

**METRO**

MEETING: Regional Solid Waste Advisory Committee (SWAC)
DATE: Wednesday, October 16, 1996
TIME: 8:30 - 10:30 a.m.
PLACE: Metro Regional Center, 600 NE Grand Avenue, Portland
 Council Chamber Annex, 2nd Floor

- | | | |
|---------|---|-----------------------|
| 10 min. | 1. Updates and Introductions | McFarland/Burton |
| 5 min. | 2. Approval of Minutes*
Action Requested: Approval of Minutes of September 18, 1996 | McFarland |
| 15 min. | 3. Illegal Dumping Plan*
Action Requested, Release draft plan for public review and comment | Nelson/
Task Force |
| 20 min. | 4. Local Government Work Plans - Year 8#
No Action Requested. Early Review and Comment | Jacobson/Nelson |
| 10 min. | 5. Rate Restructure Options
No Action Requested. Update on Public Comments | Anderson |
| 20 min. | 6. State of the Regional Solid Waste Management Plan - FY 1995-96*
No Action Requested. Initiation of first annual RSWMP assessment | Anderson/
Hossaini |
| 25 min. | 7. Facility Regulation
A) Code Revision
Action Requested: Approve Code Revision Task Force Membership
B) Facility License - Scotts Hyponex
No Action Requested. Status Report and Discussion | Klag/Metzler |
| 10 min. | 8. Proposed Remodel of Metro South Transfer Station to Alleviate Wait Times*
No Action Requested. Update and Discussion | Ehinger |
| 5 min. | 9. Tentative Agenda for November 20 Meeting | McFarland/Nelson |
| 5 min. | 10. Other Business / Citizen Communications | McFarland |
| | 11. Adjourn | |

*This agenda packet includes materials that are related to these items.

Related materials sent out under separate cover, 10/3/96

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

Committee Chair: Councilor Ruth McFarland (797-1547)

Staff: Marie Nelson (797-1670) Committee Clerk: Connie Kinney (797-1643)

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SOLID WASTE ADVISORY COMMITTEE
MEETING SUMMARY OF: September 18, 1996

Voting Members Present

Committee Chair: Ruth McFarland, Metro Councilor
Hauling Industry: David White, Oregon Refuse & Recycling Assoc./Tri-County Council
Steve Schwab, Sunset Garbage Collection Company
Jim Cozzetto, Jr., Metropolitan Disposal & Recycling Corporation
Solid Waste Facilities: Steve Miesen, BFI/Trans Industries
Government: Loreen Mills, Washington County Cities
Sue Keil, City of Portland
Ken Spiegle, Clackamas County
Recycling Industry: Ralph Gilbert, East County Recycling

Alternate Members Present

Recycling Industry: Jeff Murray, Farwest Fibers
Solid Waste Facilities: Gary Penning, Waste Management of Oregon
Government: Tam Driscoll, Multnomah County Cities

Non-Voting Members Present

Government: Dave Kunz, DEQ

Voting Members Absent

Recycling Industry: John Drew, Far West Fibers
Citizens: Jeanne Roy, Recycling Advocates
Hauling Industry: Tom Miller, Miller's Sanitary Service, Inc.
Government: Gary Hansen, Multnomah County Commissioner
Lynne Storz, Washington County
Bob Kincaid, Clackamas County Cities
Debra Noah, Multnomah County Cities

Non-Voting Members Absent

Government: Carol Devenir, Clark County

Metro and Guests

Tim Raphael	John Houser	Richard K. Jones	Pamela Kambur
Kelly Shafer Hossaini	Roosevelt Carter	Mary Sue Smith	Diana Godwin
Connie Kinney	Easton Cross	Steve Donovan	Eric Merrill
Chuck Geyer	Ray Phelps	Tom Wyatt	Debbie Fromdahl
Andy Sloop	Lexus E. Johnson	Keith Ristan	Andy Kahit
Doug Anderson	Matt Stern	Rob Guttridge	

1. Updates and Introductions

Councilor McFarland called the meeting to order, and announced that the SWAC meeting time had been extended to 10:45. Executive Officer and Acting REM Director Mike Burton was invited to update the committee on some things that have happened.

Mr. Burton said he had been up very late the night before waiting for election results on the Zoo bond, which passed. He then stated his office was accepting applications to fill the vacant citizen position on SWAC. He would like to fill that position sometime within the next 2 weeks.

Mr. Burton introduced Mike Fjordbeck, legal counsel who joined Metro's staff July 15, 1996 to look at solid waste legal issues. Mr. Burton stated he has been involved in the recruiting process for the REM Director. He expects to propose a nominee to the Council within the next couple of weeks.

2. Approval of Minutes of August 21, 1996

Sue Keil moved that the minutes be approved and Loreen Mills seconded the motion. The Committee unanimously approved.

3. Transfer Station RFP

Mr. Burton stated that in the minutes as approved from the last SWAC meeting, third page, (to which he was not present), there was a discussion on points awarded to low bidders to the RFP. Subsequent to that meeting, several people have approached him and as he read the minutes, the 70 point allocation was not unanimously supported. Prior to the meeting he had discussions about criteria on how they arrived at the point spreads; how if you changed the spread from 70% and less, that would relate to the dollar amount of the bid and also about assigning higher criteria to administration, as well as the emphasis we would place on recovery and whether we should change the percentages we assigned to it. Because of the concern for the allocation of points to evaluation criteria, we asked Chuck Geyer and Jim Watkins to speak the committee to discuss how they came to their conclusions.

Chuck discussed the allocation of points and evaluation criteria. Ms. Keil stated the most significant thing to her was performance, that there are opportunities for creativity, but the regular business of the transfer stations be carried out in an orderly fashion and with the shortest wait time possible, that billing is accurate, and that maintenance is performed on a regular basis.

Chuck indicated Metro was concerned about performance as well and that there were adequate performance standards and that is why 20 points have been awarded to that criteria. He said that customer satisfaction is paramount. The experience of the proposer in doing similar things in other places and we want an approach that has worked in others places, Metro has asked for references.

Loreen Mills said that experience and achievability of recycling percentage was what was important to Washington County Cities. They were also concerned with the wait at the gate to

haulers and that she knew that Mr. Burton's staff was looking into that problem. Ms. Mills asked if the SWAC could get a report back on what is happening there. Mr. Geyer said there were severe penalties for long wait time (more than 30 minutes).

Jim Watkins, Engineering and Analysis Manager for REM, said there had been several studies about wait time at the transfer stations. Staff has developed conceptual designs and a plan for consideration by the Executive Officer and SWAC.

Considerable discussion continued with concern raised as to the weighting of the evaluation criteria. Councilor McFarland said that the RFP would be presented to Council that afternoon at 1:30 in the Council Chambers. She said that any comments with regard to the RFP would be heard at that time and anyone interested was welcome to participate.

4. Rate Restructure Proposal

Doug Anderson reported there was no proposal at this time, that staff was still in the option phase. He said Metro has been looking at the rate issue for three years. More recently, REM has been carefully proceeding with a major rate restructuring project involving about 60 stakeholders, including members of the current Rate Review Committee. Some of the options include: Status quo, user fee, and an environmental fee (generator fee or customer charge such as in utilities). Mr. Anderson said a draft analysis would be mailed by the end of the week to all interested stakeholders who are invited to two public meetings to be held September 30 and October 1. Mr. Anderson said the Rate Review Committee will convene in October and be asked to weigh the issues on our fund balances which have grown beyond what is needed.

Councilor McFarland asked if one of the options for the excess fund balances might be to hold them for future obligations that might arise at the transfer stations, i.e., we cannot be guaranteed the continued flow of garbage. She said it was her belief that ratepayers did not feel they were paying too much for garbage collection.

Sue Keil, City of Portland, said that their surveys indicated that rates are still an issue. She said their ratepayers believe they are getting better and better value for their money but it is still an issue.

Loren Mills requested that the SWAC be updated on the status of the issues discussed in the stakeholder meetings. Councilor McFarland said that could be done.

5. Facility Franchise Proposals - KB Recycling

Scott Klag said that KB Recycling had applied for two franchises; one for the existing operation (located at Deer Creek Lane which must be moved) and the second to facilitate a new facility (referred to as KB2). The original franchise was given in 1991 and authorized KB to process 18,000 tons per year of dry waste. They have never exercised that option. The original KB Recycling is located in an approved but unfunded transportation improvement project. KB is asking for authorization to process 36,000 tons of dry waste per year. They are not asking to reload either yard debris or PCS. KB takes material from the public that is not weighed and it is

therefore hard to track on a transaction basis the amounts of recovered materials received at the facility. Therefore, Metro's recovery rate requirement will be calculated based on total mixed dry waste received and total disposed from the facility. KB Recycling will not receive a 5% credit for residuals (which other MRFs receive). The predicted impact to the region: will provide service to an area that has been looking for this type of service and is supported by Clackamas County.

Councilor McFarland added that KB Recycling has already obtained their use permit and their permit from the local jurisdiction.

6. Facility Regulation Code Revision

Andy Sloop, REM's newly appointed Franchise Administrator continued the discussion from the last SWAC meeting with regard to goals and recommendations. At that meeting he indicated a task force would be organized to perform initial ground work for revision of the Metro Code. He said he got two messages from that meeting: 1) don't duplicate roles of other regulatory jurisdictions; and 2) be specific. Sue Keil suggested an in-house team define objectives and look at the issues. An outside group could highlight the particularly troublesome areas.

Ralph Gilbert suggested the team consist of four haulers and 5 government team members.

Mr. Sloop requested feedback from the committee as to the structure which was unanimously agreed to by SWAC. He indicated he would like anyone interested in serving on the team to contact him directly. He would like to present the team members names at the next SWAC meeting.

7. Yard Debris Compost Facility Regulation

Bill Metzler, project manager for the Metro yard debris processing facility licensing program, provided an update regarding the DEQ's proposed state-wide rules for compost facilities. Previously, the DEQ had excluded Metro area licensed processors, however as the rules were refined they concluded it would not be a good idea to exclude a geographical area from the permit requirements. Mr. Metzler met with the DEQ and discussed a proposal that would limit regulatory overlap. Since Metro's licensing program meets or exceeds the DEQ draft rules, Metro and the DEQ would enter into a Memorandum of Understanding. Through the Metro licensing program, the yard debris processors will also receive a DEQ permit. The DEQ and Metro will develop the Memorandum of Understanding where responsibilities of the two agencies will be addressed. The DEQ would remit the permit fees to Metro to administer the program, Metro in turn, would not charge the \$300 licensing fee. Sue Keil indicated that the DEQ SWAC considered this proposal and agreed that it is a good idea.

8. Disaster Debris Management Planning

Kelly Hossaini said since the time was so short and because SWAC members received the latest work of the Disaster plan, she would not go through the changes that have been made to the plan. Kelly said that if anyone had questions, please call her. She said SWAC members would receive

a complete copy of the draft version of the plan in early October so they can review and comment on it. The final version of the Plan will then be sent to SWAC members in November in an effort to obtain approval so that it can be moved on for approval from REMCom.

The meeting was then adjourned.

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METRO

DATE: October 9, 1996

TO: Solid Waste Advisory Committee

FROM: Marie Nelson, Planning Supervisor

RE: **Draft Illegal Dumping Plan
Schedule and Process for Public Review**

Agenda Item #3

At the October 16 SWAC meeting, REM staff and the Illegal Disposal Task Force will present work to date to develop the Regional Illegal Dumping Plan. The October meeting will be the first opportunity for SWAC members to comment on the draft plan and to offer suggestions before the draft is released for public review and comment. In January, after the public involvement phase is completed, SWAC will consider whether to recommend approval of the Plan.

The following materials are included for your review and comment:

1. **Proposed Schedule for Public Review and Comment** - Once reviewed by SWAC and Metro officials, this schedule will be finalized and provided to interested parties.
2. **Draft Letter to Interested Parties** - The letter will be mailed to individuals and groups who are interested in illegal dumping issues (governments, waste haulers, neighborhood and civic organizations, and others). The letter summarizes key issues the plan addresses. It also provides information about who to call to get a complete copy of the draft plan and the adoption schedule.
3. **Draft Illegal Dumping Plan**

Illegal Disposal Task Force Members:
 Washington County, Andrew Bjornskov
 DEQ, Cory Chang
 City of Milwaukie, Richard Atkinson
 City of Gresham, Linda Summers
 Metro, Steve Kraten

SOLV, Jan McGowan
 Clackamas County, Ken Spiegle
 ORRA / Tri County Council, David White
 City of Portland, Wayne Potter
 ODOT, Mike Beam

Advisors: Lynne Storz, JoAnn Herrigel, Dave Kunz, Terry Petersen
 Facilitator: Joe Hertzberg
 Staff: Marie Nelson, Kelly Shafer Hossaini

**Regional Solid Waste Management Plan (RSWMP)
Illegal Dumping Plan**

DRAFT

This schedule outlines the public involvement and adoption process for the proposed Illegal Dumping section of the Regional Solid Waste Management Plan (RSWMP).
Marie Nelson, Project Manager (797-1670)

Review of Draft	Public Involvement Timeline	Oct. 8 - Nov. 22
	Illegal Disposal Task Force completes 1st draft	Oct. 8, 1996
SWAC and SWINE Meetings	Review and comment on 1st draft	Oct. 16
Council REMCom Meeting	Council work session Review and comment on 1st draft	Oct. 23
	Staff incorporates changes suggested by SWINE, SWAC and REMCom (if any) into a 2nd draft	
Public Review of Draft	Mailing to interested parties: · Copy of Draft Illegal Dumping Plan - 2nd draft · Explanation of public involvement process · Public meeting schedule	Oct. 30
	Deadline for public comments on 2nd draft	Nov. 22
Illegal Dumping Task Force Meeting	Task Force meets to incorporate public comments into a final draft Plan	Dec. 5

Final Approval	Public Involvement Timeline	Dec. 13 - February
Public Review of Final Draft	Mailing to interested parties: · Copy of Illegal Dumping Plan - Final Draft · Report on the results of public involvement during prior public review phase · Public meeting schedule	Dec. 13, 1996
	Deadline for public comments on final draft	Jan. 2, 1997
SWAC Meeting	Consideration of whether to recommend that the Metro Council adopt the Illegal Dumping Plan	Jan. 15
Council REMCom Meeting	Consideration of whether to recommend that the Council adopt the Illegal Dumping Plan	Jan. 22 (not confirmed)
Full Council Meeting	Consideration of Plan adoption	Early February (not confirmed)

DEQ approval	DEQ approval of the Council's adopted Plan	Feb. 1997
	Adopted Plan distributed to interested parties	March

Public meeting times and places - Call the Metro project manager for details.

REMCom: Regional Environmental Management Committee, a subcommittee of the Metro Council.

SWAC: Regional Solid Waste Advisory Committee; advisory to the Metro Executive Officer and Council.

Interested Parties: Metro Executive Officer and Council, state, regional and local government solid waste advisory groups, hauler groups, recycling industry, government and business sector representatives including solid waste enforcement personnel, neighborhood groups, and the interested public.

Draft Letter to Interested Parties

(government representatives, waste haulers, neighborhood and civic organizations,
and other individuals or groups interested in illegal dumping issues)

Dear _____:

Re: Illegal Dumping
Regional Solid Waste Management Planning

The purpose of this letter is to request your involvement in an important decision-making process.

Metro is currently updating a ten-year plan that addresses the problem of illegal dumping -- a costly problem that effects public health and safety as well as the region's environment, economic vitality and livability. We'd like your opinion about whether solutions proposed in the new plan are the most effective ways to solve the problem.

The draft plan was developed collaboratively with government, waste hauler, and private sector representatives who work in the region to prevent illegal dumping, enforce illegal dumping laws, clean up dump sites, and plan for the future. This group is recommending the following types of waste management practices to solve the problem:

- ◆ Improve regional communication, coordination and planning
- ◆ Prevent illegal dumping through mitigation and public education
- ◆ Provide for dump site cleanup
- ◆ Coordinate prosecution and enforcement efforts region-wide
- ◆ Reduce the incidents of unauthorized use of disposal containers through public education and enforcement
- ◆ Track progress and measure results

I invite you to call Marie Nelson, project manager (797-1670), to request a copy of the 15-page proposed plan and decision-making schedule. The due date for comments on the initial draft is November 22. Staff will request Council adoption of the proposed plan in January, 1997.

Sincerely,

Mike Burton
Executive Officer

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Illegal Dumping Plan

Proposed Goal, Objectives and Management Practices

Draft: October 9, 1996

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Roles and Responsibilities	
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Practice 2: Prevent Illegal Dumping Through Mitigation and Public Education	6
Practice 3: Provide for Illegal Dump Site Cleanup	9
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Practice 5: Reduce the Incidents of Unauthorized Use of Disposal Containers	13
Practice 6: Track Progress and Measure Results	14

Goal and Objectives. Illegal dumping is a problem that affects public health and safety as well as the region's environment, economic vitality and livability. It is also costly to investigate and prosecute illegal dumping and to clean up dump sites.

This draft plan was developed to address the problem. It was developed collaboratively with government, waste hauler, and private sector representatives who work in the region to prevent illegal dumping, enforce illegal dumping laws, clean up dump sites, and plan for the future. The goal and objectives that guide this plan are:

Goal: Help keep the Metro region clean, livable, and healthy through the cooperative efforts of the public and private sectors to promote proper disposal of solid waste.

