

# A G E N D A



METRO

**MEETING: REGIONAL SOLID WASTE ADVISORY COMMITTEE**

**DATE:** Monday, February 23, 2004

**TIME:** 3:00 p.m. – 4:30 p.m.

**PLACE:** Rooms 370A & 370B, Metro Regional Center, 600 NE Grand Avenue, Portland

**5 mins. I. Call to Order and Announcements** **Susan McLain**  
*Announcements*  
*Responses to Issues from the January 26th Meeting*  
*Approval of Meeting Summary\**

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

**45 mins. III. Regional Solid Waste Management Plan Update\*** **Scott Klag**  
This agenda item continues the recap of key direction-setting portions of the current Regional Solid Waste Management Plan (RSWMP). Goals and objectives contained in Chapter 5 of the current Plan were reviewed in January. This presentation will summarize: (a) Plan recommendations or strategies contained in Chapter 7 (attached); and (b) implementation progress to date. SWAC will be asked for comments on *current Plan recommendations and performance*.

**25 mins. IV. Cost Model\*** **Tom Chaimov**  
In November, SWAC was informed about a model being developed to help the agency assess the impacts of various policy options and management choices on the cost of operating Metro's transfer stations. The model building is complete, and the input parameters and variables are currently being fine-tuned. When calibrated, the model will provide an estimate of the cost of providing services at Metro's transfer stations under various tonnage and operating scenarios. Staff will give a brief overview of the model, including sample output.

**5 mins. V. Other Business and Adjourn** **Susan McLain**

*\* Materials for these items are included with this agenda.*

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

**Chair:** Councilor Susan McLain (797-1553)  
**Staff:** Janet Matthews (797-1826)

**Alternate Chair:** Councilor Rod Park (797-1547)  
**Committee Clerk:** Michele Adams (797-1649)

**Solid Waste Advisory Committee Meeting Summary  
January 26, 2004**

**Attendees:**

Susan McLain	Mike Hoglund	Wade Lange
Terry Waddell	Vince Gilbert	John Lucini
Doug DeVries	Tom Badrick	Jeff Murray
Glenn Zimmerman	Mike Miller	Bruce Walker
Matt Korot	Sarah Jo Chaplen	Mark Altenhofen
Mike Leichner	Dave White	Cheryl Whilhelm
Lee Barrett	Barb Disser	Jan O'Dell
Karen Blauer	Matthew Cusnia	Easton Cross
Ray Phelps	Dan Schooler	Marta McGuire

**I. Call to Order and Announcements Susan McLain**

- Councilor McLain convened the meeting at 3:05 p.m. and asked if anyone had announcements. There were none.
- Approval of December 16, 2003, Meeting Summary: Ms. Sarah Jo Chaplen motioned to approve the summary; Mr. Mark Altenhofen seconded the motion; there were none opposed; the Meeting Summary passed as read.

**II. Solid Waste & Recycling Director's Update Michael Hoglund**

- Mr. Hoglund announced that Metro has accepted American Compost's \$16,000 fine settlement offer. Metro believes this is a fair amount because American Compost did not make a profit on the lentils transaction.
- The Organics Work Group has recommended granting infrastructure funding to Threemile Canyon Farms. Staff calculated a tip fee of \$41 per ton for organics at Metro's transfer facility.
- The Regional System Fee (RSF) Task Force had its final meeting. The group concluded that there should be some incentive in place for material recovery, at least in the short term. It recommends monitoring how mandatory dry waste MRFing would be implemented and how that relates to the RSF credit program and MRFs being able to recover costs. The credits should boost recovery and the program should be evaluated on that criterion. In addition, if regulatory approaches are successful, then the RSF credit program could be phased out. Council, SWAC and others will have a chance to review and comment on Task Force recommendations after the committee's report is drafted. Mr. Vince Gilbert asked if material recovery provisions in Metro's transfer stations operations request for proposals mirrors this RSF credit program in any way. Councilor McLain responded with an explanation of the material recovery credits portion of the RFP – it provides incentives to achieve a high recovery rate, and penalties if this target rate is not achieved.
- Mr. Hoglund's final announcement was that the Council directed staff to proceed with the sustainability elements of the transfer station operations contract RFP. One of the sustainability elements is the recovery goal; Metro is asking proposers to estimate the amount of recovery they think they can achieve. If the recovery goal is exceeded, there is a bonus; if it is not reached there is a penalty. The goal is to increase recovery from 16 percent by another 4 percent or 5 percent. Another sustainability measure concerns clean air. About half of emissions on the site are currently coming from the station's vehicles. Council is interested in evaluating proposals for clean air ranging in cost from \$20,000 to \$100,000. In addition, they will evaluate using up to \$15,000 per year of green tag energy. Mr. Hoglund said the resolution authorizing release of the RFP would be first read by Council the next Thursday. Draft copies

are available on the internet. In addition to the RFP, the Council will also have to consider a request by BFI to extend the current contract.

### III. Regional Solid Waste Management Plan Update

Matthews/Blauer

After a brief introduction by Chair Susan McLain, Ms. Janet Matthews began her presentation by explaining the role of the Regional Solid Waste Management Plan (RSWMP). During the RSWMP update process, SWAC will be asked to review the Plan's goals and objectives, help Metro assess the Plan's performance to date, and identify and discuss planning issues. In addition, Metro will likely convene small working groups for particular subject areas. SWAC will also be reviewing the first and final drafts.

Ms. Matthews explained that there is a core plan development group working on this project in addition to a \$70,000 budget for public involvement and technical writing consultants. The project will take eighteen months, with a first draft ready in September 2004. Council adoption is anticipated in July 2005. The Department is currently in the preliminary planning stage; a draft public involvement plan is nearly complete.

The goal is to deliver on time a reader-friendly plan that is acceptable to a broad range of internal and external stakeholders. There are five assumptions going into this RSWMP update project: this is a priority for the department; the current plan will be the starting point, from which to make updates and amendments; the feasibility of waste reduction goals will be reviewed; disposal issues will be more prominent; and, recommended practices and strategies should be feasible and enforceable.

Ms. Matthews began reviewing the current Chapter 5 of RSWMP. She noted that the expected outcome for this agenda item is simply to flag issues for future discussion. Ms. Matthews summarized the vision of the Plan, "waste is a resource, and we want to save resources." Councilor McLain emphasized that a lot of time was spent developing this vision and the goals; the update should reaffirm them.

Ms. Matthews briefly summarized the overall goal of the Plan (i.e., to achieve a solid waste system that is regionally balanced, environmentally sound, cost effective, technologically feasible and acceptable to the public.)

Ms. Matthews summarized each of the sixteen goals in Chapter 5. Goal 1 is essentially the guiding policy for solid waste management in the region and emphasizes the waste hierarchy. Goal 2, concerning education, states that residents and businesses will be informed of waste reduction opportunities and we will aim for standardization of waste reduction services in the region. Goal 3 – economics, says that system cost is going to be the principle measure of evaluating the economics of alternative waste management practices. Furthermore, Metro will support a higher system cost for waste reduction practices that are technologically and economically feasible in order to accomplish the regional recovery goal.

Ms. Sarah Jo Chaplen asked if these goals could be changed after input from stakeholders. Ms. Matthews replied, "yes."

Ms. Matthews continued with Goal 4 – adaptability, summarized as a diverse, responsive and competitive system with a mix of public and private facilities except for source separated recycling facilities which should remain privately owned. Government regulation should be at a minimum necessary to protect the environment and public interest. Chair McLain reiterated that there was a lot of time and input invested in these goals and there are many concepts embodied in that Goal.

Ms. Chaplen mentioned that she, and others around the table, were not involved in the development of the current plan. Mr. Jeff Murray added that he understands the concerns of Chair McLain because he was around for development of this Plan and he remembers the amount of time and effort that went into crafting this language.

