



METRO

MEETING: Solid Waste Advisory Committee

DATE: March 16, 1994

DAY: Wednesday

TIME: 8:30-10:30 a.m.

PLACE: **Metro Headquarters, 600 NE Grand Avenue
Room 370**

- | | |
|--|----------------|
| 1. Approval of February 16 Minutes
(Distributed with March 9, 1994 Agenda packet) | Ruth McFarland |
| 2. Updates | Bob Martin |
| 3. Revision of the Regional Solid Waste Management Plan:
Facilities & Waste Reduction | Terry Petersen |
| A. Distribution of Workbooks | |
| B. Background & Purpose | |
| C. Planning Approach | |
| D. Schedule | |
| 4. Other Business | Ruth McFarland |
| 5. Adjourn | |



METRO

Regional Solid Waste Management Plan

1994 Update

Facilities and Waste Reduction

Solid Waste Advisory Committee Workbook

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**Regional Solid Waste Management Plan
1994 Update**

**Solid Waste Advisory Committee
Workbook**

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Regional Solid Waste Management Plan 1994 Update

Goal

The adopted goal of the Regional Solid Waste Management Plan (RSWMP) is to develop a solid waste system that is regionally balanced, cost-effective, technologically feasible, environmentally sound and publicly acceptable.

Key Objectives

The 1994 update of the RSWMP should identify:

1. The best combination of *facilities* and *waste reduction programs* for managing the region's waste:
 - A. Transfer stations, reload facilities, and landfills
 - B. Recycling systems for source-separated materials
 - C. Waste prevention programs
 - D. Recovery facilities for mixed waste
 - E. Organic processing facilities
2. The responsibilities of the public and private sectors in procuring, siting, and regulating solid waste facilities.
 - A. Public ownership of facilities
 - B. Public regulation of private facilities (franchises, licenses, permits)
 - C. Private ownership with no regulation
 - D. Comprehensive land use plans

Update of Related Sections of the Existing RSWMP

1. Solid Waste Rate Structure:

Incorporate the policies and concepts that were developed as part of the solid waste revenue study.

2. Plan Development and Amendment:

The Policy and Technical Committees have now been combined into the SWAC.

3. Franchising:

Facility regulation will be addressed as part of the RSWMP update.

Regional Solid Waste Management Plan 1994 Update

General Scope of the Update of the RSWMP

Content:

1. Planning timeframe is 10 years (1995-2005).
2. The update will be regional in nature. It is not:
 - A. A siting or design plan for individual facilities.
 - B. A plan for individual wastesheds.
 - C. A plan for just Metro activities.
3. The update will result in an integrated solid waste management plan. All options will be compared to one another on a "level playing field."
4. Goals will be performance based and allow as much flexibility in implementation as possible. Example:

Goal: All single family households have the opportunity to conveniently reduce yard waste.

Performance Criteria: By the year 2000, the disposal of yard waste by single family households will decline from a regional average of 5 lbs/hh/wk to 1 lb/hh/wk.

Flexible Implementation: Local governments decide whether or not to require mandatory participation in curbside yard debris programs.
5. The update should be consistent with existing Metro policies, Oregon statutes, and the Oregon State Integrated Resource & Solid Waste Management Plan.

Process:

1. The SWAC will be the advisory group that will prepare a draft plan and present it to the Metro Council for adoption.
2. The general public will review the draft plan prepared by the SWAC.
3. The SWAC will elect "lead" committee member(s) who will present the plan to the Metro Council.
4. The SWAC chair may want to appoint ad hoc committee members to serve during the plan revision.

Regional Solid Waste Management Plan 1994 Update

Historical Background:

General Solid Waste Disposal Authority

Metro's solid waste disposal authority is contained in Oregon Revised Statutes, Chapters 268 and 459, and in the Charter, which grants Metro all the powers that the laws of the United States and Oregon allow, including the power to:

- Own, operate or regulate landfills, transfer stations and resource recovery facilities;
- Enter into short or long-term contracts;
- Require generators of solid waste to make use of Metro authorized facilities through waste flow control;
- Enter into contracts, franchises or licenses and collect fees therefore;
- Regulate the services provided by contractees, franchisees and licensees; and
- Receive, accept, process, recycle, reuse and transport solid waste.

Metro is responsible for solid waste disposal (but not collection) in the Portland Metropolitan area. In the exercise of the authority granted to it under state law and in order to protect the public health and the environment, Metro has enacted solid waste flow control regulations as part of its government code.

Currently, solid waste disposers, whether they are collectors, private business, or individuals, are required by Metro regulations to make use of Metro authorized disposal sites. Metro's authorized disposal sites are of three categories: Metro-owned system facilities, privately-owned system facilities, and facilities outside the system to which specific haulers are authorized to deliver waste pursuant to a non-System license.

Planning Authority

Oregon Revised Statutes Chapter 197 - Sets in place the statewide land use and functional planning process. It also establishes comprehensive planning responsibilities for local governments and special districts.

Oregon Revised Statutes 459.017 - States that local governments have primary responsibility for local solid waste management planning. Metro was designated the local government unit responsible for solid waste planning for Clackamas, Multnomah and Washington Counties (State of Oregon Executive Order No. 78-16).

The **Regional Solid Waste Management Plan** is an adopted "functional plan" (one that sets out detailed information, policies and standards for a specific function of government, such as transportation, water resources, or solid waste). Metro has statutory authority to develop functional plans for areas and activities that have a significant impact upon the orderly and responsible development of the metropolitan area, and to recommend or require that the comprehensive land use plans of cities and counties in the region be consistent with the functional plan for solid waste (see ORS 268.390).

Oregon Revised Statutes 459.095 - States that no ordinance, order regulation, or contract affecting solid or liquid waste disposal, resource recovery, or solid waste management shall be adopted by a local government if such ordinance, order, regulation, or contract conflicts with the Solid Waste Management Plan adopted by Metro and approved by the Department of Environmental Quality.

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Regional Solid Waste Management Plan 1994 Update

Historical Background: Regional Solid Waste Management Plan

- 1974** Metro's predecessor, the Metropolitan Service District, adopts a Solid Waste Management Plan. (Also called the "CORE-MET" plan).
- 1986** Solid Waste Reduction Program adopted (May).
- 1987** Formal revision of the 1974 Solid Waste Management Plan as a "functional" plan initiated. Revision is called the Regional Solid Waste Management Plan (RSWMP).
- 1988** Metro East Transfer and Material Recovery System White Paper issued (February).
General Purpose Landfill Chapter of the RSWMP adopted (March).
System Measurement Study completed (July).
Metro Council and the Solid Waste Policy Advisory Committee develops a consensus on RSWMP policy goals (June).
Metro Council adopts RSWMP (October). Contains goals and policies and incorporates the Landfill Chapter and Metro East White Paper. Several Chapters are to be completed over time.
- 1989** Environmental Quality Commission orders Metro to implement either the work plan in Metro's 1986 Waste Reduction Plan or the EQC's alternative (March).
Chapter 1 - Waste Reduction adopted. Chapter replaces 1986 Waste Reduction Plan and incorporates the System Measurement Study and EQC Order (November).
- 1990** Chapter 17 - Plan Development and Amendment adopted (September).
Chapter 3 - Special Waste adopted (November).
- 1991** Yard Debris Plan adopted and incorporated into Waste Reduction Chapter (January).
Chapter 4 - Illegal Dumping adopted (October).
Metro West Transfer and Material Recovery System Chapter adopted in October and incorporated into Chapter 5 - Facilities (October).
Chapter 16 - Local Government Solutions adopted (October).
- 1992** Chapter 2 - Hazardous Waste adopted (June).

Regional Solid Waste Management Plan 1994 Update

Historical Background: Facilities

- 1983** Metro South Transfer Station opens.
- 1985** DEQ begins search for Metro region landfill site in anticipation of closure of St. Johns Landfill.
- 1986** Request for Qualifications and Information for Alternative Technologies issued for how to process up to 48% of the waste stream for volume reduction and energy (May).
- 1987** Metro enters into negotiations with two firms who had responded to the Alternative Technologies RFQ. One proposal was for a compost facility and the other for a refuse-derived fuel facility (September).
- Request for Bid for out-of-region Landfill issued in fall.
- 1988** Twenty-year disposal contract signed with Columbia Ridge Landfill (April).
- 1989** Transportation contract with Jack Gray Transport signed (March).
- Request for Proposals for a Metro East Transfer Station issued (April).
- Metro enters into Compost Service Agreement with Riedel Environmental Technologies, Inc. (August).
- Metro Council adopts Flow Control Ordinance (November).
- 1990** Metro South begins transferring waste to Columbia Ridge Landfill (January).
- 1991** St. Johns Landfill closes to receipt of general purpose waste (January).
- Metro Central Transfer Station also opens and begins transfer of waste to Columbia Ridge Landfill (January).
- Compost Facility begins operating (April).
- Request for Franchise for Western Washington County Transfer Station issued (October).
- 1992** Compost Facility closes (January).
- Metro South Household Hazardous Waste Facility opens (February).
- Metro Executive Officer rejects all applications received for Western Washington County Transfer Station (February).
- Request for Franchise for Eastern Washington County Transfer Station issued (June).
- 1993** Metro Council adopts Designated Facilities Ordinance (October).
- Metro Central Household Hazardous Waste Facility opens (November).
- 1994** Metro Council rejects proposed resolution to enter into a franchise agreement with Willamette Resources Inc. for construction and operation of an Eastern Washington County Transfer Station (January).