Objectives:

- ◆ Educate the public about illegal dumping and promote legal alternatives
- ◆ Reduce illegal dumping
- ◆ Clean up dump sites
- ◆ Reduce the unauthorized use of disposal containers

Summary of Management Practices. The management practices listed below are proposed as the six most effective ways to accomplish the goal and objectives. They identify areas of regional interest where coordination and continued planning will be required, they set expectations for what can be accomplished, and they provide a strategy or approach for implementation.

Practice 1: Improve communication, coordination and planning

Practice 2: Prevent illegal dumping through mitigation and public education

Practice 3: Provide for dump site cleanup

Practice 4: Coordinate prosecution and enforcement efforts

Practice 5: Reduce the incidents of unauthorized use of disposal containers through public education and enforcement

Practice 5: Track progress and measure results

Each proposed management practice includes the components listed below.

Key Concept: A description of the problem or opportunity the practice addresses.

Key Element: The specific programs or activities that make up the practice.

Roles and Responsibilities: The responsibilities of each party to implement the practice.

Key Dates: The implementation timeline. [to be added later in the planning process]

Implementation of the Management Practices; Roles and Responsibilities.

The management practices will be implemented through cooperative and individual efforts of governments and the private sector. Roles and responsibilities have been proposed for the purpose of ensuring the best use of resources and respecting the authorities of state, regional and local governments over specific solid waste management functions. The table on the next page summarizes proposed roles for each partner to implement the management practices.

Illegal Dumping - Recommended Management Practices
Summary of Roles and Responsibilities - Page 1 of 2

Mgt. Practice	Regional Coordination *	State DEQ	Metro	Cities and Counties	Private Sector **
Practice 1: Regional Coordination and Planning	Establish an effective means to coordinate and plan region-wide efforts	Participate Share information	Lead role to coordinate regional planning efforts Participate Share information Provide for meeting space and facilitation	Participate Share information	Participate Share information
Practice 2: Educate the Public	Plan effective education strategies and programs	Implement state programs to educate the public and specific audiences	Lead role to coordinate regional education and promotion planning efforts Implement regional programs to educate the public and specific audiences	Implement local programs to educate the public and specific audiences	Implement private sector programs to educate the public and specific audiences
Practice 2: Mitigate Illegal Dumping	Plan effective mitigation strategies and programs		Lead role to coordinate regional mitigation planning efforts. Provide mitigation programs Assist with implementation of programs per agreements with cities and counties Enforce Metro's "covered load" regulation	Lead role to provide mitigation programs	Lead role to provide mitigation programs
Practice 3: Clean Up Dump Sites	Develop a regional call referral service to report dump sites and related problems; develop a matrix of services and referrals	Lead role to provide technical assistance to other governments as requested to identify and handle special and hazardous materials Lead role to clean up large waste tire dump sites	Lead role to provide the regional call referral service Assist with clean up of dump sites per agreements with cities and counties	Lead role to clean up dump sites consistent with local regulations	Lead role to coordinate and conduct region-wide clean up events Lead role to provide volunteers as available for local cleanup events

* Regional Coordination = Coordinated planning by state, Metro and local governments and the private sector

** Private Sector = Organizations or individuals working to solve the illegal dumping problem.

Continued on next page

Summary of Roles and Responsibilities - Page 2 of 2

Mgt. Practice	Regional Coordination *	State DEQ	Metro	Cities and Counties	Private Sector **
Practice 4: Coordinate Investigation and Prosecution	Develop and maintain a regional database of dump sites, suspects, and known illegal perpetrators	Lead role to enforce state regulations Assist to maintain the regional database	Lead role to coordinate the development and maintenance of a regional database. Lead role to enforce Metro regulations related to revenue flow and facility franchises If requested, assist cities and counties to develop "civil penalty" laws Provide investigation and prosecution services per agreements with cities and counties Provide assistance to develop and maintain the regional database	Lead role to investigate and prosecute cases relating to collection, theft of recyclables, theft of services, and illegal dumping Lead role to enforce local facility franchise agreements (if applicable) Coordinate with other governments on cases as appropriate Assist to maintain the regional database	
Practice 5: Reduce the Incidence of Unauthorized Use of Disposal Containers	Develop a regional public education campaign	Participate in the development of a public education campaign	Lead role to coordinate the development of a regional public education campaign; implement specific education strategies as determined If permitted by local laws and if requested, assist cities and counties to investigate and prosecute theft of services cases	Lead role to investigate and prosecute theft of services cases Participate in the development of a regional public education campaign, implement specific education strategies as determined	Participate in the development of a regional public education campaign
Practice 6: Track Progress Measure Results	Track program results and plan program improvements where necessary	Assist to provide data for the annual report Participate to assess program results and to plan improvements where necessary	Lead role to provide data, produce and distribute an annual report of activities Lead role to conduct surveys and studies to measure regional progress Lead role to assess program results and to plan improvements	Assist to provide data for the annual report Assist with surveys and studies as appropriate Participate to assess program results and to plan improvements	Assist to provide data for the annual report as appropriate Assist with surveys and studies as appropriate Participate to assess program results and to plan improvements

Practice 1: Improve Communication and Regional Coordination

Key Concept and Approach

Effective communication and regional coordination will be required to accomplish the goal, objectives, and management practices of this plan, and to minimize duplication of efforts and service gaps. The other management practices describe key projects where coordination will be necessary. This practice describes the specific mechanisms to improve cooperation and coordination.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Establish and support, financially and through staffing, a regional committee or committees.** The purpose of the committee(s) will be to provide an effective, ongoing regional forum to share information, discuss key issues, develop plans and programs, implement programs to involve the public in plan development, and to assess program results. Metro will provide meeting space and facilitation services as required. Governments and the private sector will participate.
- b) **Metro and DEQ will coordinate cooperative efforts developed through the regional committee, as defined in "a)."**

Practice 2: Prevent Illegal Dumping through Mitigation and Public Education

Key Concept and Approach

Resources invested to prevent illegal dumping will result in fewer resources expended to investigate and prosecute cases, and to clean up illegal dump sites. Effective prevention can also help alleviate the negative economic consequences of chronic illegal dumping for neighborhoods, businesses, and government. The results of annual tracking surveys suggest that prevention efforts implemented in the last several years have resulted in fewer dump sites in locations that have traditionally experienced problems. Prevention activities should be strengthened to increase this momentum. Prevention activities should address the principal reasons illegal dumping continues to be a problem. These include:

Chronic dump sites - Known illegal dump sites attract more illegal dumping. Prompt cleanup and physical barricades will make these sites less attractive to potential perpetrators.

Economic considerations - Problems that lead to illegal dumping and are sometimes economic in nature, such as low-income residents who cannot otherwise afford garbage service. The public needs to be made aware of low cost, legal options such as recycling.

Problem materials - Some materials have proven to be a chronic illegal dumping problem. Implementation of solutions that help to improve their chances of being recycled or properly disposed is a key step in managing illegal dumping.

Problem generators - Certain types of commercial and industrial waste generators have been found to be more prone to dispose of materials through illegal means. Specific solutions should be implemented to mitigate potential illegal dumping activities.

Lack of public awareness - Large segments of the general public and certain targeted generators may not be aware of the health, safety, social, economic, environmental, and legal consequences of illegal dumping. They may not be aware of legal recycling and disposal options. Effective promotional and educational efforts will raise awareness and help prevent illegal activity.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Mitigate chronic illegal dump sites.** Make chronic dump sites less attractive to perpetrators by placing or removing barriers, signs, lighting and other deterrents at chronic dump sites whenever feasible. Monitor chronic sites for problems. Work with private property owners to mitigate illegal dumping.
- b) **Abate Disposal Facility Litter.** Metro will continue to mitigate litter problems at Metro-owned and franchised solid waste facilities and roadsides by levying a surcharge for loads arriving without proper cover or containment.
- c) **Provide economic incentives for proper waste disposal.** Make it convenient and economically viable for waste generators to recycle bulky and hazardous items thus making it less likely they will be illegally dumped. Continue special collection events for these materials. Provide grants to fund these events.
- d) **Continue effective programs for problem materials and launch new programs that will solve acute problems.**

Bulky materials - As noted in c) above, continue special collection events for bulky materials that are often illegally dumped.

Waste tires - Accept waste tires at community cleanup events. Encourage state legislation for the better management of waste tires and to strengthen actions that can be taken against the illegal disposal of waste tires.

Construction and demolition materials - Initiate programs to educate *construction and demolition contractors on proper waste disposal techniques and recycling opportunities*. When feasible, implement additional measures to increase proper management of waste. Examples could include: 1) require waste generators to develop and submit recycling plans to local governments; or 2) increase enforcement of regulations that require the use of authorized haulers.

Hazardous materials - Work cooperatively to implement state, regional and local programs to promote the safe and legal use and disposal of hazardous materials.

Sharps - promote the safe and legal disposal of sharps generated by households and institutions. Support the planning and public outreach efforts of the Pollution Prevention Outreach Group, a region-wide group working to promote the safe and legal disposal of sharps generated by households and institutions and work cooperatively with that group as opportunities arise. Metro will continue to collect sharps at its permanent hazardous waste facilities and at satellite household hazardous waste collection events, subject

to the conditions of Metro's Sharps Container Exchange Program (e.g., sharps must be received in approved containers).

Sharps are defined in ORS 159.386 as including needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling, and syringes that have been removed from their original sterile containers.

Renters - Local governments may elect to implement policies requiring landlords to subscribe to garbage and recycling service for their tenants. These policies have been effective in other jurisdictions.

e) Educate the general public and targeted audiences. Collaborate to develop and implement effective education to:

- * Help the general public and targeted audiences to understand what illegal dumping is and its legal, social, economic, and environmental consequences;
- * Inform the general public and targeted audiences about the roles and responsibilities of citizens, governments and the private sector to solve the problem of illegal dumping;
- * Inform the general public and targeted audiences that they are directly responsible if they hire a hauler who illegally disposes of their waste;
- * Promote legal recycling, disposal alternatives, and locations of service facilities; and
- * Inform the public government enforcement officers' success in apprehending perpetrators.

Target audiences should include business owners, rental property owners and associations of investors, self-haulers, people who use the services of haulers that are not authorized by local governments to haul waste, remodelers, carpenters, roofers, landscapers, painters, security personnel, judges, hearings officers, police officers, and fire fighters.

Depending on target audiences and messages, specific education methods could include: newspaper articles or ads; city, county or neighborhood association newsletters; professional association newsletters, cable access television programs; public service announcements (radio and television); garbage bill inserts; videos; speakers bureaus (slide presentations and talks to civic groups and trade associations); workshops or roundtable discussions with business groups, law enforcement and fire fighter associations.

Proper solid waste reduction, disposal, and recycling practices will continue to be promoted.

Practice 3: Provide for Illegal Dump Site Cleanup

Key Concept and Approach

Prompt cleanup of illegal dump sites ensures the removal of health and safety hazards, provides a means to obtain and preserve evidence and information that could lead to prosecution, and lessens the likelihood of more dumping at the same site. The region's local governments have different approaches to dump site cleanup. In addition, private sector organizations have assumed an important role to coordinate regional cleanup events and services. Roles and responsibilities need to be worked out in order to avoid service gaps and overlaps.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Provide dumpsite cleanup services according to local policies.** Local governments have the authority to provide dumpsite cleanup within their jurisdictions.

Metro will provide illegal dump site cleanup services on private property per agreements with cities and counties, and according to one or more of the following criteria:

- * The property is not a county or city right-of-way that is regularly cleaned up by a local jurisdiction
- * The dump site is a health and/or safety hazard to the public
- * The dump site is unsightly
- * It would present an undue hardship to the property owner to clean up the site *[The Task Force recommends that: 1) SWAC determine whether the "hardship" criteria should be included in the Illegal Dumping Plan; and 2) if the criteria is included that the term "undue hardship" be defined and an objective process be established to determine hardship cases.];*
- * Evidence about the probable perpetrator can be gathered in the process of cleaning up the site

Metro's objective will be to provide quick response to appropriate service requests in order to mitigate additional illegal dumping problems at the site.

DEQ will continue to provide technical assistance to other governments and the private sector as requested to identify potentially hazardous materials that have been illegally dumped or abandoned. It will also address water and air quality concerns that arise as a result of illegal dump sites.

- b) **Establish a regional call referral service for reporting illegal dumping.** The purpose of the call referral service is to provide better public service. It will ensure that the public has a simple and understandable way to report incidents. Metro will provide the service through its existing Recycling Information Center and will promote the new number to the public. Regional coordination will be required to set up and maintain reliable referrals as described in c) below.
- c) **Develop a matrix and map of dump site cleanup policies and services.** Through a cooperative regional effort, identify the laws, codes, and enforcement procedures, including penalties and cleanup policies, that exist within the region and including Vancouver and Clark County, Washington. Identify the boundaries of those programs on a regional map. Identify reliable phone numbers and referrals for different types of illegal dumping situations that are likely to occur. Ensure that all jurisdictions receive the information and that the information is updated on a regular basis. This matrix and map will be used by the call referral service described in b) above.
- d) **Continue to provide local and region-wide dump site cleanup events.** Governments and the private sector will continue to plan and implement cleanup events. This includes those organized by Stop Oregon Litter & Vandalism (SOLV). SOLV will also provide volunteers as available for cleanups coordinated by state, regional or local governments.

Practice 4: Coordinate Prosecution and Enforcement Efforts

Key Concept and Approach

There are challenges to prosecution and enforcement efforts that heighten the need for coordination. For example, illegal dumping policies and enforcement practices vary among jurisdictions. Another challenge is that perpetrators do not usually confine their activities to one jurisdiction. Instead, they tend to cross jurisdictional boundaries and continue those activities. Also, some local officials may not see illegal dumping cases as a high priority and may be unaware of an offender's prior illegal dumping offenses. Coordination is required to address these challenges effectively.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Prosecution and investigation is under the authority of local governments.** Local jurisdictions have the authority to investigate and prosecute illegal dumping incidents that occur within their boundaries. If permitted by law, this enforcement authority may be delegated to another jurisdiction by written agreement. Metro will assist to investigate and prosecute cases per agreements with cities and counties.
- b) **Develop and maintain a regional, computerized database of suspects, offenders, dump sites, and open and closed cases.** The purpose of the database is to provide the means to electronically share current information region-wide about illegal dump sites, suspects and perpetrators in order to apprehend more offenders. Metro will provide technical assistance and funding to establish and maintain the database and to provide other governments the opportunity to access the database. All jurisdictions will coordinate to maintain the database, to evaluate its effectiveness, and to plan improvements.
- c) **Conduct information meetings with criminal enforcement personnel.** Governments will coordinate to plan and conduct regional and local meetings with civil and criminal enforcement personnel. The purpose of these meetings will be to increase awareness of illegal dumping enforcement programs and the serious nature of the offense.
- d) **Other Actions.** In the interest of establishing more consistent policies, any of the following elements can be implemented by governments as appropriate:
 - * Local governments may choose to prosecute cases under Metro's illegal dumping ordinance.

- * Adopt laws to:
 - * Allow liens to be placed on the personal property of perpetrators (e.g., vehicles) if they fail to pay civil penalties or costs of cleanup
 - * Restrict homeowners' use of unauthorized haulers and hold unauthorized haulers and/or homeowners liable for cleanup of illegally-dumped materials
 - * Require convicted offenders to subscribe to residential garbage service
 - * Enact an illegal dumping ordinance

- * Develop procedures to identify repeat offenders across the region

- * Provide cost-effective ways for recycling coordinators and enforcement officials to access the state Department of Motor Vehicle's automated voice exchange system (DAVE) in order to do license plate checks on illegal dumping suspects

Practice 5: Reduce the incidents of unauthorized use of disposal containers through public education and enforcement

Key Concept and Approach

Illegal disposal includes the unauthorized placing of one's garbage in another's refuse container. Considering that "garbage collection" is a service that is paid for by the customer, this activity is tantamount to stealing the service from the individual or business that paid for it. As disposal costs increase, so does the monetary significance to the victim and the number of incidents.

Illegal disposal also includes cases where waste or recyclables are deposited at a legitimate disposal or recovery facility but dumped after hours and/or without proper payment. Such cases occur infrequently and can be handled either as thefts or as illegal dumping.

"Theft of service" is a crime under Oregon law and as such it is the responsibility of the local law enforcement agency to investigate the offense and prosecute through the district attorney's office. Individuals who participate in this activity may be unaware that it is a crime and the possible consequences. Public education would raise awareness and help prevent this activity.

Due to limited law enforcement resources, local jurisdictions may determine that this activity is a low priority for criminal investigation and prosecution. The regional committee established under Practice 1 of this Plan could investigate alternative approaches to address this problem, including prosecuting as a civil offense.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Investigation and Prosecution is under the authority of local governments.** Each local jurisdiction in the metropolitan area shall be responsible for the investigation and prosecution of the unauthorized use of disposal containers (theft of services) occurring within their boundaries. If authorized by law, this enforcement authority may be delegated to another jurisdiction by written agreement.
- b) **Develop a public education campaign** to inform individuals that this activity is "theft" and of the legal consequences. In addition, both residential and business waste collection customers should be educated on steps that may be taken to protect their disposal containers from unauthorized use, such as lighting, signage and locks.
- c) **Enact legislation.** Local jurisdictions may enact legislation making unauthorized use of a disposal container a civil violation, thereby removing investigation and prosecution from the criminal justice system.