Ms. Matthews then summarized Goal 5 – performance, as measurable benchmarks will be reviewed on an annual basis. This goal will be reviewed further when Plan performance is discussed. Goal 6 – plan consistency, was summarized as making sure RSWMP is integrated with State and local planning efforts and consistent with Metro policies and plans. Goal 7, waste reduction, includes the regional waste reduction goal of 62 percent as defined by State statute (as updated in 2003 to reflect the 6 percent waste reduction credits). This goal will be reviewed based on assumptions at the time the goal was developed, empirical evidence and feasibility during the update process. Chair McLain noted that the Council is interested in the feasibility of the 62 percent recovery goal and hopes the solid waste industry will be a cooperative partner in analyzing this issue. Mr. David White observed that the feasibility of projects often comes up, and this is usually a question of the cost to benefit analysis and factors other than financial. This larger picture needs to be considered when determining feasibility.

Ms. Matthews continued with Goal 8 – opportunity to reduce waste, stating that participation in waste prevention and recycling should be convenient for households and businesses in all portions of the region. As an aside, she added that as Metro and local governments are considering required recycling for some sectors, this goal could be impacted as a shift away from a strict opportunity model. Goal 9 – sustainability, is about making more reuse, recycling and recovery economically viable by adding externalities or indirect costs to the direct cost of goods and services and by support of market development for marginal recyclable materials and/or for reuse and recycling enterprises. Goal 10 – integration, is summarized as the preference of source separation waste reduction techniques, but adds that waste reduction systems should include other forms of recovery, including post-collection.

Mr. White, referring back to Goal 8, notes that there seems to be a movement shifting away from the opportunity model to a regulatory/mandatory model. He cited the City of Portland's mandatory commercial recycling requirement and the contingency plan options. Mr. White questions if this shift fits in Goal 7 or 11. Mr. Gilbert spoke in agreement with Mr. White, but noted that very few stakeholders support mandatory programs and that current sentiment is not for growing government. Chair McLain noted the need for further discussion. Mr. White added that this philosophical shift away from the opportunity model has been brought about by the desire to reach the 62 percent recovery goal. He believes that goals should consistent within the RSWMP.

There was discussion about the avenues and timeline for input. Ms. Matthews assured the group that it would have several more opportunities for comments, and that she will take comments throughout this discussion, as well. Mr. Murray expressed an interest in working within a focus group model, rather than individual stakeholder groups.

Ms. Matthews continued with Goal 11 – accessibility, saying that there should be reasonable access to transfer and disposal services. Goal 12, concerning recovery capacity, states that capacity should be regionally balanced, cost effective and with adequate service provided. Mr. Gilbert stated a preference for the wording to be "equal" service to all generators rather than "adequate" service to all waste generators.

Ms. Matthews summarized Goal 13 – toxics reduction, as promoting education as a means of reducing or eliminating risk to the environment, workers and other citizens from hazardous materials; as a means of getting people to use non-toxic alternatives; managing hazardous waste consistent with the solid waste hierarchy; and providing convenient and safe disposal services for hazardous waste. Goal 14 – disaster management, says that the regional system should be prepared to respond to a disaster by restoring normal collection and recycling services and

potentially disposing of enormous amounts of debris. Chair McLain recalled coordination being an important element of this goal.

Ms. Matthews continued with Goal 15 concerning facility regulation that says Metro will ensure the acceptable operation of disposal and processing facilities through franchising, contracting, owning or licensing. There is one system goal, Goal 16 – revenue equity and stability, which states that there must be adequate revenue to fund the cost of the system and help achieve the RSWMP goals.

Mr. Walker stated that the RSWMP has helped with direction in the past decade, but that it is time to review and update it. One necessary change is to add an emphasis on toxics in Goal 1. In particular, there should be language concerning electronic waste and product stewardship initiatives. Toxics are not just a hazardous waste issue, as covered by other goals.

Chair McLain stated that the Metro Council supports education that is necessary, supportive and unique, rather than redundant of other programs. In response to a question by Mr. Murray, Ms. Matthews replied that she could distribute her speaking notes but that her summaries of the goals were only intended to expedite discussion, rather than capture each of the objectives. Mr. Phelps mentioned that he has many comments, but would like to review the concepts in a more disciplined manner. Chair McLain suggested that Ms. Karen Blauer's presentation on the public involvement plan is responsive to this concern.

Ms. Blauer asked how SWAC would like to be involved in the update process. Would members prefer to be consulted as a group, or discuss issues in narrow functional groups, or both? Ms. Chaplen expressed a preference for larger groups in order to get a more balanced perspective. If narrow focus groups are used, there should be check-in points. Mr. Murray concurred that although discussions can become heated, it is important to have that interaction of the various perspectives. Mr. White remembered many meetings last time this plan was developed, and noted that it will take SWAC more than one discussion per month to get this done.

Ms. Blauer summarized that she was hearing a preference for a deliberative approach with group meetings to talk about trade-offs and figure out what works best, as opposed to having groups develop wish lists. Chair McLain urged this deliberative approach be used, as well. Mr. Tom Badrick asked if industries would still have opportunities to comment on issues of concern to them. Chair McLain clarified that the deliberative approach would allow each voice to be heard by all so that the final product doesn't come as a surprise.

Ms. Blauer noted that there was a brief outline of the draft schedule in the agenda packet. She stressed that involvement is key – there will be many opportunities for involvement throughout the process and confidentiality will be honored. Metro is committed to educating stakeholders throughout the process so that they may participate in a meaningful way and discuss trade-offs and costs. The Department is also committed to helping the Council understand stakeholder preferences, and must also respond to legal obligations for public involvement. The public involvement plan aims to elicit different perspectives. Ms. Blauer reviewed the summary of the projected schedule and tasks.

Mr. Walker asked if DEQ would be involved throughout the update process, or if it would receive the end product, which they then may or may not accept. Ms. Matthews replied that DEQ would be involved through SWAC and also as a stakeholder group.

Mr. Lucini asked if preliminary reports would be drafted after each phase and distributed on a rolling basis. Chair McLain replied that the Council would prefer to see preliminary reports after each phase. Ms. Blauer added that there might be need for additional stakeholder interviews to probe key issues. In addition, Ms. Blauer stressed the importance of having a transparent process and key to that is creating reports so stakeholders can see how their comments were interpreted. These reports will also help Metro staff to consider all stakeholders viewpoints. Ms.

Matthews clarified that the summary report at the end of phase II will summarize all stakeholder comments. This in turn will inform the draft update. There will also be a stakeholder process for reviewing the draft document, and there will be a summary report of this process. Mr. Ray Phelps stated that his preference is for the report at the end of phase II be a status report and the summary report come at the end of phase III because there will be different types of input at each phase. Mr. Lucini cautioned that whatever is in the first report should have already been *thoroughly discussed*. Chair McLain added that Metro is committed to seeking out opportunities to solicit input from end-users, including citizens.

#### **IV. Other Business and Adjourn**

**Susan McLain**

Councilor McLain reminded everyone that the third Monday next month is a holiday, thus the February SWAC meeting will be the last Monday of the month. The usual third Monday schedule will resume in March. As there was no further business, Councilor McLain thanked the group for its comments and adjourned the meeting at 4:40 p.m.

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#### **Documents to be kept with the record of the meeting (copies available upon request):**

##### Agenda Item I:

- Meeting Summary of the December 16, 2003, SWAC meeting

##### Agenda Item III:

- RSWMP Public Involvement Plan Projected Schedule and Tasks
- RSWMP Goals and Objectives (Chapter 5)

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Agenda Item III  
Solid Waste Advisory Committee  
February 23, 2004

**Regional Solid Waste Management Plan Update  
Recommendations, Strategies and Implementation**

The purpose of this presentation will be to go over the recommendations contained in the Regional Solid Waste Management Plan (RSWMP Chapter 7)<sup>1</sup>. The presentation will include:

- a) A short history of how the recommendations were developed;
- b) An overview of the contents of the recommendations; and
- c) A review of progress made in implementing the recommendations.

SWAC members will be asked to help identify the strengths and weaknesses of this chapter of the Plan and provide feedback on where the update process may wish to focus its efforts. Special attention will also be given to how the Plan balances being accountable and staying on track, while allowing flexibility in how strategies are implemented. Specific areas the presentation will cover include:

History

- What is the intent of the recommendations?
- How were they developed?
- How have they been revised over time?

Overview of the Recommendations

The Plan includes a discussion summarizing the overall direction and approach of the recommendations. It describes six basic integrated strategies underlying the Plan, such as investing in waste reduction before disposal and emphasizing the waste reduction hierarchy. SWAC members may wish to review this section as it provides a good background for the overall discussion.

