

A G E N D A



METRO

MEETING: REGIONAL SOLID WASTE ADVISORY COMMITTEE (SWAC)
DATE: Thursday, September 22, 2005
TIME: 10:00 a.m. – 12:00 p.m.
PLACE: Rooms 370A/B, Metro Regional Center, 600 NE Grand Avenue, Portland

5 mins. I. Call to Order and Announcements Rod Park
Introductions and Announcements
*Approval of Minutes**

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

45 mins. III. Draft Interim Waste Reduction Plan*.....Matthews et al

In September and October SWAC is being asked to review and provide comment on direction charted in the attached draft Interim Waste Reduction Plan (IWRP). Metro Council recently approved development of the IWRP to provide current direction for the region’s waste reduction programs, pending completion of the Disposal System Planning project and updating of the entire Regional Solid Waste Management Plan. The focus for this meeting is an overview of the draft IWRP and strategies for the following sectors: residential, multi-family, business, commercial organics, and construction and demolition debris. At the October SWAC meeting, it’s anticipated that the remaining sections (education services, hazardous waste, and product stewardship) will be summarized and discussed.

45 mins. IV. System Sustainability Goals* Merrill et al

In February the SWAC subcommittee on Sustainability Goals was created. Their charge was to 1) define sustainability as it relates to the solid waste system; 2) map the components of the system to determine where changes could be made to improve sustainability; and 3) develop goals to move the system toward sustainability over the next ten years. Their recommendations were intended to contribute to the development of the “Facilities and Services” section in the updated RSWMP. Recommended goals and objectives were presented to SWAC in July; this meeting is an opportunity for discussion and decision on the group’s recommendations before they are presented to Metro Council.

10 mins. V. Other Business and Adjourn..... Rod Park/Members

**Material for this agenda item is attached.*

All times listed on this agenda are approximate. Items may not be considered in the exact order listed.

Chair: Councilor Rod Park (797-1547) Staff: Janet Matthews (797-1826) Committee Clerk: Susan Moore (797-1643)



METRO

600 NE Grand Ave.
Portland, OR 97232-2736

MEETING SUMMARY
Solid Waste Advisory Committee
Metro Regional Center, Council Annex
July 28, 2005

Members / Alternates Present:

Councilor Rod Park, Chair	Mark Altenhofen	Matt Korot
Mike Hogle	Glenn Zimmerman	Heather Hansen
JoAnn Herrigel	Wade Lange	Mike Huycke
Jeff Murray	Mike Miller	Anita Largent
Dave White	Dean Kampf	Ray Phelps
Tom Badrick	Loretta Pickerell	John Lucini
Lori Stole	Dave Garten	Susan Ziolk
Steve Schwab	Judy Crockett (for Bruce Walker)	Paul Edwards

Guests and Metro staff:

Janet Matthews	Chuck Geyer	Doug Drennan
Steve Apotheker	Paul Ehinger	Brad Botkin
Kevin Six	Marta McGuire	Michael Sievers
Roy Brower	Julie Cash	Dorothy Johnson
Karen Feher	Easton Cross	Jeff Gage
Lee Barrett	Pat Vernon	Jeanne Roy
Tom Chaimov	Kevin Downing	Gina Cubbon

I. Call to Order and Announcements Rod Park

- Councilor Rod Park opened the meeting, and announced that Mark Altenhofen will be leaving Washington County at the beginning of August. Mr. Altenhofen confirmed that he will be taking a job with SSI (a Wilsonville-based shredding systems company that also makes transfer station compactors).
- The Councilor announced that no SWAC meeting will be held in August, then asked for everyone present to introduce themselves.
- ORRA’s Dave White moved to approve the minutes, and the City of Gresham’s Matt Korot seconded the motion. Prior to vote, however, Waste Management’s Dean Kampf pointed out a mysterious typo on page two, wherein the letter “4” somehow was in the word “materials.” “However,” Mr. Kampf stated, “I do want to compliment the author; I think [the document] was well-written and reads well, was clear and concise.” The vote to approve the corrected minutes was approved unanimously.

II. Solid Waste & Recycling Director's Update.....Mike Hoglund

- Mike Hoglund told the group that in September, he'll present an update of FY 2004-05 accomplishments, such as how many customers used the Recycling Information Center's services, statistics about recycled paint sales and revenues, etc. He encouraged members to give the group a report on any of their companies' solid waste-related activities or accomplishments from the last fiscal year at the September meeting, as well.
- Regarding Columbia Environmental's ongoing application for a wet waste transfer station franchise and dry waste material recovery facility, Metro Council has been deliberating and asking for more information. The deadline for a decision is approaching, but Council has not yet taken a vote.

Staff has recommended against approval based on Metro Code criteria relating to rate-payer impact, the cost, accessibility to other transfer stations, and capacity. However, the Code allows Council to consider other factors, Mr. Hoglund explained. "Certain Councilors have identified a number of those, including diversity in the system – given the independent nature of the Columbia Environmental LLC; innovation in technology and recovery that they could bring to the system; there's a reduction in vehicle miles traveled by having another transfer station in the area, and there's room for another transfer station in the northeast watershed."

At the July 2nd work session, four Councilors indicated they were leaning towards approval of the application (with conditions). Three Councilors indicated they're currently opposed to the proposal, concurring with staff's recommendation. Staff has been given direction to prepare both approval and denial ordinances so Council can choose on which ordinance to vote. Reading of the ordinance for approval will be first read on September 8 (a formality to introduce it into the record – no testimony or comments). September 22, Mr. Hoglund said, "Council will deliberate both ordinances and potentially act on one or the other, or they could carry it over to September 29."

- The budget for FY 2005-06 has been approved with no major changes, Mr. Hoglund said. It was primarily a "hold-the-line" budget, so things will be very similar to the previous year.
- Council has, he said, approved \$250,000 in capital improvements for organics-related grants (generators, collection, haulers, etc.). Local governments are also eligible; applications won't have a deadline, but will be reviewed simply as they arrive. A 25% match is required; contact Jennifer Erickson for more information.
- Regarding the residential outreach campaign, Mr. Hoglund announced that \$150,000 is budgeted for Metro to work with local governments and haulers (primarily) on educating customers about curbside recycling. Local government representatives will meet with SW&R staff to discuss how best to do the campaign considering differences in jurisdictions' programs.
- Mr. Hoglund then updated the group about the Competitive Grant Program and the Year 16 Waste Reduction Program for local governments. "Staff has been

recommending that the competitive program diminish, because there aren't a lot of innovative programs that can be duplicated across a jurisdictional or business-type basis," he said. Councilor McLain disagrees, however, so more work will be done to look into how the Competitive Grant Program might be modified to be more successful. To that end, Lee Barrett will be putting together a committee to look into the matter. Meetings are anticipated to begin sometime in September.

- A \$1 million program, "Nature in Neighborhoods" has been funded through the Solid Waste Rate Stabilization fund, Mr. Hogle said. Additionally, there is a Solid Waste budget note that gives up to \$400,000 for illegal dumping programs in habitat areas (subject to need and further analysis).
- Warren Johnson, of the Regulatory Affairs Division, is taking paternity leave to celebrate the birth of his first child. In his absence, Mr. Hogle noted, Rob Smoot will be helping the division with inspections and other duties.

Councilor Park said he'd been asked to switch the next two items as listed on the agenda. Therefore, item IV was next, which Janet Matthews introduced:

IV. RSWMP Sustainability Goals: Work Group Report Dave White

Giving background to the piece, Ms. Matthews reviewed that in the Let's Talk Trash discussion guide, the question of how sustainability principals can guide solid waste practices was asked. Three options had been suggested for public comment: Status quo, "greening" the solid waste system, and implementing zero waste strategies. The majority of responses, Ms. Matthews continued, "indicated a desire to see the solid waste system become more 'green' in terms of emphasizing broader environmental protection and resource conservation practices."

A subcommittee of SWAC began meeting in March with the charge of defining sustainability as it relates to the solid waste system; map components of the system and determine where improvements could be made, and to develop goals that would move the system towards sustainability over the next ten years. Ms. Matthews described the solid waste system components to which the Sustainability Goals subcommittee's work was intended to apply, as "facilities and vehicles." This included processing, transfer, disposal, operations and administrative offices. Rolling stock, long-haul transfer, collection vehicles were also considered. "I'd like to emphasize," Ms. Matthews said, "that this group's work is pretty ground-breaking stuff."

Over the course of four months, Ms. Matthews continued, the Sustainability Goals group met nine times and worked through a lot of information and lively discussion. She thanked the members (Eric Merrill, Dave White, Tom Badrick, Jeff Murray, Lori Stole, Babe O'Sullivan, Wade Lange, and Mike Miller). Metro's Steve Apotheker provided invaluable information and support for the group.

Ms. Matthews introduced Dave White, who presented an overview of the group's recommendations. Full discussion with SWAC, Ms. Matthews noted, would take place at the September meeting, giving SWAC members time to consider the recommendations and formulate discussion points.

Mr. White began by joking, “I’ll bet none of you thought you’d be hearing about sustainability from me!” He noted that the group was originally scheduled to meet four or five times, but the issues were so large and varied, they kept meeting until as recently as two days prior to this meeting. It was a process of “blood, sweat and tears,” he said. There are issues that are still being grappled with, Mr. White continued, and they’ll spark good conversation at the September SWAC meeting.

One such issue is to decide on the width and breadth of sustainability within the RSWMP, Mr. White said. “Does it apply to generators? Collectors? Local governments? Metro? Non-Metro related facilities? Areas outside of Metro? And when we get into the framework, it could apply to the entire world.” He used the concept of “living wages” as an example, as well as preferences for local manufacturing – both ideas considered part of a wide-focus sustainability plan.

Sustainability is a long-term issue, but the RSWMP’s range is ten years at a time, Mr. White reminded the Committee, and that affects how the plan should be written. “Do you use terms like ‘reduce’ or ‘eliminate’? It may take longer than ten years to eliminate some of these things we’re talking about,” he noted. So the question becomes whether to use “eliminate” as a way of setting the stage for the future, or “reduce” knowing that some strides can be made in the next ten years. “How do we acknowledge the long-term planning and commitment needed in a sustainability plan and still fit within the ten year term of RSWMP?” he asked rhetorically. He explained other word-smithing dilemmas the group faced, such as would the phrase “where feasible” weaken the recommendations, or would not using the phrase open the door for regulation in situations where a change isn’t really feasible?

Another unanswered question is one of implementation. According to the current RSWMP, Mr. White said, “...Metro is specifically responsible for preparing, adopting, and enforcing the regional plan... Cities and counties have responsibility for designing and administering solid waste recycling collection programs for their jurisdictions. The activities,” he read, “must be compliant with all state and Metro legislation and solid waste plans, including RSWMP.” It’s a topic that will likely come up for each section of the RSWMP, he predicted.

For the sake of consistency, Mr. White said that the group decided to use the definition of “sustainability” used by the State of Oregon, and then briefly reviewed the four main frameworks discussed by the members: Natural Capitalism, Zero Waste, Triple Bottom Line, and Natural Step. He briefly outlined the strengths and weaknesses of each, and that the Natural Step was chosen as the foundation for the framework, reading its four system conditions. “We felt that [the Natural Step] had an effective training program... and it’s a good model for organizations.”

Next, Mr. White presented the recommendations of the Sustainability Goals group, as shown in the agenda packet, and noted some issues the Committee might think about between now and September’s meeting. To conclude, he mentioned “unfinished business” which he described as “clarifying the roles and responsibilities at the very local level, at the Metro level, at the generator level, the facility level. [Secondly] are the goals and objectives optional or mandatory? Do we just put this on the table and say ‘Here’s a great document: Go forth and do good...’ or is there more to it than that? And we need to develop the implementation plans and the timeline.”

Ms. Matthews commented that there'll be a lot for SWAC to discuss in September, and SWAC's input will then be taken to Metro Council, then Council's comments back to SWAC, etc.

Judy Crockett agreed that it's important "to figure out if [the Sustainability Chapter] has teeth and who does it apply to. For example, are we intending that all non-Metro-owned transfer stations be built to LEEDs standards? If we intend that, there would need to be some regulatory language behind it. I'd be interested in that discussion, because I think it has everything to do with whether this document has a usefulness in the future, or whether it's just sort of a nice effort that people make." Referring to Objective 1.2, "Reduce direct emissions of greenhouse gases from landfills and other facilities," Ms. Crockett noted that an excellent way to help achieve that is to eliminate food waste from landfills.

III. Disposal System Planning: Project Elements Paul Ehinger

Councilor Park introduced this item, which is currently being discussed at Council work sessions. "It's very important to get this straight as we build the rest of the updated RSWMP." Paul Ehinger then took the floor, handing out information presented at the July 26 Council work session. Mr. Ehinger introduced himself, noting, "I'm the Engineering Manager for Solid Waste and Recycling. I spend a lot of my time crawling around in garbage compactors; this is one of the cleaner things I get to do."

Disposal System Planning is a component of the RSWMP, Mr. Ehinger explained. The objective of DSP "is to determine whether the needs of the transfer station part of the disposal system are being met in the most efficient and effective manner, and to recommend adjustments where the system can be improved. The primary emphasis of this Disposal System Planning," he noted, "has to do with how ownership of the system assets that are used for the disposal system affect the ability to provide service to the rate-payers of the region." The information his staff puts together will be combined with other information currently being developed. The final decision regarding Metro's ownership of its facilities and the structure of the system will be made by Metro Council, Mr. Ehinger explained.

The current RSWMP is written for a combination of public and private solid waste facility ownership. "Any change to that, as determined by our Council," Mr. Ehinger said, "would have to be documented in the new version of the RSWMP." He proceeded to give an outline of the methodology being used to determine the options and what related impacts could occur. A scenario-based methodology was chosen, using three different system scenarios: All private, all public, and the current mix. Mr. Hoglund appointed Mr. Ehinger project manager, and he is working closely with Chuck Geyer and Tom Chaimov. Additionally, there is a steering committee of four members of SW&R's management team, and Councilor Park is the Council liaison. Input will also be garnered, Mr. Ehinger explained, from various stakeholders, as shown in the handout.

"Most of the 'heavy lifting' on the project," Mr. Ehinger said, "will be done through the use of consultants." Two major consulting contracts are anticipated during the project, he continued. The first will be a "system consultant" to collect data on what the impact of changes to the system would be, what others have encountered in similar situations. The second contract is "more a Metro-focused issue," Mr. Ehinger explained. "If we're going to sell the facilities – take government-owned facilities and put them on the market, how

much are they worth?" A consultant will be contracted to estimate the value on the open market, using a "highest and best-use" analysis, to determine if the properties should be sold for their original purpose or for something else.

Many legal issues are involved, Mr. Ehinger said, including the issues of selling governmental assets and Metro's ability to appropriately regulate the system if the decision is to go strictly private. Additionally, contracts concerning Metro's transfer stations are still in place. The Office of Metro Attorney will advise on all this issues, and those concerning alternative scenarios, as well.

Rather than making plans for "a lot of big group meetings," Mr. Ehinger pointed out. Instead, staff plans to meet on an individual basis to stakeholders, and then to SWAC, MPAC and other groups. Staff wants to find out "What's important to you [as a stakeholder]? What factors do you think we should evaluate as we do this study?" he said by way of example. Mr. Hoglund has directed staff to try and answer every question and comment raised. "If you don't like looking at me," Mr. Ehinger joked, "I've got some bad news for you. I'll be here pretty frequently" to get feedback from this group. The work plan is being revised, but hopes are for a recommendation early in 2006.

When the floor was opened for questions, citizen member Dave Garten asked why the study is being done. "Is there a problem? Is someone else doing it better?" Councilor Park responded that industry representatives have concerns about Metro being both a regulator as well as a competitor in the solid waste system. Additionally, while there was a need for public facilities in the past, whether that need still exists is being looked at carefully, he said. Mr. White commented too, that the project has strong implications for the RSWMP, and that Metro bond obligations for its facilities will end in 2009.