Practice 6: Track Progress and Measure Results

Key Concept and Approach

Surveys and program tracking are traditional management tools used to measure and evaluate the effectiveness of programs. These same types of management tools should be used to assess the effectiveness of illegal dumping programs, to plan better approaches to solve the problem, and to ensure to best use of resources. Annual reviews will be necessary given the changing face of the problem. For example, new illegal dump sites may emerge as old ones are cleaned up, changing solid waste policies may result in the decrease or increase of illegal activity, or an increase in construction activity in a particular area may result in more illegally disposed construction waste.

Key Elements

Roles and Responsibilities

[In addition to the descriptions below, see the table at the beginning of this document for a summary of roles and responsibilities]

- a) **Identify performance indicators.** In order to track progress from year to year, governments and the private sector have identified key indicators of performance. These indicators will be used to assess region-wide progress toward reaching the objectives of this plan.

Communication and Regional Coordination

- * Participation in the Solid Waste Interagency Network of Enforcers (SWINE)
- * Participation in regional planning efforts
- * Successful implementation of regional programs

Prevention and Public Education

- * Identify sites where mitigation measures have been taken and determine whether or not they are dumped on less frequently
- * Decrease in the size and number of illegal dump sites
- * Changes in public attitudes (surveyed through public opinion polls)
- * Changes in the behavior of targeted waste generators
- * Numbers and types of calls to the regional call referral service phone number

Illegal Dump Site Cleanup

- * Number of sites cleaned up, who cleaned them up, who paid for the cleanup, and how much in cleanup costs was repaid to the local jurisdictions.
- * Calls to the regional call referral service

Coordinated Investigation and Prosecution

- * Adoption of new laws
- * Jurisdictions use the new regional database
- * Number of informational meeting with enforcement personnel
- * Number of cases involving coordinated investigation and prosecution

- b) **Produce and distribute an annual report on the status of illegal dumping.** The purpose of this report is to survey and inventory the current status of the illegal dumping problem. The report will also analyze survey information and make specific recommendations for change as discussed in element b) below. The report should include the following information for each annual reporting period:

- * Size, locations and types of known illegal dump sites
(“types” can include whether the land was privately or publicly owned, the types of materials dumped, and whether the material was dumped by households or businesses)
- * Number, size, locations, and types of illegal dump site cleanups, quantities of materials collected, whether the site owner or the local government cleaned the site, how much money was recovered from local government cleanups, and the costs of cleanup activities.
- * Number of violators apprehended
- * Status of repeat violators
- * Number of cases successfully cleared
- * Call activity - regional call referral service by geographic location
- * Summary of programs implemented
- * Summary of new solid waste management policies and their probable effects on illegal dumping
- * Comparisons with prior years and analysis
- * Recommendations for change
- * Survey of types of materials dumped
- * Map matrix to mitigate repeat calls and transferring of calls
- * Response times for resolving problems

Metro will compile and distribute the report annually. Local governments will contribute information for their jurisdictions. By _____, 1997, Metro, state and local governments will determine specific reporting requirements.

- c) **Analyze report data and recommend program improvements.** All parties will participate in the following activities:

- * Analyze annual data
- * Assess the effectiveness of current programs
- * Amend existing programs as a result of surveys
- * Recommend new programs to address emerging problems



METRO

DATE: October 9, 1996 *Agenda Item #4*

TO: Solid Waste Advisory Committee Members

FROM: Bryce Jacobson, Associate Solid Waste Planner
Marie Nelson, Planning Supervisor
Jennifer Ness-Erickson, Associate Solid Waste Planner

RE: Draft Year 8 / Local Government Waste Reduction Work Plan

On Wednesday, October 2, I mailed you a copy of the draft Year 8 / Local Government Waste Reduction Work Plan. This document was sent in advance of the usual SWAC packet in order to give you adequate time to fully review this document. In the interest of waste reduction, this document is not a part of this SWAC packet for the October 16 SWAC meeting. If you did not receive the draft Year 8 document and would like a copy, please call me at 797-1663.

At the request of Recycling Advocates, I have included their comments as an attachment to this memorandum. I look forward to hearing your review and comments on this important agenda item.

BJ:clk

Attachment

cc: Marie Nelson, Planning Services Supervisor

Doug Anderson, Acting Waste Reduction and Planning Services Manager

S:\SHARE\DEPT\JACOBS\OB\CHALLENG\SWAC\1096.MMD

Recycling Advocates

2420 S.W. Boundary Street, Portland, Oregon 97201 (503)244-0026

October 8, 1996

Bryce Jacobsen
Associate Solid Waste Planner
Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Dear Bryce:

Recycling Advocates appreciates the opportunity to comment on the Draft #1. Outline of Year 8 Annual Waste Reduction Plan Tasks. Our recommendations focus on the Commercial Waste Prevention and Recycling component.

Commercial Waste Prevention and Recycling

1.(a) Waste evaluations

1. The Plan should target reaching 50% of all businesses by 7/98 to be consistent with the RSWMP. The Draft targets 40%. Any changes to these established goals should be made through the RSWMP amendment process.
2. Someone at Metro should be assigned responsibility for overseeing the waste evaluation program and ensuring that local programs meet minimum standards, as described below, and are being effectively implemented.
3. The staff recommendation is clearly business as usual and will not achieve projected diversion to meet recovery goals. Minimum standards for waste evaluations that include the following must be described in the Plan:
 - a) and on-site assessment conducted by a local government representative, a consultant, or a designated employee.
 - b) a standardized waste evaluation form approved by Metro;
 - c) an estimate of:
 - the lbs/month disposed.
 - the lbs/month disposed for each category of recyclable materials, and
 - the potential for recycling (e.g., lbs of each recyclable waste stream not currently recycled); and
 - d) identification of potential areas for source reduction and buying recycled.
5. The Plan should describe more clearly how the number of waste evaluations conducted will be tracked in order to report progress toward the goal of reaching 50% of businesses by 7/98. Local governments should report:
 - the number of businesses within their jurisdiction; and
 - the number of businesses that completed waste evaluations conforming to the standards and that have not previously completed them

2(a) Collection of paper and containers

1. The Year 7 language for this recommended practice should be included, with the following addition to footnote 1 (underlined):

"Appropriate recycling services include at a minimum . . . (b) notification at least semi-annually to all commercial collection service customers of the services available, including the materials collected for recycling and how containers will be provided; . . ."

2. The reporting requirements in 3(a) should be included with this recommended practice for clarity, and a reporting requirement should be added. In order to determine whether local governments are providing paper and container collection, they should report:

the number of commercial customer accounts provided each type of recycling container: for cardboard; for paper (office paper, newspaper, magazines); and for containers (glass, tin, aluminum, PET and HDPE).

Other Plan items:

1. The workplan should identify the program evaluations that will be conducted during FY '97-'98 and the methods to be used, as specified in the RSWMP, p. 9-2. The commercial waste evaluation and recycling programs should be included, particularly if they are not evaluated in FY '96-'97.

2. The following "Metro Foundation Item -- Commercial" should be added:

Assume responsibility for gathering and analyzing information regarding the number of commercial customers who use private recycling services instead of or in addition to regulated solid waste hauler recycling services.

Recommendations to clarify RSWMP implementation process:

1. Key steps in the annual RSWMP implementation process should be clarified, including:

- the definition of the "annual work plans" as used in the RSWMP;
- the distinction between approval of recommended practices and the award of challenge grant monies; and
- the process for approving alternative practices.

Alternative practices should be approved through the same process as and concurrently with the annual work plan.

Thanks again. Please call if you have questions. We look forward to discussing our recommendations with you. We also ask that you include these comments in the mailing for the next SWAC meeting.

Sincerely,

Jeanne Roy

Metro Regional Environmental Management Department

**Annual State of the Plan Report
Purpose and Process**

What is the State of the Plan Report?

The State of the Plan Report is an annual update on program implementation and regional performance with respect to solid waste benchmarks described in the Regional Solid Waste Management Plan (RSWMP). The report is scheduled to be published in the first quarter of each fiscal year.

Why do we publish this report?

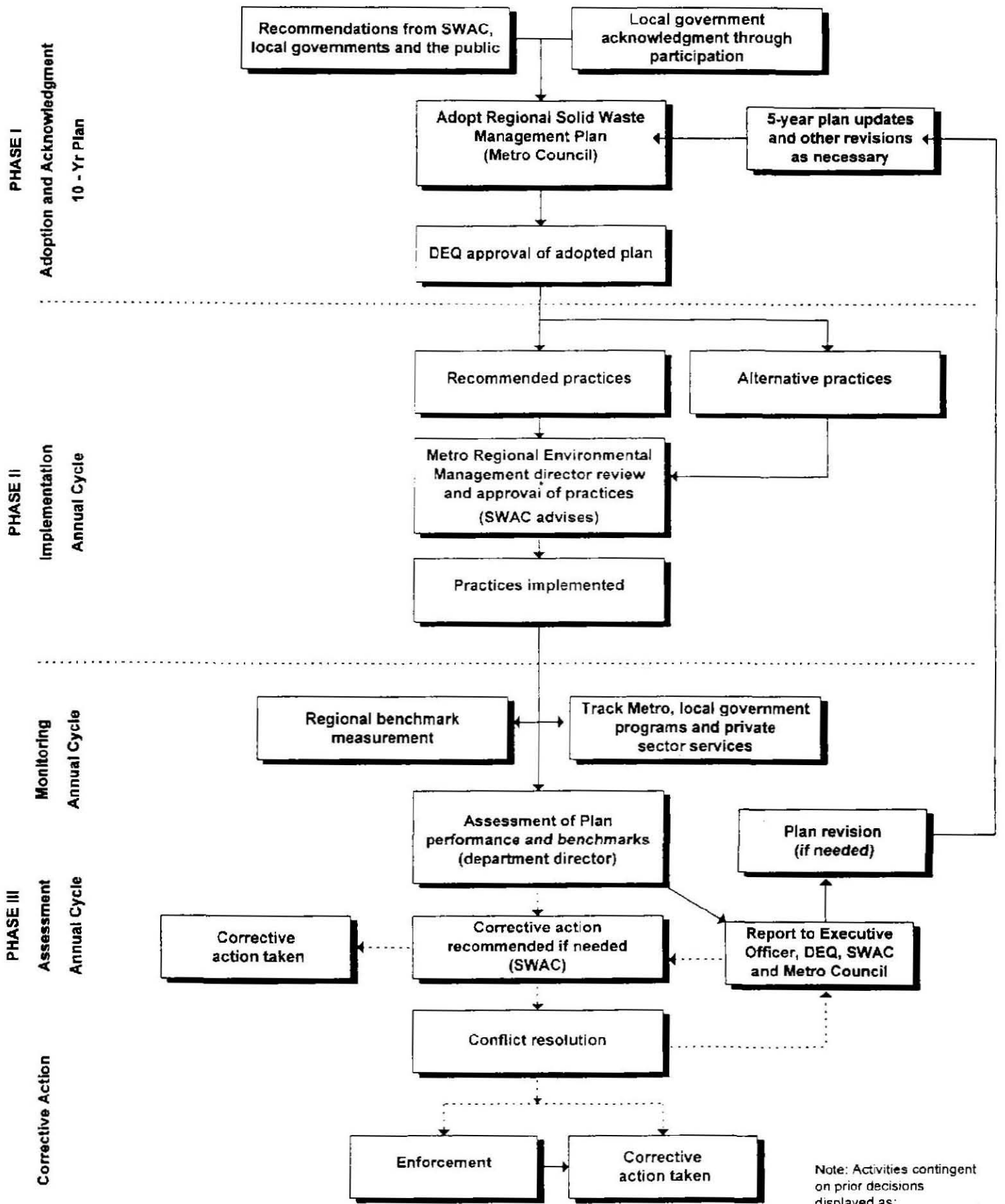
The State of the Plan Report is intended to provide the initial information for determining whether solid waste programs are being implemented as planned, whether programs are performing as expected, and whether regional goals and benchmarks are being achieved. The report assists in monitoring progress and identifying problem areas. The State of the Plan Report will help us to evaluate how well we're meeting our RSWMP commitments and whether adjustments need to be made.

What if we find we're not meeting the RSWMP goals and objectives?

If the State of the Plan Report and other evaluation efforts reveal that the actions of those involved with RSWMP are not in compliance or are not making an adequate contribution to achieving regional goals, then the reasons for the lack progress will have to be determined and the necessary corrective actions taken to put the process back on track. The RSWMP outlines the process for doing this in Chapter 6. The process is regional and cooperative, involving the participation of Metro, local governments, DEQ, solid waste industry representatives, citizens and other affected parties. The process flow chart from RSWMP is reproduced on the back of this page.

After the release of the State of the Plan Report, proposed revisions to RSWMP can be initiated by any interested party. These revisions will be compiled and undergo review by the Director of Regional Environmental Management for consideration. Revisions that the director determines should be considered for adoption will then be forwarded to the Metro Solid Waste Advisory Committee for review and recommendation, and then to the Executive Officer, who may refer these to Metro Council. Revisions that the Council determines should be considered will be subject to a public hearing as part of its deliberation process.

Figure 6.1 - Adoption, Implementation and Assessment Process



State of the Plan Report

Annual Update on the
Benchmarks of the
Regional Solid Waste
Management Plan
for FY1995-96

*Regional Environmental Management
Waste Reduction & Planning Services*
600 NE Grand Ave
Portland, OR 97232-2736
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Draft: October 7, 1996



METRO

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Regional Solid Waste Activities Fiscal Year 1995-96

Executive Summary

Purpose

The annual State of the Plan Report assesses progress made within the region toward meeting the goals and objectives contained in the Regional Solid Waste Management Plan 1995-2005 (RSWMP). The report addresses how Metro, local governments and the private sector are proceeding in implementing the Plan's recommendations. The report also contains measures of advancement toward the Plan's waste management and waste reduction benchmarks.

State of the Plan Reports will be produced each fiscal year. The RSWMP calls for this close level of monitoring to ensure that implementation efforts are proceeding, and to provide adequate opportunity to modify ineffective practices.

As the RSWMP was adopted in December 1995, this first report will cover the last six months of FY 1995-96. Although a longer period of time will be necessary to assess the general effectiveness of the RSWMP, this first report will provide an early chance for interested parties to comment on its format. Metro staff believes that coordination and cooperation among its regional partners is necessary to achieve the region's solid waste goals and objectives, and will carry forward this commitment in developing this report.

Part 1 - RSWMP Regional Solid Waste Management Benchmarks

- From 1994 to 1995, the regional recycling level increased from 41 percent to 43 percent. The recovery level, which includes fuel and energy recovery in addition to recycling, increased from 45 to 46 percent.
- Waste generation per capita rose from 1.34 tons per person per year to 1.44. This increase is primarily a consequence of a continuing upswing in the business and construction cycle during recent years.
- Landfilled mixed waste is up from last year, but is pacing regional growth - as indicated by the flat per-capita rate of disposal.

Part 2 - Implementation of Recommended Practices

Residential Waste Reduction

Overall progress:

- Over the next several years, the Plan calls for greater emphasis on waste prevention. Consistent with that directive, Metro did initiate a pilot waste prevention program. Progress towards Plan objectives for the region's residential recycling infrastructure, including multi-family services, are on track.

Highlights:

- Weekly curbside or equivalent service for yard debris instituted throughout region.
- Curbside collection of scrap paper available throughout the region.

Issues:

- Metro is assessing its role in direct distribution of compost bins.
- Metro and local government are reassessing strategies of targeting neighborhoods low in curbside participation and of targeting removal of yard debris in drop boxes.

Business Waste Reduction

Overall progress:

Both waste prevention and recycling efforts were expanded consistent with the Plan. Significant advances toward managing the organics waste stream and in post-collection processing also were made.

Highlights:

- Commercial recycling recognition program (Business Recycling Awards Group "BRAG") significantly expanded.
- Metro's Model Waste Prevention program addressed three new generator groups.
- City of Portland's required commercial recycling program instituted.
- Proposals for two organics processing demonstration projects solicited by Metro.
- Significant activity by the private sector in requesting franchises for dry waste processing facilities.

Issues:

- Assessment of progress towards Plans recycling service level objectives will require inventory of existing service levels. Inventories to be developed in conjunction with local government waste reduction plans.

Building Industries Waste Reduction

Overall progress:

The Plan promotes technical education services, adherence to the waste management hierarchy, and improving access to recycling and recovery services. Continued progress in all these areas was achieved during the reporting period.

Highlights:

- Institutionalization of the Earth-Wise Builder Program as a state recognized, non-profit organization.
- Development of on-site recycling service strategies by local governments.
- Significant expansion of private sector processing. Two new facilities franchised by Metro in 1996 with two more expected soon.

Issues:

- Effectiveness of service strategies for construction sites needs further examination, particularly in light of growth of MRFs.

Solid Waste Facilities - Regulation and Siting

Overall progress:

Plan objectives points to the need for government regulatory and siting requirements that protect the public but allow the development of processing facilities. The Yard Debris Licensing Program adopted by Metro takes the region a major step in that direction.

Highlights:

Cooperative development of the Yard Debris Licensing System by local governments, processors, and Metro.

Issues:

Development of a similar system for organics processing facilities is called for by the Plan. Some of this work will be done in conjunction with the revisions to the Metro regulatory code getting underway.

Solid Waste Facilities - Transfer and Disposal System

Overall progress:

- Metro continues to monitor the performance of the transfer and disposal system and plan for improvements to the system in accord with the Plan. This report period saw no major changes in the current system of transfer stations and landfills.