Recommendations

The Plan's recommendations are set out in the following format:

- Residential waste reduction
- Business waste reduction (revised by amendments in 2003)
- Waste Reduction for Commercially Generated Organics (revised 2003)
- Waste Reduction for Building Industries (C&D) (revised 2003)
- Solid Waste Facilities and Services - Household Hazardous Waste (HHW) Management (revised 2000)
- Solid Waste Facilities and Services - Regulation and Siting
- Solid Waste Facilities and Services - Transfer and Disposal System (revised 2000)

The presentation will provide an overview of the recommendations in each of these areas. SWAC members are encouraged to flag those areas to which they believe special attention should be paid during the update process.

The Plan also includes recommendations regarding Illegal Dumping and Disaster Debris (both by amendment in 1997). These will be reviewed with SWAC at a future date.

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<sup>1</sup> NOTE: The published version of the RSWMP contained the original chapters of the Plan with amendments included as attachments. This makes it difficult for the reader to see what is part of the current Plan and what has been repealed. For the SWAC discussion, a version of the chapter was drafted that incorporates these changes and removals. It is included in this month's SWAC package.

*This document is provided to enable the reader to view the RSWMP in its most current amended form. The following incorporates the 1997 and 1998 housekeeping changes; the adoption of Metro Ordinances 00-851B, 00-866, & 03-1004.*

## **REGIONAL SOLID WASTE MANAGEMENT PLAN DRAFT SUMMARY OF RECOMMENDED SOLID WASTE PRACTICES**

### **Introduction**

This chapter presents a set of recommended solid waste management practices designed to meet the overall goal of the RSWMP:

Continue to develop and implement a Solid Waste Management Plan that achieves a regionally balanced, environmentally sound and publicly acceptable solid waste system.

The recommended practices are also designed to achieve the goals and objectives listed in Chapter 5.

This chapter provides an overview of the strategies underlying the recommended practices, a description of how the practices were developed and adopted, details regarding each of the practices and implementation plans.

### **Overview of Recommended Practices**

The recommended practices embody six broad integrated strategies as the best methods to achieve the RSWMP goals:

- Invest in waste reduction before building additional transfer and disposal capacity. If the recommended practices are implemented and growth is within expected ranges, the existing three transfer stations should provide enough transfer capacity for the next 10 years.
- Expand the opportunity to recycle. The past decade shows that when residents are provided convenient recycling services they will recycle. This “opportunity” approach has proven successful. Many of the recommendations in the RSWMP, particularly for the business sector and building industries, continue this strategy. The primary focus is to make services available to all generators.

Emphasize the waste reduction hierarchy. A major new regional effort on waste prevention is envisioned in the RSWMP. Waste prevention, including reuse, is highest on the hierarchy because it not only preserves landfill space but it also conserves the largest amount of natural resources. In contrast, the regional emphasis during the past five years has been on recycling and recovery activities.

The RSWMP also recommends continued support for source-separation efforts before turning to post-collection recovery methods. A priority will also be to advance existing private and



non-profit efforts in reuse, in particular those industries that work from donations ("thrifts") and the building industry's salvage of reuseable materials.

- **Maintain flexibility and encourage innovation.** The RSWMP recognizes that waste reduction in the region is entering a new era. Many of the successful programs and services brought on-line over the past five years involved the implementation of relatively well-proven techniques such as residential curbside recycling. Several recommendations, particularly those involving waste prevention, expanded business recycling and organics recovery, will require development over the next several years. The philosophy behind the recommended practices in these areas is to allow flexibility to encourage development of innovative solutions and avoid imposition of inappropriate practices.
- **Set interim target dates, define roles and responsibilities and focus on implementation issues.** Since the RSWMP allows for a large degree of flexibility in its implementation, it is important to set and maintain target dates to track accountability to objectives. In addition, the RSWMP clarifies who will be responsible for implementing programs.
- **Advance cost-effective practices for managing the region's waste.** Residents of the region strongly support waste reduction practices. At the same time, they also expect that governments will promote cost-effective programs. Recommended RSWMP practices are not expected to significantly increase the overall costs that residents pay for the management of waste. Practices that would likely be more costly in the current system, such as the collection of residential food waste, are included as recommendations contingent on cost-effective collection and processing techniques.

### **Development of the Recommended Practices**

Three roundtables involving approximately 200 citizens were held at the start of the planning process. Citizens were asked their views about how the region should handle organic food waste, residential waste and business waste. Consistent with their comments, draft recommended practices were constructed over several months in a collaborative effort that involved the Solid Waste Advisory Committee and its Planning Subcommittee, Metro staff, independent consultants and other interested parties.

Preliminary recommendations were developed through a process that:

- Assessed current waste reduction and disposal trends
- Examined new or alternative waste management practices
- Modeled the impact of waste management practices on disposal tonnage
- Screened out practices high in cost or low in tonnage impacts

These preliminary recommendations were then subjected to a number of discussions involving SWAC, the SWAC Planning Subcommittee and Metro staff. An important focus of the discussions was to determine the appropriate roles and responsibilities of local government, haulers, Metro and others in the private sector to implement the practices. The discussions also resulted in amendments to the list of practices to ensure the region would make a concerted effort to reach the targeted waste reduction goals.

This development process helped clarify the distinction between the RSWMP's "recommended practices" and "alternative" practices to allow for local flexibility in meeting RSWMP goals and objectives. The consensus was that the recommended practices will serve as performance standards that alternative practices will be required to equal.

The performance standard will be based on criteria that will include, as appropriate, the following: participation levels; amounts of waste prevented, recycled, recovered or disposed; consistency with the waste reduction hierarchy and the source-separation priority; economic and technical feasibility; and impact on other waste reduction activities.

The draft recommendations were then folded into a completed draft of the entire RSWMP and presented for review and comment in a public involvement process that included the general public, local governments, DEQ, individuals from the solid waste industry and others in the private sector, public interest groups and the Metro Council.

### **Purpose of the Recommended Practices**

The "recommended practices" in the RSWMP are intended to provide a path to achieve the region's adopted goals and objectives (Chapter 5). The purpose of adopting recommended practices is to:

- Identify areas of regional interest. The RSWMP identifies several areas - particularly in promotion and education - where regional coordination and cooperation are required for successful program efforts.
- Set expectations regarding what can be accomplished. For those practices that involve waste reduction, the recommended practices are designed to achieve specific levels of expected performance.
- Provide a strategy or approach that can also serve as the basis of an alternative practice. The recommended waste reduction practices were specified in enough detail to allow estimation of expected performance. Each of these practices, however, embodied a more fundamental waste reduction strategy capable of being implemented in more than one way.

While the recommendations are intended to apply regionally, the RSWMP acknowledges that local conditions may require development of alternative practices. As discussed above, alternative waste reduction practices must demonstrate the same level of expected performance as the recommended practices. It is Metro's intent that each local government will implement either a recommended practice or an approved alternative.

## **Descriptions and Implementation of Recommended Practices**

This section provides information on recommended practices in the following areas:

**Residential Waste Reduction**

**Business Waste Reduction**

**Building Industries Waste Reduction**

**Solid Waste Facilities and Services - Regulation and Siting**

**Solid Waste Facilities and Services - Transfer and Disposal**

**Solid Waste Facilities and Services - Household Hazardous Waste (HHW) Management**

Brief descriptions of the practices are described in the text that follows and in the descriptive tables and timelines included at the end of this chapter. The text and tables together provide the following:

- **Key Concept and Approach for Each Recommended Practice.** What is the basic strategy behind the practice? What problem or opportunity does the practice address?
- **Key Elements of the Recommended Practices.** What specific programs or activities make up the practice?
- **Roles and Responsibilities.** Who will take primary responsibility for seeing that the practice is implemented? Who will assist?
- **Implementation Mechanisms.** What groups will be involved in putting the practice into place?
- **Key Dates and Issues.** When will the practice be adopted?

**Description of Implementation Tables.** The tables at the end of this chapter list the recommended practices and their key elements and identify who will take primary responsibility for a task and who will assist. While those parties who provide assistance are critical to implementing many of the practices, identifying a responsible party is particularly important where implementation of a practice will require a commitment of resources (either funds or staffing). A “Primary Implementation Mechanism” is also identified to describe what decision-making processes will be necessary.