Regional Solid Waste Management Plan 1994 Update

Historical Background: Waste Reduction

- 1986** Solid Waste Reduction Program adopted (May).
- 1988** Regional Solid Waste Management Plan adopted.
- 1989** Environmental Quality Commission orders Metro to implement either the work plan in Metro's 1986 Waste Reduction Plan or the EQC's alternative (March).
- Waste Reduction Chapter is adopted replacing 1986 Waste Reduction Plan and incorporating System Measurement Study and EQC order (November).
- 1990** Curbside containers distributed in Clackamas County, Rivergrove, Johnson City, Lake Oswego, Milwaukee, Gladstone, West Linn, and Oregon City.
- Curbside containers distributed in East Multnomah County Cities.
- Weekly curbside yard debris collection begins in City of Durham (June).
- 1991** Regional Yard Debris Plan adopted.
- City of Portland franchises residential collection and distributes curbside containers.
- Weekly curbside yard debris collection begins in Clackamas County, Lake Oswego, Milwaukee.
- Weekly curbside yard debris collection begins in Tualatin (October).
- 1992** Curbside containers distributed in Washington County.
- City of Portland begins monthly yard debris collection (April).
- Metro South's Household Hazardous Waste Facility opens; latex paint recycling begins.
- Weekly curbside yard debris collection begins in East Multnomah County Cities (September).
- Number of wood processors reaches 12.
- Number of regional yard debris processors climbs to 7.
- 1993** Curbside yard debris collection increases to biweekly in the City of Portland.
- Curbside containers distributed in unincorporated areas within urban service boundaries in Washington County.

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Regional Solid Waste Management Plan 1994 Update

Planning Process

1. Forecast future demand for waste management services (collection, transport, transfer, and disposal)
2. Identify resources and supporting activities that can potentially satisfy future demand for waste management services.

<u>Decision Point</u>	<u>Resource Option</u>	<u>Resource Type</u>	<u>Supporting Activity</u>
Product Manufacture	Packaging Ban	Prevention Program	Waste Characterization
Product Purchase	Advance Disposal Fee	Prevention Program	
Waste Discard	Curbside Recycling	Recycling System	Promotion/Education
Waste Delivery	Material Recovery Facility	Facility	Waiver of Metro fees on waste recovered
Waste Disposal	Landfill	Facility	

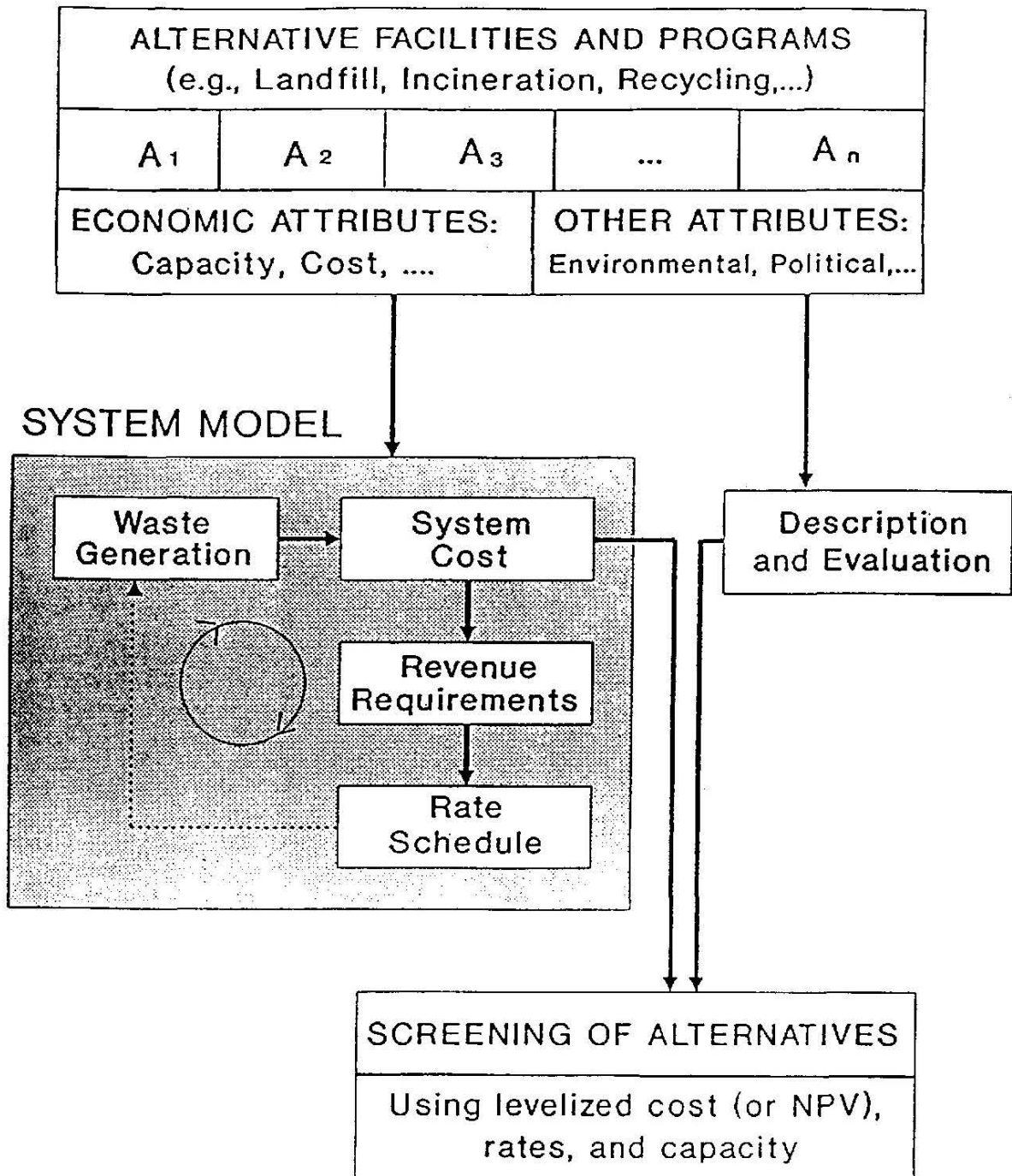
3. Screen out resources that are clearly unacceptable or are of insignificant value in meeting future demand.

Possible Example: Mass Incineration

4. Estimate the benefits and costs (direct and indirect) of all resources in comparable terms.
5. Bundle resources into competing portfolios, each of which meets expected demand for waste management services.
6. Compare, rank, and select the portfolios. Three basic criteria:
 - A. Waste minimization
 - B. Cost
 - C. Environmental and social considerations
7. Develop implementation schedule and activities.
8. Integrate into the RSWMP.

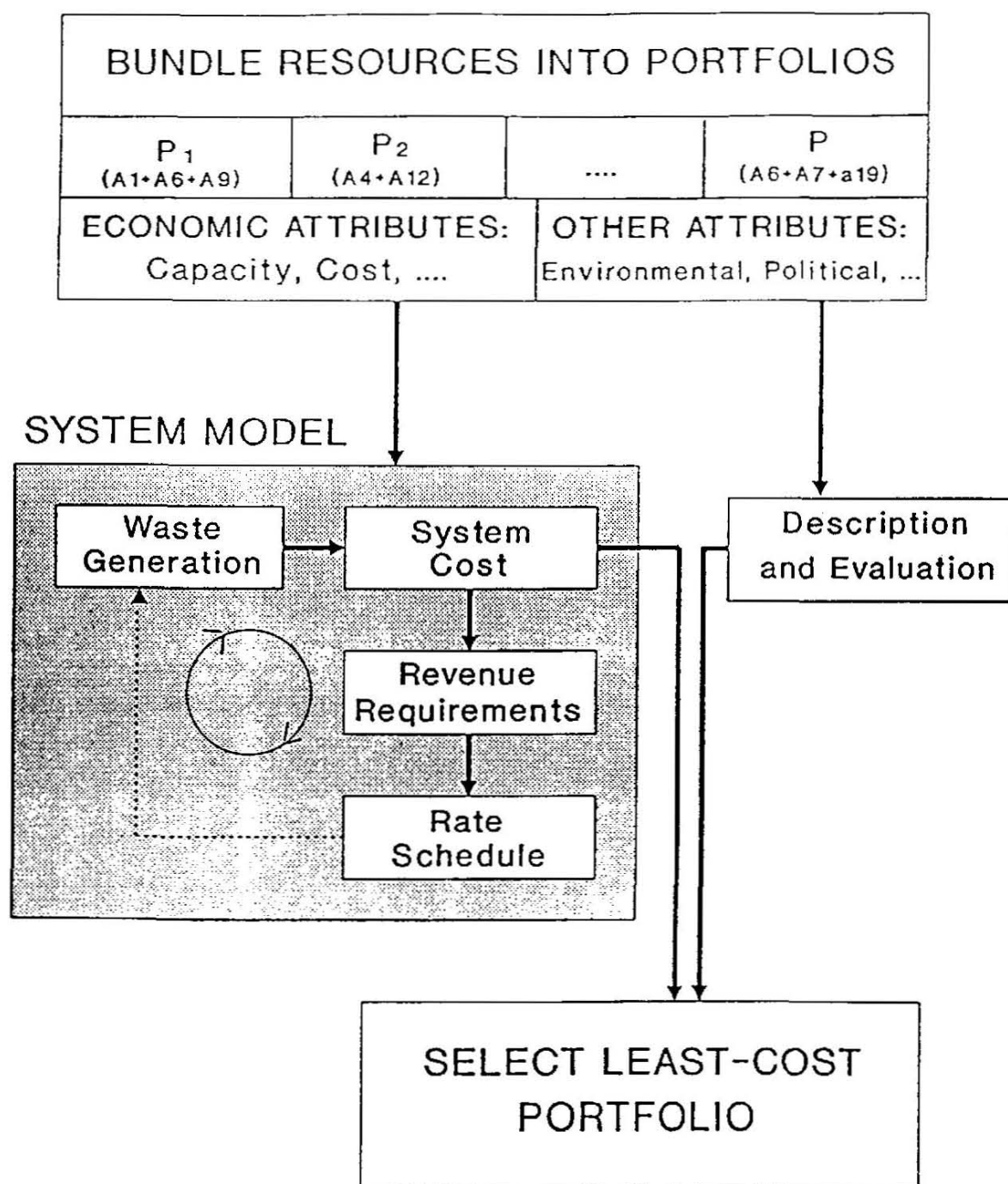
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**Regional Solid Waste Management Plan
1994 Update**