Highlights:

- Development of a Capital Improvement Plan for Metro facilities was initiated.
- Development of proposal for rebidding of transfer station operating contracts for Metro Central and Metro South was initiated.

Issues:

- The Capital Improvement Program will address modifications that could alleviate congestion at Metro South.
- The Metro requirements for reload facilities are expected to be addressed through review of recent applications and the Code revision process.

Part 1 - RSWMP Regional Solid Waste Benchmarks

Note on Table 1.1. RSWMP specifies that certain benchmarks - in particular, Landfilled Solid Waste and Disposal Benchmarks - are to be established or verified within a year of adoption. This time was allotted because these benchmarks require special studies of generators and waste composition. At the time of this report, data from the study of multi-family households was being cleaned and verified. A pilot for commercial generators had been completed, and full-scale measurement was scheduled to begin in October 1996. A design for study of construction & demolition debris has been drafted and is being circulated for comment. Implementation of the tracking surveys (RSWMP, page 9-10), which will allow interim updates of generator surveys and the regional waste characterization studies, will commence in early 1997.

Table 1.1 - RSWMP Solid Waste Regional Benchmarks

	RSWMP Baseline Assumptions	Current Indicator ¹	Year 2000 Indicator	Units
System Benchmarks				
Recycling Level ²	39%	43%	48%	percent
Recovery Level ²	42%	46%	52%	percent
Per Capita:				
Generation	1.34	1.44	1.36	tons/capita/year
Recycling	0.58	.67	0.71	tons/capita/year
Disposal	0.76	.77	0.65	tons/capita/year
Solid Waste Hierarchy				
Prevention	n/a	n/a	1%	percent
Recycling	28%	34%	35%	percent
Composting	6%	7%	9%	percent
Energy/Fuel	8%	6%	7%	percent
Disposal	58%	53%	48%	percent
Facility Benchmarks				
Direct-Haul Tonnage	1,088,700	1,120,237	990,700	tons/year
Transfer Stations	820,900	834,926	679,800	tons/year
Materials Recovery Facilities (MRF) ³	113,500	111,736	157,300	tons/year
Ltd. Purpose Landfill	154,300	166,482	153,600	tons/year
Landfilled Solid Waste	1,023,100	1,045,492	926,400	tons/year
Food	222,600		191,300	tons/year
Recyclables	366,100		291,700	tons/year
Yard Debris	60,000		59,300	tons/year
Other	374,400		384,100	tons/year
Disposal Benchmarks				
Single Family	30		28	lbs/HH/week
Food	9.1		8.4	lbs/HH/week
Recyclables	9.7		8.8	lbs/HH/week
Yard Debris	2.9		2.7	lbs/HH/week
Other	8.0		8.0	lbs/HH/week
Multi-Family	24		19	lbs/HH/week
Food	7.4	See "Note on Table 1.1"	7.4	lbs/HH/week
Recyclables	9.0		5.3	lbs/HH/week
Yard Debris	1.9	page 6	1.1	lbs/HH/week
Other	5.4		5.4	lbs/HH/week
Business	20		16	lbs/emp/week
Food	4.6		2.9	lbs/emp/week
Recyclables	8.2		5.1	lbs/emp/week
Yard Debris	0.7		0.7	lbs/emp/week
Other	6.9		6.9	lbs/emp/week
Construction & Demo	234,000		235,800	tons/year
C&D per capita	0.18		0.17	tons/capita/year

Notes:

- All figures exclude auto shredder residue, petroleum contaminated soil, and other special wastes.
- Sources:
 - RSWMP (Table 9.3)
 - Interim 1995 Recycling Level Survey
 - SWIS Report - August 1996 Abridged Version
 - Regional Waste Characterization Study - 1993-94

¹ The "Current indicator" for System Benchmarks is based on calendar year 1995 data; for Facility Benchmarks, it is based on FY 1995-96 data.

² Excludes: auto fluff, pcs, and other special wastes, as well as pre-consumer waste and excavation wastes.

³ RSWMP was completed prior to the recent wave of MRF construction. The RSWMP baseline includes materials delivered to the processing lines at Metro Central, Marion County Waste-to-Energy, etc. The Current Indicator is mixed waste delivered to stand-alone MRFs. The comparable baseline number is 69,920 tons.

Background Economic Information

- Between FY 1994-95 and FY 1995-96 the region's population grew by nearly two percent, from 1,564,00 to 1,595,800.⁴
- Employment in the region also grew between FY 1994-95 and FY 1995-96, from 783,000 employees to 818,600 employees, an increase of nearly four and a half percent.⁵
- The number of single and multi-family residential building permits issued in the tri-county region increased 10% between FY 1994-95 (12,616 units) and FY 1995-96 (13,871 units).

System Measurement Studies for FY 1995-96

Commercial Generator Study

This project is the third round in the Generator Survey Program initiated during 1992 and beginning with single family and multi-family, respectively. The program consists of a series of sample surveys that measure waste, recyclables, and characteristics of individual solid waste generators.

The Commercial Generator Study will weigh and characterize the waste and recycling of twelve business types in three areas of the Metro region, two suburban areas and one urban area. Other data such as location, business size, size of customer base, land use, location, duration at site and type of recycling service will be gathered for each sample unit. Sit-down eating and drinking establishments will be separated into pre- and post-consumer categories before the material sort. Both sit-down eating and drinking establishments and grocery stores will be sorted into material categories extended to include compostables. Also, in-depth interviews will be conducted in order to assess qualitative variables.

A contract was awarded on May 10, 1996 to Harding Lawson Associates for the \$120,000, multi-year project. May, June, and July were devoted to study design and other preliminary tasks. A pilot study was completed in mid-August. Presently, the pilot data is being analyzed in order to refine the study method. The first of four seasonal sampling events is scheduled to commence in October.

Construction and Demolition Generator Study

See "Note on Table 1.1" page 6.

⁴ Population statistics are from Portland State University Center for Population Research and Census.

⁵ Wage & Salary Employment, Oregon Employment Department Research and Statistics.

Part II - Tracking Implementation of the Recommended Practices

Residential Waste Reduction

Summary: Over the next five years, the RSWMP focus is to build on existing residential programs and shift to a stronger focus on waste prevention and home composting. In the longer term of five to ten years, the RSWMP focuses on new collection technologies for the residential waste stream, along with the potential collection and processing of residential food waste.

Tasks for FY 1995-96 and Status of Relevant Metro / Local Government Programs and Activities:

1. **Waste Prevention** - This strategy emphasizes:

- Waste prevention as the best approach to resource conservation;
- Education in the schools and regional media campaigns as two primary tools to communicate the message;
- Early evaluation of waste prevention programs to determine their effectiveness.

Two sets of recommended practices fall under this strategy:

- a) **Education and Information.** The recommended practices envision three basic types of programs: media campaigns, educational programs, and Earth-Wise Purchasing. No specific requirements for these waste prevention programs were indicated by the RSWMP[®] for FY 1995-96. Budget work and development of a waste prevention message for the media campaigns will occur in FY 1996-97.

Metro did, however, undertake the Greener Cleaner Pilot Project, a residential waste prevention activity (see "Greener Cleaner Pilot Project" RSWMP Solid Waste Programs), as well as a billboard campaign displaying local children's artwork focusing on the waste prevention message.

- b) **Home Composting.** The strategy is to continue the workshops and home compost demonstration sites and to improve the bin distribution program through ongoing evaluation efforts.

During FY 1995-96, in accordance with the Plan, the compost workshops continued to be held in the spring and fall and the three compost demonstration sites were maintained. A new demonstration site was opened at Leach Botanical Gardens. A new demonstration site in Washington County is expected to be sited in FY 1996-97.

The evaluation of the compost bin distribution program showed high levels of satisfaction among bin purchasers as well as support for the program. Metro

staff is assessing its role in the direct distribution of compost bins and how to better target non-composting households.

2. **Recycling** - The strategy is to improve the performance of existing curbside programs, and to expand services to new materials when feasible. The recommended practices prescribe a variety of both single-family and multi-family programs to accomplish these objectives. A notable achievement has been making the process of developing annual local government work plans consistent with the strategies adopted in the RSWMP.

Three sets of recommended practices fall under this strategy:

- a) **Expand Existing Residential Curbside Programs.** During FY 1995-96, the Plan called for:
 - **Curbside collection of scrap paper throughout the region** - With the beginning of this service in Washington County, 7/1/96, this goal has been accomplished.
 - **Weekly curbside collection (or equivalent) of yard debris** in the two remaining jurisdictions not having such service. The spring 1996 Yard Debris Study showed that the service levels established in these jurisdictions met the requirement. (See "1996 Metro Yard Debris Study" Programs Evaluated, page 20.)
 - **Recycling containers at multi-family complexes** - The goal is to serve the maximum feasible number of units by 7/97. Several jurisdictions have already achieved that goal and have shifted focus to maintaining their systems. Other jurisdictions are still working to achieve the goal to have 85% of their units served. An effective promotional campaign for multi-family recycling was also implemented during the year. (See "Multi-Family Promotional Campaign" Regional Promotion/Education Campaigns, page 24.)
 - **Regional education and promotion campaigns** - A promotional campaign was implemented that focused on recycling at multi-family complexes. (See "Multi-Family Promotional Campaign" Regional Promotion/Education Campaigns, page 24)
 - **Target low participant neighborhoods** - While the Plan envisioned Metro leading a program in this area in FY 1995-96, discussions among Metro and local government staff determined that a closer look is needed at the potential effectiveness of this approach.
 - **Programs that target reduction of yard debris in drop boxes and self-haul** - Efforts to develop programs led to the determination that the scope of the problem is not as severe as previously thought, although it should continue to be monitored in upcoming waste characterization studies. It has also been suggested that local governments, rather than Metro, should be the responsible party for developing such programs. A related question on Metro's policy regarding yard debris received at its transfer stations is to be addressed during FY 1996-97.

- b) **New Collection, Transfer, and Disposal Technologies.** The strategy as outlined in the Plan, looks toward the increasing experience in local curbside programs to provide insights into the development of new collection technologies, such as co-collection. While there were no recommended practices adopted by the Plan in this area, cooperative research and investigation on promising techniques was envisioned. The City of Portland is currently taking the lead in coordinating such research. Metro has also contributed to these investigations through its development of the commercial organics processing pilot project.
- c) **Curbside Collection and Processing of Residential Food Wastes.** Development of practices in this area are dependent upon the results of the commercial organics processing pilot project currently underway.

Business Waste Reduction

Summary: The recommended practices for business waste reduction place a strong emphasis on following the solid waste reduction hierarchy. As in the residential sector, aggressive waste prevention programs and expansion of recycling services to businesses is a strong focus. Additional strategies for organics, mixed dry waste processing, and fiber-based fuel are also prescribed.

Tasks for FY 1995-96 and Status of Relevant Metro / Local Government Programs and Activities:

1. **Waste Prevention and Recycling** - As in the residential waste reduction practices, waste prevention is the best approach to resource conservation and early evaluation of waste prevention efforts is key in determining their effectiveness. Two sets of recommended practices fall under this strategy.
 - a) **Education, Information & Market Development.** The recommended practices prescribe a number programs designed to accommodate the variety of businesses in the region and their special needs. These programs include waste evaluations, model waste prevention programs, coordinated media campaigns, and integration of recycled materials into both procurement policies and manufacturing processes.

The major focus for FY 1995-96 was the continuing development of Earth-Wise programs and Metro's information services to manufacturers. The development of model waste prevention programs also continued during this fiscal year. (See "Model Waste Prevention Programs for Businesses" Business Waste Reduction, page 25.) Metro and local governments also began their development and planning process for meeting the waste evaluation objectives.
 - b) **Expand Source-Separated Recycling.** While waste prevention is an important focus for the next five years, development of source-separated recycling activities at businesses is expected to be a major contributor to the region's reaching its waste reduction goals.

The recommended practices stress the importance of ensuring that services (including appropriate containers) are provided to businesses of all size. A specific objective targeted by the Plan, i.e., 50% of all businesses served by recycling services by 1/96, was premised on the understanding that current services and the City of Portland's new required commercial recycling program would result in this target being met. The long-term objective, i.e., 100% of all businesses by 1/99, and similar targets for small businesses, i.e., 100% of all businesses by 1/00, are currently being discussed in the context of an overall inventory of existing service levels. The inventories are being done as part of each local government's development of a waste reduction plan.

Consistent with the requirements of the Plan, the Business Recycling Awards Group (BRAG) commercial recycling recognition program was significantly expanded during the fiscal year. (See "Business Recycling Awards Group [BRAG] Commercial Recycling Recognition Program" Programs Initiated, page 17.)

2. **Organics** - The Plan assigns responsibility to the private sector for the siting and development of processing capacity for organic waste. Metro will play a strong role in sponsoring demonstration projects to assist in this development. Consistent with the Plan, during FY 1995-96 this process began and resulted in two proposals. Implementation of these proposals is expected to occur during FY 1996-97. (See "Commercial Food Waste and Processing Pilot" Business Waste Reduction, page 25.)

During the year, Metro also worked with local governments, garbage haulers, and the private sector, to investigate issues associated with collecting organic materials from generators such as grocery stores and restaurants.

The licensing system established for yard debris processors during the fiscal year, is expected to be useful in developing franchise policies and resolving siting issues associated with siting organics processing facilities. (See "Metro Licensing Program for Yard Debris Processing and Reload Facilities" Programs Initiated, page 18.)

- a) **Collection and Off-Site Recovery of Source-Separated Food and Non-Recyclable Paper From Businesses.** Consistent with the Plan, during FY 1995-96 this process began and resulted in two proposals. Implementation of these proposals is expected to occur during FY 1996-97. (See "Commercial Food Waste and Processing Pilot" Business Waste Reduction, page 25.)
3. **Post-Collection Recovery.** Although the Plan stresses the importance of "upstream" recovery techniques, it acknowledges that post-collection recovery will play an important role in reaching regional recovery goals.
 - a) **Regional Processing Facilities for Mixed Dry Waste** - The recommended practices stress the importance of developing sufficient processing capacity and regional access from all parts of the region. These objectives will primarily be achieved through private initiatives as regulated by the Metro franchise system.

The Plan was premised on the belief that public sector intervention might be necessary to achieve the capacity and access objectives. However, in the spring of 1996 Metro received a significant number of applications for mixed dry waste processing facilities indicating that intervention was probably not necessary. (See "Regional Materials Recovery Facilities [MRFs]," Business Waste Reduction, page 26.)

While the Plan indicated that the review of processing facility fee structures and vertical integration restrictions would be completed by July 1996, it is currently anticipated that these tasks will be extended into FY 1996-97. Metro continued to supply technical assistance for market development for recovered materials.

- b) **Fiber-Based Fuel** - The Plan recommended that support for fiber-based fuel be contingent on its economic viability. During FY 1995-96, the Metro Central Transfer Station contractor, BFI, Inc., made significant strides in their effort to develop a viable processing system. (See "Fiber-Based Fuel - Metro Regional Center" Programs Initiated, page 17.)

Building Industries Waste Reduction

Summary: The Plan attempts to implement a broad-based strategy strongly consistent with the waste management hierarchy and with a focus on providing educational materials for the building industry.

Tasks for FY 1995-96 and Status of Relevant Metro / Local Government Programs and Activities:

1. **Waste Prevention** - The aim of current waste prevention efforts, including on-site audits and developing technical assistance information, is to move from research and development to a broad-based Earth-Wise building program that is a permanent part of the building industry.
 - a) **Develop Targeted Technical and Educational Programs.** During FY 1995-96, the on-site audits and technical assistance activities continued. The eventual goal is to have such activities integrated into the overall Earth-Wise Builder Program. Efforts to institutionalize the Earth-Wise Builder Program were advanced when the program became a state-recognized, non-profit organization. (See "Earth-Wise Builder Program," Programs Initiated, page 18.)
2. **Recycling** - The Plan recognizes that construction and demolition activities produce significant amounts of recyclable material and that segregating and diverting those materials at the generator level can be a very effective way of capturing high-value material.
 - a) **On-Site Source Separation at Construction and Demolition Sites.** During FY 1995-96, Metro and local governments developed strategies to ensure that on-site recycling services are available at construction and demolition sites. In the next fiscal year, the strategies will be assessed to determine how effectively they are being implemented. Included in this assessment will be an examination

of how the new dry waste processing facilities are affecting these on-site recycling efforts and how economic issues affect the growth of these recycling activities.

Additional activities that support construction and demolition site recycling were conducted by Metro and local governments. (See "Summary of 1995-96 Local Government Waste Reduction and Recycling Programs" Table A-3, RSWMP Solid Waste Programs)

- b) **Develop Markets to Support Recycling Rather Than Energy Recovery.** Metro assisted St. Vincent DePaul in developing their retail location for a wood depot and helped with its construction. Metro also promoted building material salvage businesses through the printing of 9,000 copies of the 1996 Metro Construction Site Recycling Guide. Metro continues to provide support for development of industries using recycled construction and demolition materials through its Recycling Business Assistance Program.
3. **Post Collection Recovery**
- a) **Develop Regional Dry Waste Processing Facilities for Waste From Sites Where Separation and Collection of Recyclables is Not Possible.** The Plan recognizes that dry waste processing facilities complement a site-based construction and demolition recycling system. At the present time, it appears that the system of developing dry waste processing facilities will do this. However, Metro will continue to monitor this issue as the new facilities come on line. (For a broader discussion of the dry waste processing facility issue, please see "Business Waste Reduction - Regional Materials Recovery Facilities (MRFs)," page 26.)