The tables set out a basic implementation plan for each of the recommended practices. Depending on the practice, implementation elements may include: pilot programs, program planning and revision phases, target dates for implementing the practice and scheduled evaluations and assessments. The lower right hand portion of the tables’ timeline shows how major elements of the monitoring and assessment plan (e.g., waste characterization studies) line up with the implementation schedules for the recommended practices.

The tables are also designed to communicate several other ideas:

- The first three quarters of FY 1994-5 are heavily shaded to indicate they have passed and the last quarter of FY 1994-95 and FY 1995-96 are lightly shaded to denote that many government resource commitments for this time period have already been made.
- Dark bars are used to represent new or expanded program efforts. Note that expanded efforts are identified as already under way for many practices.
- Implementation of several of the recommended practices (especially organics management) are contingent upon other practices having been successfully implemented. The table uses filled circles [e.g., ◐] to indicate an ordinary target date and unfilled circles [e.g., ○] for target dates of practices that involve such contingencies.

## **Residential Waste Reduction Practices**

See Tables 1.A and 1.B, pages 7-34 and 7-35

The recommendations identify five practices of regional concern:

1. Education and Information for Waste Prevention
2. Expansion of Home Composting
3. Expand and Increase Participation in Existing Residential Curbside Programs
4. Development of New Collection Technologies
5. Curbside Collection and Processing of Residential Food Wastes

### ***1. Education and Information for Waste Prevention***

#### Key Concept and Approach of the Recommended Practice:

Because of the natural resources saved, waste prevention programs provide the greatest environmental benefits of all waste management alternatives. Waste prevention education, especially for school-age children, provides a strong base upon which to build a resource conservation and recycling ethic.

Waste prevention strategies in the residential sector are in a relatively early stage of development. Coordination on the development of educational and promotional programs is an important objective. A common regional approach will also increase the effectiveness of regional media campaigns. Waste prevention education and promotion activities will also be used to advance the efforts of private and nonprofit firms (e.g., "thrifths").

#### Key Elements of the Recommended Practice

Three types of programs will be implemented including:

- a) Regional media campaigns that emphasize waste prevention practices
- b) Expansion of local education programs and a shift to a greater emphasis on waste prevention
- c) "Earth-Wise" purchasing and waste prevention programs targeted to households

The waste prevention practices will build upon current education and promotion efforts that emphasize recycling activities. The strategy will be to refocus the messages communicated on waste prevention. Since these programs will be new, they will be evaluated early on and modified as necessary to improve their effectiveness. Private and nonprofit activities in reuse industries will be recognized as important contributors to regional waste prevention efforts.

#### Roles and Responsibilities:

Metro and local governments will cooperatively develop and conduct regional education and promotion campaigns. Metro will be responsible for the annual regional media campaigns. A funding plan for the campaigns will be developed by Metro, local governments and the private sector. The media efforts will be patterned on current recycling campaigns and will use radio, television and print media.

Metro will also support waste prevention efforts through the Recycling Information public outreach program, the "Earth-Wise" purchasing program and integrating waste prevention programs into household hazardous waste education.

Metro and local governments will work cooperatively to develop and distribute educational materials for both schools and households. Metro will research and provide technical assistance on the most effective methods to teach and educate households about waste prevention techniques. Local governments, haulers and Metro will coordinate the implementation of these model education programs.

Both Metro and local governments will continue to provide waste prevention components in school waste reduction education programs. Local governments will provide technical assistance with setting up school recycling programs and coordinating the development and distribution of educational materials to meet local needs.

Education efforts will stress decreasing overpackaging. Metro will also support existing or expanded state packaging legislation. These efforts are intended to inform the consumer of the full cost of a product and promote the development of sustainable resource management.

Metro will continue to support the thrift industries through means such as discounts on their disposal of non-recyclable items. Efforts will also be made to increase the flow and reuseability of materials to these businesses. In FY 1994-95 thrifts accounted for 15,000 tons of reused and recyclable materials. Metro will continue to assess this impact.

#### **2. *Expand Home Composting***

(Projected tonnage reductions are shown in Tables 9.2a and 9.2b. Additional technical specifications and performance information is available in Appendix E.)

#### Key Concept and Approach of the Recommended Practice:

The existing home composting program has been well received by the public and will be expanded, with an emphasis on targeting households that are not now participating in home composting. Metro will support at least five demonstration sites. Monitoring and evaluating the

effectiveness of the program is a priority. Evaluations will help determine the most effective ways to reach the targeted households and the amounts of yard debris being diverted from disposal.

Key Elements of the Recommended Practice:

- a) Composting workshops will be held twice a year (spring and fall)
- b) Metro home compost demonstration sites will be developed to serve all parts of the region
- c) Five-year (1995-2000) bin distribution program will be based on results of current pilot programs
- d) Promotion and education will be provided on how composting complements but does not replace curbside yard debris programs

Key Elements of Alternative Practices:

- a) Establish bans on yard debris at curbside or disposal sites (where service alternatives are available)
- b) Extend the home compost program of workshops, demonstration sites and bin distributions for an additional five years

Alternative practices may be adopted that achieve the same performance as the recommended practice.

Roles and Responsibilities:

Metro will fund and manage the bin distribution program, provide the workshop training and maintain the home compost demonstration sites. Metro will support at least five demonstration sites. Local governments will assist in identifying community areas to target for distribution, as well as coordinating and providing volunteer services. Metro and local governments will share the responsibility for monitoring and evaluating the performance of the program.

**Expand and Increase Participation in Existing Residential Curbside Programs**

(Projected tonnage reductions are shown in Tables 9.2a and 9.2b. Additional technical specifications and performance information is available in Appendix E.)

Key Concept and Approach of the Recommended Practice:

The recommended practices are based on two basic approaches to increase residential recycling. One is to improve the performance of existing recycling services. The other is to add new materials to those presently being collected.

Key Elements of the Recommended Practice:

- a) Weekly curbside collection (or equivalent) of yard debris and scrap paper for single-family households

- b) Provide recycling containers for at least four of the principal recyclable materials at all multifamily complexes (scrap paper included where space allows)
- c) Regional education and promotion campaigns to support single-family and multifamily curbside recycling
- d) Target low-participant neighborhoods with special education and promotion efforts
- e) Programs that target the reduction of yard debris in drop box rentals (e.g., promote use of drop boxes with compartments that allow segregation of yard debris)
- f) Programs that target reduction of yard debris in self-haul loads at disposal facilities (e.g., provide educational materials on alternatives to disposal to customers)

Key Elements of Alternative Practices:

- a) Local flexibility to add new materials (e.g., aerosols, plastics). Each local government will decide when public demand and markets warrant adding materials other than those listed in the recommended practices to a curbside program.
- b) Disposal bans on recyclables (where alternatives to disposal are available)
- c) Promote use of commercial refuse and recycling collection services (e.g., through landlord tenant laws) for households not currently subscribing to these services

Alternative practices may be adopted that achieve the same performance as the recommended practice.

Roles and Responsibilities:

Haulers, local governments and Metro will continue their active partnership to develop and provide recycling services. The partners will develop and conduct education and promotion campaigns that increase participation in single and multifamily recycling services.

Metro will be responsible for annual regional media campaigns that promote recycling. The media efforts will be similar to current regional recycling campaigns (for scrap paper, milk jugs and aerosol cans) that use radio, television and print media. Metro will also continue to support local governments' residential recycling education and promotion efforts through programs such as Metro Challenge.

Metro and local governments will develop and conduct special education efforts and promotion campaigns targeted to neighborhoods or types of households having low performance or participation rates. Metro will conduct the research necessary to identify these targets and the reasons contributing to the low performance. These programs could use print media, personal outreach or other means. Metro will also support curbside recycling efforts through the Recycling Information outreach program.

Metro will continue to coordinate with local governments to ensure that yard debris waste reduction services achieve results that are equivalent to weekly curbside collection by the end of FY 1995-96. Equivalency shall be defined by Metro. If a local government does not achieve equivalent results, corrective action will be taken as described in Chapter 6 of this Plan. Corrective action shall include conversion to a weekly yard debris collection program or to a program that has been shown to achieve results that are equivalent or better than weekly curbside collection of yard debris (e.g., every other week collection of 60-gallon yard debris containers).