Source: Least-Cost Planning for Solid Waste: An Overview, Eco Northwest, February 1994

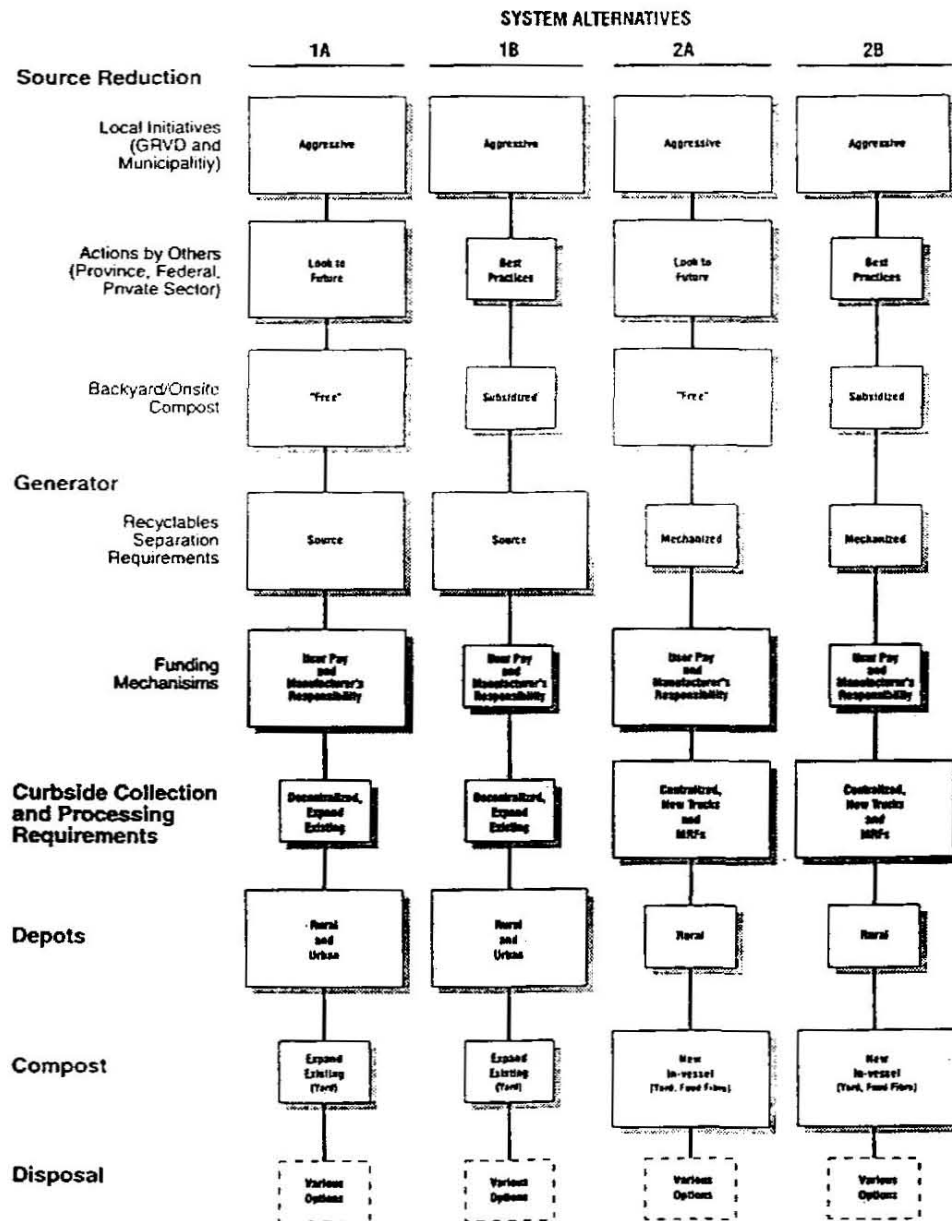
**Regional Solid Waste Management Plan
1994 Update**



Source: Least-Cost Planning for Solid Waste: An Overview, Eco Northwest, February 1994

Regional Solid Waste Management Plan 1994 Update

Planning Process Example: Vancouver, British Columbia



Note: Size of box indicates relative degree of emphasis

Figure 5-2
Shortlist of System Alternatives
Summary of Component Emphasis

Source: Draft GVRD Solid Waste Management Plan, Volume 2, December 1993

Regional Solid Waste Management Plan 1994 Update

Planning Process Example: Vancouver, British Columbia

Table 5-2 Detailed Material Flows Year 2000				
System Component	000's Tonnes			
	1A	1B	2A	2B
Potential Generation				
Residential	899	899	899	899
IC&I	1,065	1,065	1,065	1,065
Total Potential	1,964	1,964	1,964	1,964
Source Reduction and Reuse				
Residential				
GVRD/Municipalities	130	49	130	49
Senior Government/Private Sector	47	20	47	20
Subtotal Residential	176	70	176	70
IC&I				
GVRD/Municipalities	33	18	33	18
Senior Government/Private Sector	107	50	107	50
Subtotal IC&I	139	68	139	68
Subtotal Source Reduction and Reuse	316	137	316	137
Recycling and Processing				
Residential				
Dry Materials	253	271	284	305
Organics	92	126	161	218
Subtotal Residential	345	397	445	523
IC&I				
Dry Materials	356	391	305	336
Organics	34	34	88	88
Subtotal IC&I	390	426	393	423
Subtotal Recycling and Processing	735	823	838	946
Residuals Collection and Disposal				
Residential	377	432	277	306
IC&I	536	572	533	574
Subtotal Residuals Collection and Disposal	913	1,004	811	881
3Rs Percent of Potential Generation	53.5	48.9	58.7	55.2
3Rs Percent per Plan Review Definition	48.6	43.5	54.4	50.5
Note: Totals may not add due to rounding.				

Source: Draft GVRD Solid Waste Management Plan, Volume 2, December 1993

Regional Solid Waste Management Plan 1994 Update

Planning Process Example: Vancouver, British Columbia

Table 5-4 Detailed System Costs Year 2000 ^a								
System Component	\$ 000 (1993)				\$/Tonne (1993)			
	1A	1B	2A	2B	1A	1B	2A	2B
Source Reduction and Reuse								
Residential								
GVRD/Municipalities	6,436	2,119	6,436	2,119	50	43	50	43
Senior Government/Private Sector	<u>10,206</u>	<u>4,710</u>	<u>10,206</u>	<u>4,710</u>	<u>219</u>	<u>231</u>	<u>219</u>	<u>231</u>
Subtotal Residential	16,642	6,829	16,642	6,829	94	98	94	98
IC&I								
GVRD/Municipalities	1,587	677	1,587	677	48	37	48	37
Senior Government/Private Sector	<u>19,367</u>	<u>8,727</u>	<u>19,367</u>	<u>8,727</u>	<u>182</u>	<u>176</u>	<u>182</u>	<u>176</u>
Subtotal IC&I	20,954	9,404	20,954	9,404	150	139	150	139
Subtotal Source Reduction and Reuse	37,596	16,234	37,596	16,234	119	118	119	118
Recycling and Processing^b								
Residential								
Dry Materials	49,090	51,747	50,005	49,762	194	191	176	163
Organics	<u>14,020</u>	<u>18,981</u>	<u>24,212</u>	<u>32,709</u>	<u>152</u>	<u>151</u>	<u>151</u>	<u>150</u>
Subtotal Residential Recycling	63,110	70,728	74,217	82,471	183	178	167	158
IC&I								
Dry Materials	54,100	59,113	49,551	54,016	152	151	163	161
Organics	<u>2,762</u>	<u>2,762</u>	<u>12,789</u>	<u>12,789</u>	<u>81</u>	<u>81</u>	<u>146</u>	<u>146</u>
Subtotal IC&I Recycling	56,861	61,875	62,340	66,805	146	145	159	158
Residuals Collection and Disposal								
Residential								
Collection	28,390	32,523	13,258	14,727	78	78	81	81
Transfer, Transport, and Disposal ^c	<u>23,122</u>	<u>26,091</u>	<u>21,761</u>	<u>23,327</u>	<u>63</u>	<u>62</u>	<u>133</u>	<u>76</u>
Subtotal Residential Disposal	51,512	58,614	35,019	38,054	136	136	126	124
IC&I								
Collection	35,892	38,225	28,704	30,785	74	74	74	74
Transfer, Transport, and Disposal ^c	<u>32,841</u>	<u>34,583</u>	<u>28,844</u>	<u>30,919</u>	<u>61</u>	<u>60</u>	<u>54</u>	<u>54</u>
Subtotal IC&I Disposal	68,733	72,807	57,548	61,704	128	127	108	107
Total Residential	131,264	136,171	125,878	127,354	146	152	140	142
Total IC&I	<u>146,549</u>	<u>144,087</u>	<u>140,842</u>	<u>137,913</u>	<u>138</u>	<u>135</u>	<u>132</u>	<u>129</u>
Total System Cost	277,812	280,258	266,720	265,267	141	143	136	135
Notes and Assumptions: ^a Subtotals may not add because of rounding. Costs exclude those associated with DLC waste. ^b Includes collection, depots, processing, residuals, and offsetting revenues. ^c Based on Disposal Option 3.								

