to implement a new program?
3. What is the cost to local governments?

Local Government Responsibility

Under Option 1, Mandatory Business Recycling, all local cities and counties acting as a solid waste authority would be responsible for adopting legislation requiring businesses to recycle paper and containers. Metro would provide the model ordinance language, while local jurisdictions would each be responsible for adopting the requirements.

Under Option 2, Voluntary Business Recycling Standards, these same jurisdictions would be required to develop and implement new programs to meet a 90 percent recycling rate for paper and containers. It is likely that many of the cities in Clackamas and Washington Counties would defer the program development and reporting to their county, the designated waste reduction planning agency, but they have a role in local implementation.

Mandatory Business Recycling requires a one-time demand on local government staff and elected officials to adopt the ordinance versus Voluntary Business Recycling Standards, which requires on-going program management and evaluation. Under both options, Recycle at Work services would continue to be provided to the business community by those jurisdictions currently receiving direct program funding from Metro.

Attachment D outlines local government authority, responsibility for solid waste programs and role in new programs.

Local Government Readiness

Local governments have been a major stakeholder in the planning and identification of program options since discussions began in 2003. Their staff input has been critical to program development. While awareness does not always equal readiness, local government staff are aware of the resources that would be involved in implementing either of the business recycling program options. Metro staff would assist with ordinance adoption, enforcement needs, targeted outreach, and Recycle at Work resources and services to support local governments.

If Metro adopts a Mandatory Business Recycling ordinance:

- Local staff would be provided with a model ordinance for implementing the mandatory program.
- Local jurisdictions would need to adjust their administrative rules.
- Enforcement staff would either be provided by Metro, under the terms of an IGA, or local Code enforcement staff would be utilized to inspect business compliance at the local government level.
- Local Recycle at Work outreach and assistance to businesses that need help setting up or improving their recycling programs would intensify with local passage of mandatory business recycling, and additional staff may be needed for a time, in order to respond to that increased demand for assistance.

If Metro adopts the Voluntary Business Recycling Standards program:

- More planning, plan reviews and program coordination between both Metro and local governments would result.

Attachment C

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- Counties would coordinate with their cities and franchisees to develop implementation plans and create consistent commercial recycling service standards.
- Larger cities like Portland, Gresham and Beaverton would establish their own plans and submit them directly to Metro.
- Additional Metro resources would be needed to coordinate program review and approval, fund distribution, and annual waste characterization studies to assess performance.

Local Government Costs

To implement a new business recycling program, local governments estimate they will need additional resources. Under Option 1, Mandatory Business Recycling, local governments expect to spend most of their time up front assisting their councils and commissions in passing the new ordinance. Staff would also be needed at a few jurisdictions to respond to increased demand for Recycle at Work assistance. Those jurisdictions that provided estimates suggested an additional \$356,000-\$456,000 would be sufficient to implement Mandatory Business Recycling requirements.

Most jurisdictions were uncertain what practices they would implement under Option 2, Voluntary Business Recycling Standards, and thus they found it challenging to accurately identify additional funds needed. Overall, an estimated \$329,000-\$484,000 was requested for additional staff to develop, implement, and evaluate Business Recycling Standards programs.

On average, local governments estimated a cumulative need for \$400,000 (4 FTE) to implement either program, while recovery results are expected to vary greatly between the two options.

Attachment D- Local Government Program Authority and Funding Overview

Jurisdiction	Solid Waste Authority	Designated Waste Reduction Planning Agency	Direct Funding	Pass thru Allocation	Option 1: Mandatory Business Recycling			Option 2: Business Recycling Standards				
					Adopt legislation	Likely to defer enforcement to Metro	Maintain current Recycle at Work services	Maintain current Recycle at Work services	Develop new programs	Implement Program	Year 1 progress report	Year 2 progress report
Clackamas County	X	Clackamas County	X		X	Yes	X	X	X	X	X	X
Unincorporated Clackamas County*		Clackamas County		X	X	Yes			X	X	X	X
Barlow*	X	Clackamas County		X	X	Yes			X	X	X	X
Rivergrove*	X	Clackamas County		X	X	Yes			X	X	X	X
Johnson City*	X	Clackamas County		X	X	Yes			X	X	X	X
Damascus*	X	Clackamas County		X	X	Yes			X	X	X	X
Gladstone*	X	Clackamas County		X	X	Yes			X	X	X	X
Happy Valley*	X	Clackamas County		X	X	Yes			X	X	X	X
Lake Oswego*	X	Clackamas County		X	X	Yes			X	X	X	X
Milwaukie*	X	Clackamas County		X	X	Yes			X	X	X	X
Estacada*	X	Clackamas County		X	X	Yes			X	X	X	X
Molalla*	X	Clackamas County		X	X	Yes			X	X	X	X
Oregon City*	X	Clackamas County		X	X	Yes			X	X	X	X
Sandy*	X	Clackamas County		X	X	Yes			X	X	X	X
West Linn*	X	Clackamas County		X	X	Yes			X	X	X	X
Canby*	X	Clackamas County		X	X	Yes			X	X	X	X
Wilsonville*	X	Clackamas County		X	X	Yes			X	X	X	X
Multnomah County*	X	Portland		X	X	Yes			X	X	X	X
Unincorporated Multnomah County*		Multnomah County			X	Yes			X	X	X	X
Gresham	X	Gresham	X		X	Yes	X	X	X	X	X	X
Wood Village*	X	Gresham		X	X	Yes			X	X	X	X
Fairview	X	Fairview	X		X	Yes	X	X	X	X	X	X
Troutdale	X	Troutdale	X		X	Yes	X	X	X	X	X	X
Portland	X	Portland	X		X	No	X	X	X	X	X	X
Beaverton	X	Beaverton	X		X	Yes	X	X	X	X	X	X
Washington County	X	Washington County	X		X	Yes	X	X	X	X	X	X
Unincorporated Washington County*		Washington County		X	X	Yes			X	X	X	X
Hillsboro*	X	Washington County		X	X	Yes			X	X	X	X
Tigard*	X	Washington County		X	X	Yes			X	X	X	X
Tualatin*	X	Washington County		X	X	Yes			X	X	X	X
Forest Grove*	X	Washington County		X	X	Yes			X	X	X	X
Banks*	X	Washington County		X	X	Yes			X	X	X	X
Cornelius*	X	Washington County		X	X	Yes			X	X	X	X
King City*	X	Washington County		X	X	Yes			X	X	X	X
North Plains*	X	Washington County		X	X	Yes			X	X	X	X
Sherwood*	X	Washington County		X	X	Yes			X	X	X	X
Durham*	X	Washington County		X	X	Yes			X	X	X	X
Gaston	X	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maywood Park	X	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Defintions and notes:

Jurisdiction Listing- All jurisdictions listed are in the regional watershed. Juridictions in bold are within the Metro region boundary.

Solid Waste Authority: Local government responsible for designing and administering waste reduction programs; regulating and managing solid waste and recycling collection services within their jurisdictional boundaries; and reviewing collection rates and services standards.

Designated Waste Reduction Planning Agency: Local government responsible for designing and implementing the waste reduction programs including Recycle at Work Services. Cities may designate the county agency to implement a program on their behalf.

Direct Funding: Receive direct funding from Metro to implement waste reduction programs.

Pass thru Allocation: Local government is eligible for direct funding from Metro, but designates funding to county to implement waste reduction programs on their behalf.

* Under Option 2, the jurisdiction may choose to have their designated waste reduction planning agency develop and implement the new program plan and reporting on their behalf.