As a result of FY 1993-94 equivalency testing, the cities of Portland and West Linn did not achieve yard debris diversion equivalent to weekly curbside collection standards. In FY 1994-95, West Linn commenced weekly curbside collection of yard debris. Because Portland elected not to commence weekly curbside collection, remedial actions were negotiated and implemented to ensure equivalency. Portland undertook public outreach programs in several pilot program areas and FY 1994-95 testing demonstrated that the pilot program areas had achieved equivalency. The pilot programs had different components, including special yard debris brochures, garbage can stickers, radio promotions and distribution of composting bins. Under this Plan, Portland will extend the pilot project city-wide. Implementation must incorporate education and promotion elements equal or superior to those used in the test programs.

Metro will also research the strength of markets and market capacity for materials that might be added to curbside programs. Local governments may choose to add such additional materials to curbside programs as markets develop. An important issue to consider in looking at the next 10 years is that if stable plastic markets develop, recent state legislation requires their curbside collection.

#### **4. Develop New Collection Technologies**

##### Key Concept and Approach of the Recommended Practice:

The amount of materials collected in curbside programs is beginning to exceed the available compartments on collection vehicles. Commingling of recyclables has been avoided in the metro area because of concerns it will reduce material quality. However, metro area households and collectors may now have enough experience in providing clean materials that selective commingling may be possible (and necessary) if additional materials are to be added to curbside programs.

One emerging technology is the co-collection of refuse and recyclables on the same truck. Separate collection vehicles appear prohibitively expensive for some programs such as collection of food waste. Collecting bagged food waste together with yard debris may be a more cost-effective approach, particularly if combined with "one-stop dumping." Because of the uncertainties of this technology at this time, the recommended approach is to *continue* investigation and examination of new opportunities rather than recommendation of any particular practice for adoption.

##### Key Elements:

- a) Continue cooperative development of promising new technologies. For example: co-collection of waste materials (e.g., yard debris and refuse)
- b) Alternative collection pickups for different materials (e.g., recyclables one week and refuse the next)
- c) Selective commingling of compatible materials (e.g., mixed plastics)
- d) Weight-based collection rates (e.g., household refuse cans weighed at curbside and charges made "by the pound")



Roles and Responsibilities:

Metro, in cooperation with the private sector and local governments, will examine the potential modification of transfer or processing facilities as needed to accommodate new collection technologies. If opportunities looks promising, demonstration projects with local governments and haulers will be conducted (e.g., using transfer stations as dual tipping sites for refuse and yard debris or other recyclables).

Haulers and local governments will be responsible for developing and implementing any transition to new truck types (e.g., co-collection vehicles) within their franchise systems.

**5. *Curbside Collection and Processing of Residential Food Wastes***

(Projected tonnage reductions are shown in Tables 9.2a and 9.2b. Additional technical specifications and performance information is available in Appendix E.)

Key Concept and Approach of the Recommended Practice:

With the success of curbside recycling programs, food wastes now represent a very large fraction of the remaining residential waste stream (95,000 tons). This recommended practice will provide a method of collecting and composting source-separated food waste from single-family dwellings.

Key Elements of the Recommended Practice:

- a) Site and develop regional processing capacity for business food waste prior to development of residential programs
- b) Residential programs phased-in and dependent on results of pilot programs to be conducted during 1995-2000. Implementation would occur during 2000-2005.
- c) It is the regional policy to encourage home composting and processing of organics (excluding meat), rather than use of garbage disposals and sewer system for disposal of food.

Roles and Responsibilities:

A residential food waste program will be implemented following development of organics processing capacity for businesses.

Metro, local governments, haulers and processors will investigate and conduct pilot projects to determine feasible collection processing practices and markets for end products.

Metro and DEQ will be responsible for setting processing facility standards to ensure the environmental acceptability of the facilities.

Local governments will assist in the development of programs by working to solve siting issues associated with processing facilities. Haulers and local governments will be responsible for working out necessary changes in collection equipment, franchise arrangements or collection routing.

## **Business Waste Reduction**

The following strategies are designed to provide an integrated framework that supports businesses in their efforts to develop sustainable practices promoting environmental protection and resource conservation. These strategies promote the principles of waste prevention, recycling and buy recycled. The strategies will assist the region in meeting the waste reduction goals as specified in the adopted 1995-2005 RSWMP. In addition, these strategies will assist the region in meeting its new 2009 waste shed recovery goal and the State in meeting its waste recovery and generation goals for 2005 and 2009.

### **Recommended Strategies**

***1. Provide information and technical assistance about waste reduction designed and adapted to meet the needs of businesses.***

Developing effective information and technical assistance services requires understanding of how businesses operate, receive information and respond to waste reduction initiatives. Delivering these services will require, as appropriate:

- Providing commercial technical assistance programs that include on-site visits.
- Coordinating waste reduction information services, including web-based resources.

***2. Improve businesses' access to, and ease of use of, business waste prevention, recycling and buy recycled services.***

Increasing business use of waste reduction services requires that the services be made easier and more convenient to use. Examples of programs that incorporate this approach may include:

- Coordinating the availability of commercial recycling services across the region, such as standardizing the list of recovered materials.
- Reviewing economic incentives to haulers to maximize recycling service levels.
- Addressing barriers that contribute to low participation by commercial multi-tenant buildings and facilities.
- Conducting projects and providing grants to organizations to build the infrastructure and measurement tools for commercial waste prevention and reuse.
- Developing a program to promote purchases of recycled content products by businesses, including a database of recycled-content products and other efforts to ensure that information on the availability, performance and pricing of recycled-content products is readily available.
- Helping businesses work with suppliers to green the supply chain by having products and services incorporate waste reduction criteria, including waste prevention, recycled content and recyclable materials.
- Promoting design guidelines for recycling areas for new or remodeled buildings.

**3. *Improve the capture and recovery of materials from the business waste stream.***

Studies of the region's waste indicate that significant quantities of recoverable materials remain in the waste stream. Meeting the region's recovery goals may include:

- Targeting specific materials for recovery from business collection programs.
- Ensuring the region's processing system has the capacity and capability to sort additional quantities of recyclables needed to meet the region's recovery goal into commodities that meet the quality requirements of end markets.
- Researching issues with problem materials, such as shredded paper that cause processing and recovery issues for processors.
- Maintaining current Metro fee waivers on recovered material.
- Requiring that processing facilities pay fees to Metro only on disposed residuals.

**4. *Coordinate outreach efforts and develop a common message for businesses that integrates concepts of waste prevention, recycling and buy recycled.***

Businesses today are faced with a barrage of messages and programs urging them to act in socially and environmentally responsible ways. Outreach messages can improve their effectiveness by:

- Promoting an understanding of sustainability as a way of integrating these concepts.
- Promoting multimedia resource efficiency programs that qualify for state recycling rate credits.
- Promoting a region-wide or industry-specific approach, as appropriate, for example, promoting region-wide commingled collection and processing services or targeting real estate firms.
- Providing a business recognition program.

**5. *Support market development efforts.***

Successful business waste reduction programs will increase the supply of recyclable materials. Market development efforts are needed to foster demand for these materials. Regional market development efforts may improve markets for the reuse or recycling of locally generated materials through:

- Expanding markets and marketing efforts for recycled content and reused products.
- Assisting in development of new technologies and products that increase the use of recycled material.
- Providing technical or financial assistance to processors and end users of recovered materials.

## **Implementation**

Implementation of these strategies will be coordinated through the Commercial Waste Reduction Work Group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually.

### **Waste Reduction for Building Industries**

The following strategies are designed to provide an integrated framework that supports the development of sustainable practices promoting environmental protection and resource conservation in the building industries. These strategies are intended to implement the waste reduction hierarchy by promoting principles of waste prevention and recycling. The strategies will assist the region in meeting the waste reduction goals as specified in the adopted 1995-2005 RSWMP. In addition, these strategies will assist the region in meeting its new 2009 wasteshed recovery goal and the State in meeting its waste recovery and generation goals for 2005 and 2009.