Source: Draft GVRD Solid Waste Management Plan, Volume 2, December 1993

**Regional Solid Waste Management Plan
1994 Update**

Schedule

March 16	Regular SWAC Meeting	Distribution of Workbooks Planning Approach Resource Inventory
April 13	SWAC Work Session	Emergency Management Plan
April 20	Regular SWAC Meeting	Current Waste Flow Forecasts
May 18	Regular SWAC Meeting	Identify Facility & Program Elements
June 22	Regular SWAC Meeting	Identify Facility & Program Elements
July 20	Regular SWAC Meeting	Final Integrated Alternatives
August 17	Regular SWAC Meeting	Cost/Benefit Analysis
September 7	SWAC Work Session	Assessment of Integrated Alternatives
September 21	Regular SWAC Meeting	Assessment of Integrated Alternatives Implementation Plan
October 19	Regular SWAC Meeting	Approval of Plan
November		Public Review

Other Meetings

April 21	Waste Reduction Roundtable	Draft Residential Alternatives
June	Waste Reduction Roundtable	Draft Non-Residential Alternatives

Plan Adoption

November	Presentation to the Council Solid Waste Committee
December	Approval by Metro Council
January	Submit Plan to the Department of Environmental Quality

**Regional Solid Waste Management Plan
1994 Update**

SOLID WASTE FACILITIES

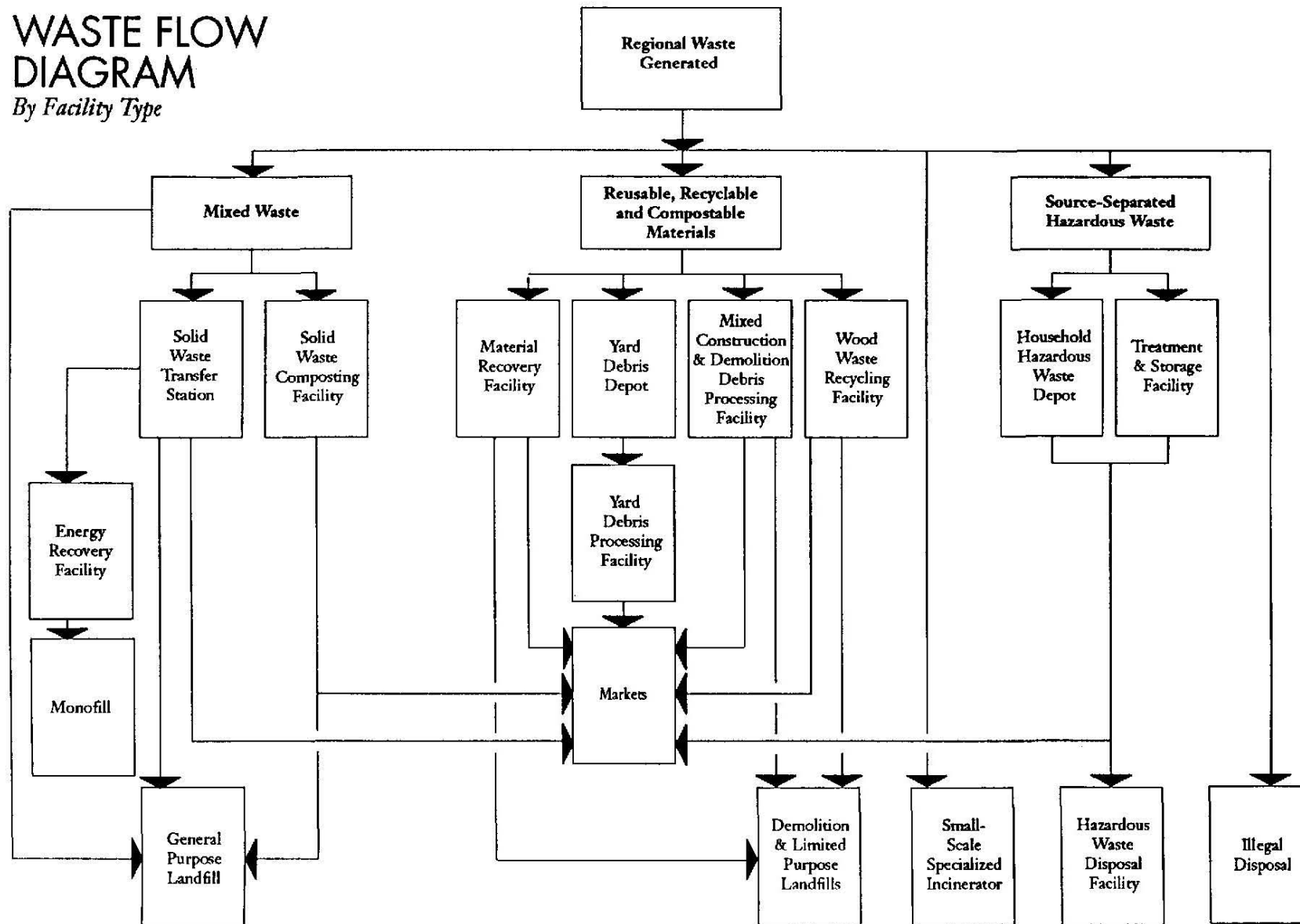
This section contains definitions and descriptions of solid waste facilities that are part of the region's solid waste system.

Contents:

- **Waste Flow Diagram** (by facility type) - illustrates the roles of different facility types from collection through final disposal.
- **Regional Solid Waste Facilities Inventory** - lists facilities under their functional headings and summarizes information regarding waste source, facility ownership, facility regulation and fees paid.
- **List of Facilities Owned or Franchised by Metro.**
- **Regional Solid Waste Facilities Chart** - categorizes the different facility types according to the state hierarchy - reduce, reuse, recycle, compost, recover energy and dispose.
- **Regional Solid Waste Facility Matrix** - shows facilities that have multiple uses.
- **Solid Waste Facilities Maps** - shows the location of existing facilities.
- **General Solid Waste Facility Descriptions** - these descriptions include a definition of the facility type, processing done at the facility and wastes accepted.

WASTE FLOW DIAGRAM

By Facility Type



REGIONAL FACILITIES INVENTORY

FACILITY	WASTE SOURCE			OWNERSHIP		REGULATORY					FEES PAID			
	Commercial Haul	Public Self-Haul	Owner	Public	Private	Metro Franchise	Metro Designated Facility (Landfill)	Other	DEQ	None	Metro Regional User Fee ¹	Metro Facilities Fee	DEQ Fee	Private Fee
PROCESSING FACILITIES														
Material Recovery														
East County Recycling	X	X			X	X			X		X		X	X
Energy Recovery Inc. (E.R.I.) ³			X		X	X			X		X		X	
K.B. Recycling ³	X	X			X	X			X		X		X	X
Marine Drop Box			X		X	X					X		X	
Pride Disposal Reload & Recycling ³			X		X	X					X		X	
Tualatin Valley Waste Recovery	X	X			X	(planned)					X		X	X
Wastech	X	X			X	X			X		X		X	X
HHW Collection Depots														
Metro South HHW Facility		X		X				X	X			X		
Metro Central HHW Facility		X		X				X	X			X		
Petroleum Contaminated Soils														
Thermal Processing Systems (TPS)	X				X	X			X		(exempt)			X
Pemco, Inc.	X				X	(pending)			X		(exempt)			X
Solid Waste Transfer & Recovery														
Forest Grove Transfer Station	X	X	X		X	X			X		X			X
Hillsboro Reload Facility			X		X									
Metro Central Transfer Station	X	X		X				X	X		X	X		
Metro South Transfer Station	X	X		X				X	X		X	X		
Sandy Transfer Station	X	X		X				X	X					X

¹Subject to city/county zoning ordinance

²Metro fees are not assessed on waste generated outside the Metro boundary. Material Recovery Facilities pay fee on residuals only.

³Not currently active as a processing facility taking materials for a fee.

FACILITY	SOURCE			OWNERSHIP		REGULATORY					FEES PAID			
	Commercial Haul	Public Self-Haul	Owner	Public	Private	Metro Franchisee	Metro Designated Facility	Other	DEQ	None ¹	Metro Regional User Fee ²	Metro Facilities Fee	DEQ Fee	Private Fee
PROCESSING FACILITIES														
Yard Debris Processing (Composting)														
American Compost & Recycling	X	X			X					X				X
Amazon Vegetation Recycling	X	X			X					X				X
Best Buy In Town	X	X			X					X				X
Grimm's Fuel Company	X	X			X					X				X
Lakeside Reclamation Landfill	X	X			X					X				X
McFarlane's Bark	X	X			X					X				X
Minsinger's Floral Nursery	X	X			X					X				X
River Cities One Stop Recycling Center	X	X			X					X				X
Scott's Hyponex	X	X			X					X				X
S & H Logging	X	X			X					X				X
Other Organic Composting/Processing														
City of Portland Leaf Composting			X	X						X				
Oregon Soil Corporation (vermiculture)	X				X					X				X
Columbia Wastewater Treatment Plant			X	X				X						
Treatment and Storage Facilities														
Burlington Environmental Services	X				X			X	X					X
Western Compliance Services, Inc.	X				X			X	X					X

¹ Subject to city/county zoning ordinance

² Metro fees are not assessed on waste generated outside the Metro boundary. Material Recovery Facilities pay fee on residuals only.