Responding to a question from the City of Milwaukee's JoAnn Herrigel, Mr. Ehinger stated that the total budget (both consultant contracts) is between \$75,000-\$100,000. Councilor Park added that, while SW&R staff has the ability to do the work internally, using outside consultants should quell any question of bias.

Mr. Hoglund added that once a determination has been made as to Metro being in or out of the system as an operator, "there's a number of other questions Council has asked us to look into, such as tonnage caps, the next hauling contract [if needed], what's the best objective – it may be more oriented towards sustainability objectives..." Too, Mr. Ehinger said, it's not simply a matter of "whether we're in or out. [The study] will also provide us with a framework to find out how to best provide the [solid waste] services that are needed in the region. To some extent, ownership of the assets may impact the ability to deliver those services." In a broader planning context, he concluded, this study could prove invaluable.

V. Recovery Rate Cost / Benefit Model.....Lee Barrett and Tom Chaimov

Next up was the formerly-named "Recovery Rate Cost / Benefit Model," now known as the "Waste Reduction Program Comparison." Councilor Park reminded the group that there have been many Waste Reduction programs geared towards helping the region reach its state-mandated 62% recovery goal. This new project is meant to help prioritize potential new (and existing) programs, to see where the region wants to focus its efforts, the Councilor explained. Staff has developed a model that Council is very interested in, he continued. "There are elements of this model that we're interested in using in other things

that Metro does,” Councilor Park said, “[such as] transportation, perhaps in land-use, because it does allow a process to get at people’s values.” He introduced Lee Barrett, who elaborated further.

“I think this region, compared to the rest of the country, has excellent recovery programs,” Mr. Barrett said, including residential curbside programs, strong commercial programs, and a recovery rate that’s among the highest in the country. This has, however, put the region in the position of difficulty deciding, “exactly where we need to go from here,” he said, and that has really helped drive this project. After a request from Council to look into the costs, benefits, and trade-offs of the organics program, Mr. Barrett explained, “we developed – ‘we’ being Doug Anderson – developed a fairly simple pro-forma to take a look at the organics program.” From that, they realized that with some modifications, the same tool could be used to look at variables for other programs being considered.

“I would not call this a cost / benefit model,” Mr. Barrett cautioned. “This is not an instrument we’re going to spend \$200,000 on where we’ve done time and motion work, and we know what a particular program costs and we can very finitely define the value of this program versus another” he stated. Rather, it allows a number of programs to be compared on the basis of what stakeholders value most. “This instrument does not identify the best program,” Mr. Barrett continued, because the “best program” varies from stakeholder to stakeholder. Once stakeholder’s thoughts are gathered, staff will take the results to Council for their input, and narrow it down to a few programs that will be developed.

A facilitated group – largely SWAC members, Mr. Barrett told the group – will be put together to discuss from their own experience the cost of putting a program in place. This will include infrastructure costs, trucks, drivers, collection, the cost of local government regulation, etc. They won’t be looking at every cost detail, Mr. Barrett stressed, but will agree on approximates.

Mr. Barrett turned the presentation over to Tom Chaimov, who would demonstrate the actual model using some simple, everyday examples. Every time someone makes a decision, he explained, different factors are naturally weighed. For instance at the grocery store, he said, the biggest factors in buying items are usually price and flavor. “Some people may be influenced by the label, but that’s more a wine-purchase factor,” Mr. Chaimov quipped. Some people might buy a lesser product because of the cost; others will spend more to get more flavor. “Different people have different weights on that criteria,” he summed up. The tool staff developed for weighing programs “automates the process of coming up with your final score, but you have to lay out which things are more important – you have to assign a value,” Mr. Chaimov explained. He then demonstrated the model using a car-buying theme.

The criteria that used for the actual model will be system cost, tons recovered, environmental benefits, hierarchy (reduce, reuse, etc.), and acceptance (can the program be done, will the public support it, etc.), Mr. Chaimov revealed. A number of programs can all be weighed, including “status quo,” Mr. Barrett added. The variables are nearly limitless. Any stakeholder group or sub-group’s responses can be calculated.

SWAC members asked some questions of Mr. Barrett and Mr. Chaimov and discussed the tool. Audience member Jeanne Roy suggested another criterion that would look at the short versus long-term potential of programs. Far West Fiber’s Jeff Murray added that

recovery from “dirty” MRFs versus recovery potential from source-separation should also be looked at.

After further discussion of possible scenarios, Mr. Barrett said that most of the Councilors have looked at the tool and think it “has legs and should bear further examination.” It will be demonstrated at a work session on August 9. Councilor Park added, “This is a tool to help *inform* the decision, not to make the decision for us.” Mr. Kampfer commented that it seems to be a good tool, but results could vary greatly depending on how each criterion is weighed. Mr. Barrett agreed, but said the numbers can be tested – adjusted one way and another – to see how large a difference it makes.

Does the model look at price versus market capacity, guest Jeff Gage asked, and does it look at market development as it effects market price and capacity? Mr. Barrett replied no, but Mr. Chaimov disagreed. “This tool will consider whatever costs stakeholders tell us are important to consider,” he said. Mr. Hoglund reminded the group that the tool wouldn't make the decisions, only help inform them in a new way. “If there are things that are missed in the model that are relevant, even on the cost side, those need to be noted and factored in so there can be full consideration.”

Mr. Huycke asked if the tool would be used beyond waste reduction programs. Mr. Barrett said the project is aimed at programs suggested by last year's Contingency Plan Workgroup. “It's going to be mandatory dry waste recovery, banning of various [construction and demolition] materials from disposal, mandatory business recycling, or banning various materials from disposal from the commercial sector, or simply an increased CTAP outreach program – education only... What we do with [the tool] afterward is up to whatever Council would want us to do,” he explained.

Mr. Barrett said he's looking for 10 or 15 volunteer members for the sub-committee; he'll contact SWAC members and a few other interested parties.

A common reaction when a tool such as this doesn't provide the expected or perhaps desired results, Councilor Park cautioned, is to blame the tool. He emphasized again that the use of this tool will be not to make the decisions, but to inform the decisions.

VI. Other Business and Adjourn Rod Park

- Councilor Park announced that he would like to put together a task force to address policy issues raised by the Rate Review Committee. He referenced an attachment to the meeting agenda. He'd like the group to be balanced and representative of the solid waste system, but also include “outsiders” who can bring their perspectives to the table. Issues to be addressed would include private facility economics, Metro stations' operating hours, regulatory costs, local government rate-setting, and others.

The Councilor asked the SWAC for approval to form the task force.

The City of Gresham's Matt Korot (representing East Multnomah County and cities), who is a current Rate Review Committee member, commented that other than the two members “who bring expertise from other utility fields, I don't think other Rate Review Committee members should be on [the taskforce] because it's a way to get some

different input.” In answer to questions at the bottom of the agenda item attachment, Mr. Korot stated that he feels Metro staff should chair the committee, and “I don’t think there should be [voting] representatives of the private transfer stations on a committee that is being charged with making recommendations that ultimately affect their own rates as well as Metro’s. I respect the individuals, but where you stand depends on where you sit,” he stressed. He suggested Rob Guttridge take part on the task force, “representing recycling advocates, because that’s an important perspective.” Concluding, Mr. Korot added that having sat on the Rate Review Committee, he thinks this taskforce would be a very useful.

In a dissenting opinion, WRI/Allied Waste’s Ray Phelps (representing disposal sites) said, “I disagree with Matt.”

Councilor Park said he understands Mr. Korot’s concerns, but “it’s my inclination to start with the Rate Review Committee because of the expertise that was generated.” He also said he wants to make sure the taskforce is balanced, and that while the taskforce will be a fact-finding endeavor, final decisions will rest with Metro Council. “We’re trying to get the information to feed back into the next Rate Review Committee.”

Other comments included Mr. Kampfer’s suggestion to make sure there’s at least one member from the general public; Tom Badrick said a business representative should take part, as well. “Businesses pay a lot in rates for solid waste disposal,” he said.

The issues to be considered are very important, Mr. White added, saying, “I’m more concerned about the policy implications of this. There’s been at least one Councilor who said that the Rate Review Committee really has no business getting into policy. In the last couple of years, that’s changed.” He asked if Council will “buy into” recommendations made by this task force. Councilor Park responded that that’s why he’s starting with members of the Rate Review Committee, because it’s a sub-committee of SWAC, and it is SWAC’s purview to advise the Council. Mr. Korot emphasized the importance of using this taskforce “as an opportunity to get some different input.”

Councilor Park asked for head-nods if the SWAC members are comfortable with this taskforce being formed. There were no further comments or objections.

- The Councilor asked members to consider agenda items they might like to discuss at future meetings. He thanked the attendees for their time, and adjourned the meeting at 12:13 pm.

**Next meeting:
Thursday, September 22, 2005
Room 370 A/B**

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Attachments

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Interim Waste Reduction Plan

Regional Solid Waste Management Plan Update Project

September 2005

DRAFT



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Executive Summary

This Interim Waste Reduction Plan (Plan) is intended to provide direction for waste reduction programs for the metropolitan region during the next decade (2005-2015). This plan is designed to be used as a stand-alone document for only a short time, and will soon be incorporated into the Regional Solid Waste Management Plan (RSWMP).

In addition to being helpful as a guidance document, this Plan is intended to meet the state requirements (ORS 459) for a waste reduction plan that shows how state-mandated recovery goals will be met.

Plan Vision

This Plan is based on the idea that protecting our environment now and for future generations is a value shared by residents of the Metro region. The vision adopted for this Plan reflects this value:

Plan Vision

The Plan envisions a significant evolution in today's comprehensive solid waste management practices to a future where waste is viewed as an inefficient use of resources. Through regional cooperation and shared responsibility among producers, consumers and government, the region will contribute to the sustainable use of natural resources to enhance our community, economy and environment for current and future generations.

Waste reduction and waste handling play a large role in environmental sustainability. The waste reduction goals and objectives are based first and foremost on the hierarchy of waste prevention, material reuse, and then recycling. Providing the opportunity to recycle is the cornerstone of the state's and the region's waste reduction strategies. Six areas of emphasis are the foundation for the objectives of this Plan:

- Expanding the opportunity to recycle
- Life-long learning
- Making connections between social and economic activities and the environment
- Targeting sectors where most recoverable tonnage remains

- Emphasizing the waste reduction hierarchy
- Coordination and cooperation

If the goals and objectives described in this Plan are met, this region will take important steps towards future sustainability.

Progress to Date

Metro's regional waste reduction rate was estimated to be 25 percent in 1986. Seventeen years later, the region more than doubled that rate, increasing it to 57 percent in 2003. This progress was made with the help of several key strategies:

- Expanding opportunities to recycle
- Emphasizing the waste reduction hierarchy
- Employing education and outreach programs
- Advancing cost-effective waste reduction practices

Taken together, these strategies help to advance the sustainability of the waste management systems used in the Metro region. This plan (and the upcoming RSWMP) place even greater emphasis on issues and activities related to sustainability.

Progress made in waste reduction can also be credited to the combined and cooperative efforts of all types of private and public organizations. All levels of government (cities, counties, regional and state agencies) have set policies and established incentives for residents and businesses to participate in waste reduction programs. The implementing force for these policies has often been the garbage collection and recycling companies, who have made huge investments in the infrastructure needed to properly manage solid and toxic wastes. Schools and other educational services have made important contributions to the long-term viability of waste reduction programs.

Each of the sources of waste are actively involved too (Figure 1, see appendix). Through curbside recycling, single-family homes are recycling almost one-half of their waste. Commercial and industrial businesses recycled 687,000 tons in 2003 (including organics), more than any other source. The construction industry recycled 177,000 tons with additional 110,000 tons of construction-related materials recovered at processing facilities. Looking at what is remaining in the waste that is not recycled or composted, however, it's clear that more can be done. The driving force for doing more is not a lack of landfill or transfer capacity (the Metro region has access to adequate amounts of waste

handling and disposal capacity), but a concern for the future sustainability of human culture. Simply put, people cannot continue to use resources once, and then expend additional resources to bury those in the ground, without risking future shortages, environmental degradation and other problems.

- Figure 1, see appendix -

Summary of Objectives

The focus areas of this plan are divided into four distinct sections: waste reduction, education services, toxicity reduction, and product stewardship. In this Plan, the term “waste reduction” refers to all methods of diverting waste from a landfill, including waste prevention, recycling and composting. The Education services section not only addresses information for waste generators, but incentives for behavior modification that will help the region approach sustainability. The objectives for toxicity reduction focus on human health, while product stewardship incorporates an approach based on shared responsibility of environmental impacts. The combined objectives of these four are designed to achieve the region’s goals. A table showing goals and objectives for each of these focus areas is attached, and the goals and objectives are also summarized below. The objectives are not prioritized or listed in order of importance or implementation.

Waste Reduction

Waste reduction’s goal of a 64 percent reduction rate by 2009 will be achieved through a coordinated, multi-faceted approach. The plan relies on source reduction, reuse, recycling and composting both in the residential and commercial sector to accomplish this goal. Objectives to reach the region’s goals have been identified for each of the following sectors of waste generator: single family residential, multi-family residential, business, construction and demolition, and commercial organics. Each of these five sectors requires unique objectives to address the issues of waste reduction within the region. The creation of regionally coordinated plans with access to services by all is the foundation of each set of objectives.

Education Services

The second program focus area, Education Services, has a goal of increased adoption of sustainable behaviors throughout the region. The plan targets information

services and school education as methods of achieving this goal. Implementation of these objectives requires coordinated efforts with Metro, local governments, and public and private schools.

Toxicity Reduction

Toxicity reduction is being approached by this Plan in two ways; reducing the amount of hazardous waste generated by reducing the amount of hazardous products used, and proper collection of wastes that are generated. The use and improper handling of hazardous products is a threat to human health, and improper disposal of hazardous waste is a threat to environmental health. The goal of this focus area will be reached with coordinated efforts of education and efficient safe collection methods.

Product Stewardship

Product stewardship is discussed in this Plan as a method of sharing responsibility for the proper management of wastes after a product or material has reached the end of its useful life. Sharing the responsibility for this among the designer, manufacturer, retailer, and consumer will reduce the responsibility and burden on local governments for proper waste handling. In the long run, this approach will also lead to decreased toxicity, increased recyclability or other improvements by having those in charge of the manufacture or consumption of a product pay for the proper disposal of that product. Implementing product stewardship activities within targeted waste streams will be a priority, particularly if programs exist within an industry. These activities will be augmented by education of the consumer on environmentally preferred purchasing and the role of the consumer.

Plan Overview

The five chapters of this Plan provide a sense of where the region is at currently, what direction we should strive for in the future, and how we can get there. The first chapter provides an introduction and a sense of the context of this Plan. The second chapter provides an overview of the current programs and their results. The third chapter provides a vision for where the region would like to be in the future, with statements of the values and policies that help support that vision. The fourth chapter lists the goals and objectives for how the region can achieve the future vision. Finally, the fifth chapter provides direction on how this Plan will be implemented.

- Table 1, see appendix -

Introduction

Plan Purpose

This Plan is intended to provide direction for waste reduction programs for a short time, pending the completion of the Regional Solid Waste Management Plan (RSWMP). Since the work on RSWMP was delayed until 2006 due to various questions that have significant ramifications for the region's solid waste system, it was determined that the release of this Plan would be helpful in providing interim guidance. When work on the RSWMP resumes, the goals and objectives shown in this Plan will be updated and incorporated into it.

In addition to being helpful as a guidance document, this Plan is intended to meet the state requirements (ORS 459) for a waste reduction plan that shows how state-mandated recovery goals will be met.