*Note: The term "building industries" includes, but is not limited to, contractors, builders, developers, architects, designers, construction specification writers, property owners and managers.*

### **Recommended Strategies**

#### ***1. Promote salvage and deconstruction practices within the building industries.***

Salvage and deconstruction activities prevent waste and preserve critical natural resources, such as old growth timber. These practices are an efficient and effective way to prevent demolition wastes from entering the waste stream. Support for these practices may include:

- Creating outreach programs to the salvage and deconstruction industry and to those utilizing salvage and deconstruction services.
- Supporting market development activities that assist in the start-up, expansion or ongoing operation of building material reuse organizations.
- Developing public/private partnerships between building material reuse organizations and other government organizations with an interest in reuse.

#### ***2. Provide information and technical assistance about waste reduction designed and adapted to meet the needs of the building industry.***

Each segment of the building industry needs to be reached with targeted waste reduction information. Developing effective waste reduction information and technical assistance services requires an understanding of how these stakeholders are involved in a demolition or construction project and how best to provide them with waste reduction services. Programs may include:

- Providing technical assistance tailored to the needs of the building industry.

- Producing waste reduction information endorsed by and distributed by local governments, industry associations and other sources.
- Supporting agencies and organizations that promote sustainable building or "green" practices. Support programs that provide model specifications related to salvage, design and selection of materials used in construction.

### ***3. Increase the diversion of construction and demolition wastes from landfills.***

Studies of the region's waste indicate that significant quantities of recoverable materials in the C&D waste stream continue to be disposed directly into landfills. Meeting the region's recovery goals may include:

- Continuing to promote the availability of on-site source separation services.
- Creating economic incentives for generators, processing facilities or landfills that divert materials from disposal.
- Developing and promoting C&D (i.e., mixed construction waste) processing facilities within the region.
- Ensuring capacity of local used building material industry.
- Ensuring capacity and reasonable access to mixed construction waste processing facilities.
- Maintaining current Metro fee waivers on recovered material
- Requiring processing facilities to pay fees to Metro only on disposed residuals.

### ***4. Support market development efforts.***

Successful business industry waste reduction programs will increase the supply of reusable and recyclable materials. Market development efforts are needed to foster demand for these materials. Regional market development efforts may improve markets for the reuse or recycling of locally generated materials through:

- Expanding markets and marketing efforts for recycled content and reused building industry products.
- Assisting the development of new technologies and products to increase the use and value of recycled building materials.
- Providing technical and/or financial assistance to processors and end users of recovered building materials.

## **Implementation**

Implementation of these strategies will be coordinated through the Construction and Demolition Waste Reduction Work Group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually.

## **Waste Reduction for Commercially Generated Organics**

The following strategies 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. These strategies are intended to implement the waste reduction hierarchy through waste prevention (including food donation and diversion) and organics processing. The strategies will assist the region in meeting the waste reduction goals as specified in the adopted 1995-2005. In addition, these strategies will assist the region in meeting its new 2009 wasteshed recovery goal and the state in meeting its waste recovery and generation goals for 2005 and 2009.

### **Recommended Strategies**

- 1. Develop and implement waste prevention and food donation programs for businesses that generate organic waste.*

This strategy is designed to prevent the generation of excessive food waste and to target the highest end use for those food wastes generated by businesses. The value of surplus food products to food rescue agencies (food banks and pantries) generally far exceeds the value of the waste as a feedstock for an organic processing facility. Programs diverting edible materials to local food banks are designed to capture some of that value. Support for these programs may include:

- Providing grants to improve the infrastructure of the food donation industry to enable food rescue agencies to build greater capacity to collect, store and redistribute perishable foods that would otherwise be landfilled.
- Delivering outreach and education programs to businesses about preventing food waste and about strategies to donate edible surplus food to food rescue agencies.

- 2. Develop and provide information and technical assistance to businesses regarding options for their organic waste.*

A wide range of business types, including restaurants, food processors and grocery stores generate food wastes. Understanding how these business types operate will assist in developing and delivering effective waste reduction information and technical assistance services to these businesses. Programs may include:

- Delivering on-site technical assistance tailored to the needs of each business type.
- Delivering coordinated information services utilizing a wide range of media designed to reach each business type.

### ***3. Assist in developing a processing infrastructure.***

Studies of the region's waste indicate that even with increased waste prevention through successful diversion and food donation programs, there will be significant quantities of organic waste left in the waste stream. Development of an organic waste-processing infrastructure to enable the region to meet its recovery goals may include:

- Developing collection and processing services within the region through grants and pilot programs.
- Providing assistance (grants, technical assistance) to existing local processing facilities to enhance their processing capacity and broaden the types of organic materials they can receive and process in an environmentally sound manner.
- Addressing facility siting and zoning issues with local authorities.

### ***4. Increase the recovery of residential food wastes.***

Conducting research on the potential for implementing residential food waste collection programs, pending the development of sufficient organics processing capacity for the region.

### ***5. Support market development efforts.***

Successful organics recovery efforts will increase the supply of compost and other soil enhancement products from processing facilities. Market development efforts are needed to ensure demand for these products. Regional market development efforts may improve markets for the use of these locally generated materials through:

- Expanding markets and marketing efforts for compost and other soil enhancement products.
- Working with the Composting Council of Oregon on market development in the Metro region.

## **Implementation**

Implementation of these strategies will be coordinated through the intergovernmental Organics Work Group. The Work Group will present its implementation plans for review to the Regional Solid Waste Advisory Committee annually.

## **Recommended Waste Reduction Contingency Plan**

### **Background**

In 1999, faced with evidence that progress toward regional recovery goals had stalled, Metro and local governments created work teams to address the problem. The result was a set of "Waste Reduction Initiatives" that identified opportunities for increasing recovery in the C&D, Commercial and Commercial Organics sectors. The strategies in this Plan chapter integrate those efforts into this Regional Solid Waste Management Plan.

The waste reduction strategies contained in this Plan are primarily based on an "opportunity Model." Under this model, recycling services are required to be available and promoted to businesses, but participation in the programs remains voluntary. The Commercial and C&D Waste Reduction Initiatives work groups identified strategies that would add additional requirements on generators or facilities to this Opportunity Model. These "required recycling" strategies are not part of this Plan at this time. Although the Commercial Organics work group did not identify specific additional strategies it is recommended that they should be developed.

### Contingency Plan

In addition to the strategies contained in the Plan, it is essential that the region have a contingency plan in place if progress toward recovery goals is inadequate. Regional solid waste stakeholders have agreed that if we clearly are not going to reach our 2005 goal, waiting until 2005 to address the problem is not acceptable.

The basic outline of the contingency plan is for a work group to meet to develop a set of feasible and effective strategies to enhance recovery. If progress toward recovery goals is inadequate, these strategies would represent options that could be put in place. Based on the work of the Waste Reduction Initiative teams, these strategies would focus on adding "required recycling" policies to the existing policy framework.

The contingency plan will take the following form:

A work group will be convened to consider methods of increasing progress toward recovery goals through increased recycling requirements.

- For the Building Industries sector, types of required recycling to be considered will include: (a) requirements on C&D generators to recycle a majority of their recyclable wastes through source separation or at mixed-waste processing facilities; and (b) disposal bans for generators or facilities on selected recyclable materials.
- For the Business sector, types of required recycling to be considered will include: (a) requirements on generators to recycle at least a majority of their wastes; and (b) disposal bans for generators or facilities on selected recyclable materials.
- For the Commercially-generated Organics sector, approaches to be considered will include: (a) requirements on business organic generators to source separate on site or send their organic wastes to processing facilities; and (b) develop a common regional approach to increase the efficiency and economic feasibility of organics collection;
- The work group will consider whether such requirements are best implemented through actions of local governments, Metro or the State of Oregon. Combined or joint action by these agencies will be considered.
- The work group will determine whether adoption of these methods would be legally and financially feasible and would enable the region to meet its recovery goals. The work group can consider other methods (e.g., financial incentives or subsidies); such methods must be compared in terms of feasibility and effectiveness with the required recycling approaches.



- The work group will make its recommendations to Metro and the Regional Solid Waste Advisory Committee on or before January 1, 2004.. If sufficient progress toward recovery is not reflected in recovery reports, Metro and the appropriate governments will work to implement the work group's recommendations after that date.