Solid Waste Facilities - Regulation and Siting

Summary: The Plan identifies two important areas in which the regulation and siting of solid waste facilities is of regional concern: yard debris and organic waste processing facilities. The need for regional activity was premised on the belief that without regional environmental and performance standards, the facilities could not be sited and operated. Since the long-term regional recycling goals depend upon yard debris and organics programs, this would be a major obstacle.

Tasks for FY 1995-96 and Status of Relevant Metro / Local Government Programs and Activities:

- 1. **Yard Debris Processing System.** After working closely with local governments and processors, a yard debris licensing program was developed and implemented. The program generally matched the target dates in the Plan, with new facilities required to be licensed beginning in March 1996, and existing facilities required to be licensed by August 1997. (See "Metro Yard Debris Program for Yard Debris Processing and Reload Facilities," Programs Initiated, page 18.) Metro is continuing to work with local governments to ensure that clear and objective siting standards for yard debris processing facilities are adopted throughout the region.

2. **Organic Waste Regulatory System.** The plan for developing an organic waste regulatory system will use the yard debris processing system as a guide. The effort to revise the Metro Code during FY 1996-97 is expected to address many of the issues regarding regulating organic waste processing facilities. Metro will continue to work with local governments to ensure that processing facilities can be sited. However, the timeline for that process will not be completed until Metro has revised its Code.

Solid Waste Facilities - Transfer and Disposal System

Summary: The recommendations for the transfer and disposal system emphasize the maintenance of the existing system of Metro transfer stations for the management of municipal solid waste. The Plan also recognizes the need for additional services such as designated facilities for special wastes.

Tasks for FY 1995-96 and Status of Relevant Metro / Local Government Programs and Activities:

1. **Maintain Existing System of Three Transfer Stations; Build No New Transfer Stations; No Redirection of Haulers.** In accord with the Plan, the development of a capital improvement plan was initiated during FY 1995-96, with completion expected in June 1997. With the concurrence of Council, existing Metro transfer station operations contracts were extended and the rebid process begun. The new contracts will begin in May 1997.

Consistent with the Plan, expanded service for reuse and recycling was initiated through a contract with St. Vincent DePaul at the Metro South Transfer Station.

2. **Maintain the Existing System of Private General and Limited Purpose Landfills.** There were no major changes in the current system during FY 1995-96.
3. **Maintain Options for Haulers to Choose Among Disposal Alternatives.** There were no major changes in the current system during FY 1995-96.
4. **Reload Facilities.** There were no major changes in the current system during FY 1995-96.

Appendix - Program Descriptions

Programs Initiated

Metro Flood Debris Programs

In February 1996 flood waters damaged many areas of the region. In order to manage the debris left behind, Metro and local jurisdictions implemented temporary programs. Metro set up two different programs for its transfer stations. The first was geared to local governments, and the second to citizens.

For the first program, a special flood debris account was set up for each local jurisdiction. Local jurisdictions were then allowed to use vouchers to debit loads of flood debris to their accounts. Accounts were not payable until reimbursement from the Federal Emergency Management Agency (FEMA) had been received. Generally, local jurisdictions received a reimbursement of 75% of the cost of their flood debris, with Metro writing off the balance. Under this voucher program, nearly 4,000 tons of flood debris were received at the transfer stations and debited to the special accounts.

In the second program, self-haul customers with flood debris from their residences or small businesses were allowed to dump at the Metro transfer stations for a reduced fee. (Five dollars for a car or pick-up load and ten dollars with a trailer.) This program was in effect from late February through the end of March 1996, and resulted in nearly 900 tons of flood debris being brought into the Metro transfer stations.

City of Portland Mandatory Commercial Recycling Program

Effective January 1, 1996, all businesses, multi-family complexes, and construction projects with a permit value over \$25,000 within the City of Portland are required to recycle. The mandatory recycling program was passed by ordinance through the City of Portland Council. The focus of the program is outreach, education, and assistance.

All commercial entities received a written notice that they would be required to recycle beginning January 1996. Guides, recycling forms, tips, and resources for assistance followed the initial notice. More interactive outreach is in planning stages.

Staff developed a comprehensive business recycling plan with assistance from businesses, waste haulers, and environmental groups specifying that businesses work to achieve a 50% recycling goal. Separate recycling plans were also developed for multi-family housing units and construction and demolition sites.

Measurement efforts will include analysis of increases in number of businesses recycling, increases in the number of materials recycled, and quarterly tonnage trend information.

Independent recyclers have a share of the market and staff is developing methods to measure their impact.

Enforcement includes random inspections and complaint-based investigations. Businesses found to be in violation are given a 30-day assistance period in which City staff will help the business set up and implement a program. After 30 days, non-compliant businesses may be fined up to \$500. Enforcement actions did not begin until April 1996.

Business Recycling Awards Group (BRAG) Commercial Recycling Recognition Program

The BRAG program is a business recognition program developed cooperatively by local governments in Clackamas, Multnomah, Washington, and Clark Counties and Metro. The program recognizes businesses that reduce waste, reuse materials, recycle, and buy recycled products. Businesses that successfully qualify for the program receive:

- their name in print ads and press releases;
- a membership certificate, suitable for framing, and a window decal;
- a newsletter providing tips on how to reduce, reuse, and recycle more;
- personalized assistance to help businesses expand current programs;
- an opportunity to be on the cutting edge of a new trend in business.

There are two award categories. The first is a basic BRAG membership for businesses that recycle at least three items on a regular basis, prevent waste through at least three ongoing activities, and buy at least three different recycled products. The second category is a distinguished BRAG membership for businesses that regularly recycle at least six items, prevent waste using six ongoing activities, buy at least six different recycled products, and provide information to customers, suppliers, and other businesses about how to recycle, prevent waste, and buy recycled.

The program has received a positive response from the business community.

Fiber-Based Fuel - Metro Regional Center

On January 18, 1996, Metro launched a fiber-based fuel (FBF) program as part of its "waste free" conference room program. FBF programs were also implemented for the employee lunch room and the paper toweling in all rest rooms. To maximize material collection, Metro coffee and food vendors were asked to support the waste free program.

Between January 18, 1996 and June 30, 1996, Metro Regional Center recovered approximately 1.5 tons of FBF. Recovery levels are modest since the Regional Center is not the ideal generator for FBF material. However, since Metro's role in waste prevention is education, it is important that Metro implement these kinds of pilot programs so that others can be encouraged and assisted in the implementation of their own programs. The

types of generators that are optimal for an FBF program include: special events, fast food restaurants, stadiums, malls, grocery stores, and theaters.

Expansion of the FBF program is planned for other Metro facilities in the coming fiscal year. Both the Metro Washington Park Zoo and the Convention Center will begin FBF programs during the fall of 1996.

Earth-Wise Builder Program

Over the last four years, Metro has promoted construction and demolition recycling and the "buy recycled" message to home builders, home remodelers, demolition and commercial contractors. In order to appeal to a larger audience, Metro has helped establish the Earth-Wise Builder program. This program ties in many different green building techniques with Metro's original goals of recycling construction and demolition debris and increasing demand for recycled-content building materials.

In January 1996, Earth-Wise Builders became a state-recognized, non-profit organization. The Earth-Wise Builders' board has offered continuing education for member contractors in the form of monthly two hour technical sessions on new products and changes in job site recycling options. Member contractors received media coverage from two local TV stations as a result of their work assembling the St. Vincent DePaul Wood Depot dry storage building. There are presently 24 members, of which eight are contractors.

Most recently, a summit meeting of all of the green building organizations in the Metro region was convened to discuss possible partnerships and cooperative efforts. The four groups, American Institute of Architects Committee on the Environment, PGE Earth-Smart, NW Eco-Builders Guild, and Earth-Wise Builders agreed to hold a combined quarterly meeting for all members, collaborate on upcoming fall home and garden and home improvement shows, and work towards creating a resource center for contractors and the public.

Metro Licensing Program for Yard Debris Processing and Reload Facilities

On November 30, 1995, the Metro Council adopted licensing standards for yard debris processing and reload facilities. As of March 1, 1996, the licensing program went into effect for all new facilities. Operators of existing facilities will have until August 1997 to apply for a license and to comply with program standards. By the end of the fiscal year, two applications from existing facilities had been received.

The program was developed to respond to the challenges and opportunities created by the increase in yard debris recycling in the region since 1987. Many facilities are located in areas that are becoming urbanized. As a result, nuisance impacts such as odor, dust, and noise have caused heightened public awareness and concern. In response, Metro convened a regional task force to develop solutions that would be effective, as well as

acceptable, to the yard debris processing industry. The task force consisted of yard debris processors, local governments, haulers, and the Oregon Department of Environmental Quality. The licensing program was developed with the guidance of this task force.

The program will help to ensure that facilities are operated in a manner that minimizes nuisance impacts on surrounding communities. The program will require operators of facilities in the region to apply for a Metro license and to comply with program standards, which include requirements for facility design, operating standards, and odor minimization.

Programs Evaluated

1995 Compost Bin Distribution Program

Through a contract with Market Decisions Corporation (MDC), a Portland marketing research firm, a telephone survey was conducted in December 1995 to evaluate Metro's home compost bin distribution program⁶. A total of 875 households were surveyed, with 700 of those being households that had purchased compost bins at a discount from Metro in 1994 and 1995, and the remainder selected at random from the general population.

Overall, the survey found that bin purchasers were satisfied with their purchases, with 91% indicating they were somewhat satisfied or more. There was also a great deal of support for continuing a government-sponsored discount compost bin program. Of bin purchasers, 92% said they thought the program should continue. Approximately 80% of non-bin purchasers also supported the idea.

Two of the primary objectives of the survey and their significant findings are as follows:

- Evaluate the effect of the bin program on composting among the bin purchasers when compared to the general public.
 1. Bin purchasers reported an increase in composting levels after receiving the bin. Fifty-two percent said they composted more yard debris and 39% said they composted more food scraps after receiving the bin.
 2. Bin purchasers also reported setting out less yard debris less frequently for curbside pickup than prior to purchasing the bin. They also reported disposing less food waste in the trash or garbage disposal.
 3. Bin owners are more than twice as likely to compost yard debris and nearly three times as likely to compost food scraps than the general population.
- Investigate the amount of yard debris and food waste put into the compost bins.

⁶Market Decisions Corporation, "Metro Compost Bin Program Evaluation - Summary of Findings," January 1996. Report available from Metro Regional Environmental Management Library.

1. The amount of yard debris and food scraps composted by bin purchasers compared to the composting portion of the general population who did not purchase Metro bin is about the same for food waste and slightly less for yard debris.
2. The average amount of yard debris composted each week by bin purchasers was one 32-gallon can per week, compared to one and one-half 32-gallon cans for those in the general population who compost.
3. The average amount of food scraps composted by bin purchasers was slightly over three 1-pound coffee cans per week, compared to slightly under three 1-pound coffee cans per week for those in the general population who compost.
4. Based on volumes reported by bin purchasers, approximately 750 pounds of material per year per household is diverted through home composting.

1996 Metro Yard Debris Study

During the spring of 1996, the third in an annual series of studies took place to determine the effect of different yard debris collection programs present in the region on single-family household yard debris disposal patterns. The study was conducted by Metro in cooperation with local governments and their haulers, and the Statistical Consulting Laboratory at Portland State University.⁷

In the region, there are several different kinds of residential yard debris programs.⁸ However, there is a regional requirement that all programs must be equivalent to or more effective than weekly curbside collection in keeping yard debris out of the wastestream. For the last three years, a study has been conducted each spring to measure the amount of yard debris disposed as waste from different areas within the region. The results of these studies have helped to determine which programs are meeting the regional requirement and which need to be reviewed.

The most recent study included 15 jurisdictions and four different programs, including weekly curbside collection, every-other-week curbside collection with 32-gallon containers and with 60-gallon containers, and depot/on-call services. The results showed that all of the programs met the requirement of providing a yard debris collection program that was at least as effective as weekly curbside collection at keeping yard debris out of the wastestream.

⁷ Statistical Consulting Laboratory, Portland State University, "1996 Metro Yard Debris Study," May 15, 1996. Report available from Metro Regional Environmental Management Library.

⁸ See Table A-1 for a matrix of the different programs.

RSWMP Solid Waste Programs

I. County and City Programs

- Metro Region Yard Debris Collection Programs, Jan. '96 - Table A-1
- Materials Collected in Curbside Programs, FY 1995-96 - Table A-2
- Summary of FY 1995-96 Local Government Waste Reduction and Recycling Programs - Table A-3

II. Cooperative Regional Programs

A. Regional Grant Programs

1. Government:

- Metro Challenge Grant Allocations - Table A-4
- Peer Grant Program

The Metro Peer Grant program allocated \$100,000 to public agencies during FY 1995-96 to develop waste prevention, recycling, and Earth-Wise purchasing programs within their daily operations. Funds were distributed on a competitive basis. Program results, final reports, and case studies will be available for distribution in June 1997. The following agencies were awarded grants:

1. Portland Public Schools - The Ben Franklin Project. Total Grant Award: \$30,000; This project will develop resource conservation programs for 19 middle schools. Pre-grant resource conservation practices will be documented and plans developed that will maximize waste recovery through recycling, waste prevention practices, vegetative waste diversion, and energy conservation. A Resource Coordinator and organized green clubs from each of the 19 middle schools will manage the program.

2. City of Milwaukie - Resource Conservation Project. Total Grant Award: \$40,000; The City of Milwaukie is in the process of writing and implementing energy, water, and material resource conservation plans for each of the City's four facilities. The plans will include:

- ◇ Energy and water efficiency;
- ◇ Waste prevention and recycling;
- ◇ Recycled product procurement policy review and use of recycled products for applicable facility renovations;
- ◇ Development of educational materials and employee training.

The project involves three government agencies: Metro, City of Milwaukie, and the DEQ. The Metro Peer Grant / City of Milwaukie model for public agencies will be modified and duplicated in a DEQ / City of Milwaukie resource conservation project for businesses.

3. Washington County Justice Complex. Total Grant Award: \$30,000; Washington County, in conjunction with Hoffman Construction and the Zimmer Gunsul Frasca Architectural Design firm are in the process of constructing a justice center complex that consists of a new county jail, community corrections center, sheriff's office, and a park and ride. Metro Peer Grant funds will be used to purchase recycled products for the new construction and publicize their use through media events, permanent signage in the new buildings, and a "how-to" guide for builders.

- Cleanup Grant Allocation - Table A-5

Metro funds utilized for cleanup programs increased from \$34,616 in FY 1994-95 to \$48,423 in FY 1995-96. Sixty separate events, involving 28 local jurisdictions, were given funding assistance through Metro cleanup grants. Although cleanup programs rely heavily on volunteer labor and donated materials and services, the events continue to be expensive. Costs incurred for cleanup programs during FY 1995-96 totaled nearly \$138,000.

- Master Recycler Grant Summary

A total of \$25,000 was awarded to the Master Recycler program by Metro. Of that, \$5,000 was drawn from the Regional Environmental Services budget for help with household hazardous waste events, and the rest was drawn from the Waste Reduction & Planning Services budget for help with home composting and other waste reduction outreach activities.

2. Private Non-Profit:

- Thrifts Grants Summary

In FY 1995-96, \$352,921 was distributed to the three participating thrift organizations to assist them with disposal costs at Metro facilities. During that same period, the three participating thrifts diverted to reuse or recycling a combined 17,826 tons of donated material.

Table A-6 - Tons Reused or Recycled by Participating Thrifts FY 1995-96

Thrift organization	Material reused or recycled	Material disposed of as garbage	Recycling level
St. Vincent DePaul	5011 tons	1102 tons	82%
Salvation Army	4099 tons	1719 tons	70%
Goodwill	8716 tons	6418 tons	58%
Total	17,826 tons	9,239 tons	

3. Private For-Profit

- Metro Recycling Business Development Grants - Table A-7

B. Residential Waste Prevention, Home Composting, and Recycling

1. Composting

- Earth-Wise Compost Program

The Earth-Wise Compost Program was adopted in FY 1994-95 when a committee of experts developed standards for commercial yard debris compost produced in the Metro area. FY 1995-96 was the first full year of the program. The purpose of the Earth-Wise standards is to provide greater assurance that yard debris compost will not cause harm to the environment and human health, and to help stabilize and increase the market for compost made with recycled yard debris.

Participation in the program is voluntary. Those processors whose product meets or exceeds standards are designated Earth-Wise. They receive a certificate and logos to use in promoting their product. In FY 1995-96, nine local processors applied for the program. Samples of finished yard debris compost were taken in October and May by Agra Earth and Environmental, a consulting firm under contract to Metro. The samples were analyzed by various laboratories for pH, heavy metals, pesticide residue, plant nutrients, foreign materials, salts and weed-seed germination. Eight of the nine processors met the standards and were designated Earth-Wise.

- Compost Workshops

The compost workshops are presented in the spring and fall of the fiscal year. The spring 1996 workshops were held at the four Metro compost demonstration centers: Mt. Hood Community College, Fulton Community Gardens, Clackamas Community College, and Leach Botanical Gardens. Three additional workshops were presented by an outside contractor at three Washington County locations: Beaverton Community College, City of Tigard and Washington County Extension Office. A total of 27 workshops were given at these locations with 288 people attending.