Planning Process

This Plan represents the culmination of a substantial amount of work on assessing existing activities and discussing potential new efforts for waste reduction. This work was initially conducted as part of the project to update the RSWMP, but some aspects of the RSWMP were not proceeding as rapidly as the waste reduction element, and so it was decided to release the waste reduction portion as a separate plan, at least temporarily.

The effort to update the RSWMP began in late 2003 with an initial assessment of the areas that needed to be updated and the development of a process for conducting that work. The general goal for the update of the RSWMP is to revise, not replace, it. The document itself will also be reorganized and streamlined.

An extensive stakeholder process was conducted in 2004 to solicit input on the existing RSWMP and issues to be addressed in the updated RSWMP. The public involvement process was separated into two phases. The first phase focused on identifying and narrowing a list of regional issues to help focus the RSWMP update. Based on a series of meetings held with cross-section of stakeholders from the regional solid waste community

and the general public, four key planning issues were identified for further discussion:

1. Garbage and Recycling Services. Is the public satisfied with current service levels? Will these services be adequate in the future?
2. The Regional Waste Reduction Goal. The waste reduction goal in state law and the current RSMWP is 62 percent in 2005 and 64 percent in 2009. As of 2003, we have achieved a 57 percent waste reduction rate. How much can we recycle?
3. Sustainability and the Solid Waste System. Regional solid waste system operations (e.g. transport and facilities) create environmental impacts through fuel, water and energy usage. Should we adopt sustainability principles that can guide solid waste practices? Should we go further and adopt zero-waste strategies?
4. Disposal System Planning. The regional solid waste system consists of public and private service providers with government regulating collection and private facilities. What are the overall goals for the disposal system over the next ten years? What services are needed, and who should provide the services?

In the second phase of public involvement, a series of facilitated small group discussions, called "Let's Talk," were held throughout the region to generate input on Planning Issues 1, 2 and 3. Project staff developed a discussion guide and questionnaire to help people understand the issues, examine alternative approaches and discuss the implications and tradeoffs.

Discussion on planning issue 4, Metro's role in the disposal system (and especially the question as to Metro's ownership of two transfer stations) were ongoing at the time this Plan was produced and were not expected to be completed until early 2006. Considering that the following information was essentially ready to be released, as a result of the stakeholder process and work by Metro staff, and also given that this information is required by state statute, it was decided that this Plan should be released without further delay.

Plan Organization

The remaining four chapters of this Plan discuss the details of the current system, future direction, focus areas for additional work, and finally, plan implementation.

The next chapter, Regional Solid Waste System, describes the existing system for solid and hazardous waste management. It begins with an overview of current programs and facilities used for waste reduction and solid waste disposal; includes a discussion of the quantities and composition of the solid waste stream; describes the roles of governmental agencies in solid waste; and provides detail on pertinent legislation.

The third chapter of this Plan, Future Direction for Waste Reduction, is a presentation of the vision, values, and waste reduction-related policies of the region. This framework helps determine future activities by providing a basis for assessing where the region wants to be in the future against the results and activities of present-day efforts.

The fourth chapter, Regional Program Focus Areas, contains the goals and objectives for waste reduction, education services, toxicity reduction, and product stewardship. The primary purpose of the objectives shown in this chapter is to provide direction for the annual work plans developed by regional work groups.

The final chapter, Plan Implementation, provides additional information on how the goals and objectives of this Plan will be implemented. In general, this Plan will be implemented through the coordinated efforts of Metro and local governments, regional work groups, and the private sector.

The Regional Solid Waste System

This section provides an overview of the current programs and the results of those programs.

Waste Reduction Program Overview

Regional Progress

In 1986, the regional waste reduction rate (including waste prevention, recycling and composting) was estimated at about 25 percent. Over the next ten years, spurred on by recovery goals and public and private investments in waste reduction efforts, the rate grew to more than 40 percent - thereby achieving the 1995 target set by the state legislature.

The 1995-2005 RSWMP followed on this accomplishment by setting waste reduction goals of 52 percent by 2000 and 56 percent by 2005. In 1997, state legislation recognized the importance of waste prevention efforts and passed a statute that provided wastesheds with a method to receive additional "credits" for waste prevention efforts. A "wasteshed" is a specific area in Oregon, typically a county, which is defined by solid waste services. As a result of the 1997 legislation, a wasteshed that implements programs in waste prevention, reuse and home composting could receive a 2 percent credit for each of those programs. Metro has applied for and received the credits since they have become available. By 2003, the Metro region had achieved a 57 percent waste reduction rate (51 percent plus the 6 percent waste prevention credits).

Waste Reduction Strategies

The Metro region has employed several key strategies to achieve the waste reduction goals established in the 1995-2005 RSWMP. These have included:

- Expanding opportunities to recycle
- Emphasizing the waste reduction hierarchy
- Employing education and outreach programs
- Advancing cost-effective waste reduction practices

These strategies have been effective in maintaining the region's recovery infrastructure and ensuring that past gains are not lost.

In 1999, faced with evidence that progress toward regional recovery goals had stalled, Metro and local

governments created a set of "Waste Reduction Initiatives" that identified opportunities for increasing recovery of construction and demolition waste, commercial recyclables and commercial organics. The work on these initiatives continues today.

The Waste Reduction Initiatives (WRIs) are led by three intergovernmental work groups known as the Construction and Demolition Recovery Work Group; the Commercial Recovery Work Group; and the Organics Recovery Work Group. Each work group is comprised of Metro, DEQ and local government staff. The work groups individually produce a plan targeting their sector that is designed to guide the region in the direction of increased recovery, while adhering to the solid waste hierarchy of reduce, reuse, recycle, recover, compost, and landfill.

Overview of Regional Waste Reduction Practices

State requirements that households and business be provided with opportunities to recycle are a fundamental part of successful waste reduction efforts in the Metro region. Local governments are responsible for implementing waste reduction and recycling programs for residents and businesses in compliance with the state's "Opportunity to Recycle" requirements (ORS 459A). Local governments are also specifically responsible for regulating and managing solid waste and recycling collection within their jurisdictional boundaries (including setting franchise boundaries), and reviewing collection rates and service standards.

Recyclables

The success of the region's recycling programs is partly due to two key elements of the system. First, the region has emphasized source-separated recycling, where recyclables are separated into material types at the source. This allows the materials to hold a higher market value and reduces the need for sorting facilities. There are no publicly owned processing centers for the area's recovered materials. Second, the region is fortunate to have extensive local markets for most collected materials. Local markets make recycling more cost-effective because transportation costs are kept low and the markets are more stable.

It also helps that all Metro jurisdictions have weekly curbside collection of recyclables on the same day as garbage service. This approach has been shown to help increase participation in curbside recycling.

Residential Services

Within the Metro region, all jurisdictions have weekly curbside collection of recyclables on the same day as garbage service. Residential garbage and recycling service is franchised in almost all jurisdictions in the Metro region. Each city is responsible for their own franchising system, while the counties administer franchises in the unincorporated areas.

Curbside systems within the region are critical to the success of regional recycling. They are responsible for a substantial portion of the regional tons recovered. Participation in these curbside programs also educates and builds a recycling ethic that residents take to their place of employment. In 2003, residential curbside systems in the Metro region recovered 218,000 tons of materials. This represented about 18 percent of the total materials recovered from all sources in the region. Recycling services for residents living in multi-family apartments also contribute to regional recovery levels. The 1995-2005 RSWMP set targets for ensuring adequate levels of recycling services for multi-family residents. In 2003, a little over 10,000 tons of materials were collected from the multi-family sector.

A number of waste reduction efforts within the region support and promote residential curbside programs. Local governments regularly communicate with residents about proper preparation of materials and other issues concerning their collection services through newsletters, mailers and other methods. Residents can also receive the most current information regarding their services by calling their haulers, local government and Metro.

Hazardous Wastes Services

Collection services for household hazardous waste have been offered by Metro since the mid-1980s. Services began with occasional collection events and have grown to include permanent facilities at Metro's two transfer stations and community-based collection events around the region. In 2003, 40,000 customers used the facilities and 9,000 attended the community events.

A number of private companies provide hazardous waste management services to businesses and organizations in the Metro region. Metro, in partnership with DEQ, also collects hazardous waste from businesses that generate small amounts, which are known as conditionally exempt generators (CEGs). In 2003, more than 350 businesses were served.

Commercial Services

Commercial garbage and recycling service is franchised in all jurisdictions in the Metro region except for the City of Portland. Portland's commercial system allows customers to choose among permitted haulers in the city and negotiate rates for service.

Within the region, there are also independent recyclers that specialize in various recyclables. Under state recycling opportunity requirements, haulers are required to provide recycling services to businesses that want to recycle, but businesses are not required to recycle except in the City of Portland. The City of Portland has a mandatory requirement that business recycle 50 percent of their wastes.

The commercial sector is the largest source of recovered material in the region. In 2003, 687,000 tons of source-separated recyclables were collected from businesses in the Metro region. This represented over 56 percent of the total materials recovered throughout the region.

As previously mentioned, the region took collective steps beginning in 1999 with the Commercial Waste Reduction Initiative to more effectively focus and coordinate recovery efforts with businesses. The initiative includes a number of efforts such as business recognition programs, an on-line interactive recycled product database and a regional campaign to provide desk-side paper recycling collection boxes. A core part of the initiative is a regional business assistance program designed to provide on-site personalized technical assistance for waste reduction practices including waste prevention, recycling and buying recycled products.

Commercially-Generated Organics Services

Regional efforts to recover commercially-generated food waste are coordinated through the Organics Waste Reduction Initiative. The initiative aims to increase both the capacity for organizations to take donations of edible food and the levels of donations to those organizations. In Fiscal Year 02-03, local agencies recovered 16,558 tons of edible food, an increase of 3,151 tons from the previous fiscal year. The initiative also aims to increase the processing infrastructure for organics available to businesses within the region. Progress in that effort has been slow but steady. Metro, the City of Portland and the private sector have worked on a number of projects that have expanded local knowledge about food recovery issues. The Metro

region has increased food waste recovery from 9,646 tons in 2001 to 12,074 in 2003 (these figures exclude edible food donations).

Building Industry Services

The commercial refuse and recycling systems described above - an open market in the City of Portland and franchises elsewhere in the region - are also used by those in the building industry for construction and demolition (C&D) wastes. An estimated 50 percent of those in the building industry, however, "self-haul" their wastes and recyclables to disposal or processing facilities.

Approximately 177,000 tons of source-separated materials were recovered from this sector in 2003. In that same year, processing facilities in the region also recovered 110,000 tons of material, the bulk of which was from construction and demolition sites. One of the focuses of the C&D Waste Reduction Initiative has been supporting increases in the capacity of local firms to handle used building materials. A survey of regional activity in deconstruction and used building material retailers reported that more than 7,000 tons of materials were salvaged for reuse in 2003. The initiative has also emphasized developing partnerships with construction industry associations to increase awareness of waste reduction practices within the industry. Metro has distributed 25,000 Construction Industry Recycling "Toolkit" publications that list facilities that accept C&D materials for reuse and recycling.

Waste Reduction Facilities

The region's mixed-dry waste (paper, wood, metal, glass) processing facilities are privately owned and operated. The Metro region is currently served by ten dry waste material recovery facilities (MRFs). Five of these facilities are permitted to take any non-putrescible municipal waste (dry waste) and the other five are licensed to accept a more limited range of materials. Three of the facilities are specialized waste recovery facilities and are limited to accepting wood, yard debris and roofing, and the other two handle tires exclusively.

Three of the dry waste MRFs are owned and operated by firms that also provide collection services. They receive most of the wastes they handle from their own hauling fleet. One of these is limited by its license to only handling wastes collected by its fleet.

Eight yard debris composting facilities are located within the region. All but one of these facilities are privately owned and operated. The publicly owned facility only handles yard debris generated by City of Portland maintenance crews. None of the facilities licensed to operate within the region can accept food waste. The region is also served by a non-system composting facility located just outside the Metro boundary. This facility is authorized to accept post-consumer green waste. Five facilities in the region are licensed to accept yard debris for processing and reloading. The material accepted at these sites is either sold for hog fuel or taken to a compost facility located elsewhere. All of these facilities are privately operated.

Waste Disposal

Since 1994, the total amount of waste landfilled each year has grown from about 1.1 million tons to almost 1.7 million tons (Figure 2, see appendix). While the total amount of solid waste sent to disposal sites has increased significantly, the character of the waste going to landfills has changed significantly due in part to the success of waste reduction programs in the region.

The solid waste stream can be viewed as being made up of post-consumer waste, which includes residential and commercial solid waste plus construction and demolition debris, and non-consumer wastes that include environmental cleanup wastes and other special wastes that generally originate from industrial activities. The post-consumer waste stream is essentially the recoverable waste used by DEQ in computing recovery rates. Waste reduction programs, such as residential curbside and commercial recycling services, have been very effective in reducing certain types of materials in the post-consumer waste stream. This increased material recovery and an economic downturn are largely responsible for keeping the amount of post-consumer waste stable over the past ten years, even decreasing the total amount in 2001 and 2002.

In the past few years, the total amount of waste landfilled has risen significantly due to greatly increased amounts of environmental cleanup material and other special wastes. These wastes, which currently account for 30 percent of solid waste disposed, only made up 15 percent of the disposal tonnage in 1994.

- Figure 2, see appendix -

Collection Services

Refuse

Refuse collection services in the Metro region are provided solely by private waste companies. There are no publicly owned waste hauling companies.

Jurisdictions handle collection differently, however, as summarized below. None of the jurisdictions in the region require their residents to subscribe to collection services, although some require landlords to provide refuse collection for residential rental units.

Washington County: Garbage service for both residential and commercial customers is franchised throughout Washington County except in the City of Banks. There are currently 14 haulers that serve Washington County. Ten of the cities are responsible for their hauler franchising, while the county administers the franchises in the unincorporated areas.

Clackamas County: Garbage service for both residential and commercial customers is franchised throughout Clackamas County. There are currently 14 haulers that serve Clackamas County. The 12 cities are responsible for their own hauler franchising, while the county administers the franchises in the unincorporated area.

Multnomah County: Residential garbage service in Multnomah County is franchised, and there are currently 47 haulers that provide residential and commercial garbage collection services in Multnomah County. In addition to those 47 haulers, there are eight firms licensed as commercial haulers in the City of Portland who only handle their own collection needs.

While most of the solid waste in the region is taken to disposal facilities by licensed or franchised commercial haulers, there is a substantial amount of waste that is hauled by individual residents or businesses.

Approximately 20 percent of the solid waste destined for disposal in the region is hauled to a solid waste facility by the generator of that waste ("self-haul"). Self-haul loads are typically smaller than loads collected by garbage haulers, and so it takes many self-haul loads to deliver the same amount as a garbage truck. It is estimated that 70 percent of the loads taken to solid waste facilities in the region are self-hauled loads. In other words, the impact on the solid waste system of self-haul waste is disproportionately large compared to the tonnage handled.

The solid waste collection industry has undergone significant changes since 1995. At the beginning of

1995, the region was served by approximately 107 licensed or franchised haulers, virtually all of who were locally owned. The only nationally owned hauling company controlled slightly less than 6 percent of the market and the five largest haulers altogether controlled about one-third of the market.

In 2003, there were only sixty (60) hauling companies serving the region. This reduction in the number of haulers resulted from a wave of acquisitions by large solid waste companies. The five largest hauling companies now control over 60 percent of the market (twice as much as eight years ago), with the largest nationally owned hauler controlling almost one-third of the market. Nationally owned haulers controlled only 6 percent of the market in 1993, but now three nationally owned firms control half of the market.