## **Solid Waste Facilities and Services Regulation and Siting**

See Table 4, page 7-39

The recommendations identify two practices of regional concern for the regulation and siting of solid waste facilities and services:

1. Yard debris processing system
2. Establish organic waste regulatory system

### ***1. Yard debris processing system***

#### Key Concept and Approach of the Recommended Practice:

Increase the stability and environmental acceptability of yard debris processing facilities in order to lower barriers to siting and operation.

#### Key Elements of the Recommended Practice:

- a) Establish facility performance standards for franchising or otherwise authorizing yard debris processors
- b) Metro licensing program for yard debris processors
- c) Local governments require use of Metro and Oregon DEQ authorized facilities by their franchised curbside yard debris collectors
- d) Local governments adopt clear and objective siting standards that do not effectively prohibit the siting of facilities

Alternative practices may be adopted that achieve the same performance as the recommended practice.

#### Roles and Responsibilities:

Processors, local governments, Metro and DEQ will work to establish the siting, environmental and performance standards that will be the basis for a stable and environmentally acceptable yard debris processing system.

Metro will establish and maintain a licensing program for facilities. Local governments will support this effort by having their yard debris collectors use these facilities. Local governments will also be responsible for ensuring that their zoning codes include clear and objective siting standards that do not effectively prohibit the siting of facilities.

## **2. Organic waste regulatory system**

### **Key Concept and Approach of the Recommended Practice:**

Regulation to ensure environmentally sound and publicly acceptable processing facilities for business and residential food wastes.

### **Key Elements of the Recommended Practice:**

- a) Develop a Metro regulation system for processors of food and other organic waste. This system could include a Metro franchise with performance standards similar to the standards proposed for yard debris processing facilities.
- b) Local governments adopt clear and objective siting standards that do not effectively prohibit the siting of facilities

### **Roles and Responsibilities:**

Processors, local governments, Metro and DEQ will build upon the work done regarding yard debris processing facilities to establish the siting, environmental and performance standards that will be the basis for a stable and environmentally acceptable organic waste regulatory system.

Metro will establish and maintain a franchise program for these facilities. Local governments will assist in finding locations where processing facilities can be sited.

## **Solid Waste Facilities and Services Transfer and Disposal System**

See Table 5, page 7-40

The recommendations identify four practices of regional concern for the transfer and disposal system. These practices are contingent upon growth forecasts and adoption and successful implementation of the recommended waste reduction practices.

1. Allow additions to the existing system of three transfer stations as necessary to maintain solid waste transfer and disposal service levels. New transfer stations may be authorized where they provide a net benefit to the regional solid waste system. New transfer stations shall perform material recovery subject to facility recovery rate standards.
2. Maintain the existing system of private general and limited-purpose landfills.
3. Maintain options for haulers to choose among disposal alternatives.
4. Allow the siting of reload facilities for consolidation of loads hauled to appropriate disposal facilities.

- 1. Allow additions to the existing system of three transfer stations as necessary to maintain solid waste transfer and disposal service levels that provide reasonable access for residents, businesses and haulers. New transfer stations shall perform material recovery subject to facility recovery rate standards.*

### Key Concept and Approach of the Recommended Practice:

Most of the region's waste is delivered to the three transfer stations (Metro South, Metro Central and Forest Grove) rather than being directly hauled to landfills. These three stations have sufficient capacity to handle the future demand for transfer services under the projected economic growth and waste reduction impacts of the recommended practices. However, an efficient disposal system depends on both capacity and accessibility. New transfer stations may be considered when the delivery of efficient disposal services is negatively affected by either of these two factors.

### Key Elements of the Recommended Practice:

- a) Successful implementation of waste reduction practices to reduce demand for transfer services
- b) Allow additional transfer stations in the region. Such additional stations may, but need not be, limited as to the amount of waste they accept, process or dispose of, except to the extent that such limitations are required by local regulations or are in conflict with Goals and Objectives of this Plan
- c) Provide more uniform access to transfer stations, in order to improve system efficiencies in those areas of the Metro region that are under-served
- d) New transfer stations may be authorized where they benefit residents, businesses and solid waste haulers within the under-served areas
- e) Preserve and enhance the region's material recovery capacity
- f) Modifications to existing facilities as required to maintain service levels
- g) When necessary implement waste handling practices sufficient to reduce demand on transfer facilities
- h) Modify transfer stations as needed to coordinate with any changes in collection technologies (e.g., co-collection of waste and recyclables)
- i) Provide a full range of public services at transfer stations that serve a broad or regional market. Examine service options to include reuse, recycling and disposal for households and businesses that self-haul their waste

### Key Elements of Alternative Practices:

- a) In the event waste reduction efforts do not perform as expected or growth is greater than expected, options to be evaluated on a case-by-case basis, depending on tonnages and cost, will include:
  - operational changes to existing facilities
  - redirection of haulers from any transfer station that is exceeding capacity
  - remodeling of existing facilities

Alternative practices may be adopted that achieve the same performance as the recommended practice.

### Roles and Responsibilities:

Metro will review service levels on a regular basis to determine if any of the alternative elements listed above need to be implemented. Metro will put maximum feasible effort into material recovery at the publicly-owned stations. Metro will monitor and report annually on the rate and amount of material recovery achieved at all regional facilities, and will include an analysis of any differences among facility recovery rates, especially any differences between facilities that are subject to minimum recovery rate standards and facilities that are not subject to the recovery rate standards. Metro's Capital Improvement Plan will include plans for any modification to the existing transfer stations needed to maintain service levels including material recovery..

### *2. Maintain the existing system of private general- and limited-purpose landfills*

#### Key Concept and Approach of the Recommended Practice:

Assuming there are no closures of existing landfills or restrictions on their use, there is sufficient regional landfill capacity for at least the next 10 years.

#### Roles and Responsibilities:

The private sector will continue to supply the general- and limited-purpose landfill space required by the region.

Metro will continue to competitively procure disposal services for the region's solid waste that must be delivered to a general-purpose landfill.

### *3. Maintain options for haulers to choose among disposal alternatives*

#### Key Concept and Approach of the Recommended Practice:

Industries, manufacturers and other generators of waste not classified as "municipal solid waste" (e.g., special wastes, or residual from dry waste processing) have a need for disposal services other than that supplied through Metro transfer stations. The approach is to continue to designate facilities (through regulatory agreements) for receipt of such waste and to grant "non-system licenses" to haulers with special disposal needs.

#### Key Elements of the Recommended Practice:

- a) Designated out-of-region landfills for accepting limited types of wastes (e.g., special wastes)
- b) Franchised in-region system of private landfills and processing facilities
- c) Non-system user licenses for individual haulers delivering limited types of waste (e.g., special wastes) to other facilities

#### Roles and Responsibilities:

Metro will continue its system of designated facilities and non-system licenses to provide services for those with special disposal needs.

#### **4. Reload facilities**

##### **Key Concept and Approach of the Recommended Practice:**

The recommended practice is to allow the siting of reload facilities for consolidation of loads hauled to appropriate disposal facilities. Reload facilities could assist in maintaining existing service levels (i.e., time spent waiting in line or time required to drive to a facility). They can also provide some additional material recovery or opportunity to divert materials to dry waste recovery facilities.

##### **Key Elements of the Recommended Practice:**

- a) Addition of reload capacity to existing private processing facilities to serve areas distant from existing transfer stations or to address capacity problems at existing facilities
- b) Reload options to be evaluated on a case-by-case basis depending on future tonnage and costs
- c) New reload facility ownership and operation determined on a case-by-case basis
- d) Low-level recovery activities (manual “dump and sort” activities and other low technology methods) at reload facilities will comply with all federal, state, regional, and local laws and regulations regarding the recovery of recycled materials from mixed wastes and be consistent with the Plan’s recommendations regarding source-separated recycling efforts

##### **Roles and Responsibilities:**

Metro will review service levels on a regular basis to determine if any of the elements listed above need to be implemented.

#### **Solid Waste Facilities and Services Household Hazardous Waste (HHW) Management**

The following recommended strategies are designed to provide a unified direction for the hazardous waste program firmly based on waste reduction education and targeting programs to reduce risks to public health and safety and the environment.