FACILITY	SOURCE			OWNERSHIP		REGULATORY					FEES PAID			
	Commercial Haul	Public Self-Haul	Owner	Public	Private	Metro Franchise	Metro Designated Facility	Other	DEQ	None ¹	Metro Regional User Fee ²	Metro Facilities Fee	DEQ Fee	Private Fee
DISPOSAL FACILITIES														
General Purpose Landfills														
Columbia Ridge Landfill	X	X			X		X		X		X		X	X
Finley Buttes Landfill	X	X			X		X		X		X		X	X
Riverbend Landfill	X	X			X		(pending)		X		X		X	X
Roosevelt Regional Landfill	X				X		X		X		X			X
Limited Purpose Landfills														
Hillsboro Landfill	X	X			X		X		X		X			X
Lakeside Reclamation Landfill	X				X		X		X		X			X
Demolition Landfills														
Durham Pit	X	X		X						X				X
Portland Road & Driveway	X	X			X					X				X
Porter W. Yett	X	X			X					X				X
Hazardous Waste Landfills														
Chemical Waste Management	X				X			X	X					X
Energy Recovery Facilities														
Marion County Energy Recovery Facility	X			X				X	X		X		X	X
Monofills														
North Marion County Disposal Facility	X			X					X					X

¹ Subject to city/county zoning ordinance

² Metro fees are not assessed on waste generated outside the Metro boundary. Material Recovery Facilities pay fee on residuals only.

OTHER FACILITIES		Description	Source	Ownership	Regulation	Fees
Recyclable Drop Centers		Facilities that accept only source separated recyclable materials.	Commercial haul and public self haul.	Private	None ¹	Varies
Recyclables Processing Facilities		Facilities that process source separated recyclable materials entering the recycling stream through curbside collection, drop-off centers or buy-back centers. Includes paper, plastic, glass, tires, metal, and wood.	Commercial haul and public self haul.	Private	None ¹	Varies

¹ Subject to city/county zoning ordinances.

**Regional Solid Waste Management Plan
1994 Update**

Facilities Owned or Franchised by Metro

Metro has responsibility for the disposal of solid waste generated in the region. In this capacity, the agency owns some facilities and regulates the operation of other privately owned facilities by franchise or contract terms.

Material Recovery Facilities

- East County Recycling (ECR)
- Energy Reclamation Inc. (ERI)*
- K.B. Recycling*
- Marine Drop Box
- Pride Disposal*
- Tualatin Valley Waste Recovery
(part of Hillsboro Landfill Franchise)
- Wastech

Petroleum Contaminated Soils

- Thermal Processing Systems (TPS)
- Pemco, Inc. (pending)

Household Hazardous Waste Facilities

- Metro Central Transfer Station
- Metro South Transfer Station

Transfer Stations

- Metro Central Transfer Station
- Metro South Transfer Station
- Forest Grove Transfer Station






Designated Facilities (Landfill)

- Columbia Ridge Landfill
- Hillsboro Landfill
- Lakeside Reclamation Landfill
- Roosevelt Regional Landfill
- Riverbend Landfill (pending)

*Not currently active as a processing facility that accepts materials for a fee.

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REGIONAL SOLID WASTE FACILITIES CHART

 Reuse and Recycle	Mixed Const/Demo Recycling <ul style="list-style-type: none">• East Co. Recycling• Grimm's• Lakeside Landfill	Wood Waste Recovery <ul style="list-style-type: none">• American Compost & Recycling• Bredl Saw and others• Wood Exchange	Drywall Recovery <ul style="list-style-type: none">• Gypsum Wallboard Recycling• Knez Building Materials• United Pacific Recycling	
 Compost	Yard Debris Processing <ul style="list-style-type: none">• Amazon Recycling• Best Buy In Town• City of West Linn• Grimm's• Lakeside Landfill• McFarlane's• Minsinger Nursery• River Cities Recycling• Scott's Hyponex• S & H Logging			
 Recover	Energy Recovery <ul style="list-style-type: none">• Marion County Energy Recovery	Petroleum Contaminated Soils <ul style="list-style-type: none">• Oregon Hydrocarbons	Material Recovery (mixed waste) <ul style="list-style-type: none">• East Co. Recycling• ERI*• KB Recycling• Marine Drop Box• Metro Central• Pride Disposal*• T.V. Waste Recovery• Wastech	Vermiculture <ul style="list-style-type: none">• Oregon Soil
 Store (temporary)	Treatment and Storage <ul style="list-style-type: none">• Burlington Environmental• Western Compliance	Household Hazardous Waste Depot <ul style="list-style-type: none">• Metro Central• Metro South	Yard Debris Depot <ul style="list-style-type: none">• City of Beaverton• Metro Central• Metro South	
 Dispose	Limited Purpose Landfill <ul style="list-style-type: none">• Hillsboro• Lakeside Landfill	Demolition Landfill <ul style="list-style-type: none">• Durham Pit and others	Monofill <ul style="list-style-type: none">• North Marion County Landfill (Ash from Marion Co. Energy Recovery Facility)	
	General Purpose Landfill <ul style="list-style-type: none">• Columbia Ridge• Finley Buttes• North Wasco Co.• Riverbend• Roosevelt	Hazardous Waste Disposal Facility <ul style="list-style-type: none">• Chemical Waste Management	Solid Waste Transfer <ul style="list-style-type: none">• Forest Grove• Hillsboro Reload• Metro Central• Metro South• Sandy	

* Not currently active

Note: These descriptions do not include facilities that exclusively accept source-separated materials, with the exception of certain organic wastes such as yard debris.

REGIONAL SOLID WASTE FACILITIES MATRIX

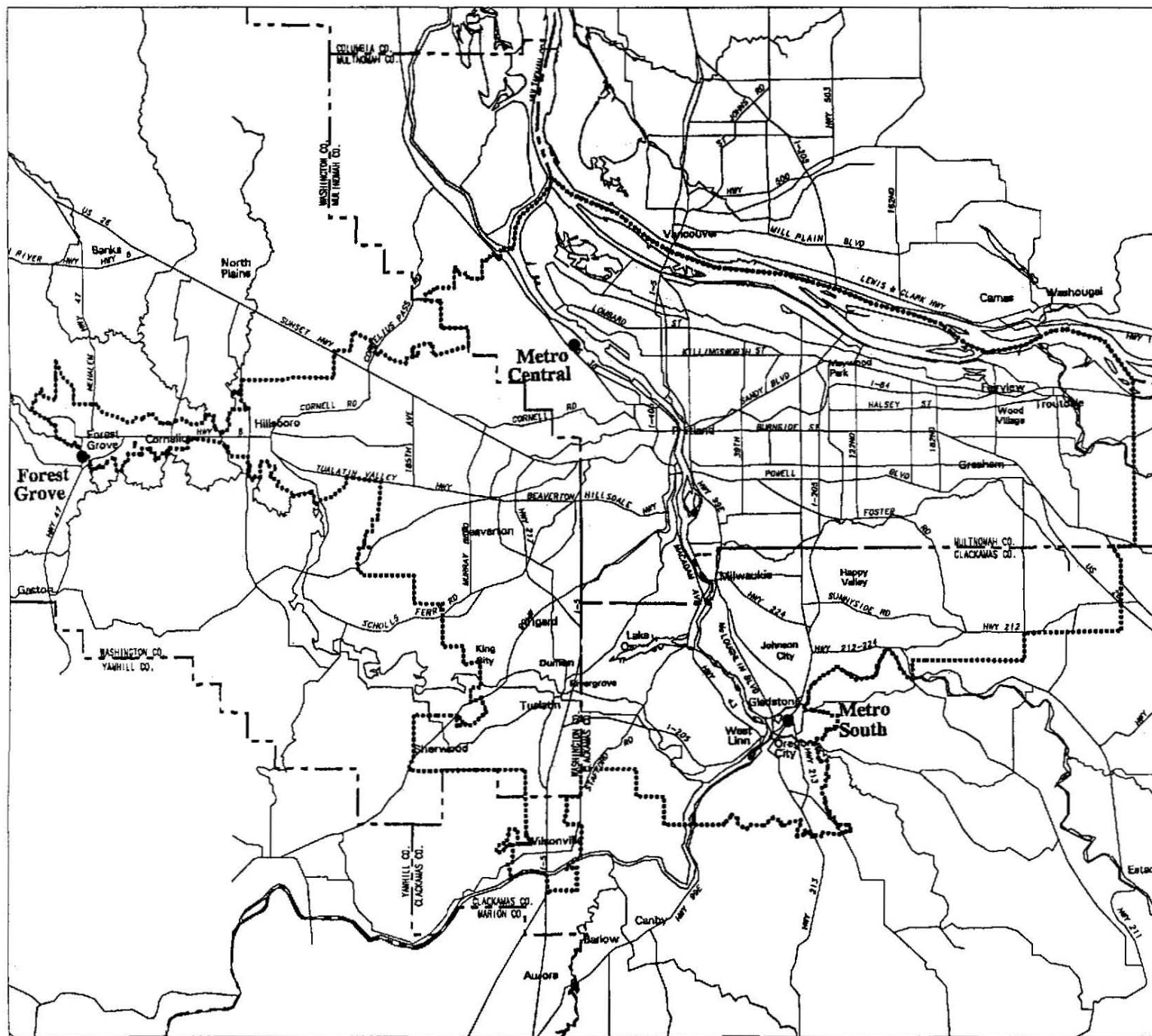
● Primary function

▲ Secondary function

FACILITY TYPES

FACILITIES EXAMPLES

	Demolition landfill	Drywall Recovery	Household hazardous waste depot	Limited-purpose landfill	Mixed construction/demolition debris recycling facility	Monofill	Municipal solid waste depot	Petroleum Contaminated Soils	Resource recovery facility	Solid waste composting facility	Solid waste transfer station	Treatment and storage facility	Wood waste recycling facility	Yard debris depot	Yard debris processing facility
American Compost and Recycling													●		▲
Best Buy in Town															●
Bredl Saw													●		
City of Beaverton Yard Debris Depot														●	
Durham Pit	●												▲		
East County Recycling (ECR)				▲					●				▲		▲
Forest Grove Transfer Station											●				
Grimm's Fuel				●											●
Gypsum Wallboard Recovery		●													
Hillsboro Reload											●				
Hillsboro Landfill			●												
K.B. Recycling									●						
Lakeside Reclamation Landfill	●		●	▲									▲		▲
Marine Drop Box									●				●		
Marion County Energy Recovery									●						
McFarlane's Bark															●
Metro Central Station									▲		●		▲	▲	▲
Metro South Station											●			▲	
Metro South Household Hazardous Waste Depot		●													
North Marion County Disposal Facility					●										
Oregon Hydrocarbons								●							
Wastech									●				▲		
Sandy Transfer Station											●				
Scott's Hyponex															●
The Wood Exchange													●		
Western Compliance											●				