- Compost Bin Distribution Program

On June 15, 1996, Metro sponsored a one-day compost bin sale at four locations in Portland and Washington County. Nearly 11,000 Earth Machine compost bins were sold for \$22.00, a fraction of the \$90.00 retail price. The cost of the program to Metro was \$80,000 for the bin purchases and local advertising expenses. The event was co-sponsored by Metro, City of Portland, and Washington County.

C. Regional Promotion/Education Campaigns

- Multi-Family Promotional Campaign

In June of 1995, a multi-family recycling public promotion campaign was developed and implemented. The message targeted the tenants of multi-family complexes, rather than owners and managers as was the focus of past campaigns. Tenants were encouraged to request recycling services from their managers or to properly utilize the recycling systems that had been installed at their complexes.

The effort had a very low budget and relied on some corporate sponsorship provided by Pietro's Pizza and Smurfit Newsprint and Recycling. The campaign utilized a wide variety of media including some unusual and untried venues, such as movie theaters, pizza box flyers, and restrooms in pubs, restaurants, and health clubs. Ads in Willamette week, radio spots, grocery bags, and mail-out packets completed the outreach. All ads encouraged the audience to call Metro Recycling Information for a free packet of materials to help them develop recycling programs or properly use the systems in place. Different packets of materials representing each local jurisdiction's unique program were prepared.

While response was not overwhelming, the Recycling Information Center did experience a ten-fold increase in the number of calls requesting information on multi-family recycling, as compared to June of 1994 and May of 1995. The most effective advertising proved to be radio ads, with movie theater ads and print materials in Willamette Week tying for second. The majority of calls requesting information came from tenants in the City of Portland living in complexes without on-site recycling services. The tally for the source of the caller's information about recycling was informal and done manually.

The Multi-Family Support Group consisting of local government representatives and Metro staff felt that although simple and inexpensive, the campaign was positive and that the change in focus away from owners and managers was a good choice.

- Greener Cleaner Pilot Project

The Greener Cleaner Pilot Project served as a unique *opportunity* to blend the goals of residential waste prevention and waste reduction education for school-age children. The pilot project involved the creation of a Greener Cleaner kit and the presentation of the kit and its waste-prevention, toxics-reduction message to over 425 fifth grade students throughout the Metro region. The purpose of the project was to increase the general public awareness of specific actions that can be taken to prevent waste and reduce the use of household hazardous cleaning products. The kit and presentation were designed such that it would be easy for the children to share with their families what they had learned.

The Greener Cleaner kit was composed of a number of items designed to promote a variety of waste prevention activities. The kit included such items as a string tote shopping bag, custom-labeled plastic spray bottles, a composting video, and a *Greener Cleaner Pocket Book* with steps to a healthier, waste-wise home.

A parent/student survey was given to every student receiving a Greener Cleaner kit and the returned surveys provided valuable positive feedback regarding the usefulness of the kit. The survey was designed to show how the kit recipients and their families used the kits and how their behavior was changed, if at all.⁹

Metro staff recommends that the Greener Cleaner program be continued into the 1996-97 fiscal year.

D. Business Waste Reduction

- Commercial Food Waste and Processing Pilot

This pilot project is the result of a series of public workshops conducted in 1994 to help develop a regional food waste management system. The purpose of this one year, \$150,000 project is to test the collection and recovery of commercial pre-consumer vegetative food waste. The selection committee was made up of representatives from DEQ, local governments, and Metro staff. After reviewing a two-phase request for proposals process, the Committee selected two proposers, Oregon Waste Systems/Waste Management of Oregon and Oregon Soils Corporation. Contract negotiations with Waste Management are completed and their contract for \$55,000 was signed in September 1996. Contract negotiations with Oregon Soils Corporation are still in the development stage.

- Model Waste Prevention Programs for Businesses

Three types of businesses were targeted for the Model Waste Prevention Programs in FY 1995-96:

1. "Sold on Waste Prevention" - Real Estate Waste Prevention Campaign. Metro partnered with the Portland Metropolitan Association of Realtors (PMAR) to develop and implement a waste prevention education program for its membership. PMAR represents licensed realtors in Clackamas, Multnomah, and Washington counties. Through the project, waste prevention programs were implemented for three real estate offices. Other program activities included a waste prevention presentation at a monthly PMAR membership meeting, an exhibition at the Realtor Multiple Listing Service trade show, distribution of project brochures to real estate schools and PMAR, and waste prevention articles published in the PMAR monthly newsletter and one in the real estate section of The Oregonian newspaper.

⁹ For more information contact the Metro Regional Environmental Library for a copy of the "Greener Cleaner Pilot Project Residential Waste Prevention Summary Report."

2. "Green Key" - Hotel Resource Efficient Project Promotion. In conjunction with the Portland Oregon Visitors Association, American Motel and Hotel Association, and the Green Hotel Association, Metro developed a promotional mailer for the Green Key Hotel Resource Efficient guide. The guide is based upon a Metro demonstration project that involved six area hotels and provides hotels with a blueprint for setting up resource efficient programs. Promotion activities included Green Key guides mailed to 100 Metro area hotels, local governments, and solid waste agencies in other states. The Green Key guides are available through the Metro REM library.

3. Multnomah Bar Association Waste Prevention Project Development. The Bar Association Waste Prevention project was formally launched on July 1, 1996. However, prior to that date extensive project development was completed and endorsements secured.

- Business Recycling Awards Group (BRAG) Commercial Recycling Recognition Program

See "Programs Initiated"

- Regional Materials Recovery Facilities (MRFs)

During 1996, private sector interest in dry waste processing has continued to grow. At the end of 1995, there were four private processing facilities in operation handling almost 90,000 tons per year of dry wastes. (Metro Central Transfer Station also processes such wastes when they are received.) As of October 1996, two new facilities (Waste Management of Oregon in Troutdale, Or. and; Oregon Recycling Systems, in northwest Portland) have been granted franchises. A third firm, KB Recycling, also has an application pending for a new facility. A fourth facility, located next to Hillsboro Landfill, is also expected to request to enter the system. These new facilities are expected to add approximately 140,000 new tons per year of processing capacity for the region.

These facilities were anticipated by the RSWMP and they represent an important part of how the region will achieve our long term regional recycling goals. When the RSWMP was being developed, it was unclear whether the private sector would develop enough of these facilities to provide reasonable access to such facilities throughout the region. Given the number and location of the new facilities, this concern may no longer be valid.

The individual franchise agreements will contain the necessary conditions such as recovery requirements that will ensure the facilities are consistent with the goals and objectives of the Plan. Metro and local governments are also undertaking efforts to ensure these facilities complement and do not undermine local governments source separated recycling programs.

- Fiber-Based Fuel - Metro Regional Center

See "Programs Initiated"

E. Construction/Demolition Waste Reduction

- Earth-Wise Building Program

See "Programs Initiated"

- St. Vincent DePaul Wood Depot

The St. Vincent De Paul Wood Depot is one of the few used building material retail locations in the Metro region. The success of this site will provide Metro with an example of a reuse program that is working to help meet state-mandated recycling goals. In FY 1994-95, Metro contracted with St. Vincent de Paul to establish The Wood Depot. The original \$10,000 contract established a simple gravel pad and fenced perimeter. This first contract did not provide for any shelter to be built on-site. As a result, 85% of the material they were trying to sell was ruined for reuse by precipitation and had to be either recycled or disposed of as garbage.

In FY 1995-96, Metro funded a portion (\$6,500) of the cost to build a 30' x 60' structure for the retailing and storage of weather-sensitive used building materials. The member contractors of Earth-Wise Builders, Inc. volunteered their labor and expertise in assembling the building. The construction of a dry storage area at The Wood Depot ties into the wood waste recovery project that St. Vincent DePaul is heading up at Metro South Station. All of the salable lumber pulled out at the transfer station is going back to the Wood Depot to be sold to the public.

Table A-8 - Used building materials handled by the Wood Depot in FY 1995-96

	Estimated tons received	Estimated gross sales of building materials
Used building materials donated directly to the Wood Depot	60 tons	\$48,000
Salable wood recovered from the MSS that went to the wood depot	15 tons Jan. - August 1996	\$1,000 Jan. - August 1996

F. Solid Waste Facilities - Regulation and Siting

- Metro Licensing Program for Yard Debris Processing and Reload Facilities

See "Programs Initiated"

G. Solid Waste Facilities - Transfer and Disposal System

- The process to rebid the operation of Metro South and Metro Central Transfer Stations began during this fiscal year. The contracts are expected to take effect May 1, 1997.
- Capital improvements were initiated at Metro Central Transfer Station to facilitate the removal of dry waste beginning July 1996. This waste will be taken to a limited purpose landfill. An amount of not more than 50,000 tons per year will be diverted through this program.
- The fiber-based fuel line at Metro Central Transfer Station was improved through the addition of a new heating element. This heating element helps to fuse the plastic in the cubes. Production of fiber-based fuel increased significantly by the end of the fiscal year due to the change.
- Wood waste, including yard debris, was diverted from Metro Central Transfer Station to be used as hogged fuel. During FY 1995-96, approximately 18,000 tons were diverted for this purpose. Beginning July 1996, the same materials will be diverted from Metro South Transfer Station and taken to Metro Central to be used for the same purpose.
- Metro contracted with St. Vincent De Paul to remove reusables and wood from the wastestream at Metro South Transfer Station.
- A capital improvement planning effort began during FY 1995-96, with its initial focus being on improvements at the Metro South Transfer Station.

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TABLE A-1 - METRO REGION YARD DEBRIS COLLECTION PROGRAMS

Update: October 1996

JURISDICTION	WEEKLY SERVICE	E/O WEEK SERVICE	OTHER	EXEMPTION PROGRAM	HAULER CONTAINER	CUSTOMER CONTAINER	IMPLEMENTED	LEAF PROGRAM
Uninc. Clackamas, Happy Valley	X			X (annual fee)	X (60 gal)	X (32 gal)	Yes: 1/92	
Lake Oswego	X			X (no fee)	X (60 gal)	X (32 gal)	Yes: 10/92	
Milwaukie	X				X (60 gal)	X (32 gal)	Yes: 4/92	
Gladstone	X ⁵				X (60 gal)	X (32 gal)	Yes: 7/83	X
Oregon City	X				X (60 gal)	X	Yes: 1/80	
West Linn	X			X (no fee)	X	X	Yes: 6/95	
Gresham†	X			X (one-time fee)	X (60 gal)	X (32 gal)	Yes: 9/92	X
Troutdale†	X			X (one-time fee)	X (60 gal)	X (32 gal)	Yes: 9/92	
Fairview†	X			X (one-time fee)	X (60 gal)	X (32 gal)	Yes: 9/92	
Wood Village†	X			X (one-time fee)	X (60 gal)	X (32 gal)	Yes: 9/92	
Banks			depots (outside Metro)					
Beaverton ¹		X			X (60 gal)		Yes: 10/94	
Cornelius† ¹			depots/compost bin distribution					
Durham ⁴		X			X (60 gal)		Yes: 7/94**	
Forest Grove† ⁴			depots/home composting					
Hillsboro† ⁴		X				X (60 gal)	Yes: 10/94	
King City ^{2,4}			depots					
North Plains			depots (outside Metro)					
Sherwood† ⁴		X ³			X (60 gal)		Yes: 7/94	
Tigard ⁴		X			X (60 gal)		Yes: 7/94	
Tualatin	X				X (90 gal)		Yes: 10/91	
Wilsonville*	X*		X*	X (no fee)*	X (60 gal)*	X (35 gal)*	Yes: 3/94	
Uninc. Washington County ⁴		X				X (32 gal)	Yes: 1/94	
Johnson City	X					X (32 gal)	Yes: 4/89	
Portland (USB)***		X			carts offered	X (32 gal)	Yes: 7/93	X
Maywood Park	X ⁶				carts offered	X (32 gal)	Yes	

²Two collection events yearly.

³Every-other-week curbside pickup or compost bins provided.

⁴Alternative to weekly collection meets regional equivalency standards during 1994-95. Programs are tested annually.

⁵Fees for yard debris collection service are included in the property tax base and are not reflected in garbage bills or rates. Residents may place up to four containers of yard debris by the curb per week for collection.

⁶The City of Maywood Park has weekly curbside collection seven months of the year. For the remaining five months, on-call service and one or two community collection events are available.

*Charbonneau area has 3 programs: small lots = 35 gallon roll carts collected monthly on the first garbage day of the month; larger lots = 60 gallon carts collected weekly; and a no-fee exemption program for those residents with approved landscape service. All other city residents receive 60 gallon roll carts serviced weekly.

¹These cities are located outside the metropolitan burn ban area. They may burn their yard waste.

†A large percentage of the City of Gresham is located outside the metropolitan burn ban.

**Durham has had a collection program since 1990. Significant changes were made in July of 1994.

***Program currently does not meet regional standard; alternative practices will be implemented. Metro tested for equivalency in Spring 1996 and all programs met, the regional standards

TABLE A-3 - SUMMARY OF 1995-96 LOCAL GOVERNMENT WASTE REDUCTION AND RECYCLING PROGRAMS*
September 1996

Jurisdiction	Single Family	Multi-Family	Yard Debris	Commercial Recycling	Construction/Demolition	Promotion & Education
Portland	Addition of curbside collection of phone books and all plastic bottles, bringing the number of curbside collected items to 14. Exploring the selective mixing of recyclables to increase recycling recovery.	Passage of mandatory recycling ordinance effective 1/96. Currently at 83% completion of recycling system installation.	Every other week program combined with composting and grasscycling promotion has been found to meet regional standards. Testing /evaluation performed by Metro in January 1996.	Mandatory business recycling ordinance took effect 1/96. All commercial garbage customers received reporting forms in early 1996. City enforcement began 6/96. Yard debris added to list of commercial recycling services available.	Starting 1/96, all construction projects of \$25,000 or more must now recycle materials generated on job sites. Mandatory materials are rubble, land clearing debris, metals, corrugated and wood. Enforcement activities began 6/96. Over 500 Metro construction site recycling guides distributed through building permit center.	Wide variety of promotion and education including curbsider brochures, plastic bottle promotion, yard debris recycling, grasscycling, school presentations, neighborhood cleanups, commercial recycling promotions.
Clackamas County	Addition of curbside collection of scrap paper, aerosol cans and all plastic bottles 7/95. Exploring the selective mixing of recyclables to increase recovery.	Several changes to collection have increased efficiency. Currently, 68% of multifamily residents have the opportunity to recycle.	County in compliance. City of West Linn added weekly curbside collection 7/95.	Began work on a packet of materials to be distributed to businesses to promote recycling and waste prevention. Flood slowed this effort.	Displays and handouts in building permit offices continue to generate builder interest. County working with haulers to address builders concerns about costs for recycling at construction sites.	Wide variety of promotion and education including newsletters, flyers, displays, school programs, community organization presentations, and promotions at community events.
Washington County	Addition of curbside collection of aerosol cans and all plastic bottles in most parts of the county 7/95. Phone books collected (seasonally 10/96-12/96) curbside and roadside throughout the county.	Haulers continue to provide recycling services. Currently, 78% of multifamily residents have the opportunity to recycle; an 8% increase from last year. Seasonal phone book recycling made available on-call.	Every other week program combined with aggressive composting and grasscycling promotion has been found to meet regional standards. Testing /evaluation performed by Metro in January 1996.	Developed commercial recycling kit 12/95, over 200 kits distributed as of 6/96. Performed 439 business waste audits.	Recycling, salvage and recycled content being incorporated in the new county justice center. Provided construction site recycling workshop for all haulers and government members of the collective 06/96. Earth-Wise Building displays installed in five building permit centers throughout the county.	Wide variety of promotion and education including Waste Line newsletter, brochures, calendars, display racks, community events and recycling week, County Fair booth, Roar Fair, HHW collection, Christmas Tree recycling, etc.

**TABLE A-2 - MATERIALS COLLECTED IN CURBSIDE PROGRAMS
1995-96**

November 1995

JURISDICTION	NEWS	OCC	MAGS	GLASS	TIN	ALUM	PLAS	ASEPTIC	YD ¹	MWP	OIL	AEROSOL	METALS
Washington County	X	X	X	X	X	X	X* (Unincorp. areas ² , N. Plains, King City)**		X	X (except Cornelius, Forest Grove, King City, Banks) ²	X	X	X
Clackamas County (Sandy, Molalla, Happy Valley)	X	X	X	X	X	X	X	X	X	X	X	X	X
Portland	X	X	X	X	X	X	X	X	X	X	X	X	X
Lake Oswego	X	X	X	X	X	X	X ¹	X	X		X	X	X
Milwaukie	X	X	X	X	X	X	X	X	X	X	X	X	X
Gladstone	X	X	X	X	X	X	X	X	X	X	X	X	X
Oregon City	X	X	X	X	X	X	X	X	X	X	X	X	X
West Linn	X	X	X	X	X	X	X	X	X	X	X	X	X
Troutdale	X	X	X	X	X	X	X		X	X	X	X	X
Gresham, Wood Village, Fairview	X	X	X	X	X	X	X		X	X	X	X	X

*All cities except Banks and Cornelius.

**Milk jugs only.

¹See attached yard debris collection program table for complete program information.

²Unincorporated areas of Washington County outside the urban services boundary will implement this service beginning July 1, 1996.