The five largest regional haulers and the tonnage they handled are shown in Table 2 (see appendix). It is interesting to note that none of the five largest haulers in 1995 are shown in the list for 2003. Even though one of the names remains the same, a new firm actually purchased that corporation and assumed its name.

- Table 2, see appendix -

The other major difference in the hauling industry is that in 1995, none of the region's haulers were fully vertically integrated (e.g., owned all of the components necessary to collect, transfer, and dispose of waste). While one company serving the region did operate a landfill, it lacked a transfer station that would have made it feasible to transport waste to their landfill. Most of the haulers in the region depended on the system of two publicly owned transfer stations and one privately owned facility to handle the waste they collected. By 2003, three of the region's largest hauling companies were fully vertically integrated, providing collection, transfer, processing and disposal services. One of the two locally owned haulers in the top five is partially vertically integrated in that they provide both collection and transfer services. These firms now attempt to "internalize" as much waste as possible within their own facilities. This is a new factor in this region and has resulted in significant changes in how waste is handled within the region.

Facilities and Services

Planning issues related to the region's disposal facilities and services are outlined below.

Landfills

During the past 10 years, there have been no large landfills constructed, but the available landfill capacity has increased significantly. The owners of many landfills have reevaluated their designs to take advantage of new products that have recently become available. The resulting redesigns have substantially increased the total landfill volume available in the Pacific Northwest.

- Table 3, see appendix -

The Hillsboro and Lakeside landfills are located immediately outside the Metro boundary. These are limited-purpose landfills that are permitted by DEQ to take dry wastes and some special wastes. The remaining landfills are authorized to accept putrescible wastes. A non-system license is required to deliver wet waste to all the landfills except the Columbia Ridge Landfill.

Seven of the eight landfills serving the region have entered into Designated Facility Agreements (DFA) with Metro and are considered a part of the region's solid waste system. The Riverbend Landfill has not entered into a DFA and therefore customers from the region need a non-system license to use the facility.

Facilities Overview

A number of facilities make up the region's solid waste system. Some handle mixed waste, while the others act as processors for specific kinds of materials that can be recycled.

Most solid waste facilities are privately owned. Only Metro South and Metro Central transfer stations are publicly owned. The opportunity for private entry and innovation in the system has helped to create a diverse array of facilities that can respond to rapidly changing technologies, fluctuating market conditions and local conditions and needs.

During the last 10 years, the volume of waste handled by private facilities has increased significantly. In 1995, the region's two publicly owned facilities handled slightly over 70 percent of the waste delivered to facilities in the region. The share of the waste stream delivered to publicly owned facilities had declined to about 45 percent of total deliveries by 2003.

-Figure 3, see appendix-

The purpose of this system is to handle all of the waste that the region produces in the most efficient,

economical and environmentally sound way possible. In the last few years, several new types of private facilities have opened in response to solid waste needs in the region.

Transfer Station Services

Six transfer stations located within the Metro boundaries consolidate loads of solid waste for transfer to landfills. Three of these facilities, Metro Central, Metro South and the Forest Grove Transfer Station, are regional transfer stations, and are authorized by Metro to accept unlimited amounts of putrescible (or "wet") waste and non-putrescible (or "mixed-dry") waste. Metro's two transfer stations are publicly owned and the Forest Grove facility is privately owned.

The three other transfer facilities, Pride Recycling, Willamette Resources and Recycle America, are franchised to serve localized needs, and as such are authorized by Metro to accept only limited amounts of "wet" waste per year but are allowed to accept unlimited amounts of "mixed-dry" waste. The Metro Council sets the regulatory limits on tonnage at these transfer stations based on the need for localized disposal capacity. These three local transfer stations are privately owned by companies that also provide collection services.

The region's six transfer stations have an estimated transfer capacity of approximately 2.06 million tons per year. During 2003, these facilities accepted 963,000 tons of waste. Estimated capacity of each facility and the tonnage that it received during 2003 is show in Table 4 (see appendix).

- Table 4, see appendix -

A small portion of the region's waste is delivered to non-system transfer facilities located outside the region's boundary. Haulers are permitted to use these facilities under the terms of non-system licenses issued by Metro. While there are five transfer facilities in the areas adjacent to the region, only two facilities, the West Van Material Recovery Center and Vancouver Central Transfer Station, receive appreciable amounts of waste from the region. A company that provides collection services within the region owns both of these facilities.

Household Hazardous Waste Collections

Metro provides for proper disposal of hazardous waste generated by households in the region by operating

two permanent hazardous waste facilities and a series of “roundup” collection events around the region.

The permanent collection facilities, located at the Metro Central and Metro South transfer stations, also receive hazardous waste generated by some small businesses in the region, and hazardous waste that is isolated from incoming solid waste in the adjacent transfer stations.

The roundup program is conducted at various locations around the region; one or two-day events are held nearly every weekend between mid-March and mid-November. These events are located to provide a convenient disposal option for residents that are more distant from the permanent sites.

Waste Stream Overview

Current and Future Waste Quantities

Total solid waste tonnages tend to track the overall economy; however, even after the national recession was declared over in November 2001, Metro regional tonnage generation¹ continued to fall slightly in 2003² to 2,417,012 tons. After increasing rapidly during the robust economic growth of the 1990s, per capita waste generation has hovered around 1.8 tons per year for several years. At that rate, if the region’s population continues to increase at 1.5 percent, total solid waste generation in the tri-county area will reach 2.6 million tons by 2010, and 2.8 million in 2015.³ If the per capita waste generation rate increases one percent, then the total amount of waste generated will increase to 2.8 million in 2010 and 3.2 million tons in 2015.

Figure 4 (see appendix) shows historical per-capita rates of recovery, disposal, and their sum, generation. Figure 5 (see appendix) shows a historical and forward-looking graph of regional (tri-county) tonnage generation alongside the population trend. The future proportions that will be recovered and disposed will depend on a number of factors, such as the success of the waste reduction programs discussed in this Plan, state and national sustainability efforts, public attitudes toward consumption, and other factors.

- **Figure 4, see appendix -**
- **Figure 5 see appendix -**

Over the next five to ten years, barring marked behavioral change, large shifts in the proportions of these sectors’ contributions to the region’s waste are not expected. The proportions do vary locally, however, and will typically change over time. For example, in the

outer suburban areas of the Metro region, where new construction of residences and businesses is currently taking place, C&D may account for half or more of the waste generated there. After those areas mature and development eases off, the proportion of Business and Residential waste will increase relative to the local C&D portion.

Waste Composition

The characteristics of the waste generated by each of the sectors (Residential, Business, and C&D) are different. The C&D industry generates highly recyclable materials such as wood, concrete, brick, metal, sheet rock, and land clearing debris. Some types of businesses generate large quantities of waste paper, most of which is highly recyclable when it is separated from the smaller amounts of putrescible waste. Assorted industries generate diverse wastes, such as grits and screenings, scrap from product manufacturing, specialized packaging and other substances that typically require case-by-case evaluation for recycling or reuse. Residences generate a waste stream that contains a wide variety of materials. Among the highly recyclable residential wastes are: paper, metal, glass, plastic bottles, motor oil, and yard debris; less easy to recover are other plastics (e.g., tubs, toys), soiled papers, and food waste.⁴ Infrastructure development in food waste collection may make that material - and soiled paper - easier to recover. In fact, most materials currently viewed as waste are potentially recyclable or can potentially be replaced with materials that are recyclable.

Recovery Potential

About half of the waste generated in the Metro region is landfilled. The other half is reused, recycled,

¹Generation is defined by DEQ as the sum of recovery and disposal. Note that diversion, such as home composting and salvage and reuse, is not included in this measure of generation.

²2002 is the most recent year reported by DEQ.

³The lower figure in 2015 is based solely on constant per-capita generation rates, 1.5 tons per year, multiplied by a projection of the tri-county population; the higher figure is based on a steady, but slow, increase in the per capita waste generation rate.

⁴Some materials, such as certain plastics, are hard to recover just due to their chemical composition; other materials, such as vegetative food waste, are recyclable but are difficult to recover regionally mainly due to a lack of collection and processing infrastructure.

composted, burned for energy, or otherwise diverted from landfilling. Increases in the overall rate of material recovery across the Metro region have slowed over the past few years, to just fewer than 50 percent in 2003.⁵ Metro estimates that about two-thirds of the materials generated could potentially be recycled or composted given current markets. The region is capturing a little more than 70 percent of all potential recovery. With additional market development and a capture rate of 100 percent of those potential recyclables (principal recyclables, plus other recyclable, hard to recover materials, such as food waste), the region's recovery rate could reach as high as 86 percent.

Among other reasons, factors such as lack of infrastructure, poor generator awareness, and certain government regulations constrain the amount of recovery of various materials. Variations in these factors among the generator sectors give rise to variations in recovery performance among sectors. For example, because some household waste tends to be highly recoverable and because collection and processing infrastructure is well developed, and homeowners tend to be highly aware - and motivated - recyclers, recovery rates at residences are relatively high. Typically, about 50 percent of the waste generated in a single-family residence gets recycled or composted. On the other hand, businesses tend to be more focused on bottom-line financials than on the environmental impacts of their consumption. Despite a highly recoverable waste stream (mostly paper), businesses as a whole separate their recyclables less thoroughly than households and so send a higher proportion of recyclables to the landfill. Part of the problem is the fact that garbage haulers who serve businesses are not required to provide as full a suite of recycling collection services as residential haulers are.

Future Progress toward Recovery Goals

As previously described, in 1999, an analysis of regional progress toward recovery goals found that recovery was lagging significantly in the construction and demolition, business and commercial organics sectors. In response, Metro and local governments developed a set of "Waste Reduction Initiatives" to target these sectors for additional recovery. In 2003, the RSWMP was amended to incorporate these initiatives and develop a contingency plan to keep the region on track toward its recovery goals.

The contingency planning has focused on the sectors targeted by the initiatives and included consideration of policies that would require businesses to recycle or ban

selected recyclables from disposal. In August 2003, the Metro Council convened a contingency planning work group that developed a set of recommended strategies. Subsequently, the Solid Waste Advisory Committee, Metro Policy Advisory Committee, local government solid waste staff and Metro Council reviewed the strategies.

Based on that review process, in May 2004, Metro Council directed further development and consultation with stakeholders on the mandatory processing of dry waste and on the mandatory business recycling strategy. Metro Council will consider the results from this work in late Fall 2005.

Figure 6 and Table 5 (see appendix) show the amount of recovery that is estimated to result from the strategies under study by the contingency planning process.

After Metro Council completes its review of the contingency planning process, new waste reduction policies may be implemented in the region to help reach the recovery goals.⁶

- Figure 6, see appendix -

- Table 5, see appendix -

Solid Waste Governance

Federal Level

The Environmental Protection Agency (EPA) sets design standards for landfills and establishes regulations for hazardous waste generated on a commercial level. Hazardous waste generated by households are exempt from regulation, as are wastes from businesses that qualify as small quantity generators.

State Level

The Oregon Department of Environmental Quality (DEQ) has several roles in the solid waste system. One is to enforce the solid waste statutes, including the mandated recycling goals, and another is to measure recovery rates. DEQ also provides technical assistance to Metro, counties and cities and offers grants. DEQ

⁵ The rate was 50.9% in 2003, the most recent year for which complete data are available. DEQ credits the Metro region an additional 6% toward the official regional recovery rate to account for hard-to-measure recovery, such as reuse and home composting.

⁶ Metro Council has directed a review of the feasibility of reaching the State recovery goal.

prepares and adopts a state solid waste management plan and approves local solid waste management plans.

Regional Level

Metro is responsible for “matters of metropolitan concern” according to its charter, which includes several solid waste functions. Metro is responsible for solid waste planning and has authority over waste generated in the region. As a part of these responsibilities, Metro develops and administers the Regional Solid Waste Management Plan (RSWMP), which gives the region direction for meeting waste reduction goals. Metro is accountable for state-mandated waste reduction goals in the tri-county region, and works with its local government partners to accomplish these ends.

Metro oversees the operation of two Metro-owned regional transfer stations and administers contracts for the transport and disposal of the waste from these transfer stations, with the goal of providing ratepayers with the best possible disposal rates. Metro also oversees a system of franchises and licenses to regulate privately owned and operated solid waste facilities that accept waste from the region.

Local Level

Cities and counties have responsibility for designing and administering solid waste and recycling collection programs for their jurisdictions. These activities must be in compliance with all state and Metro legislation and solid waste plans, including the Opportunity to Recycle Act, the Oregon Recycling Act and the RSWMP. In all jurisdictions, garbage and recycling collection services are provided by private haulers who are permitted or franchised by their respective jurisdictions.

Key Solid Waste Legislation

There are several pieces of national, state and local legislation that help give perspective and direction to this Interim Waste Reduction Plan (Plan).

The Oregon Bottle Bill. The Oregon legislature passed the Oregon Bottle Bill in 1971 and it took effect on October 1, 1972. This bottle bill was the first of its kind in the nation. Its purpose was to divert all beer and carbonated beverage containers from the waste stream so that they could be reused or recycled. The bill requires that a refund be paid to any person who returns empty soft drink or beer bottles or cans to a retail store.

1983 Opportunity to Recycle Act. The Opportunity to Recycle Act, passed by the Oregon legislature in 1983, was also ground-breaking legislation that required:

- Residential on-route (curbside) recycling collection in cities of 4,000 or more people.
- Recycling at solid waste disposal sites.
- Education and promotion programs designed to make all Oregonians aware of opportunities to recycle and the reasons for recycling.

Although Oregon already had an extensive recycling infrastructure, both private and public, before the passage of the act, the system was enhanced through this legislation. The recycling programs called for have been implemented throughout the state.

1991 Oregon Recycling Act. In 1991, the Oregon Legislature took recycling legislation a step further and passed the Oregon Recycling Act. Among other things, the Oregon Recycling Act established an overall recovery level goal of 50 percent by the year 2000. The Metro region was required to achieve a recovery level of 40 percent by 1995.

The Oregon Recycling Act also mandated the development of a statewide solid waste plan by 1994, the performance of waste composition studies and required that cities with a population greater than 10,000 population and the metro area implement certain waste reduction practices. Certain materials, such as whole tire and lead-acid batteries, are banned from landfills. The act also specified purchasing preferences by government agencies for materials with high percentages of recycled content and high degrees of reusability/recyclability.

Finally, the act established minimum recycled content requirements for newsprint, telephone directories, glass containers and rigid plastic containers sold in Oregon.

1997 2% Credits for Waste Prevention. The session produced a bill that provided a means of enabling local governments to obtain credit for programs more than just their recycling programs. The program allows two percent credits for wastesheds such as Metro that establish and maintain programs in waste prevention, reuse and backyard composting. DEQ has established guidelines and evaluation criteria for wastesheds that allow them to earn up to six percent total credits toward their recovery goals for qualifying programs.

2001 State and Wasteshed Goals. In 2001, while most of the wastesheds in the state were meeting their individual required recovery goals, the DEQ confirmed to the legislature that these accomplishments were nevertheless not going to produce a statewide recovery goal of 50 percent. The legislature responded with HB 3744 that set a statewide recovery goal of 45 percent for 2005 and 50 percent for 2009 and adjusted individual wasteshed goals. Metro's goal became 62 percent by 2005 and 64 percent by 2009 (these rates can include any credits received under the "2 percent credits" program). Wastesheds were required to submit plans to DEQ for how they planned to meet the new goals. Metro was not required to prepare a new wasteshed plan as its existing waste reduction plan met this requirement.

The bill set out review procedures regarding the goal:

If a wasteshed does not achieve its 2005 or 2009 waste recovery goal, the wasteshed shall conduct a technical review of existing policies or programs and determine revisions to meet the recovery goal. The department shall, upon the request of the wasteshed, assist in the technical review. The wasteshed may request, and may assist the department in conducting, a technical review to determine whether the wasteshed goal is valid (ORS 450.010(6)(e)).