1. Pursue a strategic direction that emphasizes non-hazardous alternatives, proper use of hazardous products, waste reduction education within a risk reduction perspective.
2. Focus outreach and education programs on reducing risks from exposure to, improper storage of or improper disposal of hazardous products.
3. Incorporate a shared product responsibility approach to managing hazardous wastes.
4. Design collection services to target reduction of identified risks and to include an integrated education component.
5. Utilize public and private solid waste facilities efficiently and effectively for the delivery of education and collection services.

Strategic Framework – Pursue a strategic direction that emphasizes non-hazardous alternatives, proper use of hazardous products, waste reduction education within a risk reduction perspective.

Exposure to, improper storage of, or improper disposal of products containing hazardous components poses risks to human health and the environment. These risks include: fires or child poisonings resulting from improper storage; injuries to disposal system workers (haulers, transfer station or landfill workers); damage to streams and fish from runoff of improperly applied lawn and garden care products; and pollution of streams or ground water from improper disposal of auto products such as used oil or antifreeze.

Adoption of a strategic framework emphasizing reduction in these risks will entail incorporating the following directions into the work plan for the hazardous waste program:

- a) Make hazardous waste education a critical priority.
- b) Identify the risks (e.g. fires, poisonings, and pollution) that arise from the use of, transport of, improper storage of and improper disposal of hazardous products.
- c) Target education programs and collection services to reduce these risks.
- d) Coordinate with education and collection programs in other areas to ensure the efficiency and effectiveness of regional programs.
- e) Coordinate education efforts with water and air quality agencies to ensure residents do not shift from disposing of hazardous waste in the garbage to disposing of it in the storm or sanitary sewer systems or through open air evaporation.
- f) Coordinate with stream habitat and water quality programs.
- g) Measure the impact of programs and services in reducing the identified risks.

***1. Outreach and Education – Focus outreach and education programs on reducing risks from exposure to, improper storage of or improper disposal of hazardous products.***

Education programs will be directed to changing people's behavior in ways that reduce the identified risks from hazardous products. Education programs targeted to both adults and school children will provide information on alternatives to hazardous products, proper use of hazardous products, waste reduction methods and proper management of hazardous products.

Focusing education programs on alternatives, proper use, waste reduction and reducing identified risks will require:

- a) Developing education and outreach programs that target identified risks.
- b) Utilizing education methods that are shown to effectively teach proper use, transport, storage and disposal practices.
- c) Ensuring a unified approach and message across education and outreach programs.
- d) Integrating education programs with collection services.

***2. Shared Product Responsibility – Incorporate a shared product responsibility approach to managing hazardous wastes.***

Shared product responsibility is the effort to get all those involved in the production and use of a product (consumers, retailers, distributors and manufacturers) to take responsibility for managing the costs and other impacts of a product on society and the environment. A shared responsibility approach for hazardous products should be flexible and may include different elements depending on the product. Examples include: producers' eliminating or reducing the toxicity of

a product; product return to manufacturers or retailers when safe and appropriate; and collection through Metro with assistance of resources from product manufacturers or retailers. Development of non-Metro collection options for some products may provide opportunities to improve the efficiency of the system.

Developing a shared product responsibility approach to managing hazardous wastes will require, as appropriate:

- a) Exploring development and promotion of additional collection options, for example, returning products to stores.
- b) Providing consumer information and education at a product's point of sale. Education should include information on alternatives and proper use, transport, storage and disposal.
- c) Establishing cooperative efforts with retailers, distributors and manufacturers.
- d) Securing alternative funding sources for hazardous waste services through charges when feasible and appropriate on products that make identifiable extraordinary burdens on the disposal system.

***3. Collection Services – Design collection services to target reduction of identified risks and to include an integrated education component.***

Collection services are a critical component of the strategy to reduce risks from exposure to, improper storage of and improper disposal of hazardous products. Through targeting of households subject to greater risk (for example, households with large old stockpiles of hazardous materials) and integrating education into the service, collection services can achieve the risk reduction goal of the program – rather than simply accommodating disposal.

Designing collection services to reduce identified risks will require:

- a) Promoting and targeting services (events and facilities) to serve households identified as being at greater risk. Selecting the targets (e.g. households with stockpiles) is an integral part of the process of establishing the strategic direction for the program.
- b) Increasing the convenience of collection events. For example, locating events closer to targeted households.
- c) Integrating hazardous waste prevention education with collection events. Techniques such as reducing the size or increasing the duration of collection events to allow education opportunities will be explored.
- d) Regional funding of collection services.

***4. Facilities – Utilize public and private solid waste facilities efficiently and effectively for the delivery of education and collection services.***

Metro's two permanent collection facilities will provide the infrastructure necessary to process hazardous wastes received at solid waste facilities and collection events.

The strategy will require:

- a) Continuing operation of the two permanent Metro hazardous waste facilities.
- b) Ensuring education programs are integrated into collection services at facilities.
- c) Utilizing private solid waste facilities where appropriate for collection events.

- d) Regional transfer stations that accept public customers to provide opportunities for these customers to dispose of their household hazardous waste.
- e) Monitoring and analyzing usage patterns of facilities and events.
- f) Assessing the effectiveness of education programs.
- g) Exploring the need for any additional permanent facilities in five years.



Agenda Item IV  
Solid Waste Advisory Committee  
February 24, 2004

**A New Analytic Tool:  
Overview of Metro's Transfer Station Cost Model**

**What is it?**

Metro has constructed a model (in a spreadsheet format) to help the agency assess the impacts of various policy options and management choices on the cost of operating Metro's transfer stations.

Among the policy options that can be informed by the model are those that affect the amount and type of waste that flows to a Metro transfer station, such as changes in the size of tonnage caps at local transfer stations. Examples of management choices are the hours of operation and material recovery specifications.

**How's it Work?**

At a high level, the model works as follows: given a certain amount of tonnage delivered to the facility (coupled with other assumptions), the model provides an estimate of the cost of handling that tonnage. Different policy or management options can be represented as different flows of tonnage or other assumptions, such as hours of operation. One measure of the effect of different options is a comparison of the costs among those options.

Some User-Defined Parameters & Variables

1. Tonnage profile (number of loads, load weights, etc.)
2. Hours of operation
3. Pay rates for various job types
4. Staffing levels for various activities
5. Recovery rates of various materials
6. Per-ton revenue for recovered materials
7. Some fixed costs, e.g., associated w/ cleaning and utilities
8. Variable utility & fuel costs

**What Does it Tell Us?**

For a given set of assumptions, the model yields an estimate of the actual costs of providing transfer and recovery services. More important, model outputs under different assumptions can be compared to estimate the *changes* in costs, which, in turn, is a measure of the benefit or cost of the policy option.

Some Basic Outputs

- Total cost estimate
- Per-ton cost estimate

One common use of model outputs is a comparison between (1) any hypothetical scenario, such as one that reduces tonnage to Metro or a management choice to close earlier and (2) a base case scenario, such as current operations. On the reverse side of this page, two simple scenarios of this type are illustrated in demonstration of the kind of research that the model was developed to inform.

**A New Analytic Tool:  
Example Output from Metro's Transfer Station Cost Model**

**Policy Change**

1. *How would per-ton costs change if Metro Central tonnage decreased by 25%?*

	Per-ton Costs		
	Base Case	Reduced Tonnage <sup>§</sup>	Difference
Central	\$ 8.07	\$ 9.19	\$ 1.08 ←
South	\$ 8.23	\$ 8.23	\$ 0.00
Both	\$ 8.14	\$ 8.69	\$ 0.57

<sup>§</sup> All types of tonnage are reduced by 25%, including wet, dry, and any source-separated recyclables.

**Operational Change**

2. *How would costs change if Metro Central closed on Weekends?*

	Effect of Reduced Operating Hours at MC		
	Base Case	Close MC On Weekends	Difference
MC Costs*	\$ 2,545,000	\$ 2,194,000	(\$ 351,000)
Per-Ton	\$ 8.07	\$ 6.96	(\$ 1.11) ←

\* Costs include variable and fixed operating costs and assume no weekend overtime pay. In this scenario, the tonnage formerly received on weekends is re-distributed evenly across weekdays, with no net change in total tonnage delivered to Metro Central.

*All figures on this page are provided as examples of model output and are not intended for use in making specific policy or operations decisions. Model parameters and variables are still being fine-tuned.*