R L I S

Transfer Stations

Regional Solid Waste Management Plan
1994 Update
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● Transfer Stations

..... Metro Boundary

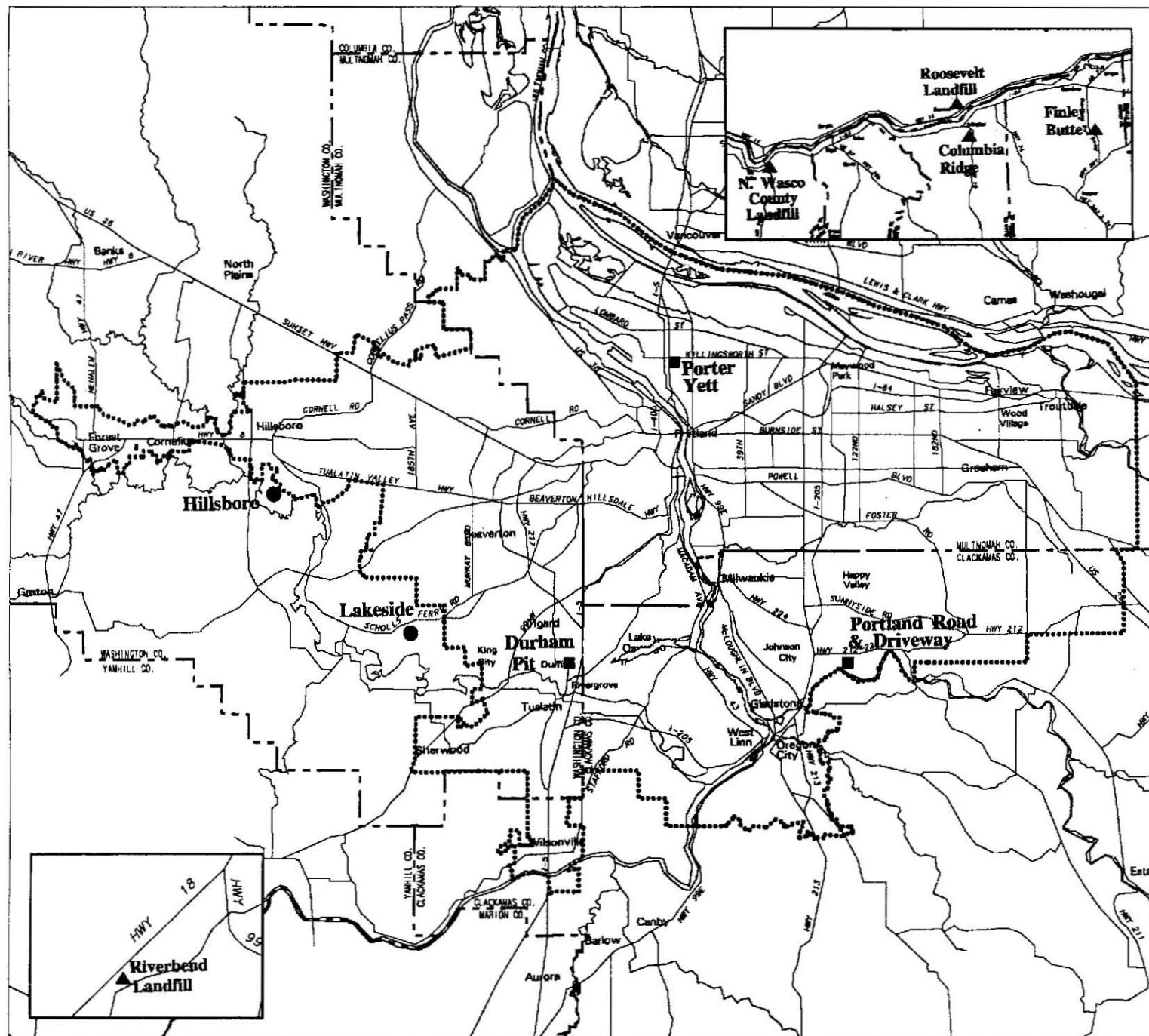
--- County Line



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R L I S

Solid Waste Landfills

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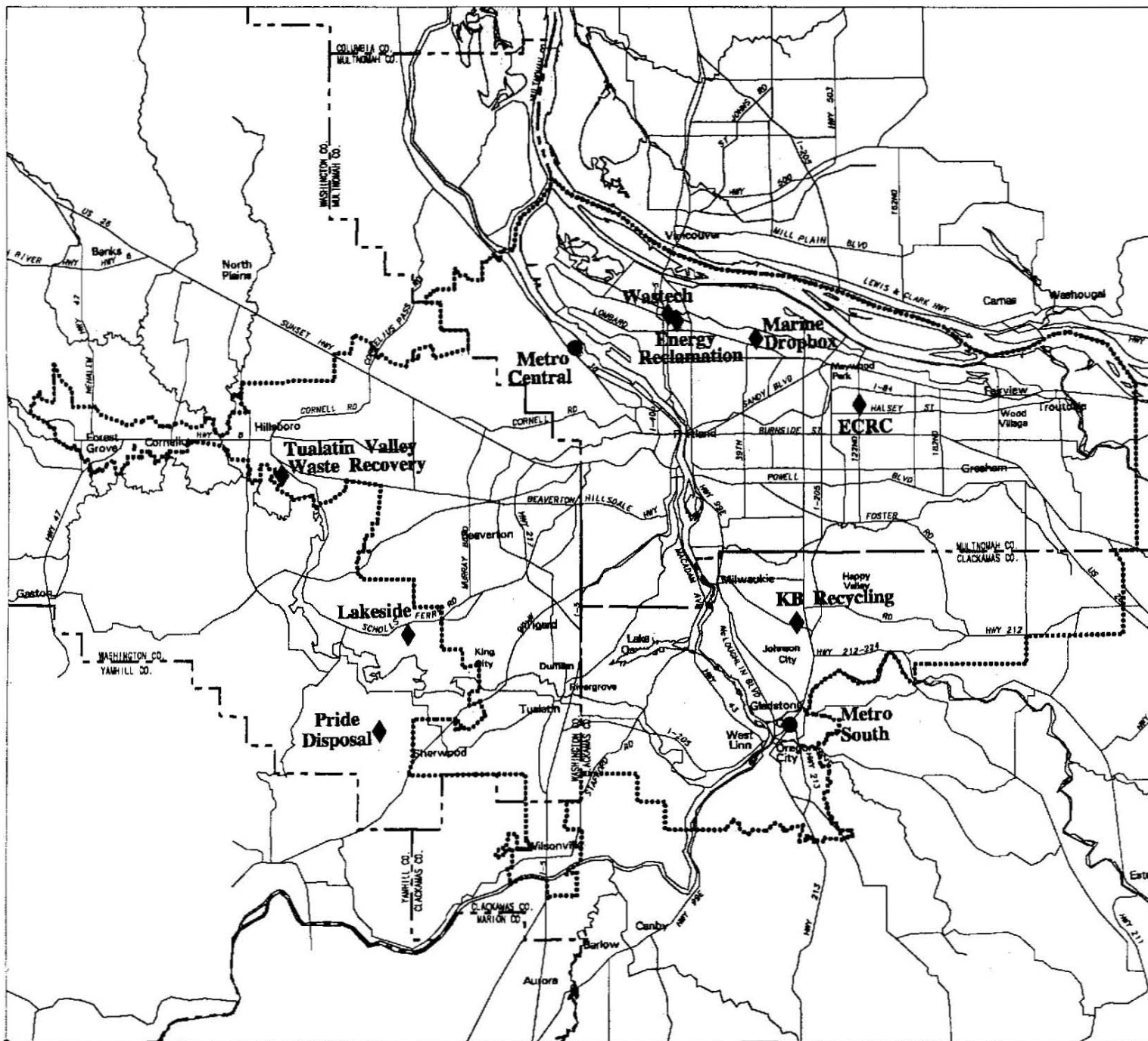
- Limited Purpose Landfill
- ▲ General Purpose Landfill
- Major Inert Landfill
- Metro Boundary
- - - County Line



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R L I S

Resource Recovery Facilities

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- Transfer Stations
- ◆ Active Processing Centers
- ◆ Inactive Processing Centers