HB 3744 established statewide waste generation goals:

- By 2005, there will be no annual increase in per capita municipal solid waste generation;
- By 2009, there will be no annual increase in total municipal solid waste generation.

HB 3744 permits a wasteshed additional ways to qualify waste prevention programs for the 2 percent credit. Wastesheds can also apply for more than just a 2 percent credit for residential composting programs if more than 2 percent of the waste generated is being diverted. Under certain conditions, HB 3744 allows a wasteshed additional credits on their recovery rate if they send some of their mixed solid waste to an energy recovery facility.

Future Direction for Waste Reduction

Introduction

This chapter presents the long-term vision for this Plan as well as the values and policies that provide direction. As used in this Plan, the vision is the ultimate ideal or aspiration. The values represent a set of principles held by the region that will guide and shape policies. A policy is a statement that guides programs.

Plan Vision

Protecting our environment now and for future generations is a value shared by residents of the Metro region. The Plan's vision is an ideal that builds upon that value to guide long-range development of solid waste management practices and policies.

Plan Vision

The Plan envisions a significant evolution in today's comprehensive solid waste management practices to a future where waste is viewed as an inefficient use of resources. Through regional cooperation and shared responsibility among producers, consumers and government, the region will contribute to the sustainable use of natural resources to enhance our community, economy and environment for current and future generations.

Regional Values

The following values shall guide the development of policies, goals and objectives for solid waste management in the Metro region:

1. Environmental sustainability
Protecting the environmental quality of the region by conserving resources and reducing toxic and solid waste to ensure resources for future generations.
2. Public health and safety
Ensuring sound waste management operations and eradicating illegal dumps to maintain quality of life for the region's residents.
3. Shared responsibility
Promoting a shift from end-of-pipe waste management to include manufacturers and users in bearing costs associated with product management.
4. Life-long learning
Raising awareness among all age groups of ways to conserve resources and reduce impacts on the environment.
5. Coordination and cooperation
Addressing regional issues and developing regional programs in partnership to attain shared direction.
6. Performance
Emphasizing outcomes in programs and services to ensure efficiency and effectiveness.
7. Access to services
Providing residential and commercial customers with access to a range of collection and facility service options.

Waste Reduction Policies

The following policies will help guide and determine present and future decisions for waste reduction programs in the Metro region:

Policy 1.0 Preferred Practices

Solid waste management practices will be guided by the following hierarchy:

- First, reduce the amount of solid waste generated;
- Second, reuse material for the purpose for which it was originally intended;
- 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;
- Fifth, landfill solid waste that cannot be reduced, reused, recycled, composted or from which energy cannot be recovered.

Policy 2.0 Sustainability Alternatives Evaluation

Waste reduction or other sustainability alternatives identified for business practices or programs will be evaluated based on (a) technological feasibility; (b) economic comparison to current practice; and (c) net environmental benefits.

Policy 3.0 Recycling Service Provision

Recycling services will be offered as a component with residential and commercial collection in the region.

Policy 4.0 Source Separation

Source separation is the preferred approach in the region for ensuring quality secondary materials for recycling markets, but other forms of material recovery such as post-collection separation will not be precluded.

Policy 5.0 Market Development

Enterprises that can significantly expand end-use opportunities for reuse or recycling will be fostered by the region.

Regional Program Focus Areas

Introduction

Achieving this Plan's vision of a sustainable community requires a cooperative effort and strong public support. Based on input from the community, industry and local government partners, this chapter outlines specific goals and objectives that will guide the direction of waste reduction programs over the next ten years. The objectives are intended to provide a path to achieve the region's adopted goals. The objectives will guide the annual work plans produced by Metro and local governments and identify areas of regional interest particularly in promotion and education - where regional coordination and cooperation are required for successful program efforts. The objectives are written to provide flexibility in annual program planning efforts and emphasize six elements:

- Expanding the opportunity to recycle
- Life-long learning
- Making connections between social and economic activities and the environment
- Targeting sectors where most recoverable tonnage remains
- Emphasizing the waste reduction hierarchy
- Coordination and cooperation

Providing the "opportunity to recycle" is the cornerstone of state and regional waste reduction policy. State law requires that the opportunity be provided and that residents and businesses be informed about them.

Education and outreach is critical to providing information to residents and businesses to encourage them to make environmentally responsible choices in their daily lives. At all stages of our lives, learning how our daily choices affect the environment and natural resources helps us understand our relationship to the environment and builds a personal commitment to making responsible choices. This Plan recognizes that different strategies are needed to reach people at different times in their lives. School programs need to be educational and engaging to children; information provided to busy adults must be easily accessible, practical and usable.

A comprehensive approach to environmental problems recognizes that the strength of our community and its economy are directly connected to the health of natural systems. The traditional three "R's" - reduce, reuse and recycle - are an essential part of the region's educational approach. Greater emphasis on the "reduction" approach may be the most effective way of conserving resources and protecting the environment.

Programs will focus on sectors where the most recoverable tonnage remains as it provides the most opportunity for increased recovery. Programs will be designed in the direction of recovery while adhering to the solid waste hierarchy of reduce, reuse, recycle, recover, compost, and landfill.

Programs will look beyond generator-based strategies and target the design and manufacturing of products.

Regional and local governments will need to work together to achieve the adopted goals and objectives. Coordination of efforts between those providing education and outreach services is important to avoid duplication of services and to reach the largest audiences. Coordination also can assist in addressing complex environmental problems that cannot be solved by one agency. For example, protection and restoration of streams and critical habitat is an important regional goal. Partnering between hazardous waste programs and water quality agencies can be an effective method of approaching this problem.

The goal and objectives described in this chapter are categorized into four sections: Waste Reduction, Education Services, Toxicity Reduction, and Product Stewardship. The combined objectives for these four areas are designed to achieve the region's goals.

Waste Reduction

Achieving the region's vision of a future where waste is viewed as an inefficient use of resources requires residents and businesses to adopt sustainable behaviors to reduce waste. Waste reduction practices aim to reduce the amount of waste generated and disposed using strategies such as waste prevention, reuse, recycling, composting or energy recovery. Over the past ten years, the region has made significant progress in reducing waste and achieved a 57 percent recovery rate in 2003. More can be done, however, and if all

recyclable material could be collected then the recovery rate could be increased to as much as 86 percent.

Waste Reduction Goal

Increase the sustainable use of natural resources by achieving the recovery rate of 64 percent by 2009 as defined by state statute.

Specific objectives describing how each sector (Single-Family, Multi-Family, Business, C&D and Commercial Organics) will contribute to this goal are described below. Each of these five sectors requires unique objectives to address the issues of waste reduction within the region. The creation of regionally coordinated plans with access to services by all is the foundation of each set of objectives.

Residential (Single-Family)

In 2003, the recycling rate in the residential sector was 49.6 percent. Following a substantial increase in curbside recycling rates upon introduction of commingled collection to curbside programs, increases to the recycling rate have recently tapered off. In order to stimulate additional participation and to ensure steady progress toward the waste reduction goal, the region has identified the following objectives:

- 1.0 *Conduct annual outreach campaigns that focus on waste prevention, toxics reduction and/or increasing the quantity and quality of recycling setouts.*
Public education and outreach are the primary tools to promote wider participation in recycling programs. Regular campaigns focusing on increasing participation in waste reduction activities and improving the quantity and quality of materials set out for recycling will help achieve the region's waste reduction goal. Regional campaigns are cooperative in nature and use a clear and consistent message across the region.
- 2.0 *Identify and implement service provision changes and incentives to increase recycling.*
Aside from education and outreach, incentives in the form of monetary savings or convenience also encourage residents to participate in waste reduction and recycling programs. Currently, collection rates are structured to provide some

degree of savings with increased recycling and reduced solid waste (e.g., mini-can rates, monthly collection, etc.). Further research needs to be conducted on a cooperative regionwide basis to identify potential opportunities for additional incentives through the residential rate structure, service options or other means.

- 3.0 *Expand curbside service by adding new materials as markets and systems allow.*
The region's residents continue to demand more opportunities to recycle additional materials at the curb. Markets for recycled materials can be volatile and it is vital to ensure that any new materials have sustainable and sound markets before they are added to curbside collection. All material additions will need to be carefully reviewed for current and potential market trends as well as the physical and economic feasibility of collection and processing.
- 4.0 *Increase efforts to improve the quantity and quality of residential curbside recycling setouts.*
In order to maintain healthy and sustainable markets for recyclables collected curbside, outreach targeted at increasing the quantity and quality of recycling setouts will be conducted on a regular basis. Residents should be given the information necessary to understand the importance of reducing contamination, the larger-scale impacts that improper setouts have on the recycling system, and the importance of quality on the end-products made from their recyclables.
- 5.0 *Identify and evaluate new collection technologies on a cooperative regionwide basis for implementation.*
With emerging solid waste collection technologies, it is important to evaluate new collection techniques and options that may increase efficiencies and recycling rates. Research on new collection options will be conducted on a cooperative regionwide basis.
- 6.0 *Promote and educate residents about home composting and appropriate on-site management of yard debris and food waste.*
Composting and on-site management is the least expensive and most environmentally

sound option for handling yard debris and food scraps. Half of the region's residents participate in this activity and divert more than 50,000 tons of organics annually. The focus for future activities in this area will be on providing technical support for current composters and developing more cost-effective home compost bin promotions that target interested residents.

- 7.0 *Develop residential organics collection programs once stable regional processing capacity is in place and if financial feasible.* While home composting of vegetative food waste and yard debris is the preferred management method, the region will also examine the economic and technical feasibility of implementing curbside collection of residential food wastes.

Implementation

Detailed program planning and implementation of these objectives will be coordinated through the Local Government Recycling Coordinators group, which includes local governments, Metro and Oregon Department of Environmental Quality staff. Implementation plans will be presented for review to the Regional Solid Waste Advisory Committee annually.

Multi-Family

Recycling services to residents living in apartments (multi-family units) also contribute to regional recovery levels. Multi-family households include residential dwellings of five or more units. These households, which range from suburban garden apartments to high-rise buildings in dense urban areas, present a number of challenges and opportunities for recycling. While technically these are defined as residential dwellings, most multi-family buildings share common garbage and recycling areas and are serviced as commercial accounts by garbage haulers. Providing effective education and outreach to this fluid community in a consistent manner to increase the quality and quantity of recycling is the goal of the following objectives:

- 1.0 *Implement a consistent program suited to the needs of multi-family housing.* The region will cooperatively develop a program tailored to the needs of multi-family housing. The program will provide a consistent message throughout the region.

- 2.0 *Provide regional education and outreach targeting multi-family housing.*

Education is vital to increasing participation in multi-family recycling programs. Outreach materials will be designed to address the barriers and benefits of recycling in a multi-family setting and will be adapted to a variety of conditions and collection systems.

- 3.0 *Identify and evaluate new collection technologies for implementation on a cooperative regionwide basis.*

Multi-family recycling presents many unique challenges. Emerging collection technologies will be evaluated on a cooperative regionwide basis to identify potential opportunities to enhance and improve collection.

Implementation

Implementation of these objectives will be coordinated through the Multi-Family Waste Reduction Work Group. This Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually.

Business

Regional efforts to recover business waste are coordinated through the Business Waste Reduction Initiative. The initiative aims to develop and implement programs to meet the 2009 recovery goal and encourage behavior change in the business sector. Immediate emphasis is on recovery with long-term emphasis given to waste prevention and buying recycled products.

The following objectives are designed to provide an integrated framework that supports businesses in their efforts to improve their recycling programs, initiate waste prevention practices, increase their purchases of recycled-content products and incorporate sustainable practices into their operations. In this context, sustainable practice refers to changes that are made to address the impact of a business's daily and on-going operations on the environment. Some sustainable practices addressed in this initiative include whether a business has a Green Team, reviews their operational practices to reduce waste, establishes internal and external environmental policies, and identifies packaging minimization strategies.

The following objectives will assist the region in reaching the 2009 recovery goal:

- 1.0 *Provide businesses with annual education and technical assistance programs focused on waste reduction and sustainable practices.*

The business community has indicated in a variety of forums that one-on-one tailored education and assistance is a preferred approach to increase recycling rates. By offering a comprehensive education and technical assistance program to businesses, the region addresses the needs of businesses that want to start or improve their waste reduction programs. It also focuses attention on a waste stream that generates a large percentage of the region's waste.

- 2.0 *Develop information and resource materials that demonstrate the benefits of waste reduction and sustainable practices to support the assistance program.*

Information and resources, such as fact sheets, recycling containers, decals and Internet tools, provide additional tools to help businesses to participate in the assistance program and improve their waste reduction practices.

- 3.0 *Conduct annual regional outreach campaigns to increase participation in the business assistance program and to promote recycling opportunities and sustainable business practices.*

Regional outreach campaigns are one of the most effective methods for increasing business participation in waste reduction programs and sustainable practices. Outreach campaigns are critical to the success of the business assistance program because they generate individual business interest and broadly promote a waste reduction activity to a large portion of the business sector.

- 4.0 *Implement waste reduction and sustainable practices at government facilities.*

Government facilities make up a large portion of the business waste stream in the region. Focusing on government facilities shows a commitment to serve as a model for the business community.

- 5.0 *Identify opportunities for increasing recovery including service provision options and incentives for recycling.*

Incentives in the form of monetary savings or convenience also encourage businesses to participate in waste reduction programs. Currently, collection rates and service standards are set by some, but not all, jurisdictions. Further research needs to be conducted on a cooperative regionwide basis to identify potential opportunities for additional incentives through commercial rate structures, service standards or other means.

- 6.0 *Periodically review end-markets to assess cost-effectiveness, material quality and capacity.*

Conducting periodic market studies and reviewing end-markets to ascertain the viability of recycling traditional and hard-to-recycle materials can help provide businesses with the most up-to-date information. Many businesses generate materials that historically have had a low opportunity for recycling. It is important to keep abreast of new markets that can make use of materials generated by businesses.

- 7.0 *Identify and evaluate recycling regulations to increase recovery in the business sector.*

Many municipalities around the country (including the City of Portland and Seattle) have passed laws that either require items to be recycled or that ban them from landfill disposal. This approach should be examined to determine implementation feasibility and impact on waste reduction.

Implementation

Implementation of these objectives will be coordinated by Metro through the intergovernmental Business Recovery Work Group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually. The plans will detail annual programs, costs, and roles and responsibilities. Local governments and Metro will be jointly responsible for the implementation of these plans.

Construction and Demolition

Programs targeting the construction industry are coordinated through the Construction and Demolition Waste Reduction Initiative. Regional efforts follow a three-pronged approach to managing construction and demolition debris. The first prong emphasizes waste prevention, salvage and reuse. Practices and programs focusing on prevention and reuse are among the most important because they are typically the lowest cost and

most effective methods of managing construction and demolition debris. Salvage and deconstruction practices are one of the few tools available to effectively reduce construction and demolition debris. The second prong focuses on developing effective construction and demolition debris recycling and processing programs for the debris that is not a candidate for deconstruction and salvage. The third prong emphasizes the need to maintain and support viable and diverse markets for used building materials and the recyclable materials found in C&D debris. Based on prior research, the primary targets for increased recovery of construction and demolition debris include:

- New commercial under \$3 million
- Commercial remodel/tenant improvement
- Complete and selective building demolition
- Residential remodeling (performed by licensed contractors)

The following objectives are designed to provide an integrated framework that supports the construction industry in their efforts to develop sustainable practices promoting environmental protection and resource conservation. The following objectives will also assist the region in meeting the 2009 recovery goal:

1.0 *Develop a regionwide system to ensure that recoverable construction and demolition debris is salvaged for reuse or recycled.*

The region's construction industry currently enjoys a full range of waste reduction options and choices including salvage and reuse, source separated recycling, post-collection recovery, and disposal. It is unlikely that waste reduction goals will be achieved for the construction and demolition sector, however, because low-cost disposal is still available at two landfills. The region will address this problem by working with stakeholders to develop a program to ensure that recoverable construction and demolition debris is either recycled on-site or put through a post-collection recovery program before disposal.