Jurisdiction	Single Family	Multi-Family	Yard Debris	Commercial Recycling	Construction/Demolition	Promotion & Education
East Multnomah County	Addition of curbside collection of phone books and all plastic bottles 7/95.	Haulers continue to provide recycling service. Currently 72% of MF complexes have recycling.	Weekly curbside collection is in compliance with regional standards.	Commercial program is being developed by newly hired commercial recycling coordinator.	Cities ensured that construction site recycling occurred at both Fujitsu Electronics and LSI Logic. Earth-Wise Builders display installed in Greshams' building permit center 4/96.	Wide variety of promotion and education including: quarterly brochure to residential customers, multi-family education programs, spring clean-up event, yard debris and home composting information. Community events: Mt. Hood Medical Center's "one stop Kids Fair" and the Chambers' Vision 2000 event.
Troutdale	Addition of curbside collection of all plastic bottles 7/95.	86% of MF complexes are provided with recycling collection systems.	Weekly curbside collection is in compliance with regional standards, annual collection event.	64% of businesses recycling at least one material, 33% two or more, 23% three or more, 19% four or more, 10% five or more. Promotion activities implemented.	Metro guides available at City Hall. Construction site recycling display was installed in the building permit center 7/95.	Wide variety of promotion and education materials including brochures, newsletters, etc.
Lake Oswego	Addition of curbside collection of scrap paper and all plastic bottles 7/95-8/95.	88% of the complexes have recycling collection services.	Weekly curbside collection is in compliance with regional standards, annual collection event.	Are working on implementing commercial plan fully.	Permit center distributes Metro construction recycling guides.	Wide variety of promotion and education including coordinating joint publications with Clackamas County, brochures, City newsletter. Plastic bottle and scrap paper recycling promoted through mailing to all residential customers.
Milwaukie	Addition of curbside collection of all plastic bottles 7/95. Implemented a recycling-only service 7/95.	City has established recycling for 92% of multi-family complexes.	Weekly curbside collection is in compliance with regional standards, compost bin distribution.	Finished the first phase of commercial program; offered waste evaluations to 18% of all businesses. Targeted area strategy implemented. 75% of businesses in first target area have begun recycling. Commercial recycling packets updated to include BRAG information and Recycled Products Guide.	Permit center distributes Metro construction recycling guides. Earth-Wise Builders display installed in building permit center.	Wide variety of education and promotion including newsletter, brochures, mailings, displays, press releases, community events, Clackamas County Fair, etc.

Jurisdiction	Buy Recycled	Technical Assistance	Funding	Compliance with OAR 340	Regional Coordination	Regional Program Planning
Portland	City has purchasing policy. Review conducted to increase recycled product purchasing.	City provided technical assistance and expertise to other jurisdictions and Metro in several areas.	1994-95 Portland Solid Waste budget was \$2.3 million with a staff of 10. Funding from fees and grants.	In compliance with all applicable requirements of OAR Chapter 340.	City is an active partner in regional issues. Piloted curbside plastic recycling program, participated in BRAG, educational campaigns, compost bin sale events, etc.	Actively participated in the development of RSWMP through SWAC and other forums.
Clackamas County	Some resistance from purchasing, but good progress being made. Contract signed to purchase rerefined motor oil for county vehicles. Severe flooding made coordination of Buy Recycled difficult	County assisted Metro with Real Estate waste prevention project, grocery project and used motor oil project.	County funds 2.0 FTE one temporary FTE and office space and support for the Education Coordinator.	In compliance with all applicable requirements of OAR Chapter 340.	County is an active partner in regional issues including BRAG, regional educational campaigns, Master Recycler Program, C&D recycling efforts, compost bin distribution, curbside plastics collection, etc.	Actively participated in the development of RSWMP through SWAC and other forums.
Washington County	All cities buy recycled materials, some have official policies.	County assisted with YD study, MF research, YD facilities standards, targeted generator programs, etc.	County administers funds for cities in the program, franchise fees and grants fund the programs.	In compliance with all applicable requirements of OAR Chapter 340.	County is an active partner in regional issues including annual program planning, BRAG, YD facility standards, Green Schools, regional promotion campaigns, curbside YD collection study, etc.	Actively participated in the development of RSWMP through SWAC and other forums.

Jurisdiction	Buy Recycled	Technical Assistance	Funding	Compliance with OAR 340	Regional Coordination	Regional Program Planning
East Multnomah County Cities	City of Gresham buy recycled and procurement policy to be adopted 09/96.	Cities assisted with YD study, MF research, YD facility standards, etc.	Supported through city general fund and Metro grants.	In compliance with all applicable requirements of OAR Chapter 340.	Cities are active partners in regional issues including annual program planning, BRAG, YD facility standards, regional promotion campaigns, etc.	Actively participated in the development of RSWMP through SWAC and other forums.
Troutdale	City purchases a wide variety of recycled content supplies. City adopted a yard debris compost standard as alternative to hydroseeding.	City assisted with MF research, YD facility standards, MF zoning ordinance, etc.	Supported through city funds and Metro grants.	In compliance with all applicable requirements of OAR Chapter 340.	City is an active partner in regional issues including annual program planning, BRAG, regional promotion campaigns, YD facility standards, etc.	City actively participated in SWAC meetings but has not had the resources to actively work on the development of the RSWMP.
Lake Oswego	City continues to purchase recycled content materials for offices and other facilities including 400-600 yards of yard debris compost purchased annually.	City worked with Metro in planning, research and implementation of pilot projects.	City funds a staffing level of 1/2 FTE via franchise fees.	In compliance with all applicable requirements of OAR Chapter 340.	City is an active partner in regional issues including annual program planning, BRAG, regional promotion campaigns, YD facility standards, etc.	City actively participated in SWAC meetings but has not had the resources to actively work on the development of the RSWMP.
Milwaukie	Have purchasing policy in place. Use recycled content materials whenever pricing allows.	City has worked closely with Metro on several projects including C&D, organics, medical waste.	Program funded through Metro grants and franchise fees.	In compliance with all applicable requirements of OAR Chapter 340.	City is an active partner in regional issues including annual program planning, BRAG, regional promotion campaigns, YD facility standards, etc.	Actively participated in the development of RSWMP through SWAC and other forums.

*These tables are a brief summary of tasks accomplished during the Year 6 Program (fiscal year 1995-96). Complete and detailed information is presented in the individual reports submitted to Metro by local jurisdictions.

**TABLE A-4 - 1995-66 METRO CHALLENGE GRANT ALLOCATIONS
(June 1995)**

LOCAL GOVERNMENT	1994 POPULATION (1)	% OF METRO POPULATION	FY95-96 ALLOCATION (2)
Washington (\$159,440)			
Unincorporated	172,851	13.62%	\$74,498
Beaverton	61,085	4.81%	\$26,327
Hillsboro	44,045	3.47%	\$18,983
Tigard	33,730	2.66%	\$14,537
Tualatin	17,450	1.37%	\$7,521
Forest Grove	14,295	1.13%	\$6,161
Cornelius	6,550	0.52%	\$2,823
Wilsonville	9,680	0.76%	\$4,172
Sherwood	4,615	0.36%	\$1,989
King City	2,155	0.17%	\$929
North Plains			\$500
Durham			\$500
Gaston (3)			\$0
Banks			\$500
Portland (\$227,163)			
Uninc. Mult. County	495,090	39.01%	\$213,382
Gresham	31,975	2.52%	\$13,781
Wood Village	74,625	5.88%	\$32,163
Fairview	2,950	0.23%	\$1,271
Troutdale	3,740	0.29%	\$1,612
Maywood Park	10,495	0.83%	\$4,523
Clackamas (\$98,659)			
Unincorporated			\$500
Oregon City	170,379	13.42%	\$73,433
Gladstone	17,545	1.38%	\$7,562
West Linn	11,325	0.89%	\$4,881
Sandy	18,860	1.49%	\$8,129
Molalla	4,520	0.36%	\$1,948
Happy Valley	3,915	0.31%	\$1,687
Milwaukie	2,365	0.19%	\$1,019
Lake Oswego	19,930	1.57%	\$8,590
Estacada	32,940	2.60%	\$14,197
Johnson City	2,045	0.16%	\$881
Rivergrove			\$500
TOTAL	1,269,155	100.00%	\$550,000

(1) Derived from July 1994 Population Estimates, Center for Population Research, PSU.

(2) Standard minimum allocation for FY 1995-96 is \$500.00

(3) Gaston did not participate in the 1992-93, 93-94 or 94-95 program, therefore no funds are allocated for FY 1995-96.

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**TABLE A-5 - METRO LOCAL GOVERNMENT CLEAN-UP PROGRAM
SUMMARY OF PARTICIPANTS
FY1995-96**

Jurisdiction	Metro's Contribution	Total Costs	Number of Households	AMOUNT RECYCLED			AMOUNT DISPOSED (tons)
				Yard Debris (tons)	Scrap Metal (tons)	Number of Tires	
Beaverton	\$2,402.83	\$4,851.37	185	5.47	0	0	0
Clackamas Cty	\$7,114.83	\$18,250.00	unknown	0	0	465	28.36
Fairview	\$162.88	\$723.77	unknown	0	0	0	0
Gresham	\$2,931.83	\$12,953.00	2800	149.5	0	66	68
Happy Valley	\$108.83	\$316.48	unknown	4	0.15	65	4.5
Johnson City	\$86.33	\$1,806.25	280	0	1.5	129	21.73
Lake Oswego	\$1,303.83	\$3,887.78	unknown	40	0	253	0
Maywood Park	\$86.83	\$1,150.00	100	28.75	0	0	0
Milwaukie	\$795.33	\$5,812.85	400	60	2.38	194	102.77
Multnomah Cty	\$445.47	\$890.94	unknown	0	0	36	0.11
North Plains	\$86.83	\$538.38	55	0	0	24	10
Oregon City	\$701.83	\$13,277.45	386	0	0	785	111.56
Portland	\$19,357.83	\$43,885.19	3477	136.28	87.25	3031	312
Sandy	\$193.83	\$2,569.00	400	10	6.25	132	22.61
Troutdale	\$426.83	\$1,790.32	220	47	0	0	0
Washington Cty	\$12,085.83	\$24,203.41	549	0	36.09	0	73.55
Wood Village	\$131.83	\$652.00	86	42	1.01	0	0
Totals	\$48,423.80	\$137,558.19	8,938.00	523.00	134.63	5,180.00	755.19

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TABLE A-7 - SUMMARY: FY 1995-96 METRO RECYCLING BUSINESS DEVELOPMENT GRANTS

This is a selective matching grant program that provides essential financing for the development of innovative businesses that convert waste into new products. Grants can only be used to cover up to 50 percent of the direct monetary cost to implement projects, and at least 50 percent of the waste processed under a grant project must come from the Metro area.

Company	\$ Awarded	\$ Applicant is Committing	Project Summary	Est. Tons of Targeted Material(s) Currently Disposed in Metro Area Annually.	Est. Annual Tonnage Impact on Metro Wastestream Within 5 Yrs.	Est. % Decrease in Metro Disposal of Targeted Material(s) Within 5 Yrs.	Other Solid Waste System Benefits
NW EEE ZZZ Lay Drain	\$24,000	\$53,100	A local, subsurface drainage system installation company founded in 1975 is purchasing apparatus to manufacture a patented, subsurface drainage system made using recovered expanded polystyrene plastic from commercial waste generators.	1,000	250	25%	Reduction of cross-contamination of other recyclable materials, particularly at MRFs.
Re-Use-It	\$37,500	\$45,000	A local polyurethane foam recycling company has purchased equipment and made plant upgrades to enable it to densify and market polyethylene and polystyrene foam recovered from the Metro area. Products from this system are being sold to plastics manufacturers in Oregon and Washington as manufacturing feedstock.	6,600	2,000	30%	Reduction of cross-contamination of other recyclable materials, particularly at MRFs.
RB Rubber	\$13,500	\$60,000	A McMinneville-based molded rubber product manufacturer, wholesaler and retailer is buying an off-the-shelf machine for metering colored material into black rubber feedstock from tires to make colored resilient flooring for use in agricultural, athletic facility and other utility applications. This equipment will enable the grantee to expand its markets and increase the value-added to its products.	Tires are banned from landfills	>4,800	N/A	Diversifies limited markets for tires, thus helping to reduce the region's dependence on volatile tire derived fuel markets.

**METRO**

DATE: October 7, 1996

Agenda Item #8

TO: Terry Petersen, Environmental Services Manager
Jim Watkins, Engineering & Analysis Manager

FROM: Paul Ehinger, Senior Engineer

RE: Capital Improvements at Metro South

Capital improvement planning was begun this year at the Metro South Transfer Station. While this effort had been anticipated, a number of events made this planning effort more critical. Storms and floods damaged some of the facilities on the site and the volume of transactions increased to the point that long delays were experienced during peak hours. Metro staff has been reviewing the operations at the transfer station to determine how service can be improved and how the station can be utilized to meet regional goals. The following is a brief summary of this effort to date.

Needs Assessment**Customer Service**

Metro South Station handles approximately 190,000 transactions each year and a total of over 350,000 tons of solid waste. About 60 percent of these transactions are public self haul customers who utilize small vehicles to haul their waste to the transfer station. The public self haul customers account for only 11 percent of the waste volume. This volume of traffic can result in lines of vehicles extending out of the station back to the highway. An analysis of data from the station indicates that commercial usage of the facility has remained relatively constant over the last three years, while use by the public has increased by more than 12 percent over the same period. Graphs showing the average number of monthly transactions are attached.

A review of station operations was conducted to determine the cause of the long waits at the station. This review determined that the long waits are the result of insufficient floor space for unloading vehicles. The "design or nominal capacity of the station is approximately 45 to 50 commercial vehicles per hour and 35 to 40 self haul vehicles per hour. It should be noted that these capacities are nominal or "design capacities." At maximum efficiency, these rates could be exceeded. These rates are equaled or exceeded frequently during the summer, due to self haul transactions, causing traffic jams on the site and creating delays on the outbound scale.

Inbound scalehouse capacity is not a factor in the long lines at Metro South. The commercial scalehouse can handle at least 80 vehicles per hour and the public scales can handle approximately 50 vehicles per hour. Inbound scalehouse capacity of 130 vehicles per hour

exceeds the nominal transfer station capacity. On weekends when the traffic is primarily private vehicles, the inbound capacity is approximately 80 vehicles per hour.

Since the station operates at or near its design capacity during peak hours, it is difficult to accommodate recycling, inspections for unacceptable waste, or other activities on the site without adversely impacting the station's customers. For example, the use of one stall on the commercial side for other activities, reduces the commercial transfer capacity by over 10 percent.

Occasionally, due to equipment failure or unusually large waste volumes, long waits can result from limits on the capacity to compact waste which causes the pit to fill. When the volume of waste exceeds the capacity to compact the waste into transfer trailers, vehicles must wait until more space is provided in the pit so that they can dump. Delays due to an inability to handle the waste volumes received are relatively rare, even though the station was originally designed to handle 800 tons per day. The station currently averages over 1,400 tons per day from Monday through Friday, with peak days approaching 2,000 tons.

Materials Handling and Recovery

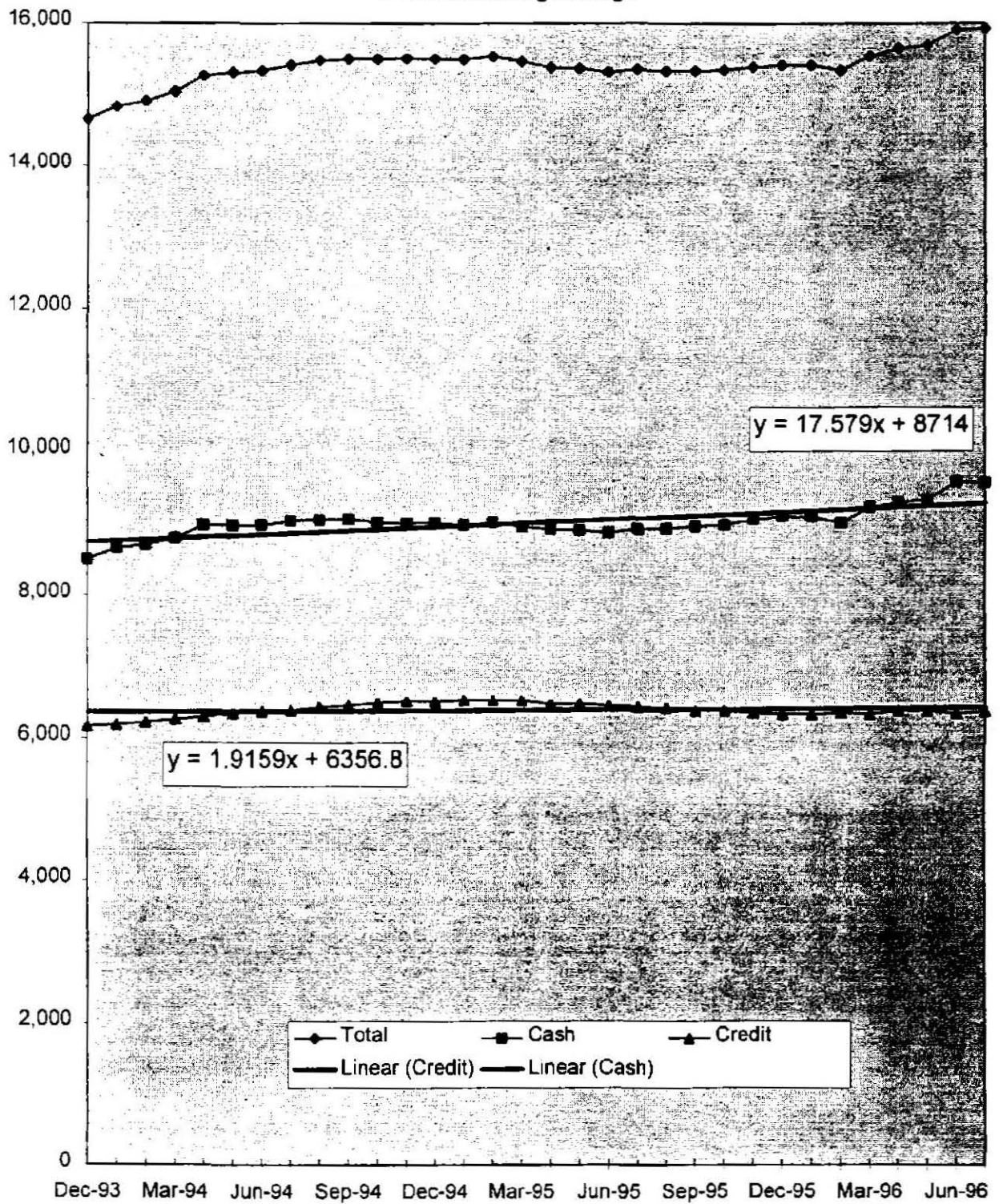
Recovery rates at Metro South have consistently run at 1 percent or less while the station has been in operation. This low rate is due primarily to the fact that the station was not designed to facilitate materials recovery. The only designated recovery area on the site is located after the scales and receives little use by self haul customers. The volume of traffic at the station has precluded additional opportunities for recovery by hand because of the adverse impact on customer service. The location of the public recycling area after the scales makes it difficult for the public to use this area and probably reduces usage.