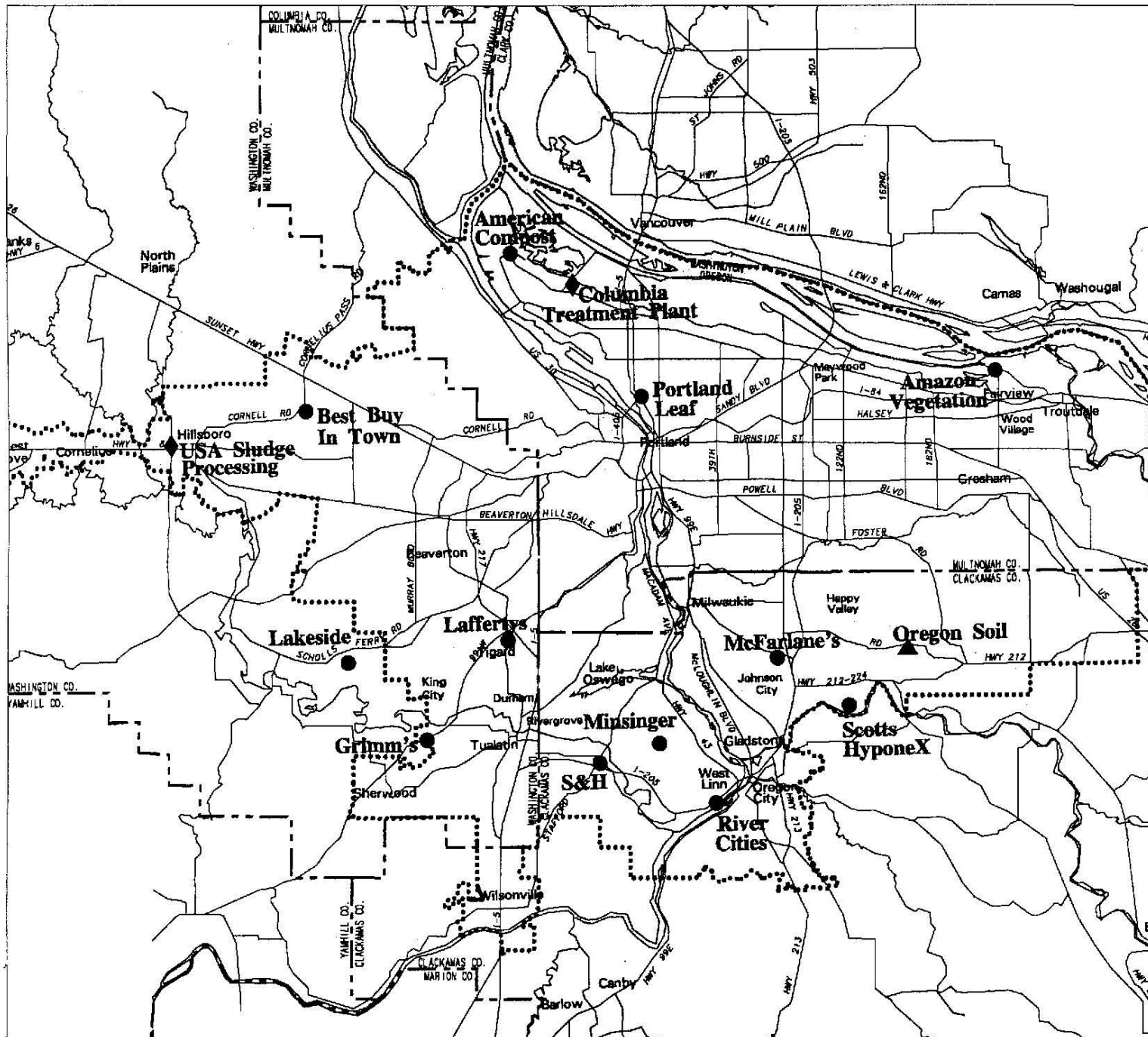
- Metro Boundary
- County Line



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R L I S

Organic Processing Facilities

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EXISTING PROCESSORS

- Yard Debris Composting
- ▲ Vermiculture
- ◆ Other Organic Processors

..... Metro Boundary

--- County Line



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General Solid Waste Facility Definitions

DEMOLITION LANDFILL

Definition: "A land disposal site for receiving, sorting and disposing only land clearing debris, including vegetation and dirt, building construction and demolition debris and inert materials, and similar substances".

Processing: Residential, commercial and industrial construction and demolition debris and soils are trucked to the site. Inert wastes are used as clean fill. Wood wastes may be landfilled, or may be processed into wood chips and sold to commercial buyers of such products.

Wastes Accepted: Wood, concrete, rocks and dirt, metals, paper and cardboard, glass, textiles, plastic, insulation, sheet rock, fixtures, roofing and flooring materials, tile and bricks.

HOUSEHOLD HAZARDOUS WASTE DEPOT

Definition: "A facility for receiving, sorting, processing and temporarily storing household hazardous waste; and for preparing that waste for safe transport to facilities authorized to receive, process, or dispose of such materials pursuant to federal or state law".

Processing: A household hazardous waste depot (HHWD) is where the general public can bring relatively small quantities of solid waste that are potentially hazardous. These facilities are needed to avoid risks to human health and adverse environmental impacts. They provide a safe system for managing household hazardous wastes within the region. Information is first collected from the customer by facility staff. A declaration form is completed listing materials brought for disposal and a certification that they are of household origin. The vehicle is then unloaded and the accepted materials taken to the sorting area. The materials are then inventoried, sorted, and may be bulked and packaged for storage and transport.

Wastes Accepted: The following materials can typically be accepted by a HHWCD: Flammable liquids, flammable solids, organic peroxides, oxidizers, corrosives, and reactive materials. These categories include paint, gasoline, chlorinated and non-chlorinated solvents, poisons (pesticides), motor oil, antifreeze, batteries and PCB's.

Wastes Not Accepted: Explosives, compressed gases, pyrophoric materials, cryogenic fluids, and radioactive materials.

LIMITED PURPOSE LANDFILL

Definition: "A land disposal site for the receiving, sorting and disposing of solid waste material, including but not limited to asbestos, treated petroleum contaminated soil, construction, land clearing and demolition debris, wood, treated sludge from industrial processes, or other special waste material other than unseparated municipal solid waste".

Processing: Waste is directed to land areas to be filled. Recyclables are directed to a tipping area and sorted. Wood wastes may be reduced by a hammermill.

Wastes Accepted: See definition above. The types of wastes accepted at these facilities are determined by DEQ solid waste permits. Existing limited purpose landfills in the region accept yard debris, clean wood loads, commercial wood loads, construction and demolition debris, land clearing debris including stumps, rock, concrete and asphalt.

MIXED CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FACILITY

Definition: "A facility that receives, temporarily stores, processes, and recovers recyclable material from mixed construction and demolition debris for reuse, sale, or further processing".

Processing: Organic waste (primarily wood) is processed into hogged fuel and compost products. Some mixed organics are also recovered, however markets are limited. Inorganic material (rock, concrete, asphalt, dirt) is used as clean fill.

Wastes Accepted: Wood, concrete, rocks and dirt, yard debris, metals, paper and cardboard, miscellaneous organic and inorganic wastes from construction and demolition debris.

MONOFILL

Definition: "A land disposal site for receiving, sorting and disposing only one type of solid waste materials for burial, such as a facility which accepts only asbestos."

Processing: The monofill material is deposited in the landfill, which typically has a bottom liner and is filled in phases. The monofill material is usually compacted daily, and a soil cover (or other inert material) is placed over the fill to control potential dust, odor, or runoff. When one area of the monofill reaches capacity, it is graded to final contours for final cover (topcapped). Topcapping of the monofill creates a low-permeable envelope around the monofill material, which limits the amount of water to enter the fill. Monitoring wells are typically established around the perimeter of the fill area to monitor ground water for contaminants, if appropriate, based on the type of waste being disposed at the monofill.

Wastes Accepted: Only a single type of solid waste material.

MUNICIPAL SOLID WASTE DEPOT

Definition: "A facility where sealed containers are received, stored up to 72 hours, staged, and/or transferred from one mode of transportation to another".

Type: A municipal solid waste depot is one of five types of solid waste storage facilities as shown in the Regional Solid Waste Facility Diagram. This facility type does not currently exist in the region.

RESOURCE RECOVERY FACILITY

Definition: "A facility for receiving, temporarily storing and processing solid waste to obtain useful material or energy."

Processing: Resource recovery facilities include material recovery facilities and energy recovery facilities. A variety of means are employed in the process of obtaining useful material or energy resources from solid waste. This involves a wide range of sorting, segregating, and processing methods, which depend on the type of facility and scale of operations. Resource recovery includes:

- **Material Recovery** - the process of obtaining from solid waste, by pre-segregation or otherwise materials which still have useful physical or chemical properties and can be reused or recycled for some purpose.
- **Energy Recovery** - in which all or part of the solid waste is processed to extract the heat content, or other forms of energy, from those materials.

SMALL SCALE SPECIALIZED INCINERATOR

Definition: "A facility that receives, processes, temporarily stores, and burns a solid waste product as an accessory use to a permitted use, including incinerators for disposal of infectious wastes as part of a medical facility, but not including mass burn solid waste incinerators, refuse-derived fuel technologies, or any energy recovery process that burns unseparated municipal solid waste".

SOLID WASTE COMPOSTING FACILITY

Definition: "A facility that receives, temporarily stores and processes solid waste by decomposing the organic portions of the waste by biological means to produce useful products including, but not limited to, compost, mulch and soil amendments."

There are no operational examples of this type of facility in the region (the Riedel Mass Composting Facility closed in 1993)

SOLID WASTE TRANSFER STATION

Definition: *"A solid waste transfer station receives, processes, temporarily stores and prepares solid waste for transport to a final disposal site, with or without material recovery prior to transfer".*

Processing: Compaction and transfer of solid waste to trucks for landfill disposal. May involve material recovery through a combination of mechanical and manual processes.

Wastes Accepted: General residential waste such as food, paper, packaging and textiles. General commercial wastes such as paper, cardboard and office products. Construction and demolition debris, yard debris, and other non-hazardous dry wastes.

Wastes Not Accepted: Generally, hazardous wastes, sewage sludges, septic tank pumpings, bulk quantities of liquids, oils, and chemicals, hospital wastes, large dead animals, lead-acid batteries, friable asbestos, whole automobile bodies, tires, infectious wastes, soils contaminated by hazardous materials, explosives, and other materials which may be hazardous unless specifically authorized by the DEQ.

TREATMENT AND STORAGE FACILITY

Definition: *"A facility subject to regulation under the Resource Conservation and Recovery Act (RCRA), 42 USC 6901-6967, for receiving, sorting, treating, and/or temporarily storing hazardous waste, and for processing such waste for safe transport to facilities authorized to receive, treat, or dispose of such materials pursuant to federal or state law. Treatment and storage facilities do not include facilities for on-site disposal of hazardous waste".*

Processing: Waste is received for analysis, temporary storage, consolidation if appropriate, and repackaging of a variety of hazardous chemicals, and transferring them to a permitted EPA recycling or disposal facility.