2.0 *Provide the construction industry with annual outreach, education and technical assistance programs that demonstrate the benefits of green building including building material reuse and recycling.*

The construction industry is generally supportive of reuse and recycling, but often lacks information and assistance on reuse and recycling opportunities.

Maintaining an ongoing outreach, education and technical assistance program helps builders make more informed decisions about managing their waste. Green building is a growing enterprise and it is important to work cooperatively with local green building programs to promote reuse and recycling.

3.0 *Support the development of and access to viable end-product markets for construction and demolition materials.*

Conduct periodic market studies to assess the viability and diversity of local salvage markets or markets for materials typically found in construction and demolition waste. If markets appear weakened, then technical, monetary or research assistance may be provided to strengthen, maintain and diversify markets for construction and demolition materials.

4.0 *Include sustainable practices and products in the development, construction, renovation and operation of government buildings, facilities and lands.*

Construction, renovation and maintenance of government buildings and facilities represents a large portion of the construction activity in the region. These projects result in significant quantities of construction and demolition debris and present an opportunity to serve as models for businesses in the region by maximizing the reuse and recycling of construction and demolition debris.

Implementation

Implementation of these objectives will be coordinated through the Construction and Demolition Waste Reduction Initiative and intergovernmental work group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually. The plans will detail annual programs, costs, and roles and responsibilities. Local governments and Metro will be jointly responsible for the implementation of these plans.

Commercial Organics

Regional efforts to recover commercially-generated food waste are coordinated through the Organics Waste Reduction Initiative. The region follows a two-track approach to organic waste management. The first track emphasizes waste prevention, donation to food banks and diversion to uses such as animal feed when appropriate. This is considered to be a least-cost

approach as these are the highest and best uses for food and remove the need to manage it as a waste product. The second track focuses on implementation of a collection and processing system to recover organic waste that cannot be diverted to higher-end uses. Regional efforts target large organics-rich businesses and industries including:

- Large retail grocery stores
- Large restaurants
- Hotels
- Institutional cafeterias
- Produce wholesale warehouses
- Food processors

The following objectives are designed to provide an integrated framework that supports the development of sustainable practices promoting environmental protection and resource conservation in businesses generating organic wastes:

- 1.0 *Provide focused outreach and education programs for targeted businesses to support and increase organic waste prevention, donation and diversion practices.*
Donation is the highest end-use for surplus food, and an established system to collect and redistribute donated food exists in the region. Emphasizing food donation also helps to address the problems of hunger in the region and the state. Oregon ranks among the highest in the nation for the incidence of hunger and food insecurity.
- 2.0 *Enhance access to organics recovery services throughout the region.*
Organic waste that cannot be diverted to higher-end uses may be collected for composting. The region will focus on increasing composting opportunities available to businesses and every effort will be made to utilize existing infrastructure and tailor generator and collection programs to fit within existing operations and regulatory systems.
- 3.0 *Periodically review the viability of end-product markets and assist with market development efforts.*
Conducting periodic market studies to assess the viability of local compost markets is an important activity. If market trends indicate a weakening in demand, Metro and others can assist regional compost facilities with market

development as needed to strengthen and maintain the marketability of compost and solid amendment products made from organic materials diverted from the landfill.

- 4.0 *Work to ensure that compost products are specified for use in government projects.*
Metro and local governments will coordinate with other government agencies to incorporate the standard use of compost products for landscaping, soil conditioning and erosion control on publicly-funded projects.
- 5.0 *Implement organic waste recovery programs at government facilities where feasible.*
Metro and local government facilities that generate significant quantities of organic waste will serve as models for businesses in the region by adopting organics recovery programs.

Implementation

Implementation of these objectives will be coordinated through the Organics Recovery Initiative and intergovernmental work group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually. The plans will detail annual programs, costs, and roles and responsibilities. Local governments and Metro will be jointly responsible for the implementation of these plans.

Education Services

Achieving the region's vision of a sustainable community requires strong public support. Regional education and outreach efforts help build this support by supplying the information that residents and businesses need to make environmentally responsible choices in their daily lives. Education and outreach efforts also build and reinforce the resource conservation and environmental protection ethics that are essential to creating a sustainable community.

Thus, the goal of education services, within the context of this Plan, is:

Education Services Goal

Increase the adoption of sustainable behaviors by households and businesses through increased knowledge, motivation and commitment.

Information Services

Within our region, there are a large number of providers of disposal, recycling and other waste reduction services. A variety of different types of organizations - local governments, private businesses and non-profit agencies - provide these services. Providing residents and businesses with easily accessible and accurate referral to these services is critical to reaching regional waste reduction goals. Objectives for information services include:

- 1.0 *Provide a regional information clearinghouse and referral service.*
Maintaining communication with residents and businesses about waste reduction programs and services offered within the region is essential to help them make environmentally responsible choices.
- 2.0 *Develop and provide information services for residents and businesses that are targeted to specific waste streams, materials or generators.*
Information services are more effective when they address specific needs and use methods that match how generators receive information and respond to waste reduction initiatives.

Implementation

Metro and local governments will work cooperatively to develop and distribute education materials for households and businesses. Metro will research and provide technical assistance on the most effective methods to educate households and businesses on waste reduction options. Local governments, haulers, and Metro will coordinate the implementation of these education programs. Implementation of these objectives will be coordinated through the intergovernmental work groups that develop implementation plans for residents and businesses.

School Education

Life-long learning about the value of resource conservation and the importance of protecting the environment can begin with children in elementary and secondary schools. The guiding approach is to develop curriculums and programs that are appropriate for each age group and cumulatively help build an environmental stewardship ethic. Specific objectives to bring about this result are described below:

- 1.0 *Develop and provide education programs that help teachers incorporate resource conservation concepts, including waste prevention, into their*

teaching

Today's teachers have a multitude of demands on their time and resources. Providing teachers with assistance on curriculums and programs helps teachers meet their needs while simultaneously assisting the region in meeting its waste reduction goals.

- 2.0 *Work with schools and teachers to increase support for regional solid waste programs and create opportunities for partnerships.*
Schools are vital institutions within our community. Working and partnering with schools provides an opportunity to educate the next generation about resource conservation programs. Schools are also large resource users and waste generators in themselves and need to be active participants in waste reduction programs.
- 3.0 *Develop and provide programs at the elementary level that establish fundamental concepts of resource conservation and environmental awareness through an active learning experience.*
Elementary aged students are often eager to learn about ways they can help make the world a better place. Providing age-appropriate information and concepts about resource conservation that encourage awareness and participation will build a strong foundation for life-long sustainable behaviors.
- 4.0 *Develop and provide programs at the secondary level (middle schools and high schools) that will extend concepts established at the elementary level and prepare students for making responsible environmental choices in everyday adult life.*
By middle and high school, students can begin to make connections between their daily choices and behaviors and how they impact the environment. By providing opportunities to learn that encourage their critical thinking skills, students can gain an appreciation for and a sense of stewardship for the environment that will hopefully carry over into adulthood.

Implementation

Metro and local governments will continue to provide school waste reduction education programs. Metro and local governments will provide technical assistance with school recycling programs and will coordinate the development and distribution of education materials to meet local needs. Implementation of these objectives

will be coordinated with waste reduction workgroups and the Regional Solid Waste Advisory Committee.

Toxicity Reduction

Homeowners use a variety of products in their daily life, some of which pose risks to human health and the environment during use, storage and disposal. Examples of these risks include: fires or child poisonings resulting from improper storage; injuries to disposal system workers (haulers, transfer station or landfill workers); contamination of streams and fish from runoff of lawn and garden care products; and pollution of streams or groundwater from improper disposal of auto products such as used oil or antifreeze. To help prevent these types of occurrences, the goal of toxicity reduction is to:

Toxicity Reduction Goal

Reduce the use and improper disposal of products generating hazardous waste in order to protect the environment and human health.

Historically, the region's approach to dealing with the problem has been to provide alternative disposal options for the public through collection facilities and events. Collection programs are costly to operate, however, and waste volumes continue to increase while only a portion of the total waste generated each year comes into the collection program. Hence, in recent years there has been increasing emphasis on preventing the generation of household hazardous waste.

Reducing hazardous waste generation may be addressed through educating the public or through a product stewardship approach. Product stewardship looks to manufacturers to make, retailers to sell, and consumers to buy products that generate less hazardous waste. A fuller explanation of the product stewardship approach is found in the Product Stewardship section later in this chapter.

Hazardous Waste Reduction

Changing the way people use products in their home is a very challenging undertaking. The large number of households in the region, wide array of products, and competing messages from manufacturers and retailers

all pose barriers to encouraging residents to change their behavior.

Traditional education techniques such as informational brochures can be ineffective in getting people to change long-standing behavior. Because of this, regional education and outreach efforts have looked at new methods to get to residents to engage in more environmentally sustainable behavior. The objectives for achieving hazardous waste reduction are as follows:

- 1.0 *Provide hazardous waste education programs that are geared toward behavior change.*
A growing body of research suggests that there are ways to tailor education messages to more effectively bring about changes in behavior that can benefit public health and the environment. Applying techniques such as Community-Based Social Marketing will help ensure effective education programs. Programs should include learning about and targeting specific audiences that use hazardous products, identifying what barriers there may be to changing these behaviors, and overcoming these barriers. Education on hazardous products in the home should also be a part of Metro's school age education program.
- 2.0 *Provide hazardous waste reduction messages and information to all customers bringing waste to household hazardous waste collection sites.*
A large number of the region's residents are already taking one step by bringing their leftover hazardous products to the collection sites. This audience is likely to be receptive to information about the hazards of those products and less toxic alternatives.
- 3.0 *Coordinate hazardous waste education efforts with related efforts conducted by government agencies and community groups in the region and in other areas.*
Along with the hazardous waste reduction efforts conducted by Metro, a number of other organizations in the region are involved in similar efforts, such as water and air quality agencies, and stream habitat and water quality programs. Coordination eliminates duplication of efforts and can help solve problems that are too complex for any one group to address. Coordinating with hazardous waste education efforts in other areas helps keep regional

education providers informed of the latest research and the successes of approaches that others have tried.

- 4.0 *Provide programs that focus on those products whose toxic and hazardous characteristics pose the greatest risks to human health and the environment, or which are very costly to properly dispose or recycle.*

With limited resources available for hazardous waste reduction efforts, it is important to focus on types of waste that have the greatest health, environmental, and financial impacts. A continued focus on pesticides is consistent with these priorities, for instance. As more understanding is gained on the health and environmental impacts of other waste types, waste reduction messages should focus on those that are found to be the most problematic.

- 5.0 *Research and develop measurement tools for generation, impacts and reduction of hazardous waste when this can be accomplished at a reasonable cost.*

In order to meet the goal of reducing the environmental and health impacts of leftover hazardous products, it is important to fully characterize these impacts. However, there is limited information available on many important aspects of household hazardous waste use and disposal. When it can be done at a reasonable cost, the region should acquire quantitative information on factors such as: purchasing, generation, and disposal practices; repeat users; specific environmental and health impacts; consumer attitudes and behaviors; and effectiveness of behavior change programs.

Hazardous Waste Collection

Even with substantial effort invested in preventing the generation of hazardous products, there will still be a need to manage and properly dispose of substantial volumes of waste products. The region aims to provide convenient, safe, efficient environmentally sound collection and disposal services for hazardous waste that cannot be reduced through prevention and education. Hazardous waste collection objectives include:

- 1.0 *Maximize the efficiency of public collection operations and continually search for the most cost-effective methods.*

In order to maximize the amount of waste properly managed with limited financial resources, collection programs must operate in an efficient manner. Program operators should continually be identifying ways to reduce expenditures for materials, labor and disposal contractors, while maintaining high standards for environmental protection, worker health and safety, and customer service.

- 2.0 *Manage collected waste in accordance with the hazardous waste hierarchy: reduce, reuse, recycle, energy recovery, treatment, incineration, and landfill.*

The hazardous waste hierarchy differs from the solid waste hierarchy, because composting is not an option for hazardous waste. In addition, the options of treatment and incineration (without energy recovery) are available for hazardous waste, and for certain types of waste these are the most environmentally sound option. This hierarchy should be used when procuring contractors to provide ultimate disposal of household hazardous wastes collected, in order to maximize the environmental soundness of the disposal methods selected.

- 3.0 *Operate collection services with a high priority placed on worker health and safety.*

Wastes brought in to household hazardous waste collection centers can pose a wide variety of risks to the workers handling them. It is important to have a comprehensive health and safety program in place in order to properly protect these workers.

- 4.0 *Coordinate collection programs with waste reduction and product stewardship efforts.*

When waste reduction efforts target particular wastes due to toxicity or cost concerns, collection programs should be available for disposal of the targeted waste. In some cases Metro should not undertake collection, however, but should pursue product stewardship solutions. In other cases the convenience of Metro's collection efforts may need to be increased, when this is consistent with waste reduction goals and can be done in a cost-effective manner.

5.0 *Utilize solid waste facilities efficiently and effectively for the delivery of collection services.* Existing solid waste facilities that serve the public should be utilized as collection points for household hazardous waste, as many household hazardous waste customers will know their location and may want to take advantage of a single facility where they can bring household hazardous waste, trash and recyclables. In some cases, these facilities may serve as the site of permanent collection depots, in others they may serve only as occasional sites as a part of a schedule of temporary events.

6.0 *Offer a Conditionally Exempt Generator (CEG) program to manage waste from small businesses.*

While Federal and state laws allow small businesses that are classified as Conditionally Exempt Generators (CEGs) to dispose of their hazardous waste in the trash, Metro discourages this practice. As part of the effort to keep this waste from the solid waste system, Metro operates a disposal program that provides a convenient, economical way for these generators to properly dispose of their wastes.

7.0 *Conduct waste screening programs at solid waste facilities to minimize the amount of hazardous waste disposed of with solid waste.* In spite of the availability of household and CEG collection programs, some hazardous waste is still put into the trash. Effective screening programs will be used at solid waste facilities to keep this hazardous waste from the landfill.

8.0 *Implement bans on disposal of specific hazardous products as needed to address public health and environmental concerns.* Some localities around the country have passed laws to ban the disposal of select or all hazardous products. When disposal of specific products poses a known risk to public health or the environment in the region, disposal bans should be implemented.

Product Stewardship

Over the past decade, local governments and the state have been faced with rising waste quantities, strong

competition for limited fiscal resources, and a growing amount of expensive and difficult-to-recycle products. These problems resist traditional solid waste management methods focused primarily on improving end-of-life management through better recycling and disposal programs. Product stewardship has emerged as a way to help deal with these problems:

Product Stewardship means that whoever designs, produces, sells or uses a product shares the responsibility for minimizing the product's environmental impact throughout all stages of the product's life cycle. The greatest responsibility lies with whoever has the most ability to affect the overall environmental impacts of the product.

The concept behind product stewardship is to look across the entire life cycle of a product and have the party that can do the most to reduce a product's environmental impacts take on that responsibility. "Products" in this sense are defined to include durable goods, nondurable goods and packaging. The idea focuses on changing the system of product responsibility from resting primarily on governments to having others – consumers, retailers and manufacturers – share in reducing the product's life cycle impacts. The goal of regional product stewardship activities is to:

Product Stewardship Goal

Shift the responsibility to manufacturers, distributors and retailers for ensuring that products are designed to be nontoxic and recyclable, and incorporate the cost of managing their end-of-life in the product's price.