A number of material recovery strategies under consideration would have Metro consolidate loads of particular materials at its transfer stations for shipment to processors. Source separated organics are an example. Metro South is not well suited for this operation.

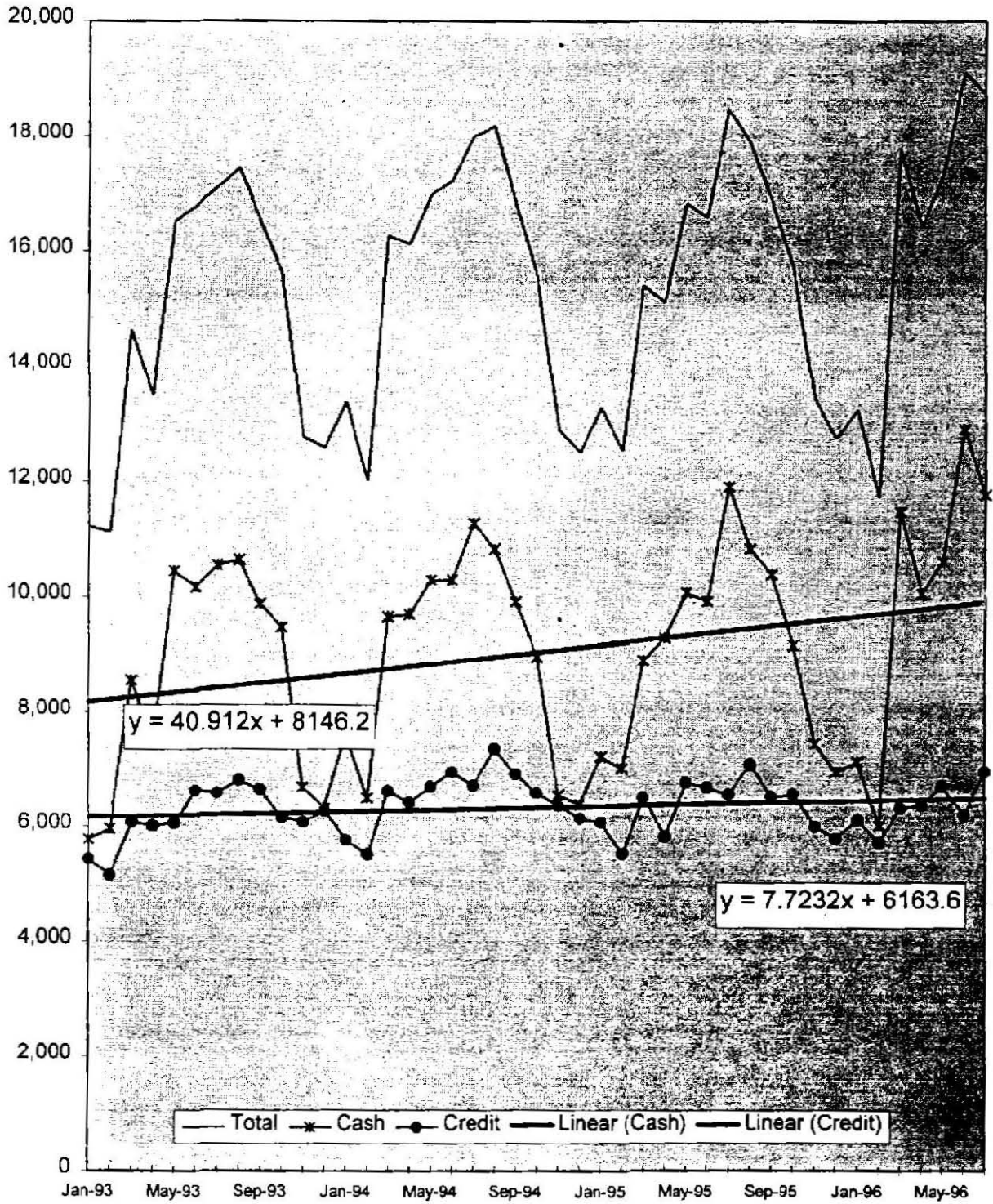
Operational Efficiency and Employee Safety

Waste loading and traffic has increased beyond the levels expected when it was designed. This increased traffic has produced the need for additional support facilities and modifications to the traffic patterns at the site to improve efficiency of operation. The increase in usage has also created poor working conditions for Metro's employees and the employees of Metro's operations contractor. Lunch room and shower facilities for the Hazardous Waste Facility, which were required by OSHA, were destroyed by flooding and need to be replaced.

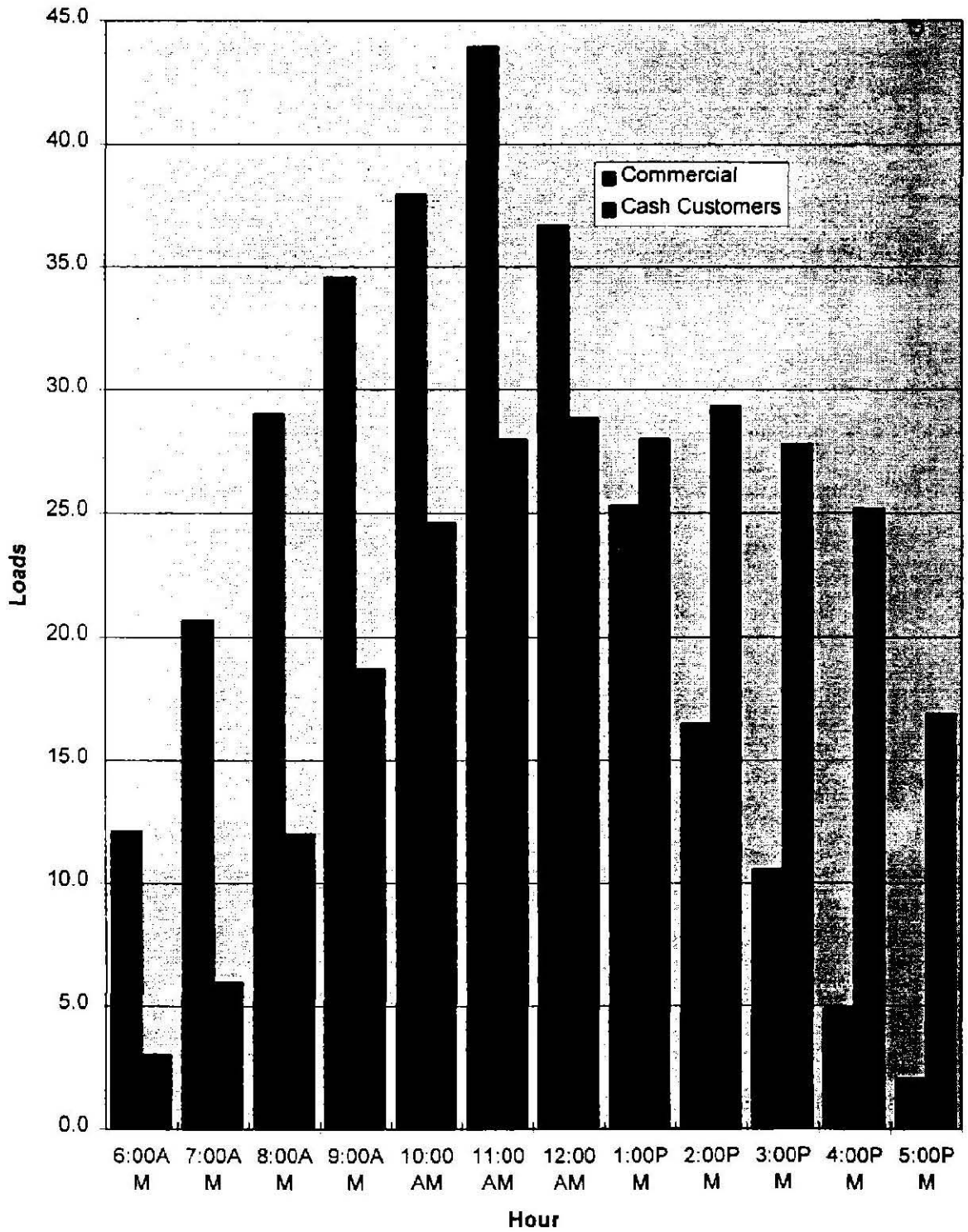
**Average Transactions Per Month
Metro South
12 Month Moving Average**



Monthly Transactions at Metro South



Weekday Loads @ Metro South FY 95-96



Load Inspection

Metro is required to have a program for inspecting loads to prevent the disposal of unacceptable wastes such as infectious medical wastes, hazardous wastes, radioactive material and other wastes whose disposal in a landfill is illegal or environmentally hazardous. These inspections require that selected loads be dumped on the tipping floor for inspection. Since this reduces the tipping capacity, Metro is forced to avoid these inspections at peak times or to make these mandated inspections at the expense of increased hauler waits.

Hazardous Waste Facility

Metro has been developing plans for the construction of a latex paint recycling facility at Metro South Station to improve working conditions and lower costs. Flood repairs on the Hazardous Waste Facility which was inundated earlier this year, cost Metro in excess of \$250,000.

Capital Improvement Planning

Early this summer we retained the services of URS Consultants to assist Metro in developing a plan for capital improvements at Metro South. They developed a number of site plans which addressed the problems discussed above. Ten projects were identified which will improve the performance and efficiency of the operations at Metro South Station. These are:

Widen Entrance Road - The entrance road to Metro South currently has two outbound turn lanes and one inbound lane. The entry road then narrows to two lanes. This project would widen the two lane section and convert one outbound lane to an inbound lane which will increase the effective queuing length available and allow separation of the public and commercial traffic prior to the scales. Some of the delays caused when the self haul vehicle queue extends back to the two lane section of road will be eliminated. The cost of this project is estimated to be about \$58,000.

New Scale/Automation - Commercial and self haul vehicles are delayed in leaving the site during peak hours since there is only one outbound scale on the site. The addition of a new scale will reduce this problem. The project cost is estimated to be approximately \$60,000, exclusive of previously budgeted automated weighing equipment. This new scale will be used in conjunction with the installation of automated weighing equipment for commercial vehicles.

Transfer Building Expansion -Space is available near the commercial entrance to the transfer station to add about 2500 square feet to the tipping floor. This space will provide an area to segregate and store wastes for special handling without impacting normal station operations. The cost of this expansion will be approximately \$200,000. Minor modifications to the transfer floor are also included in these costs.

New Public Transfer Area - The current public transfer area in the transfer station is too small to handle the demand during peak hours. This causes many of the delays experienced on the site. The congestion in the public unloading area and its configuration also cause some safety risks for Metro's customers. These problems can be alleviated by construction of a new public only transfer area in a portion of the site currently used for parking transfer vehicles. Proposed traffic

patterns would eliminate most of the conflicts between the public and commercial vehicles. This facility could also be constructed to facilitate loading of recoverable materials into top loading trailers. The cost of this facility will range between \$400,000 and \$600,000 depending on its location on the site and the type of container used to move the waste.

Recycling Drop-off Center - The public currently drops off recyclable materials in an area between the scalehouses and the transfer building. These customers must cross the scales to get to the recycling drop-off facility. It is desirable to locate these facilities prior to the scales to reduce traffic impacts and to encourage recycling. If the household hazardous waste facility is moved this facility could be located at the current location of the HW building. The cost of removing the HW facility and constructing the recycling drop-off area is approximately \$250,000.

Relocate Truck Wash - The truck wash at Metro South is located in the area between the scalehouses and other areas of the site which could be used for other waste handling facilities. The truck wash was damaged in last years wind storm and repairs have been delayed to determine whether or not the truck wash will be moved. Moving the truck wash will eliminate some traffic congestion and is necessary for the construction of a new public transfer area and the relocation of the hazardous waste facility. In addition there have been violations of the industrial waste discharge permit at this facility. A redesign of the truck wash will reduce the likelihood of future violations. The cost of relocating the truck will be approximately \$90,000. Demolition alone will be about \$10,000 of this cost.

Material Recovery Equipment - If a new public transfer facility is developed at Metro South, the current public area can be used for commercial vehicles. This would provide sufficient space to direct select loads to this portion of the station for processing. A new sorting line in the current public transfer area will facilitate the recovery from these select loads. This equipment will cost approximately \$180,000. Investment in this equipment should be deferred until the impact of new MRF's is determined.

Office Space, Lunchroom and Showers - Due to the growth in activities at Metro South additional facilities are needed for administrative activities and to provide adequate working conditions for our employees on site. Shower facilities and a lunchroom are needed for Metro employees. These facilities are currently located in a trailer on-site adjacent to the hazardous waste facility. Shower facilities are required for the hazardous waste employees. These facilities could be installed as part of a relocation of the hazardous waste facility or the new latex facility. The cost of these improvements will vary between \$50,000 and \$150,000 depending on their location and what other improvements are made on the site.

Latex Processing Building - Processing of latex paint is currently done in a tunnel beneath the pit in the transfer building. Working conditions in this area are unacceptable. This years flood put the latex operation out of service for an extended period this year. Construction of a new building is already budgeted. This project, including equipment will cost approximately \$300,000. Depending on the location of the building some of the needed administrative facilities could be located in this building.

Relocate Hazardous Waste Facility - The HW facility sustained extensive damage during the floods this year. Moving this facility to higher ground will significantly reduce the risk of flooding and allow modifications which will improve customer service and operating efficiencies. The cost of constructing a facility similar to the existing building is estimated to be about \$1.5 million. A lower cost may be achieved by working with Metro's hazardous waste staff to implement design changes which would lower the construction cost.

A table is provided which shows the proposed improvements described above and identifies the objectives which each improvement addresses.

The costs of these projects are summarized in the following table.

Proposed Capital Improvements Metro South Transfer Station	
Project	Project Costs
Widen Entrance Road	\$58,000
New Scale/Automation	\$60,000
Expand Transfer Building	\$200,000
Construct New Public Transfer Area	\$400,000 to \$600,000
Provide Recycling Drop-off Center	\$250,000
Relocate Truck Wash	\$90,000
Install Material Recovery Equipment	\$180,000
Provide Office Space, Showers, Lunchroom	\$50,000 to \$150,000
Construct Latex Building	\$300,000
Relocate HHW Building	\$1,500,000

A table showing the benefits of the capital improvements listed above is attached. Management practice which can help the problems identified at Metro South were also evaluated. These are also listed in the attached table.

**Metro South Transfer Station
Preliminary Capital Improvement Analysis**

Proposed Capital Improvements										
Project Benefits	Increase Station Capacity	Reduce Wait Time	Increase Material Recovery	Improve Worker Safety	Improve Material Handling	Improve Flood Protection	Improve Customer Safety	Required for Other Improvements	Reduce Operating Costs	Improved Environmental safety
Project										
Widen Entrance Road		+		+			+			
New Scale/Automation		+		+						
Expand Transfer Building	+	+	+	+	+		+			
Construct New Public Transfer Area	+	+	+	+	+		+			
Provide Recycling Dropoff Center		+	+	+			+			
Relocate Truck Wash		+						+		+
Install Material Recovery Equipment			+		+					
Provide Office Space, Showers, Lunchroom				+						
Construct Latex Building			+	+		+			+	
Relocate HHW Building				+		+				+
Other Management Practices										
Provide Unloading Assistance	+	+	+				+			
Provide Traffic Control Personnel		+					+			
Improved Flood Response Plan						+				
Tare Weights for Commercial Vehicles		+							+	
Peak Hour Pricing										
Non-weight Based Fees for Public		+								
Limit Access to Public		+								

Items in bold type have already been implemented.
 * Reduces wait for commercial vehicles only.
 ? Impact uncertain.
 - Negative impact

PE:clk
 cc: Penny Erickson, Facilities Supervisor
 Jim Quinn, Hazardous Waste Supervisor