Wastes Accepted: These wastes are typically generated by paint manufacturers, auto body shops; farm, chemical and wood products industries. The wastes include solvents, as well as waste paint, plating wastes, corrosives, and heavy metals. The wastes are received in containers such as drums, small tanks, jugs, and pails.

WOOD WASTE RECYCLING FACILITY

Definition: *"A facility that receives, temporarily stores, and processes wood, which does not contain pressure treated or wood preservative treated wood, in the form of scrap lumber, timbers, or natural wood debris, including logs limbs, and tree trunks, for reuse, recycling or energy recover into products such as hog fuel, fuel pellets or fireplace logs."*

Processing: Clean wood loads are reduced through a hammermill and any metals are removed by a magnet. Resulting material is used for hogged fuel, composted off-site, or the fiber is used in the manufacture of particle board.

Wastes Accepted: Clean wood loads (separated materials with virtually no contaminants or non-wood products).

YARD DEBRIS DEPOT

Definition: "A facility that receives yard debris for temporary storage, awaiting transport to a processing facility".

Processing: Yard debris from the general public, is typically collected in drop boxes or packer trucks and is then taken to a yard debris processing facility.

Wastes Accepted: Yard debris consisting of prunings, leaves, grass and other woody waste (typically branches no larger than six inches in diameter).

YARD DEBRIS PROCESSING FACILITY

Definition: "A facility that receives, temporarily stores and processes yard debris into a soil amendment, mulch or other useful product through grinding and/or controlled biological decomposition".

Processing: Yard debris is processed into a useful product such as garden mulch, ground cover, soil amendment, animal bedding, erosion control material, or hogged fuel.

Public and/or commercial clean loads are collected and sorted. Pure leaf and grass loads are sent to a compost pile. Larger material is screened and reduced in a hammer mill and subsequently composted, or shredded according to desired product.

Wastes Accepted: Public and/or commercial yard debris consists of prunings, leaves, grass and other woody waste (typically branches no larger than six inches in diameter).

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**Regional Solid Waste Management Plan
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SOLID WASTE PROGRAMS AND SERVICES

This section contains tables describing solid waste programs and services within the Metro region.

Contents:

- **Residential - Collection Systems and Waste Reduction Programs** - a table describing the provision of solid waste collection and waste reduction services in the region.
- **Residential Curbside Recycling - Single Family** - a table describing the current status of curbside recycling programs in the region.
- **Residential Curbside Recycling - Single Family - Yard Debris** - a table describing yard debris recycling programs in the region.

RESIDENTIAL - COLLECTION SYSTEMS & WASTE REDUCTION PROGRAMS

County	Service and Program Areas	Residential Collection Provider	Waste Reduction Program Providers	Comments
CLACKAMAS				
Clackamas County	Unincorporated area in Urban Growth Boundary (UGB), Happy Valley	County Franchises	Clackamas County	
	Unincorporated area outside UGB	County Franchises	Clackamas County	
	Johnson City, River Grove	City Franchises	Clackamas County	Within Metro but <4000 persons
	Canby, Molalla, Sandy	City Franchises	Clackamas County	Outside Metro Molalla and Sandy participate in Metro Challenge grants
	Estacada	City Franchises	City Program	Outside Metro; participate in Challenge grants
	River Cities	Oregon City Gladstone West Linn	City Franchises City Franchises City Franchises	Clackamas County provides waste reduction services by cooperative arrangement with River Cities
	Lake Oswego	Incorporated area	City Franchises	City Program
	Milwaukie	Incorporated area	City Franchises	City Program
MULTNOMAH				
Multnomah County	Portland	Incorporated area plus Urban Services Boundary (USB)	City Franchises	City Program
	Maywood Park	Incorporated area	City Franchises	City Program
	East Multnomah County Cities	Fairview Gresham Wood Village	City Franchises City Franchises City Franchises	East Multnomah County Cities is a cooperative waste reduction program.
	Troutdale	Incorporated area	City Franchises	City Program
WASHINGTON				
Washington Co.	Unincorporated area in USB	County Franchises	Cooperative program	Washington Co. Cooperative Recycling Program is a joint effort of Washington County and its cities
	Unincorporated area outside USB	County Franchises		
	Beaverton	City Franchises		
	Hillsboro	City Franchises		
	Tigard	City Franchises		
	Tualatin	City Franchises		
	Forest Grove	City Franchises		
	Cornelius	City Franchises		
	Sherwood	City Franchises		
	King City	City Franchises		
	Durham	City Franchises		
	Wilsonville	City Franchises		
	Banks, North Plains	Private		
	Gaston	City Franchise	City Program	

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RESIDENTIAL CURBSIDE RECYCLING - SINGLE FAMILY

County	Program	Coverage	Weekly Curbside Established	Materials Collected				Containers	
				Principal Recyclable Materials*	Milk jugs	Magazines	Other	Distributed	Type
CLACKAMAS									
	Clackamas County	Unincorporated areas in and outside UGB Happy Valley, Sandy, Molalla, Canby	Apr-90	X	(Sandy, Canby)	X	Aseptic boxes	Apr-90	1 - 14 gal.
		Estacada	Apr-90 (Monthly)	X		X		Apr-90	1 - 14 gal.
	River Cities	Oregon City	Nov-88	X		X	Aseptic boxes	Apr-90	1 - 14 gal.
		Gladstone		X		X		Apr-90	1 - 14 gal.
		West Linn		X			Plastic bottles	Apr-90	1 - 14 gal.
	Johnson City	Incorporated area	Apr-90	X		X		Apr-90	1 - 14 gal.
	Rivergrove	Incorporated area	Apr-90	X		X		Apr-90	1 - 14 gal.
	Lake Oswego	Incorporated area	Aug-90	X		X		Aug-90	1 - 14 gal.
Milwaukie	Incorporated area	Jul-90	X		X		Jul-90	1 - 14 gal.	
MULTNOMAH									
	Portland	Incorporated area plus USB	Feb-92	X	X	X	Mixed paper	Feb-92	2 - 14 gal.
	Maywood Park	Incorporated area	Feb-92	X		X		Feb-92	2 - 14 gal.
	East Multnomah County Cities	Fairview	May-89	X	X	X		Oct-90	1 - 14 gal.
		Gresham	May-82	X	X	X			
		Wood Village	May-89	X	X	X			
		Troutdale	May-89	X	X	X		Oct-90	1 - 14 gal.
WASHINGTON									
	Washington Co.	Unincorporated area in USB	Feb-91	X		X		Feb-92	1 - 14 gal.
		Beaverton	Feb-91	X	X	X		Feb-92	1 - 14 gal.
		Hillsboro	Feb-91	X		X		Feb-92	1 - 14 gal.
		Tigard	Feb-91	X	X	X		Feb-92	1 - 14 gal.
		Tualatin	Feb-91	X	X	X	Mixed paper (Jul-94)	Feb-92	1 - 14 gal.
		Forest Grove	Feb-91	X		X		Feb-92	1 - 14 gal.
		Cornelius	Feb-91	X		X		Feb-92	1 - 14 gal.
		Sherwood	Feb-91	X		X		Feb-92	1 - 14 gal.
		King City	Feb-91	X		X		Feb-92	1 - 14 gal.
		Durham	Feb-91	X	X	X		Feb-92	1 - 14 gal.
		Wilsonville	Feb-91	X		X	mixed paper	Feb-92	1 - 14 gal.

* Principal Recyclable Materials: Newspaper, OCC, Glass, Tin, Aluminum, Motor Oil, and Metals. Yard Debris is also officially a principal recyclable but is covered in following table.

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RESIDENTIAL CURBSIDE RECYCLING - SINGLE FAMILY - YARD DEBRIS

County	Program	Coverage	Service Frequency			Exemption Program*	Container		Date Implemented	Leaf Program**
			Weekly	Bi-weekly	Other		Hauler Provided	Customer Provided		
CLACKAMAS										
Clackamas County	Unincorporated area in and outside UGB, Happy Valley, Sandy, Molalla, Canby		X			X (fee)		X (32 gal)	1991	
		River Cities	X						1980	
		Gladstone	X						1982	X
		West Linn			depot/on call					
		Lake Oswego	Incorporated area	X			X (no fee)		X (32 gal)	1991
Milwaukie	Incorporated area	X					X (32 gal)	1991		
MULTNOMAH										
Multnomah County	Incorporated area plus USB	Portland		X				X (32 gal)	1992	X
		Maywood Park	X***					X		
		East Multnomah	X			X (fee)	X (60 gal)	X (32 gal)	1992	X
		County Cities	X			X (fee)	X (60 gal)	X (32 gal)	1992	X
		Wood Village	X			X (fee)	X (60 gal)	X (32 gal)	1992	X
		Troutdale	X			X (fee)	X (60 gal)	X (32 gal)	1992	X
WASHINGTON										
Washington Co.	Unincorporated area in USB			X				X (32 gal)	Jan-94	
		Beaverton			****		X		Jul-94	
		Hillsboro			****				Jul-94	
		Tigard			****				7/94 or 1/95	
		Tualatin	X					X (90 gal)	1991	
		Forest Grove		X				X (32 gal)	Jul-94	
		Cornelius			Compost bins				Jul-94	
		Sherwood			****				Jul-94	
		King City		X					Jul-94	
		Durham	X					X (32 gal)	1991	
		Wilsonville	X					X (60 gal)	Jul-94	

* Allows customers to not pay for yard debris services. Most programs require demonstrate usage of home composting or landscaping services and a small yearly fee.

** City Collection of street leaves from residential areas.

*** Weekly yard debris curbside 7 months, on-call for other 5 months.

**** Program is in planning stage. Some elements still have to be determined.

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