The burden on government will be eased when manufacturers design, businesses distribute and sell, and consumers purchase, products that have fewer toxics and are more durable, reusable and recyclable. Product stewardship shifts responsibilities "upstream" from government to product retailers, distributors and manufacturers. These parties also take greater responsibility for ensuring products are collected, recycled and that markets exist for the recovered materials. If there are costs to recycle or dispose of a product, consumers should pay them in the product's original price. This could be achieved by methods including a visible fee (e.g., an advance recycling fee) or

by the manufacturer internalizing such costs (e.g., automobile pollution and safety requirements). Objectives to achieve product stewardship are detailed below:

- 1.0 *Identify priorities for product stewardship activities by evaluating products based on the significance of environmental impact (e.g., resource value, toxicity), current barriers to recycling, and current financial burdens on Metro and local governments for existing recovery programs.*
The region will target their resources on product stewardship activities that will have the greatest impact on decreasing the local burden. For example, hazardous household products that require the region to have a special and costly collection program are likely candidates. The region will coordinate with others at state, regional and national levels also seeking to set product priorities.
- 2.0 *Implement, within the region, industry-wide product stewardship agreements or individual company stewardship programs.*
Product stewardship agreements require the support of local and state governments to ensure the programs are effectively implemented. A number of national industry stewardship programs are currently in place and progress is being made in others. Local efforts can assist these programs by promoting product take-back opportunities and other activities. Local support for these programs will encourage other product manufacturers and retailers to consider the product stewardship approach.
- 3.0 *Provide education to public and private sector consumers about product stewardship and, in particular, their role in purchasing environmentally preferable products (EPP).*
Product stewardship encourages changes in thinking and behavior from a consumption and use perspective toward waste minimization and sustainable production. Educating public and private consumers about the environmental impacts of their purchases and encouraging them to consider these impacts when making purchasing and disposal decisions promotes such change. Businesses, institutions and governments provide direct support to

stewardship programs when they purchase products that are part of such programs. Governments have a special opportunity to show leadership by adopting policies that support EPP.

- 4.0 *Work at the local, regional, state or national level to develop and implement policies, such as recycled-content requirements, deposits, disposal bans and advance recycling fees, that encourage product stewardship programs.*
Local, regional, state and national policies can provide the necessary incentives or legislative foundation required to make product stewardship programs efficient, effective and sustainable. For example, establishing clear regulations and ensuring a level playing field between and among businesses are important to the success of product stewardship programs.

Plan Implementation

Introduction

This chapter of the Plan describes the process for implementation and revisions. The emphasis is on regional cooperation and consensus-building among cities, counties, Metro, DEQ, the solid waste industry and citizens.

This Plan describes waste reduction practices that will enable the region to meet its goals and objectives. Key factors guiding implementation and performance include:

- Ensuring coordination and cooperation among governments and the private sector;
- Allowing flexibility in developing solutions;
- Monitoring and evaluating the implementation of strategies and programs;
- Measuring performance with a system of benchmarks and targets; and
- Implementing a process for corrective action and plan revision.

Plan Implementation

The purpose of the implementation program is to ensure that the objectives are achieved. Implementation will require the following types of coordination efforts:

Metro/Local Government Annual Work Plans

Annual work plans are the primary means by which Metro and local governments plan for the programs, projects and activities that implement the goals and objectives in this Plan. These work plans will be developed on annual basis by the regional work groups described below.

Regional Work Groups

Work groups involving Metro, local governments, DEQ and the private sector will continue to study regional problems and recommend program implementation techniques. These work groups play an important role

in ensuring implementation of the Plan. They may also assist in evaluating programs and recommending revisions to the Plan.

Local Government Implementation Efforts

Once annual work plans are developed, local government staff will work with elected officials, citizen advisory groups and waste haulers to manage collection franchises and set service rates to achieve annual work plan goals and objectives.

Private Sector Effort

The private sector will continue to develop and expand recycling and recovery services including drop-off centers, material recovery facilities and collection services.

Metro Implementation Efforts

Metro will conduct demonstration projects, special studies, and other research designed to remove barriers to implementing specific recommended or alternative strategies and programs.

Metro is responsible for coordinating implementation efforts and ensuring that all such efforts:

- Maintain consistency with the Plan's vision, direction and objectives as well as with the State of Oregon's Integrated Resource and Solid Waste Management Plan;
- Demonstrate how Metro, local governments and the private sector will each contribute to achieving the Plan's waste reduction efforts;
- Implement effective programs adapted to local conditions;
- Remove barriers to recommended practices or develop effective alternatives; and
- Agree on the implementation schedule for objectives

Future Plan Revisions

This Interim Waste Reduction Plan is not intended to continue as an independent document, but will be integrated into the RSWMP in 2006. As part of the RSWMP, the waste reduction plans will undergo periodic review and amendment as needed, with major updates expected every ten years.

Table 1. Goals and Objectives for the Interim Waste Reduction Plan

Waste Reduction. *Goal: Increase the sustainable use of natural resources by achieving the recovery rate of 64 percent by 2009 as defined by state statute.*

Residential

- 1.0 Conduct annual outreach campaigns that focus on waste prevention, toxics reduction and/or increasing the quantity and quality of recycling setouts.
- 2.0 Identify and implement service provision changes and incentives to increase recycling.
- 3.0 Expand curbside service by adding new materials as markets and systems allow.
- 4.0 Increase efforts to improve the quantity and quality of residential curbside recycling setouts.
- 5.0 Identify and evaluate new collection technologies on a cooperative regionwide basis for implementation.
- 6.0 Promote and educate residents about home composting and appropriate on-site management of yard debris and food waste.
- 7.0 Develop residential organics collection programs once stable regional processing capacity is in place and if financially feasible.

Multi-Family

- 1.0 Implement a consistent program suited to the needs of multi-family housing.
- 2.0 Provide regional education and outreach targeting multi-family housing.
- 3.0 Identify and evaluate new collection technologies for implementation on a cooperative regionwide basis.

Business

- 1.0 Provide businesses with annual outreach, education and technical assistance programs focused on waste reduction and sustainable practices.
- 2.0 Develop information and resource materials that demonstrate the benefits of waste reduction and sustainable practices to support the assistance program.
- 3.0 Conduct annual regional outreach campaigns to increase participation in the business assistance program and to promote recycling opportunities and sustainable business practices.
- 4.0 Implement waste reduction and sustainable practices at government facilities.
- 5.0 Identify opportunities for increasing recovery including service provision options and incentives for recycling.
- 6.0 Periodically review end-markets to assess cost-effectiveness, material quality and capacity.
- 7.0 Identify and evaluate recycling regulations to increase recovery in the business sector.

Construction and Demolition

- 1.0 Develop a regionwide system to ensure that recoverable construction and demolition debris is salvaged for reuse or recycled.
- 2.0 Provide the construction industry with annual outreach, education and technical assistance programs that demonstrate the benefits of green building including building material reuse and recycling.
- 3.0 Support the development of and access to viable end-product markets for construction and demolition materials.
- 4.0 Include sustainable practices and products in the development, construction, renovation and operation of government buildings, facilities and lands.

Commercial Organics

- 1.0 Provide focused outreach and education programs for targeted businesses to support and increase organic waste prevention, donation and diversion practices.
- 2.0 Enhance access to organics recovery services throughout the region.
- 3.0 Periodically review the viability of end-product markets and assist with market development efforts.
- 4.0 Work to ensure that compost products are specified for use in government projects.
- 5.0 Implement organic waste recovery programs at government facilities where feasible.

Education Services. *Goal: Increase the adoption of sustainable behaviors by households and businesses through increased knowledge, motivation and commitment.*

Information Services

- 1.0 Provide a regional information clearinghouse and referral service.
- 2.0 Develop and provide information services for residents and businesses that are targeted to specific waste streams, materials or generators.

School Education

- 1.0 Develop and provide education programs that help teachers incorporate resource conservation concepts, including waste prevention, into their teaching.
- 2.0 Work with schools and teachers to increase support for regional solid waste programs and create opportunities for partnerships.
- 3.0 Develop and provide programs at the elementary level that establish fundamental concepts of resource conservation and environmental awareness through an active learning experience.
- 4.0 Develop and provide programs at the secondary level (middle schools and high schools) that will extend concepts established at the elementary level and prepare students for making responsible environmental choices in everyday adult life.

Toxicity Reduction. *Goal: Reduce the use and improper disposal of products generating hazardous waste in order to protect the environment and human health.*

Hazardous Waste Reduction

- 1.0 Provide hazardous waste education programs that are geared toward behavior change.
- 2.0 Provide hazardous waste reduction messages and information to all customers bringing waste into household hazardous waste collection sites.
- 3.0 Coordinate hazardous waste education efforts with related efforts conducted by government agencies and community groups in the region and other areas.
- 4.0 Provide programs that focus on those products whose toxic and hazardous characteristics pose the greatest risks to human health and the environment, or which are very costly to properly dispose or recycle.
- 5.0 Research and develop measurement tools for generation, impacts and reduction of hazardous waste when this can be accomplished at a reasonable cost.

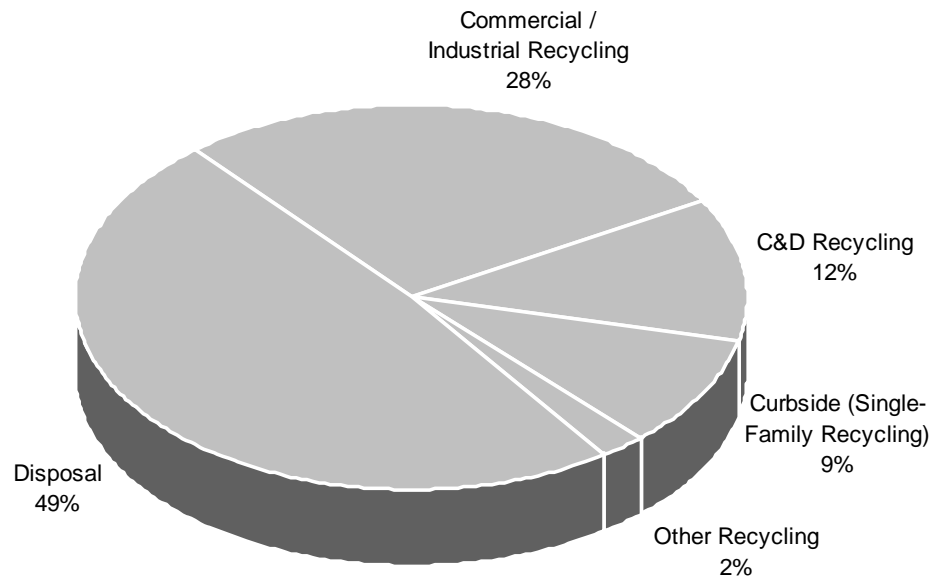
Hazardous Waste Collection

- 1.0 Maximize the efficiency of public collection operations and continually search for the most cost-effective methods.
- 2.0 Manage collected waste in accordance with the hazardous waste hierarchy: reduce, reuse, recycle, energy recovery, treatment, incineration, landfill.
- 3.0 Operate collection services with a high priority placed on worker health and safety.
- 4.0 Coordinate collection programs with waste reduction and product stewardship efforts.
- 5.0 Utilize solid waste facilities efficiently and effectively for the delivery of collection services.
- 6.0 Offer a Conditionally Exempt Generator (CEG) program to manage waste from small businesses.
- 7.0 Conduct waste screening programs at solid waste facilities to minimize the amount of hazardous waste disposed with solid waste.
- 8.0 Implement bans on disposal of specific hazardous products as needed to address public health and environmental concerns.

Product Stewardship. *Goal: Shift the responsibility to manufacturers, distributors and retailers for ensuring products are designed to be nontoxic and recyclable, and incorporate the cost of managing their end-of-life in the product's price.*

- 1.0 Identify priorities for product stewardship activities by evaluating products based on the significance of environmental impact (i.e. resource value, toxicity), current barriers to recycling and current financial burden on Metro and local governments to recover.
- 2.0 Implement, within the region, industry-wide product stewardship agreements or individual company stewardship programs.
- 3.0 Provide education to public and private sector consumers about product stewardship and their role in purchasing environmentally preferable products.
- 4.0 Work at the local, regional, state or national level to develop and implement policies, such as recycled-content requirements, deposits, disposal bans and advance recycling fees that encourage product stewardship programs.

Figure 1. Waste Reduction and Disposal Quantities



*6% Waste prevention credits not included.

Table 2: Top Five Haulers Serving Metro Region		
<u>Calendar Year 1995</u>		
	<u>Tons</u>	<u>Share</u>
MDC	137,239	15.60%
Waste Management	62,082	7.00%
Keller Drop Box Inc	36,298	4.10%
Oregon City Garbage Co	33,050	3.70%
Hillsboro Garbage Co	<u>30,261</u>	<u>3.40%</u>
Total	298,930	33.90%
All Others	583,144	66.10%
Grand Total	882,074	100.00%
<u>FY 2003-04</u>		
	<u>Tons</u>	<u>Share</u>
Waste Management	319,800	24%
Allied	142,300	11%
Self Haul	306,500	23%
Waste Connections	45,500	3%
All Others	454,200	35%
Pride	<u>46,300</u>	<u>4%</u>
Total	1,314,600	100%

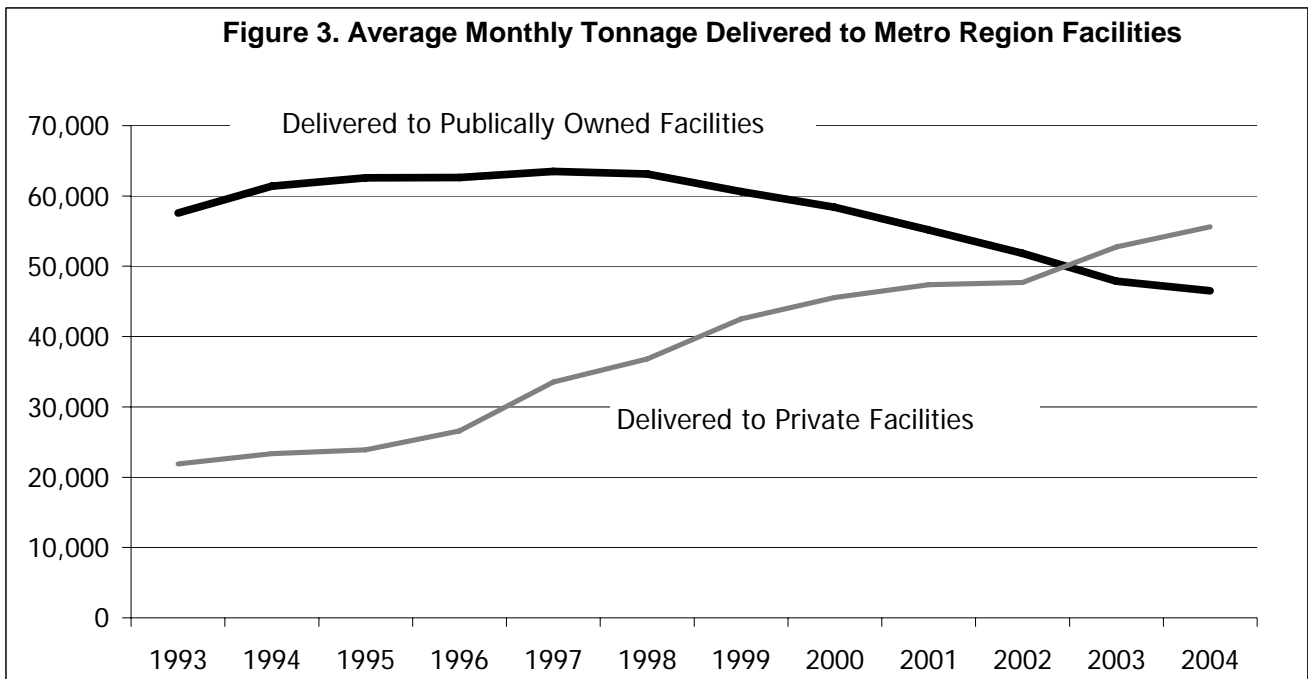
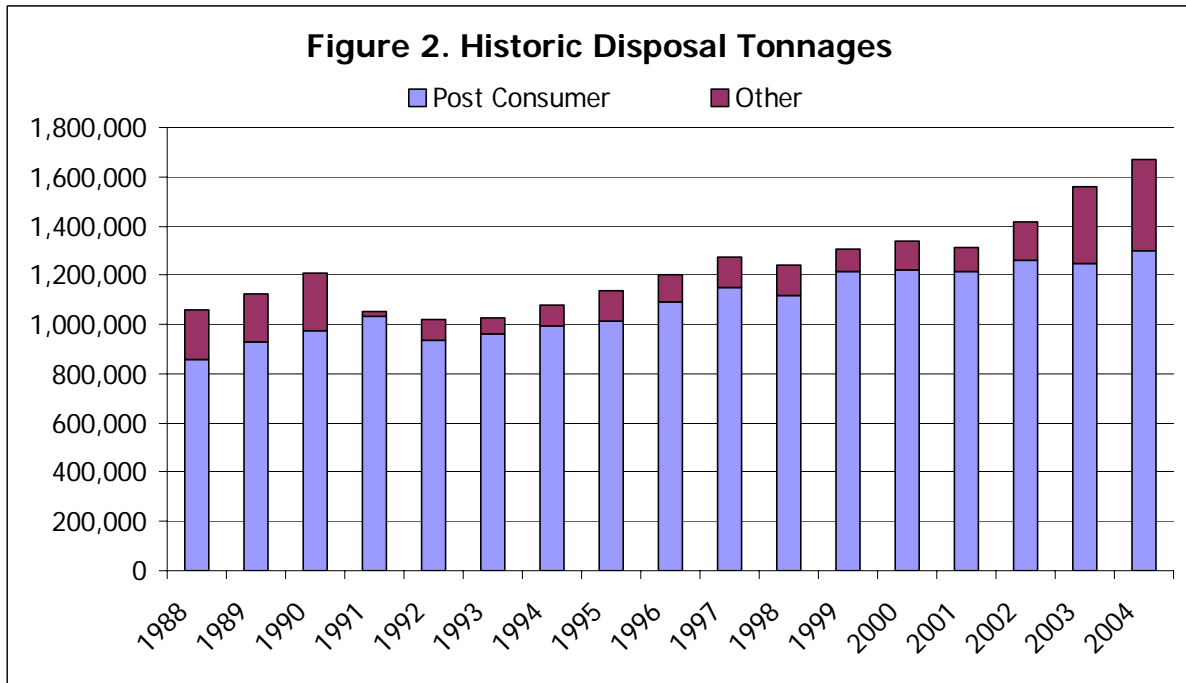


Table 3: Landfills Serving the Metro Region

<u>Landfill*</u>	<u>Remaining Capacity</u>	<u>Annual Tonnage**</u>	<u>Estimated Remaining Life at Current Disposal Rate</u>
Coffin Butte	20,000,000	425,717	47
Columbia Ridge	263,000,000	1,904,820	138
Finley Butte	120,000,000	348,251	345
Hillsboro	6,500,000	174,657	37
Lakeside	1,000,000	64,700	15
Riverbend	6,000,000	434,991	14
Wasco	15,000,000	137,674	109
Roosevelt	135,000,000	1,836,114	74
Totals	566,500,000	5,326,924	106

* Based on data reported to DEQ, January 2000, adjusted to current date.

** Tonnage from DEQ or Washington Department of Ecology for 2000, except Lakeside, which is 2001 data from Metro.

Table 4: Transfer Stations serving the Metro Region

<u>Transfer Station</u>	<u>Capacity (Tons/Year)</u>	<u>Delivery Tonnage (2003)</u>
Metro Central	624,000	300,867
Metro South	560,000	262,629
Forest Grove	135,000	138,347
Pride Disposal	234,000	66,942
Recycle America	312,000	84,093
Willamette Resources	196,000	110,376
Total	2,061,000	963,254

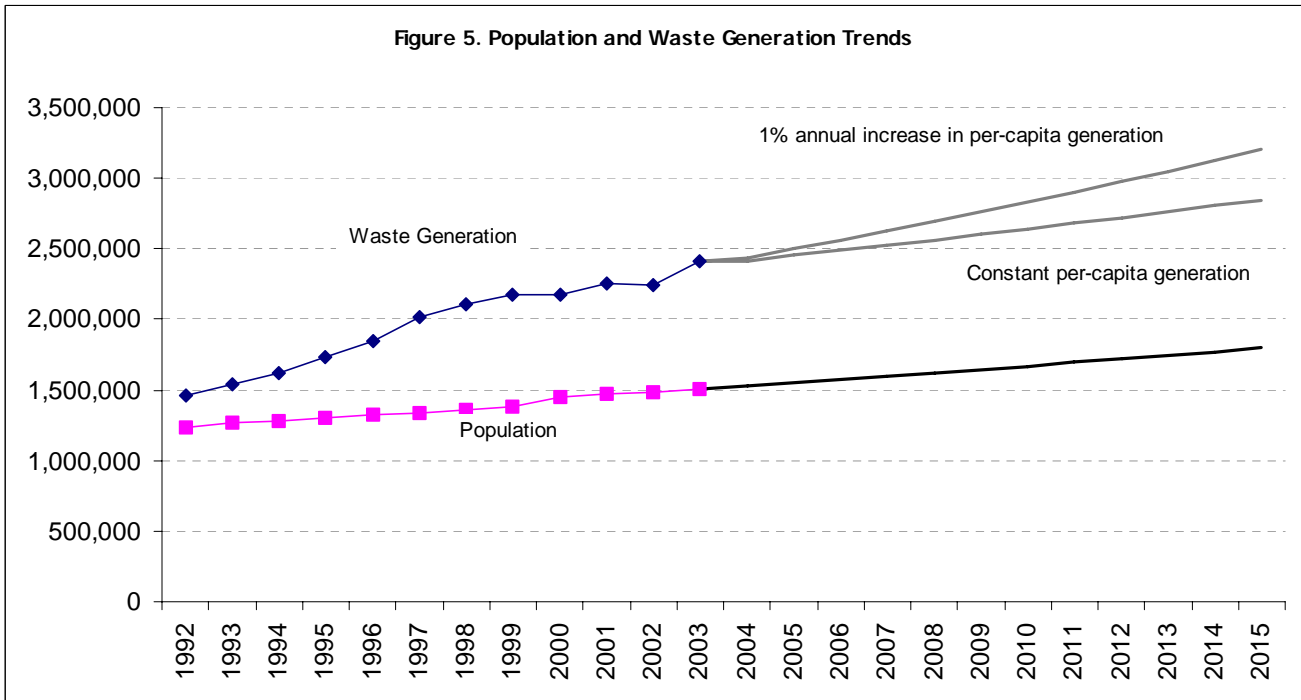
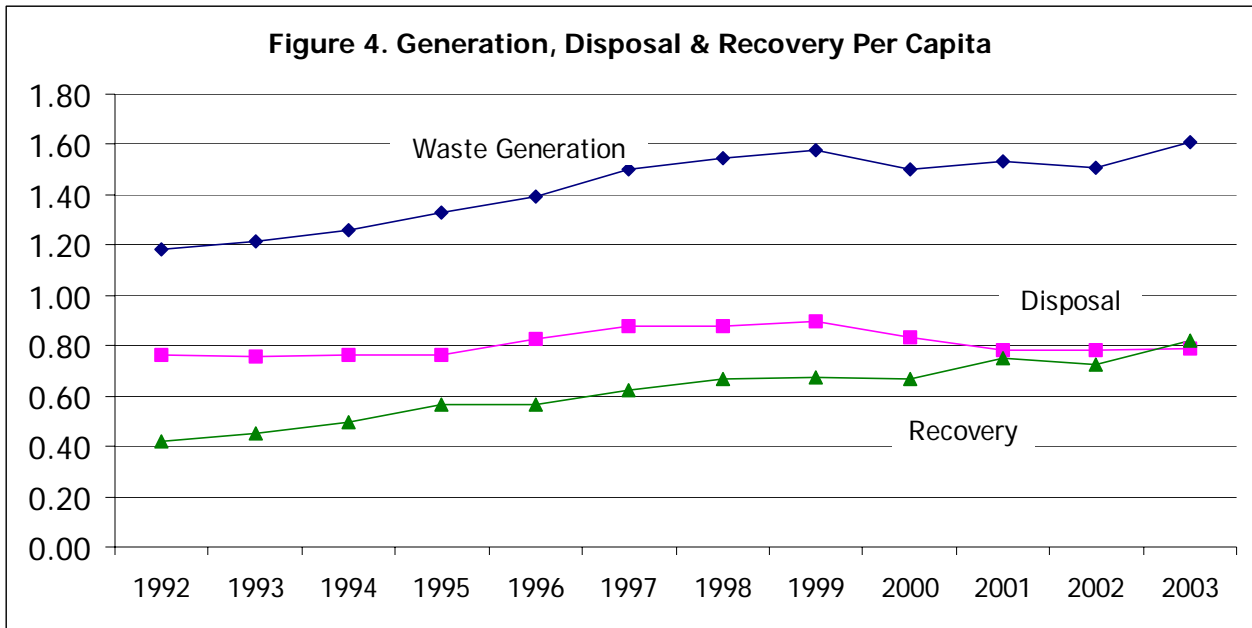
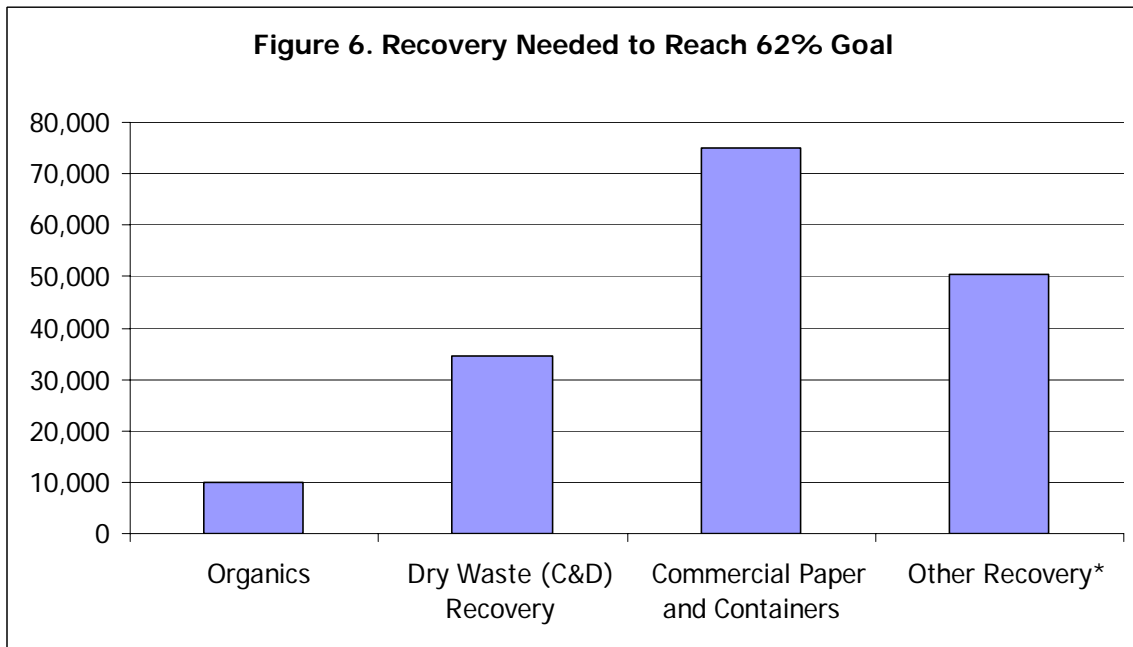


Table 5. Recovery Needed to Reach 62% Goal

	Actual 2003	Tons to Goal	Target to 62% 2005
Organics	12,074	9,926	22,000
Dry Waste (C&D) Recovery	287,461	34,539	322,000
Commercial Paper and Containers	325,442	75,058	400,500
Other Recovery*	<u>606,292</u>	<u>50,466</u>	<u>656,758</u>
Recovery Subtotal	1,231,269	169,989	1,401,258
Disposal	1,185,743		1,100,988
Generation	2,417,012		2,502,246
Calculated Recovery Rate	51%		56%
Waste Prevention Credits	6%		6%
Total Metro Wasteshed Recovery Rate	57%		62%

Figure 6. Recovery Needed to Reach 62% Goal



*Other recovery includes single-family curbside and additional commercial.

SWAC Subcommittee - Sustainability Goals
Report to SWAC
July 28, 2005

Sustainability Definition

The group adopted the State of Oregon definition: "*Sustainability*" means using, developing and protecting resources in a manner that enables people to meet current needs and provides that future generations can also meet future needs, from the joint perspective of environmental, economic and community objectives. [ORS 184.421 (4)]

Sustainability Framework

The decision-making framework for implementing sustainable practices was defined as follows: "The sustainable operation of the solid waste system considers economic, environmental and societal resources and is consistent with the Natural Step system conditions so that nature is not subject to systematically increasing:

1. Concentrations of substances from the Earth's crust,
2. Concentrations of substances produced by society, or
3. Degradation by physical means;
and in that system
4. Human needs are met worldwide."

Potential Goals and Objectives for the Solid Waste System

Goal 1: Reduce greenhouse gas and diesel particulate air emissions.
Objective 1.1: Implement plans for greater energy efficiency.
Objective 1.2: Utilize renewable energy sources.
Objective 1.3: Reduce direct emissions of greenhouse gases from landfills and other facilities.
Objective 1.4: Reduce diesel particulate emissions in existing trucks, barges and rolling stock through best available control technology.
Objective 1.5: Implement long-haul transportation and collection alternatives where feasible.
Goal 2: Reduce storm water run-off.
Objective 2.1: Implement storm water run-off mitigation plans.
Goal 3: Reduce natural resource use.
Objective 3.1: Implement resource efficiency audit recommendations.
Objective 3.2: Implement sustainable purchasing policies.
Objective 3.3: Reduce disposed waste.
Goal 4: Reduce use and discharge of toxic materials.
Objective 4.1: Implement toxics reduction and management plans.
Goal 5: Implement sustainability standards for facility construction and operation.
Objective 5.1: Implement sustainability standards for site selection.
Objective 5.2: Require new construction to meet the Leadership in Energy and Environmental Design (LEED) standards of the U.S. Green Building Council.
Objective 5.3: Provide incentives for existing facilities to meet LEED standards.

Goal 6: Adopt best practices for customer and employee health and safety.

Objective 6.1: Reduce injuries by automating operations where effective.

Objective 6.2: Implement health and safety plans that meet or exceed current minimum legal standards.

Goal 7: Provide training and education on implementing sustainable practices.

Objective 7.1: Train key regional waste industry employees, government waste reduction staff and political officials in The Natural Step.

Objective 7.2: Inform suppliers, contractors and customers of solid waste operations of the adoption of sustainability goals and practices.

Goal 8: Support a Quality Work Life

Objective 8.1: Pay living wage and benefits to all workers.

Objective 8.2: Promote community service.

Objective 8.3: Strive to employ a diverse work force.

Goal 9: Employ sustainability values in seeking vendors and contractors.

Objective 9.1: Request sustainability plans from potential vendors and contractors.

Objective 9.2: Assist vendors and contractors in achieving sustainable practices.

Objective 9.3: Support local vendors when feasible.